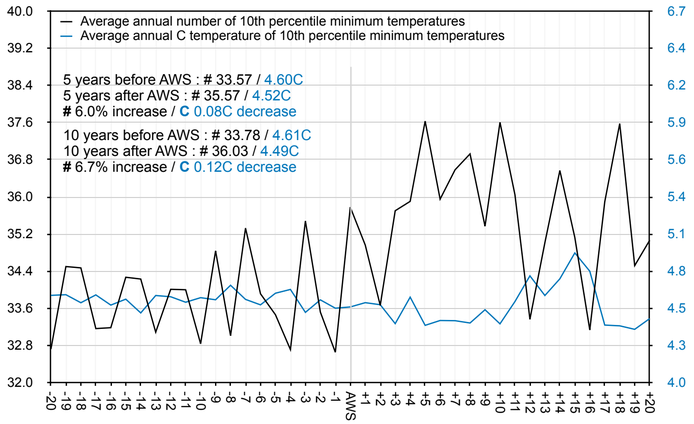
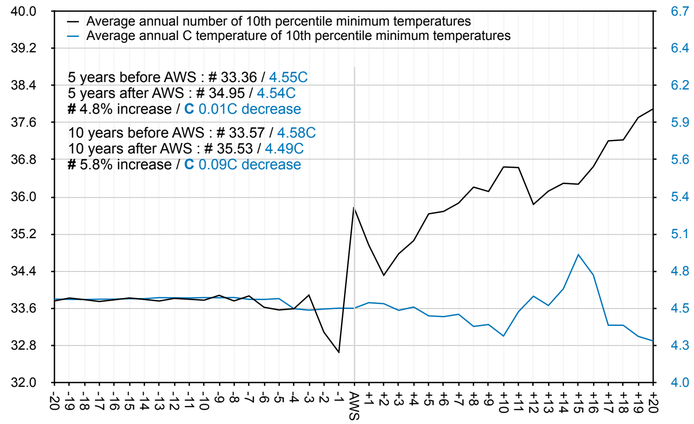
Year	# 10th	C 10th	# 5th	C 5th	# 1st	C 1st	Years	# 10th	C 10th	# 5th	C 5th	# 1st	C 1st
-20	32.72	4.63	15.27	3.49	3.16	1.35	**-20**	33.76	4.61	16.50	3.52	3.27	1.64
-19	34.50	4.64	16.67	3.50	3.10	1.88	**-19**	33.82	4.61	16.57	3.52	3.28	1.64
-18	34.47	4.58	17.08	3.52	2.99	1.66	**-18**	33.79	4.60	16.56	3.52	3.29	1.64
-17	33.16	4.64	16.04	3.57	2.96	1.68	**-17**	33.75	4.61	16.53	3.52	3.30	1.65
-16	33.18	4.56	16.61	3.44	3.30	1.80	**-16**	33.78	4.61	16.57	3.52	3.33	1.65
-15	34.27	4.61	16.82	3.53	3.45	1.16	**-15**	33.82	4.61	16.56	3.52	3.33	1.66
-14	34.23	4.51	17.47	3.35	4.32	0.95	**-14**	33.79	4.61	16.54	3.52	3.32	1.66
-13	33.09	4.63	16.05	3.53	3.23	1.80	**-13**	33.76	4.62	16.47	3.53	3.24	1.67
-12	34.01	4.62	16.68	3.57	2.96	1.61	**-12**	33.81	4.62	16.51	3.53	3.24	1.66
-11	34.00	4.58	16.62	3.46	3.30	1.81	**-11**	33.80	4.62	16.49	3.53	3.27	1.66
-10	32.84	4.62	15.94	3.46	3.22	1.49	**-10**	33.78	4.62	16.48	3.53	3.26	1.67
-9	34.84	4.60	17.32	3.57	3.25	1.67	**-9**	33.88	4.62	16.54	3.54	3.27	1.67
-8	33.01	4.71	15.30	3.44	2.91	1.57	**-8**	33.76	4.62	16.44	3.53	3.27	1.67
-7	35.33	4.60	17.37	3.53	3.38	2.01	**-7**	33.87	4.61	16.61	3.53	3.32	1.67
-6	33.91	4.57	16.78	3.48	3.71	1.88	**-6**	33.62	4.60	16.48	3.52	3.31	1.69
-5	33.46	4.65	16.43	3.52	3.26	1.49	**-5**	33.57	4.61	16.42	3.54	3.23	1.70
-4	32.71	4.68	15.58	3.58	2.69	1.76	**-4**	33.59	4.54	16.42	3.47	3.23	1.67
-3	35.48	4.51	17.87	3.43	3.77	1.78	**-3**	33.88	4.53	16.70	3.47	3.40	1.72
-2	33.52	4.60	16.45	3.54	3.27	1.60	**-2**	33.09	4.53	16.12	3.46	3.22	1.62
-1	32.65	4.54	15.78	3.46	3.17	1.50	**-1**	32.65	4.54	15.78	3.42	3.17	1.50
AWS	35.78	4.55	18.16	3.42	3.45	1.78	**AWS**	35.78	4.54	18.16	3.38	3.45	1.78
+1	34.96	4.58	17.96	3.54	3.44	1.66	**+1**	34.96	4.58	17.96	3.37	3.44	1.66
+2	33.66	4.57	16.64	3.52	2.90	1.62	**+2**	34.31	4.57	17.30	3.53	3.17	1.62
+3	35.70	4.43	18.90	3.41	4.00	1.52	**+3**	34.78	4.53	17.84	3.49	3.45	1.58
+4	35.90	4.62	17.88	3.35	3.07	1.36	**+4**	35.06	4.55	17.85	3.51	3.35	1.63
+5	37.63	4.42	20.09	3.43	3.86	1.43	**+5**	35.63	4.49	18.35	3.46	3.46	1.54
+6	35.95	4.45	18.65	3.41	3.92	1.50	**+6**	35.69	4.48	18.40	3.45	3.54	1.60
+7	36.58	4.45	19.14	3.40	4.11	1.49	**+7**	35.87	4.50	18.56	3.47	3.64	1.63
+8	36.93	4.43	19.23	3.44	3.71	1.73	**+8**	36.21	4.41	18.84	3.39	3.70	1.54
+9	35.37	4.53	17.31	3.39	3.17	1.19	**+9**	36.12	4.42	18.67	3.39	3.64	1.55
+10	37.60	4.43	19.58	3.23	4.14	1.36	**+10**	36.65	4.34	19.03	3.31	3.79	1.54
+11	36.05	4.59	17.53	3.55	3.23	1.49	**+11**	36.63	4.52	18.91	3.49	3.73	1.70
+12	33.36	4.78	16.16	3.69	2.64	1.95	**+12**	35.84	4.63	18.28	3.59	3.46	1.79
+13	35.01	4.63	17.62	3.58	2.96	1.58	**+13**	36.12	4.56	18.48	3.52	3.49	1.71
+14	36.57	4.75	17.82	3.68	3.61	1.65	**+14**	36.29	4.68	18.54	3.64	3.50	1.84
+15	35.13	4.94	17.70	3.93	3.16	1.78	**+15**	36.27	4.93	18.56	3.89	3.51	2.08
+16	33.13	4.81	16.37	3.74	3.45	1.49	**+16**	36.65	4.78	18.77	3.73	3.66	1.90
+17	35.89	4.42	18.67	3.38	3.77	1.35	**+17**	37.21	4.42	19.17	3.36	3.76	1.52
+18	37.58	4.41	18.82	3.30	4.04	1.42	**+18**	37.23	4.42	19.15	3.35	3.78	1.52
+19	34.52	4.39	17.44	3.38	3.56	1.39	**+19**	37.71	4.34	19.49	3.28	3.91	1.47
+20	35.07	4.47	16.87	3.35	3.80	0.35	**+20**	37.90	4.30	19.62	3.25	4.00	1.45

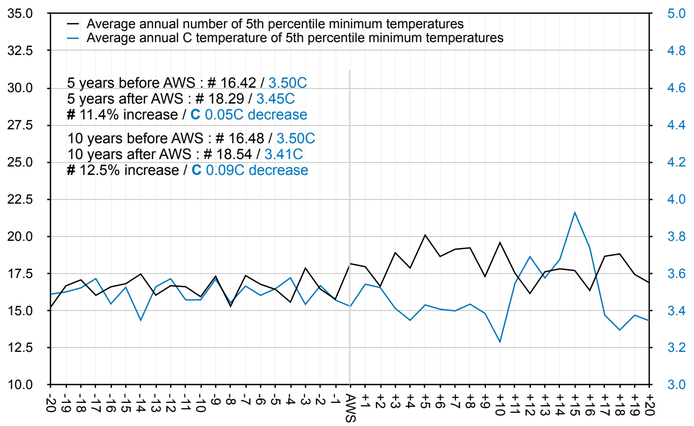
Average annual number and temperature of days within 10th percentile of RAW minima 20 years before and after AWS original and/or replacement probe at 104 ACORN stations



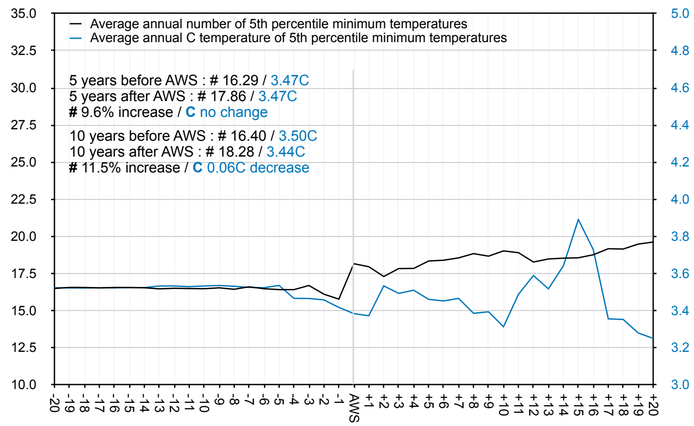
Cumulative average number and temperature of days within 10th percentile of RAW minima 20 years before and after AWS original and/or replacement probe at 104 ACORN stations



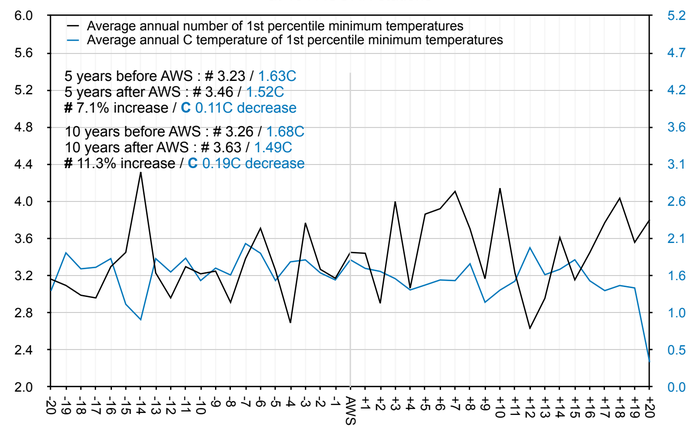
Average annual number and temperature of days within 5th percentile of RAW minima 20 years before and after AWS original and/or replacement probe at 104 ACORN stations



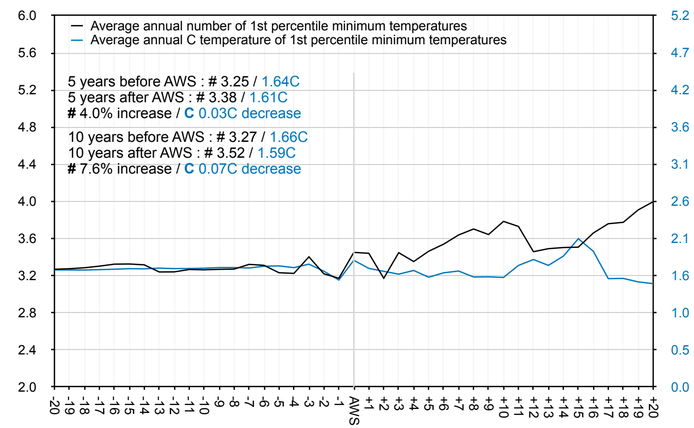
Cumulative average number and temperature of days within 5th percentile of RAW minima 20 years before and after AWS original and/or replacement probe at 104 ACORN stations



Average annual number and temperature of days within 1st percentile of RAW minima 20 years before and after AWS original and/or replacement probe at 104 ACORN stations

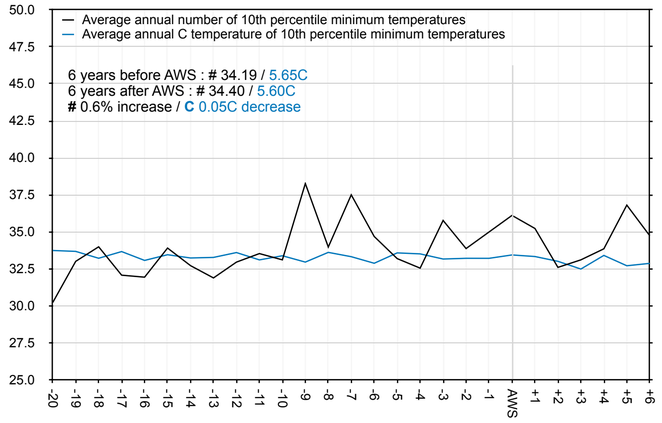


Cumulative average number and temperature of days within 1st percentile of RAW minima 20 years before and after AWS original and/or replacement probe at 104 ACORN stations



Year	# 10th	C 10th	# 5th	C 5th	# 1st	C 1st	Years	# 10th	C 10th	# 5th	C 5th	# 1st	C 1st
-20	30.24	5.75	14.20	4.64	2.75	2.18	-20	33.72	5.66	16.64	4.60	3.30	2.71
-19	33.02	5.74	15.66	4.59	2.97	2.80	-19	33.90	5.65	16.77	4.59	3.33	2.70
-18	34.00	5.65	17.17	4.60	3.32	2.36	-18	33.95	5.65	16.83	4.59	3.35	2.70
-17	32.08	5.74	15.85	4.70	2.59	2.62	-17	33.95	5.65	16.81	4.60	3.35	2.71
-16	31.95	5.62	16.36	4.49	3.46	2.80	-16	34.06	5.65	16.88	4.59	3.39	2.71
-15	33.92	5.69	16.93	4.68	3.24	2.13	-15	34.20	5.66	16.91	4.60	3.39	2.72
-14	32.73	5.65	16.22	4.46	3.78	1.87	-14	34.22	5.65	16.91	4.59	3.40	2.74
-13	31.90	5.66	16.00	4.62	3.00	2.81	-13	34.34	5.66	16.96	4.59	3.37	2.75
-12	32.97	5.72	16.20	4.69	2.49	2.94	-12	34.54	5.65	17.04	4.59	3.40	2.74
-11	33.54	5.62	16.64	4.56	3.29	2.80	-11	34.69	5.65	17.12	4.58	3.49	2.73
-10	33.12	5.68	16.29	4.54	3.24	2.64	-10	34.80	5.65	17.16	4.58	3.51	2.73
-9	38.27	5.59	19.14	4.52	4.29	2.76	-9	34.99	5.65	17.26	4.58	3.53	2.74
-8	33.98	5.72	15.81	4.62	3.07	2.73	-8	34.58	5.66	17.03	4.59	3.44	2.74
-7	37.51	5.67	18.56	4.63	3.54	2.82	-7	34.66	5.65	17.20	4.59	3.49	2.74
-6	34.69	5.58	17.56	4.50	3.86	2.94	-6	34.19	5.64	16.97	4.58	3.49	2.73
-5	33.20	5.72	16.37	4.57	3.53	2.38	-5	34.08	5.65	16.86	4.60	3.41	2.68
-4	32.56	5.70	15.64	4.61	2.80	2.65	-4	34.31	5.66	16.98	4.61	3.38	2.66
-3	35.78	5.64	18.10	4.55	3.75	2.60	-3	34.89	5.64	17.42	4.61	3.58	2.77
-2	33.88	5.64	16.90	4.59	3.54	2.79	-2	34.44	5.64	17.08	4.61	3.49	2.66
-1	35.00	5.64	17.27	4.62	3.44	2.54	-1	35.00	5.64	17.27	4.57	3.44	2.56
AWS	36.12	5.69	17.58	4.50	3.31	2.99	AWS	36.12	5.69	17.58	4.46	3.31	3.00
+1	35.24	5.67	17.90	4.62	3.25	2.73	+1	35.24	5.67	17.90	4.34	3.25	2.76
+2	32.61	5.60	16.29	4.61	2.92	2.98	+2	33.92	5.64	17.09	4.62	3.08	2.80
+3	33.12	5.50	17.49	4.50	4.20	2.45	+3	33.66	5.59	17.23	4.58	3.46	2.61
+4	33.86	5.68	16.76	4.29	2.66	2.01	+4	33.71	5.61	17.11	4.59	3.26	2.65
+5	36.81	5.54	19.10	4.55	3.58	2.44	+5	34.33	5.60	17.51	4.58	3.32	2.66
+6	34.75	5.58	17.53	4.54	3.90	2.87	+6	34.40	5.60	17.51	4.58	3.42	2.73
+7	35.37	5.63	18.49	4.60	3.81	2.84	+7	34.59	5.67	17.72	4.65	3.50	2.82
+8	35.88	5.68	18.76	4.75	3.00	3.05	+8	35.01	5.64	18.14	4.64	3.53	2.81
+9	33.73	5.79	15.94	4.77	2.41	2.75	+9	34.87	5.66	17.90	4.66	3.41	2.81
+10	32.87	5.94	15.89	4.55	3.11	2.87	+10	35.31	5.62	18.15	4.61	3.53	2.87
+11	34.53	6.13	17.23	5.15	3.23	2.82	+11	35.21	6.08	18.02	5.08	3.48	3.33
+12	29.06	7.12	13.06	6.08	2.23	5.86	+12	33.48	6.95	16.70	5.94	3.00	4.17
+13	31.64	7.11	14.93	6.03	2.61	4.76	+13	33.99	7.03	17.05	6.00	3.10	4.20
+14	31.75	7.90	14.88	6.90	1.88	5.26	+14	33.88	7.77	16.96	6.76	2.97	4.98
+15	28.09	7.91	13.91	6.96	2.04	6.05	+15	33.63	7.89	16.92	6.89	2.91	5.09
+16	29.00	8.11	13.25	7.05	2.30	5.09	+16	34.16	8.04	17.08	7.00	3.12	5.17
+17	35.29	7.40	18.88	6.44	3.29	4.20	+17	35.82	7.39	18.28	6.33	3.36	4.47
+18	37.82	7.42	18.29	6.32	3.71	4.42	+18	35.93	7.39	18.28	6.33	3.38	4.47
+19	36.08	7.56	17.62	6.56	2.00	2.95	+19	38.01	7.45	19.54	6.38	3.77	4.56
+20	32.00	8.11	13.09	6.99	1.91	4.13	+20	37.78	7.85	19.28	6.80	3.62	4.94
	Above are annual averages							Above are cumulative averages before and after AWS					

Average annual number and temperature of days within 10th percentile of RAW minima before and after replacement probes at 59 ACORN stations



All 59 stations are Adelaide, Alice Springs, Bathurst, Bourke, Brisbane, Broome, Bundaberg, Burketown, Cabramurra, Cairns, Camooweal, Cape Bruny, Cape Leeuwin, Cape Moreton, Cape Otway, Carnarvon, Ceduna, Charleville, Cobar, Coffs Harbour, Darwin, Dubbo, Eddystone Point, Esperance, Eucla, Forrest, Gabo Island, Geraldton, Giles, Halls Creek, Hobart, Horn Island, Inverell, Kalgoorlie, Kalumburu, Low Head, Mackay, Marble Bar, Marree, Meekatharra, Melbourne, Mildura, Moree, Mt Gambier, Nhill, Oodnadatta, Point Perpendicular, Port Hedland, Port Lincoln, Port Macquarie, Richmond NSW, Scone, Sydney, Tennant Creek, Townsville, Victoria River Downs, Weipa, Williamtown, Woomera

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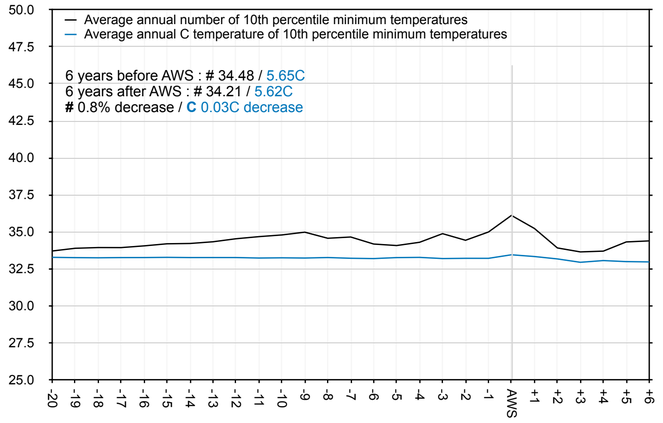

All 59 stations are Adelaide, Alice Springs, Bathurst, Bourke, Brisbane, Broome, Bundaberg, Burketown, Cabramurra, Cairns, Camooweal, Cape Bruny, Cape Leeuwin, Cape Moreton, Cape Otway, Carnarvon, Ceduna, Charleville, Cobar, Coffs Harbour, Darwin, Dubbo, Eddystone Point, Esperance, Eucla, Forrest, Gabo Island, Geraldton, Giles, Halls Creek, Hobart, Horn Island, Inverell, Kalgoorlie, Kalumburu, Low Head, Mackay, Marble Bar, Marree, Meekatharra, Melbourne, Mildura, Moree, Mt Gambier, Nhill, Oodnadatta, Point Perpendicular, Port Hedland, Port Lincoln, Port Macquarie, Richmond NSW, Scone, Sydney, Tennant Creek, Townsville, Victoria River Downs, Weipa, Williamtown, Woomera

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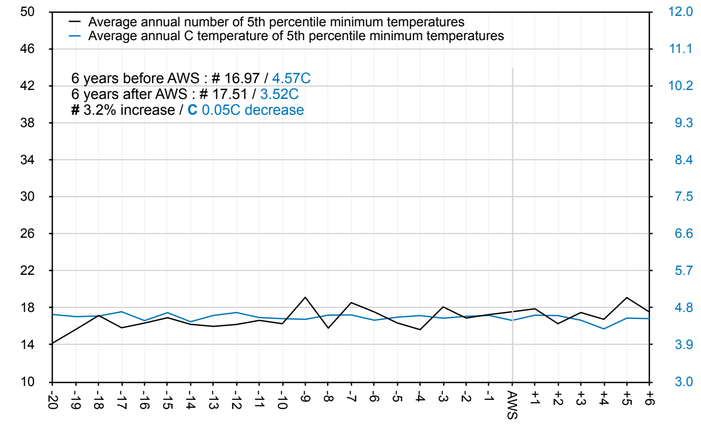

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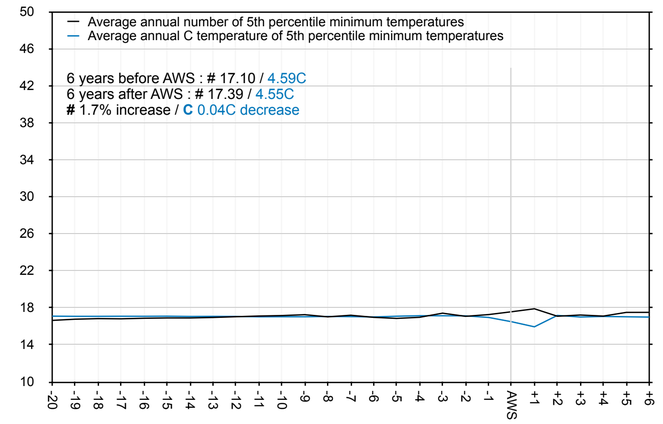

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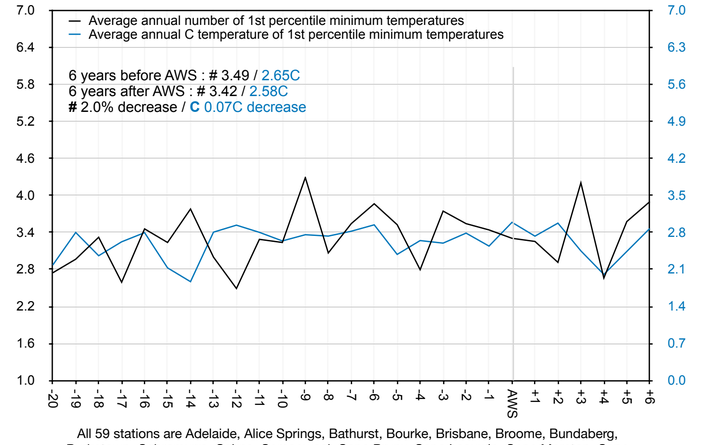

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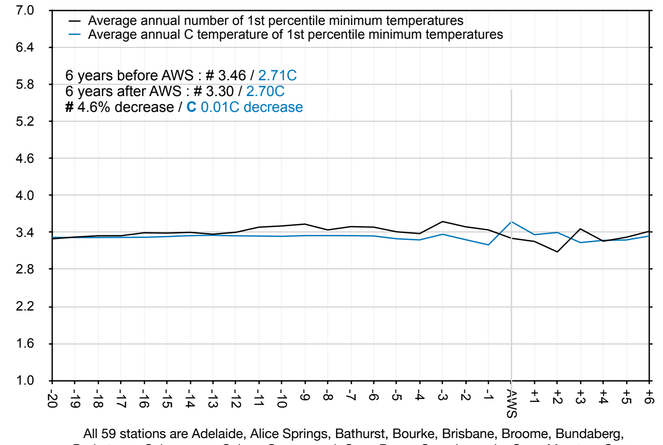
Average annual number and temperature of days within 1st percentile of RAW minima before and after replacement probes at 59 ACORN stations



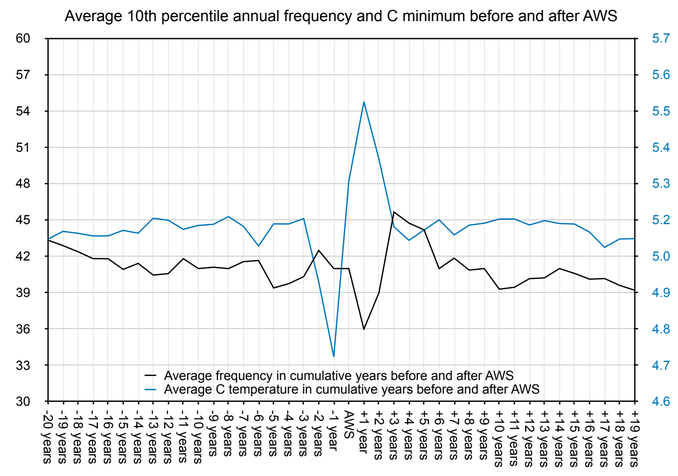
All 59 stations are Adelaide, Alice Springs, Bathurst, Bourke, Brisbane, Broome, Bundaberg, Burketown, Cabramurra, Cairns, Camooweal, Cape Bruny, Cape Leeuwin, Cape Moreton, Cape Otway, Carnarvon, Ceduna, Charleville, Cobar, Coffs Harbour, Darwin, Dubbo, Eddystone Point, Esperance, Eucla, Forrest, Gabo Island, Geraldton, Giles, Halls Creek, Hobart, Horn Island, Inverell, Kalgoorlie, Kalumburu, Low Head, Mackay, Marble Bar, Marree, Meekatharra, Melbourne, Mildura, Moree, Mt Gambier, Nhill, Oodnadatta, Point Perpendicular, Port Hedland, Port Lincoln, Port Macquarie, Richmond NSW, Scone, Sydney, Tennant Creek, Townsville, Victoria River Downs, Weipa, Williamtown, Woomera

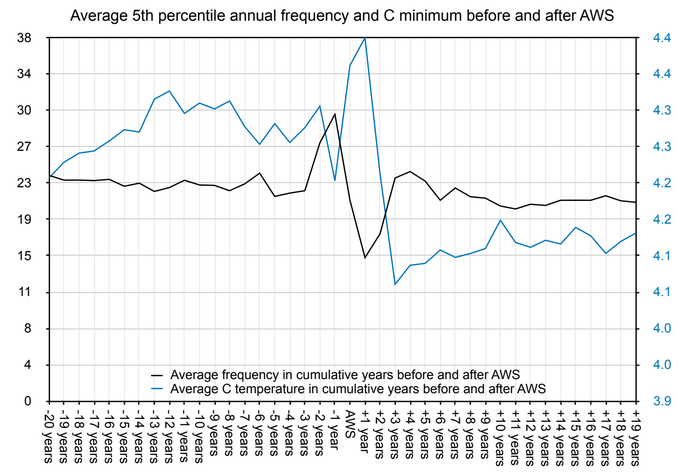
10th 6.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	26	137.2	5.3	**1910**	12	53.1	4.4	**1910**	2.0	5.9	3.0									
1911	36	185.0	5.1	**1911**	16	63.9	4.0	**1911**	6.0	17.7	3.0									
1912	47	256.7	5.5	**1912**	20	92.4	4.6	**1912**	1.0	2.8	2.8									
1913	47	231.5	4.9	**1913**	26	103.5	4.0	**1913**	8.0	21.1	2.6									
1914	57	296.4	5.2	**1914**	30	130.0	4.3	**1914**	8.0	24.4	3.1									
1915	21	120.0	5.7	**1915**	5	20.8	4.2	**1915**	2.0	7.0	3.5									
1916	36	203.7	5.7	**1916**	13	59.1	4.5	**1916**	1.0	3.5	3.5									
1917	35	187.9	5.4	**1917**	20	94.7	4.7	**1917**	1.0	2.8	2.8									
1918	48	241.0	5.0	**1918**	27	113.4	4.2	**1918**	6.0	18.3	3.1									
1919	40	220.3	5.5	**1919**	15	67.2	4.5	**1919**	2.0	5.6	2.8									
1920	42	237.2	5.6	**1920**	15	68.3	4.6	**1920**	2.0	6.1	3.1									
1921	37	201.8	5.5	**1921**	15	68.2	4.5	**1921**	2.0	5.8	2.9									
1922	54	282.2	5.2	**1922**	33	152.7	4.6	**1922**	2.0	5.5	2.8									
1923	29	170.6	5.9	**1923**	7	30.8	4.4	**1923**	0.0	0.0										
1924	49	253.5	5.2	**1924**	29	131.9	4.5	**1924**	3.0	8.2	2.7									
1925	42	210.6	5.0	**1925**	25	104.6	4.2	**1925**	9.0	27.9	3.1									
1926	35	196.0	5.6	**1926**	13	60.6	4.7	**1926**	1.0	3.2	3.2									
1927	43	209.4	4.9	**1927**	29	121.3	4.2	**1927**	9.0	28.4	3.2									
1928	36	182.3	5.1	**1928**	22	94.8	4.3	**1928**	5.0	13.1	2.6									
1929	47	241.4	5.1	**1929**	26	112.0	4.3	**1929**	3.0	8.1	2.7									
1930	31	166.4	5.4	**1930**	18	86.0	4.8	**1930**	1.0	3.3	3.3									
1931	33	185.3	5.6	**1931**	13	60.7	4.7	**1931**	1.0	3.3	3.3									
1932	39	211.3	5.4	**1932**	18	82.6	4.6	**1932**	2.0	6.5	3.3									
1933	55	298.9	5.4	**1933**	24	102.9	4.3	**1933**	5.0	15.3	3.1									
1934	32	179.0	5.6	**1934**	13	62.3	4.8	**1934**	0.0	0.0										
1935	33	182.0	5.5	**1935**	16	75.4	4.7	**1935**	0.0	0.0										
1936	39	209.0	5.4	**1936**	18	81.3	4.5	**1936**	2.0	6.8	3.4									
1937	43	237.1	5.5	**1937**	19	90.8	4.8	**1937**	0.0	0.0										
1938	40	210.1	5.3	**1938**	18	76.1	4.2	**1938**	4.0	13.1	3.3									
1939	37	195.7	5.3	**1939**	17	69.3	4.1	**1939**	3.0	7.2	2.4									
1940	40	216.0	5.4	**1940**	21	95.7	4.6	**1940**	1.0	3.2	3.2									
1941	31	178.1	5.7	**1941**	10	49.2	4.9	**1941**	0.0	0.0										
1942	27	155.3	5.8	**1942**	5	24.1	4.8	**1942**	0.0	0.0										
1943	56	307.8	5.5	**1943**	22	96.9	4.4	**1943**	4.0	12.4	3.1									
1944	58	290.8	5.0	**1944**	31	126.0	4.1	**1944**	10.0	27.6	2.8									
1945	39	197.1	5.1	**1945**	19	73.4	3.9	**1945**	5.0	11.3	2.3									
1946	59	311.2	5.3	**1946**	28	118.7	4.2	**1946**	5.0	15.2	3.0									
1947	31	175.4	5.7	**1947**	10	45.6	4.6	**1947**	1.0	3.4	3.4									
1948	33	185.0	5.6	**1948**	10	46.2	4.6	**1948**	1.0	2.9	2.9									
1949	54	290.6	5.4	**1949**	27	124.6	4.6	**1949**	2.0	5.3	2.7									
1950	39	222.9	5.7	**1950**	11	51.9	4.7	**1950**	0.0	0.0										
1951	38	211.9	5.6	**1951**	15	65.8	4.4	**1951**	3.0	8.5	2.8									
1952	49	250.9	5.1	**1952**	30	133.7	4.5	**1952**	3.0	7.5	2.5									
1953	34	184.4	5.4	**1953**	15	69.4	4.6	**1953**	0.0	0.0										
1954	41	225.9	5.5	**1954**	19	89.7	4.7	**1954**	2.0	6.9	3.5									
1955	27	157.1	5.8	**1955**	8	38.7	4.8	**1955**	0.0	0.0										
1956	19	108.8	5.7	**1956**	7	35.0	5.0	**1956**	0.0	0.0										
1957	37	198.6	5.4	**1957**	17	76.0	4.5	**1957**	1.0	3.4	3.4									
1958	41	209.2	5.1	**1958**	22	91.1	4.1	**1958**	6.0	15.8	2.6									
1959	33	175.3	5.3	**1959**	16	69.0	4.3	**1959**	3.0	9.6	3.2									
1960	53	281.5	5.3	**1960**	25	108.2	4.3	**1960**	4.0	11.7	2.9									
1961	21	116.4	5.5	**1961**	7	30.0	4.3	**1961**	2.0	6.2	3.1									
1962	17	97.1	5.7	**1962**	7	34.3	4.9	**1962**	0.0	0.0										
1963	22	111.8	5.1	**1963**	13	57.1	4.4	**1963**	2.0	6.7	3.4									
1964	27	141.3	5.2	**1964**	15	65.9	4.4	**1964**	2.0	5.0	2.5									
1965	24	124.2	5.2	**1965**	13	56.2	4.3	**1965**	4.0	12.3	3.1									
1966	37	213.2	5.8	**1966**	11	52.3	4.8	**1966**	1.0	3.3	3.3									
1967	36	201.1	5.6	**1967**	15	71.8	4.8	**1967**	0.0	0.0										
1968	37	197.1	5.3	**1968**	18	77.8	4.3	**1968**	3.0	7.3	2.4									
1969	30	172.2	5.7	**1969**	9	42.8	4.8	**1969**	0.0	0.0										
1970	28	155.4	5.6	**1970**	10	42.4	4.2	**1970**	3.0	9.6	3.2									
1971	25	148.5	5.9	**1971**	6	28.8	4.8	**1971**	0.0	0.0										
1972	23	124.0	5.4	**1972**	8	33.3	4.2	**1972**	2.0	5.2	2.6									
1973	26	139.3	5.4	**1973**	10	43.5	4.4	**1973**	0.0	0.0										
1974	25	142.2	5.7	**1974**	5	23.0	4.6	**1974**	0.0	0.0										
1975	21	118.9	5.7	**1975**	8	39.4	4.9	**1975**	0.0	0.0										
1976	23	126.5	5.5	**1976**	9	40.5	4.5	**1976**	1.0	3.3	3.3									
1977	22	128.0	5.8	**1977**	7	33.6	4.8	**1977**	0.0	0.0										
1978	48	234.9	4.9	**1978**	26	100.9	3.9	**1978**	11.0	31.1	2.8									
1979	34	173.9	5.1	**1979**	17	68.9	4.1	**1979**	6.0	19.3	3.2									
1980	27	136.6	5.1	**1980**	17	73.4	4.3	**1980**	2.0	6.8	3.4									
1981	33	177.3	5.4	**1981**	13	52.4	4.0	**1981**	3.0	8.2	2.7									
1982	61	277.8	4.6	**1982**	29	81.9	2.8	**1982**	18.0	32.3	1.8									
1983	52	241.5	4.6	**1983**	33	125.3	3.8	**1983**	12.0	26.4	2.2	-20 years	43.4	5.1	-20 years	23.6	4.2	-20 years	6.0	2.8
1984	52	271.5	5.2	**1984**	23	92.1	4.0	**1984**	8.0	22.0	2.8	-19 years	42.9	5.1	-19 years	23.1	4.2	-19 years	5.7	2.8
1985	52	272.8	5.2	**1985**	24	100.6	4.2	**1985**	6.0	15.0	2.5	-18 years	42.4	5.1	-18 years	23.1	4.2	-18 years	5.6	2.8
1986	42	214.1	5.1	**1986**	21	84.5	4.0	**1986**	6.0	15.2	2.5	-17 years	41.8	5.1	-17 years	23.1	4.2	-17 years	5.5	2.8
1987	55	267.0	4.9	**1987**	34	136.9	4.0	**1987**	10.0	27.3	2.7	-16 years	41.8	5.1	-16 years	23.2	4.3	-16 years	5.5	2.9
1988	34	178.0	5.2	**1988**	18	77.7	4.3	**1988**	3.0	9.8	3.3	-15 years	40.9	5.1	-15 years	22.5	4.3	-15 years	5.2	2.9
1989	54	244.2	4.5	**1989**	34	125.2	3.7	**1989**	15.0	35.5	2.4	-14 years	41.4	5.1	-14 years	22.8	4.3	-14 years	5.4	2.8
1990	39	204.0	5.2	**1990**	17	71.1	4.2	**1990**	4.0	10.8	2.7	-13 years	40.5	5.2	-13 years	21.9	4.3	-13 years	4.6	2.9
1991	27	147.2	5.5	**1991**	14	65.3	4.7	**1991**	2.0	5.8	2.9	-12 years	40.6	5.1	-12 years	22.3	4.3	-12 years	4.7	2.9
1992	50	250.2	5.0	**1992**	28	116.3	4.2	**1992**	8.0	25.1	3.1	-11 years	41.8	5.1	-11 years	23.1	4.3	-11 years	4.9	2.9
1993	40	204.1	5.1	**1993**	23	100.8	4.4	**1993**	4.0	11.0	2.8	-10 years	41.0	5.1	-10 years	22.6	4.3	-10 years	4.6	2.9
1994	42	207.9	5.0	**1994**	27	113.8	4.2	**1994**	8.0	23.2	2.9	-9 years	41.1	5.1	-9 years	22.6	4.3	-9 years	4.7	2.9
1995	37	198.7	5.4	**1995**	17	77.5	4.6	**1995**	3.0	8.2	2.7	-8 years	41.0	5.2	-8 years	22.0	4.3	-8 years	4.3	2.9
1996	41	224.9	5.5	**1996**	16	70.8	4.4	**1996**	1.0	2.6	2.6	-7 years	41.6	5.1	-7 years	22.7	4.3	-7 years	4.4	2.9
1997	53	251.1	4.7	**1997**	36	148.0	4.1	**1997**	12.0	35.1	2.9	-6 years	41.7	5.1	-6 years	23.8	4.3	-6 years	5.0	2.9
1998	38	195.3	5.1	**1998**	20	87.7	4.4	**1998**	2.0	5.6	2.8	-5 years	39.4	5.1	-5 years	21.4	4.3	-5 years	3.6	2.9
1999	38	193.4	5.1	**1999**	21	88.1	4.2	**1999**	4.0	10.4	2.6	-4 years	39.8	5.1	-4 years	21.8	4.3	-4 years	4.0	3.0
2000	36	199.4	5.5	**2000**	12	50.6	4.2	**2000**	2.0	6.5	3.3	-3 years	40.3	5.2	-3 years	22.0	4.3	-3 years	4.0	3.1
2001	44	228.3	5.2	**2001**	24	105.8	4.4	**2001**	2.0	6.1	3.1	-2 years	42.5	5.0	-2 years	27.0	4.3	-2 years	5.0	3.0
2002	41	194.2	4.7	**2002**	30	126.1	4.2	**2002**	8.0	23.5	2.9	-1 years	41.0	4.7	-1 years	30.0	4.2	-1 years	8.0	2.9
2003	41	216.0	5.3	**2003**	21	91.6	4.4	**2003**	5.0	16.6	3.3	AWS	41.0	5.3	AWS	21.0	4.4	AWS	5.0	3.3
2004	36	198.3	5.5	**2004**	15	66.0	4.4	**2004**	4.0	12.8	3.2	+1 years	36.0	5.5	+1 years	15.0	4.4	+1 years	4.0	3.2
2005	42	216.8	5.2	**2005**	20	80.5	4.0	**2005**	6.0	17.2	2.9	+2 years	39.0	5.3	+2 years	17.5	4.2	+2 years	5.0	3.0
2006	59	278.4	4.7	**2006**	35	131.5	3.8	**2006**	13.0	29.3	2.3	+3 years	45.7	5.1	+3 years	23.3	4.1	+3 years	7.7	2.8
2007	42	208.6	5.0	**2007**	26	108.3	4.2	**2007**	5.0	10.0	2.0	+4 years	44.8	5.1	+4 years	24.0	4.1	+4 years	7.0	2.6
2008	42	220.3	5.2	**2008**	19	77.9	4.1	**2008**	7.0	18.1	2.6	+5 years	44.2	5.1	+5 years	23.0	4.1	+5 years	7.0	2.6
2009	25	132.6	5.3	**2009**	11	46.2	4.2	**2009**	3.0	9.7	3.2	+6 years	41.0	5.2	+6 years	21.0	4.1	+6 years	6.3	2.7
2010	47	227.1	4.8	**2010**	30	121.1	4.0	**2010**	10.0	28.7	2.9	+7 years	41.9	5.1	+7 years	22.3	4.1	+7 years	6.9	2.7
2011	34	181.6	5.3	**2011**	15	62.1	4.1	**2011**	2.0	3.6	1.8	+8 years	40.9	5.1	+8 years	21.4	4.1	+8 years	6.3	2.6
2012	42	217.9	5.2	**2012**	20	83.3	4.2	**2012**	6.0	15.3	2.6	+9 years	41.0	5.1	+9 years	21.2	4.1	+9 years	6.2	2.6
2013	24	126.4	5.3	**2013**	13	58.5	4.5	**2013**	0.0	0.0		+10 years	39.3	5.2	+10 years	20.4	4.1	+10 years	5.6	2.6
2014	41	211.4	5.2	**2014**	17	64.8	3.8	**2014**	6.0	14.8	2.5	+11 years	39.5	5.2	+11 years	20.1	4.1	+11 years	5.6	2.6
2015	48	236.9	4.9	**2015**	26	105.0	4.0	**2015**	9.0	26.0	2.9	+12 years	40.2	5.1	+12 years	20.6	4.1	+12 years	5.9	2.6
2016	41	217.5	5.3	**2016**	19	80.5	4.2	**2016**	4.0	11.3	2.8	+13 years	40.2	5.1	+13 years	20.5	4.1	+13 years	5.8	2.6
2017	51	256.4	5.0	**2017**	28	113.4	4.1	**2017**	9.0	26.0	2.9	+14 years	41.0	5.1	+14 years	21.0	4.1	+14 years	6.0	2.6
2018	35	179.1	5.1	**2018**	21	93.6	4.5	**2018**	5.0	16.2	3.2	+15 years	40.6	5.1	+15 years	21.0	4.1	+15 years	5.9	2.7
2019	33	156.5	4.7	**2019**	21	83.1	4.0	**2019**	8.0	22.9	2.9	+16 years	40.1	5.1	+16 years	21.0	4.1	+16 years	6.1	2.7
2020	41	177.7	4.3	**2020**	29	107.7	3.7	**2020**	10.0	19.6	2.0	+17 years	40.2	5.1	+17 years	21.5	4.1	+17 years	6.3	2.7
2021	30	165.7	5.5	**2021**	12	52.8	4.4	**2021**	2.0	5.4	2.7	+18 years	39.6	5.1	+18 years	20.9	4.1	+18 years	6.1	2.7
2022	32	163.5	5.1	**2022**	18	78.1	4.3	**2022**	1	2.7	2.7	+19 years	39.2	5.1	+19 years	20.8	4.1	+19 years	5.8	2.7

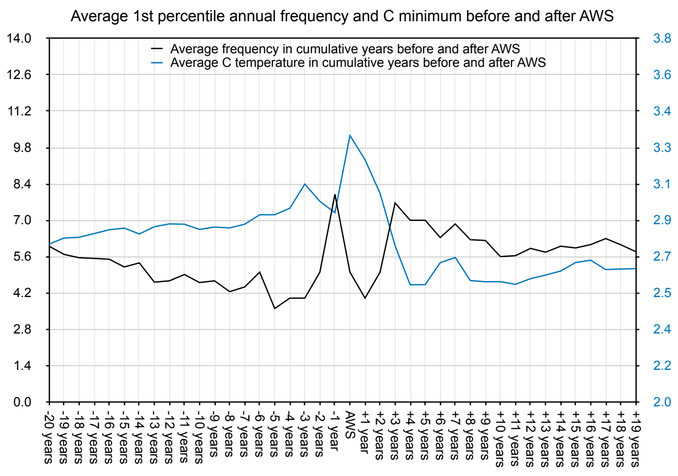
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	41.7	210.3	5.1	**Pre**	23.8	101.1	4.3	**Pre**	5.0	14.5	2.9									
Post	41.0	209.2	5.2	**Post**	21.0	85.1	4.1	**Post**	6.3	16.2	2.7									

		AWS introduction
		Probe replacement
		Small screen introduction







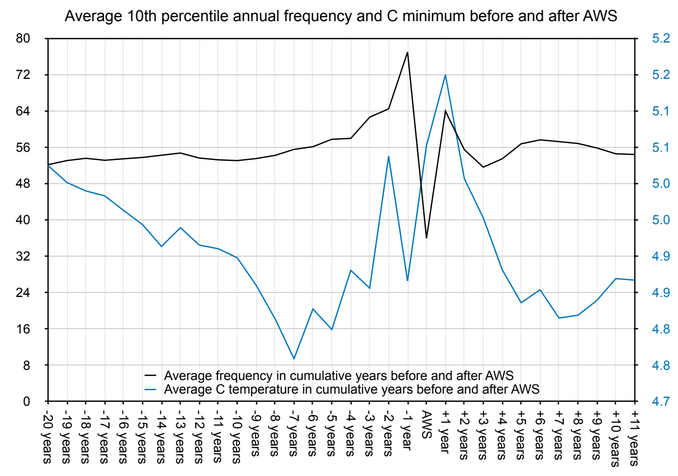
10th 6.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	27	139.6	5.2	**1910**	11	41.9	3.8	**1910**	3	6.6	2.2									
1911	22	125.0	5.7	**1911**	9	45.8	5.1	**1911**	0	0.0										
1912	30	151.7	5.1	**1912**	19	85.2	4.5	**1912**	3	7.2	2.4									
1913	13	75.8	5.8	**1913**	4	21.1	5.3	**1913**	0	0.0										
1914	9	53.7	6.0	**1914**	2	10.6	5.3	**1914**	0	0.0										
1915	6	33.9	5.7	**1915**	2	9.7	4.9	**1915**	0	0.0										
1916	25	129.0	5.2	**1916**	12	51.1	4.3	**1916**	1	3.3	3.3									
1917	32	175.4	5.5	**1917**	13	57.1	4.4	**1917**	1	2.8	2.8									
1918	20	97.9	4.9	**1918**	12	49.8	4.2	**1918**	2	5.3	2.7									
1919	28	150.0	5.4	**1919**	13	62.3	4.8	**1919**	0	0.0										
1920	31	170.4	5.5	**1920**	13	60.6	4.7	**1920**	1	3.3	3.3									
1921	10	52.6	5.3	**1921**	5	22.1	4.4	**1921**	0	0.0										
1922	27	137.1	5.1	**1922**	15	64.8	4.3	**1922**	3	6.9	2.3									
1923	19	102.7	5.4	**1923**	9	42.5	4.7	**1923**	1	1.8	1.8									
1924	29	151.2	5.2	**1924**	17	80.4	4.7	**1924**	0	0.0										
1925	27	138.0	5.1	**1925**	11	42.4	3.9	**1925**	4	11.1	2.8									
1926	23	127.5	5.5	**1926**	10	48.0	4.8	**1926**	0	0.0										
1927	28	139.0	5.0	**1927**	15	60.8	4.1	**1927**	5	13.6	2.7									
1928	29	157.5	5.4	**1928**	10	44.6	4.5	**1928**	0	0.0										
1929	26	140.0	5.4	**1929**	10	46.1	4.6	**1929**	0	0.0										
1930	20	108.0	5.4	**1930**	8	37.8	4.7	**1930**	0	0.0										
1931	30	150.1	5.0	**1931**	18	77.3	4.3	**1931**	3	8.3	2.8									
1932	24	132.5	5.5	**1932**	10	47.6	4.8	**1932**	1	3.3	3.3									
1933	28	154.8	5.5	**1933**	12	54.3	4.5	**1933**	1	3.2	3.2									
1934	21	114.7	5.5	**1934**	9	40.8	4.5	**1934**	0	0.0										
1935	37	199.4	5.4	**1935**	15	64.5	4.3	**1935**	3	7.0	2.3									
1936	25	129.0	5.2	**1936**	14	60.9	4.4	**1936**	3	7.9	2.6									
1937	32	167.1	5.2	**1937**	13	53.4	4.1	**1937**	2	5.6	2.8									
1938	20	107.3	5.4	**1938**	8	34.3	4.3	**1938**	0	0.0										
1939	25	131.6	5.3	**1939**	10	43.9	4.4	**1939**	1	3.3	3.3									
1940	24	127.4	5.3	**1940**	11	51.0	4.6	**1940**	2	5.9	3.0									
1941	15	72.9	4.9	**1941**	10	43.4	4.3	**1941**	1	3.3	3.3									
1942	23	125.5	5.5	**1942**	8	36.1	4.5	**1942**	1	3.3	3.3									
1943	29	144.9	5.0	**1943**	16	64.8	4.1	**1943**	5	10.2	2.0									
1944	19	95.6	5.0	**1944**	9	36.4	4.0	**1944**	3	9.2	3.1									
1945	11	63.0	5.7	**1945**	1	5.0	5.0	**1945**	0	0.0										
1946	11	60.7	5.5	**1946**	3	14.4	4.8	**1946**	0	0.0										
1947	23	111.7	4.9	**1947**	13	53.7	4.1	**1947**	3	9.4	3.1									
1948	19	101.8	5.4	**1948**	7	31.1	4.4	**1948**	0	0.0										
1949	13	70.6	5.4	**1949**	6	29.4	4.9	**1949**	0	0.0										
1950	14	75.6	5.4	**1950**	5	22.7	4.5	**1950**	0	0.0										
1951	25	129.0	5.2	**1951**	12	53.2	4.4	**1951**	1	3.3	3.3									
1952	32	174.7	5.5	**1952**	11	47.1	4.3	**1952**	1	3.3	3.3									
1953	17	92.9	5.5	**1953**	6	26.9	4.5	**1953**	0	0.0										
1954	11	62.5	5.7	**1954**	3	14.7	4.9	**1954**	0	0.0										
1955	23	124.2	5.4	**1955**	8	35.0	4.4	**1955**	1	3.3	3.3									
1956	31	169.9	5.5	**1956**	10	44.7	4.5	**1956**	1	3.3	3.3									
1957	12	67.2	5.6	**1957**	3	13.4	4.5	**1957**	0	0.0										
1958	16	91.9	5.7	**1958**	3	14.0	4.7	**1958**	0	0.0										
1959	8	47.4	5.9	**1959**	1	4.5	4.5	**1959**	0	0.0										
1960	31	167.4	5.4	**1960**	10	40.6	4.1	**1960**	3	9.1	3.0									
1961	10	54.9	5.5	**1961**	5	24.1	4.8	**1961**	0	0.0										
1962	7	33.9	4.8	**1962**	5	21.8	4.4	**1962**	1	3.0	3.0									
1963	15	86.8	5.8	**1963**	4	19.7	4.9	**1963**	0	0.0										
1964	18	106.0	5.9	**1964**	4	19.7	4.9	**1964**	0	0.0										
1965	30	144.3	4.8	**1965**	17	67.6	4.0	**1965**	4	12.0	3.0									
1966	68	341.4	5.0	**1966**	33	131.0	4.0	**1966**	9	20.5	2.3									
1967	42	212.8	5.1	**1967**	21	87.6	4.2	**1967**	7	20.0	2.9									
1968	70	326.7	4.7	**1968**	49	201.9	4.1	**1968**	11	30.1	2.7									
1969	61	295.3	4.8	**1969**	40	167.6	4.2	**1969**	9	24.9	2.8									
1970	51	259.1	5.1	**1970**	25	103.2	4.1	**1970**	6	16.3	2.7									
1971	59	303.8	5.1	**1971**	30	125.8	4.2	**1971**	6	16.1	2.7									
1972	44	210.6	4.8	**1972**	26	100.0	3.8	**1972**	10	25.5	2.6									
1973	57	283.9	5.0	**1973**	32	134.5	4.2	**1973**	6	13.8	2.3									
1974	56	295.3	5.3	**1974**	29	132.3	4.6	**1974**	1	2.6	2.6									
1975	59	309.8	5.3	**1975**	27	114.0	4.2	**1975**	5	15.3	3.1									
1976	45	246.3	5.5	**1976**	18	83.5	4.6	**1976**	1	3.3	3.3									
1977	46	229.6	5.0	**1977**	26	108.1	4.2	**1977**	7	19.2	2.7									
1978	36	184.3	5.1	**1978**	21	91.2	4.3	**1978**	1	1.8	1.8									
1979	53	281.7	5.3	**1979**	22	91.9	4.2	**1979**	4	12.4	3.1									
1980	58	316.2	5.5	**1980**	23	102.0	4.4	**1980**	2	3.4	1.7									
1981	56	290.5	5.2	**1981**	29	125.0	4.3	**1981**	5	12.0	2.4									
1982	62	318.7	5.1	**1982**	28	110.9	4.0	**1982**	8	20.8	2.6									
1983	45	237.1	5.3	**1983**	21	90.1	4.3	**1983**	3	7.6	2.5									
1984	36	191.9	5.3	**1984**	16	68.8	4.3	**1984**	2	4.5	2.3									
1985	49	258.8	5.3	**1985**	25	112.1	4.5	**1985**	1	3.0	3.0									
1986	78	423.2	5.4	**1986**	31	134.3	4.3	**1986**	4	10.0	2.5									
1987	58	290.9	5.0	**1987**	31	126.2	4.1	**1987**	6	11.8	2.0									
1988	45	225.5	5.0	**1988**	24	96.7	4.0	**1988**	7	18.3	2.6									
1989	50	268.4	5.4	**1989**	25	114.0	4.6	**1989**	3	9.1	3.0									
1990	52	253.3	4.9	**1990**	31	126.1	4.1	**1990**	6	13.8	2.3									
1991	35	191.5	5.5	**1991**	13	62.2	4.8	**1991**	0	0.0		20 years	52.2	5.0	20 years	27.9	4.1	20 years	7.3	2.4
1992	44	229.3	5.2	**1992**	25	114.4	4.6	**1992**	3	8.9	3.0	19 years	53.1	5.0	19 years	28.6	4.1	19 years	7.6	2.4
1993	61	311.4	5.1	**1993**	35	150.5	4.3	**1993**	8	24.6	3.1	18 years	53.6	5.0	18 years	28.8	4.1	18 years	7.9	2.4
1994	48	254.7	5.3	**1994**	23	100.2	4.4	**1994**	4	10.5	2.6	17 years	53.2	5.0	17 years	28.5	4.1	17 years	7.9	2.4
1995	49	257.5	5.3	**1995**	25	109.2	4.4	**1995**	6	16.3	2.7	16 years	53.5	5.0	16 years	28.8	4.0	16 years	8.1	2.3
1996	47	252.1	5.4	**1996**	21	92.7	4.4	**1996**	3	6.7	2.2	15 years	53.8	4.9	15 years	29.1	4.0	15 years	8.3	2.3
1997	48	219.8	4.6	**1997**	26	87.4	3.4	**1997**	13	29.9	2.3	14 years	54.3	4.9	14 years	29.6	4.0	14 years	8.6	2.3
1998	68	355.4	5.2	**1998**	31	130.9	4.2	**1998**	6	14.0	2.3	13 years	54.8	4.9	13 years	29.9	4.0	13 years	8.3	2.3
1999	58	288.3	5.0	**1999**	31	127.4	4.1	**1999**	8	19.4	2.4	12 years	53.7	4.9	12 years	29.8	4.0	12 years	8.5	2.3
2000	55	276.9	5.0	**2000**	27	105.8	3.9	**2000**	7	16.2	2.3	11 years	53.3	4.9	11 years	29.7	4.0	11 years	8.5	2.3
2001	49	256.7	5.2	**2001**	21	88.8	4.2	**2001**	3	6.8	2.3	10 years	53.1	4.9	10 years	30.0	4.0	10 years	8.7	2.3
2002	48	251.0	5.2	**2002**	28	128.3	4.6	**2002**	2	3.1	1.6	9 years	53.6	4.9	9 years	31.0	4.0	9 years	9.3	2.3
2003	45	234.0	5.2	**2003**	23	97.9	4.3	**2003**	5	12.1	2.4	8 years	54.3	4.8	8 years	31.4	3.9	8 years	10.3	2.4
2004	52	226.1	4.3	**2004**	31	99.9	3.2	**2004**	17	39.3	2.3	7 years	55.6	4.8	7 years	32.6	3.9	7 years	11.0	2.4
2005	48	238.5	5.0	**2005**	26	105.7	4.1	**2005**	7	14.7	2.1	6 years	56.2	4.8	6 years	32.8	4.0	6 years	10.0	2.4
2006	57	255.0	4.5	**2006**	35	122.5	3.5	**2006**	12	22.2	1.9	5 years	57.8	4.8	5 years	34.2	4.0	5 years	10.6	2.5
2007	44	218.0	5.0	**2007**	24	96.6	4.0	**2007**	7	17.8	2.5	4 years	58.0	4.9	4 years	34.0	4.1	4 years	10.3	2.7
2008	59	265.1	4.5	**2008**	41	155.5	3.8	**2008**	15	36.6	2.4	3 years	62.7	4.9	3 years	37.3	4.1	3 years	11.3	2.7
2009	52	270.9	5.2	**2009**	27	120.0	4.4	**2009**	5	15.2	3.0	2 years	64.5	5.0	2 years	35.5	4.2	2 years	9.5	2.8
2010	77	374.7	4.9	**2010**	44	175.5	4.0	**2010**	14	37.1	2.7	1 years	77.0	4.9	1 years	44.0	4.0	1 years	14.0	2.7
2011	36	181.9	5.1	**2011**	17	66.7	3.9	**2011**	3	5.6	1.9	0 years	36.0	5.1	0 years	17.0	3.9	0 years	3.0	1.9
2012	64	329.6	5.2	**2012**	29	116.3	4.0	**2012**	8	20.8	2.6	1 years	64.0	5.2	1 years	29.0	4.0	1 years	8.0	2.6
2013	47	228.6	4.9	**2013**	27	105.6	3.9	**2013**	8	19.0	2.4	2 years	55.5	5.0	2 years	28.0	4.0	2 years	8.0	2.5
2014	44	213.2	4.8	**2014**	24	90.8	3.8	**2014**	6	10.3	1.7	3 years	51.7	5.0	3 years	26.7	3.9	3 years	7.3	2.2
2015	59	275.4	4.7	**2015**	36	137.2	3.8	**2015**	15	39.6	2.6	4 years	53.5	4.9	4 years	29.0	3.9	4 years	9.3	2.3
2016	70	325.8	4.7	**2016**	43	161.6	3.8	**2016**	14	30.7	2.2	5 years	56.8	4.8	5 years	31.8	3.9	5 years	10.2	2.3
2017	62	306.5	4.9	**2017**	38	162.0	4.3	**2017**	6	12.5	2.1	6 years	57.7	4.9	6 years	32.8	3.9	6 years	9.5	2.3
2018	55	252.0	4.6	**2018**	34	126.4	3.7	**2018**	12	29.7	2.5	7 years	57.3	4.8	7 years	33.0	3.9	7 years	9.9	2.3
2019	54	261.7	4.8	**2019**	32	128.8	4.0	**2019**	9	22.3	2.5	8 years	56.9	4.8	8 years	32.9	3.9	8 years	9.8	2.3
2020	48	240.1	5.0	**2020**	24	94.8	4.0	**2020**	8	20.4	2.6	9 years	55.9	4.8	9 years	31.9	3.9	9 years	9.6	2.3
2021	43	221.0	5.1	**2021**	23	99.8	4.3	**2021**	4	11.0	2.8	10 years	54.6	4.9	10 years	31.0	4.0	10 years	9.0	2.4
2022	53	256.9	4.8	**2022**	32	129.3	4.0	**2022**	6	9.3	1.6	11 years	54.5	4.9	11 years	31.1	4.0	11 years	8.7	2.3

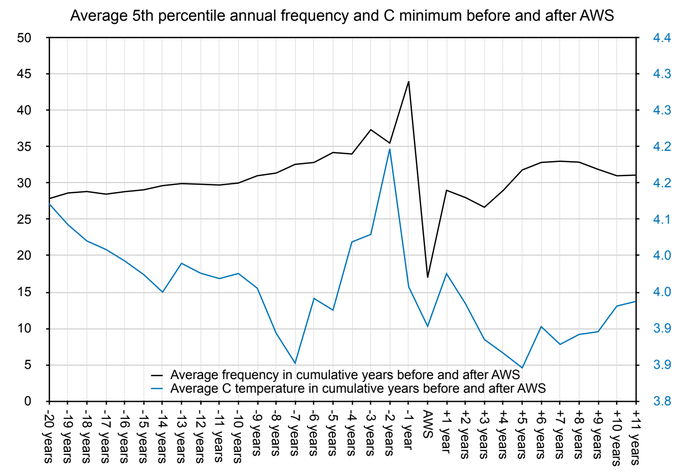
Original AWS probe Rosemount

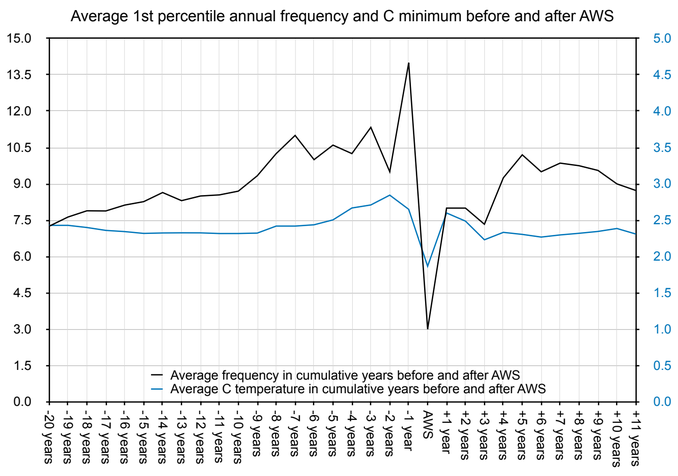
10 years				**10 years**				**10 years**			
Pre AWS	53.1	259.0	4.9	**Pre AWS**	30	119.1	4.0	**Pre AWS**	8.7	20.5	2.3
Post AWS	54.6	265.4	4.9	**Post AWS**	31	122.3	4.0	**Post AWS**	9	21.6	2.4
Pre small	47.9	246.4	5.2	**Pre small**	24.8	105.3	4.3	**Pre small**	5.3	13.8	2.7
Post small	51.5	251.0	4.9	**Post small**	28.7	112.8	4.0	**Post small**	8.3	18.8	2.2
5 years				**5 years**				**5 years**			
Pre AWS	57.8	276.7	4.8	**Pre AWS**	34.2	134.0	4.0	**Pre AWS**	10.6	25.8	2.5
Post AWS	56.8	274.5	4.8	**Post AWS**	31.8	122.3	3.9	**Post AWS**	10.2	24.1	2.3
Pre small	50.6	259.1	5.1	**Pre small**	26.0	108.0	4.2	**Pre small**	6.8	17.6	2.6
Post small	51.0	261.4	5.1	**Post small**	26.0	109.6	4.2	**Post small**	5.0	11.5	2.2

AWS introduction

Small screen introduction





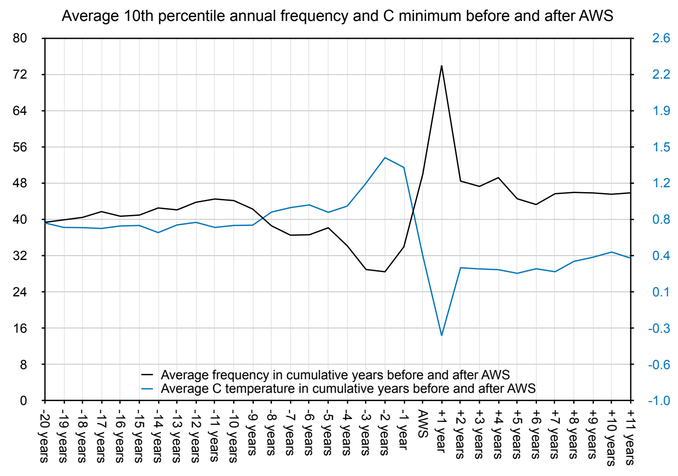


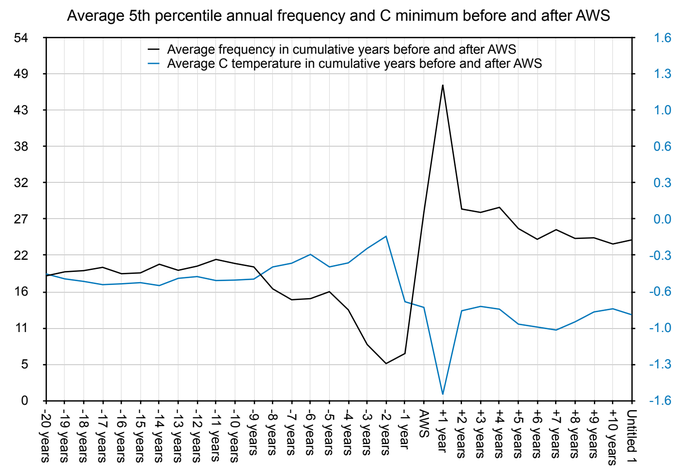
10th 2.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	17	15.2	0.9	**1910**	6	-1.1	-0.2	**1910**	1	-2.3	-2.3									
1911	25	-6.2	-0.2	**1911**	17	-21.1	-1.2	**1911**	6	-18.8	-3.1									
1912	36	40.3	1.1	**1912**	13	1.8	0.1	**1912**	0	0.0										
1913	46	10.8	0.2	**1913**	28	-26.0	-0.9	**1913**	10	-25.6	-2.6									
1914	26	23.6	0.9	**1914**	8	-8.9	-1.1	**1914**	3	-6.2	-2.1									
1915	14	15.2	1.1	**1915**	6	0.0	0.0	**1915**	0	0.0										
1916	17	20.5	1.2	**1916**	5	0.1	0.0	**1916**	0	0.0										
1917	39	23.4	0.6	**1917**	20	-13.1	-0.7	**1917**	2	-4.4	-2.2									
1918	33	0.3	0.0	**1918**	20	-21.5	-1.1	**1918**	5	-14.9	-3.0									
1919	41	-6.8	-0.2	**1919**	23	-36.5	-1.6	**1919**	6	-21.6	-3.6									
1920	26	16.2	0.6	**1920**	10	-7.2	-0.7	**1920**	2	-5.6	-2.8									
1921	28	18.9	0.7	**1921**	14	-5.5	-0.4	**1921**	0	0.0										
1922	49	5.4	0.1	**1922**	31	-27.5	-0.9	**1922**	3	-7.8	-2.6									
1923	37	21.6	0.6	**1923**	20	-7.2	-0.4	**1923**	2	-5.0	-2.5									
1924	58	-26.7	-0.5	**1924**	42	-55.5	-1.3	**1924**	13	-40.7	-3.1									
1925	45	27.5	0.6	**1925**	18	-17.3	-1.0	**1925**	5	-16.4	-3.3									
1926	34	14.5	0.4	**1926**	18	-12.0	-0.7	**1926**	1	-2.2	-2.2									
1927	28	4.2	0.2	**1927**	14	-17.9	-1.3	**1927**	4	-11.5	-2.9									
1928	32	-2.4	-0.1	**1928**	23	-15.8	-0.7	**1928**	3	-8.9	-3.0									
1929	41	-3.8	-0.1	**1929**	25	-30.7	-1.2	**1929**	11	-28.2	-2.6									
1930	18	18.7	1.0	**1930**	5	-4.4	-0.9	**1930**	1	-2.2	-2.2									
1931	19	20.3	1.1	**1931**	7	-0.9	-0.1	**1931**	0	0.0										
1932	47	-14.1	-0.3	**1932**	36	-33.7	-0.9	**1932**	8	-19.7	-2.5									
1933	27	-8.4	-0.3	**1933**	18	-22.6	-1.3	**1933**	6	-16.6	-2.8									
1934	42	21.1	0.5	**1934**	20	-14.9	-0.7	**1934**	4	-10.0	-2.5									
1935	29	23.7	0.8	**1935**	9	-7.0	-0.8	**1935**	3	-6.8	-2.3									
1936	29	16.3	0.6	**1936**	13	-12.7	-1.0	**1936**	4	-9.9	-2.5									
1937	43	-6.8	-0.2	**1937**	30	-24.8	-0.8	**1937**	6	-15.6	-2.6									
1938	25	19.9	0.8	**1938**	11	-8.1	-0.7	**1938**	2	-5.9	-3.0									
1939	24	30.5	1.3	**1939**	7	-0.3	-0.0	**1939**	0	0.0										
1940	66	-2.9	-0.0	**1940**	39	-45.7	-1.2	**1940**	12	-37.7	-3.1									
1941	39	10.9	0.3	**1941**	23	-18.9	-0.8	**1941**	4	-11.6	-2.9									
1942	15	5.7	0.4	**1942**	9	-5.4	-0.6	**1942**	2	-5.0	-2.5									
1943	38	24.7	0.7	**1943**	23	0.3	0.0	**1943**	0	0.0										
1944	52	31.9	0.6	**1944**	22	-18.7	-0.9	**1944**	5	-14.9	-3.0									
1945	25	17.5	0.7	**1945**	12	-7.9	-0.7	**1945**	0	0.0										
1946	41	32.2	0.8	**1946**	13	-11.9	-0.9	**1946**	4	-9.9	-2.5									
1947	23	23.8	1.0	**1947**	9	-2.1	-0.2	**1947**	0	0.0										
1948	39	5.1	0.1	**1948**	22	-23.2	-1.1	**1948**	5	-14.7	-2.9									
1949	52	35.9	0.7	**1949**	27	-9.1	-0.3	**1949**	3	-8.1	-2.7									
1950	31	39.7	1.3	**1950**	9	1.5	0.2	**1950**	0	0.0										
1951	40	22.3	0.6	**1951**	22	-12.3	-0.6	**1951**	3	-8.7	-2.9									
1952	35	27.2	0.8	**1952**	15	-9.8	-0.7	**1952**	4	-10.1	-2.5									
1953	49	60.1	1.2	**1953**	14	-0.6	-0.0	**1953**	1	-2.7	-2.7									
1954	28	17.4	0.6	**1954**	14	-6.9	-0.5	**1954**	3	-8.1	-2.7									
1955	13	16.0	1.2	**1955**	2	0.6	0.3	**1955**	0	0.0										
1956	30	33.2	1.1	**1956**	10	1.9	0.2	**1956**	0	0.0										
1957	27	35.9	1.3	**1957**	8	2.7	0.3	**1957**	0	0.0										
1958	19	17.0	0.9	**1958**	7	-4.5	-0.6	**1958**	1	-2.1	-2.1									
1959	20	24.9	1.2	**1959**	6	-1.7	-0.3	**1959**	0	0.0										
1960	40	37.2	0.9	**1960**	16	-6.7	-0.4	**1960**	3	-7.0	-2.3									
1961	35	6.6	0.2	**1961**	19	-20.8	-1.1	**1961**	5	-13.5	-2.7									
1962	12	18.9	1.6	**1962**	2	0.8	0.4	**1962**	0	0.0										
1963	27	21.3	0.8	**1963**	11	-6.6	-0.6	**1963**	2	-4.7	-2.4									
1964	16	19.3	1.2	**1964**	5	-0.5	-0.1	**1964**	0	0.0										
1965	32	-0.6	-0.0	**1965**	20	-19.8	-1.0	**1965**	3	-10.8	-3.6									
1966	23	42.6	1.9	**1966**	1	0.4	0.4	**1966**	0	0.0										
1967	53	36.4	0.7	**1967**	26	-11.5	-0.4	**1967**	2	-5.2	-2.6									
1968	23	20.9	0.9	**1968**	9	-4.3	-0.5	**1968**	1	-2.2	-2.2									
1969	28	25.8	0.9	**1969**	13	-1.3	-0.1	**1969**	0	0.0										
1970	38	16.8	0.4	**1970**	20	-17.6	-0.9	**1970**	5	-13.5	-2.7									
1971	36	7.4	0.2	**1971**	25	-13.5	-0.5	**1971**	2	-4.4	-2.2									
1972	27	38.5	1.4	**1972**	7	-1.2	-0.2	**1972**	0	0.0										
1973	5	8.4	1.7	**1973**	1	0.6	0.6	**1973**	0	0.0										
1974	29	13.9	0.5	**1974**	14	-9.3	-0.7	**1974**	3	-6.8	-2.3									
1975	52	-12.8	-0.2	**1975**	33	-49.2	-1.5	**1975**	10	-35.8	-3.6									
1976	98	-60.8	-0.6	**1976**	69	-107.0	-1.6	**1976**	25	-88.6	-3.5									
1977	72	-62.3	-0.9	**1977**	50	-104.3	-2.1	**1977**	28	-93.9	-3.4									
1978	36	-2.7	-0.1	**1978**	26	-19.4	-0.7	**1978**	2	-5.0	-2.5									
1979	44	33.5	0.8	**1979**	19	-10.0	-0.5	**1979**	3	-7.9	-2.6									
1980	28	29.0	1.0	**1980**	13	0.6	0.0	**1980**	0	0.0										
1981	26	34.0	1.3	**1981**	6	-1.3	-0.2	**1981**	0	0.0										
1982	57	-33.2	-0.6	**1982**	40	-60.3	-1.5	**1982**	16	-49.3	-3.1									
1983	57	-28.6	-0.5	**1983**	37	-63.0	-1.7	**1983**	17	-56.1	-3.3									
1984	54	13.7	0.3	**1984**	29	-35.1	-1.2	**1984**	7	-26.2	-3.7									
1985	49	29.3	0.6	**1985**	25	-18.8	-0.8	**1985**	4	-9.5	-2.4									
1986	21	28.0	1.3	**1986**	6	0.4	0.1	**1986**	0	0.0										
1987	48	34.7	0.7	**1987**	19	-10.4	-0.5	**1987**	4	-9.9	-2.5									
1988	30	24.7	0.8	**1988**	10	-8.4	-0.8	**1988**	1	-1.9	-1.9									
1989	54	-5.5	-0.1	**1989**	34	-41.8	-1.2	**1989**	8	-27.6	-3.5									
1990	21	12.4	0.6	**1990**	12	-1.8	-0.2	**1990**	0	0.0										
1991	29	47.0	1.6	**1991**	7	2.5	0.4	**1991**	0	0.0		20 years	39.4	0.8	20 years	18.6	-0.5	20 years	2.8	-2.8
1992	30	22.8	0.8	**1992**	16	-2.0	-0.1	**1992**	0	0.0		19 years	39.9	0.7	19 years	19.2	-0.5	19 years	2.9	-2.8
1993	19	16.3	0.9	**1993**	11	-0.7	-0.1	**1993**	0	0.0		18 years	40.5	0.7	18 years	19.3	-0.5	18 years	3.1	-2.8
1994	58	18.3	0.3	**1994**	35	-24.4	-0.7	**1994**	4	-11.4	-2.9	17 years	41.8	0.7	17 years	19.8	-0.6	17 years	3.3	-2.8
1995	37	24.6	0.7	**1995**	17	-12.3	-0.7	**1995**	3	-8.1	-2.7	16 years	40.8	0.7	16 years	18.9	-0.6	16 years	3.3	-2.8
1996	19	32.9	1.7	**1996**	1	-0.2	-0.2	**1996**	0	0.0		15 years	41.0	0.7	15 years	19.0	-0.6	15 years	3.3	-2.8
1997	48	-15.3	-0.3	**1997**	32	-45.3	-1.4	**1997**	10	-28.3	-2.8	14 years	42.6	0.7	14 years	20.3	-0.6	14 years	3.5	-2.8
1998	22	9.8	0.4	**1998**	12	-8.5	-0.7	**1998**	1	-2.3	-2.3	13 years	42.2	0.7	13 years	19.4	-0.5	13 years	3.0	-2.8
1999	36	47.6	1.3	**1999**	9	-1.1	-0.1	**1999**	0	0.0		12 years	43.8	0.8	12 years	20.0	-0.5	12 years	3.2	-2.8
2000	48	25.3	0.5	**2000**	27	-15.7	-0.6	**2000**	4	-8.5	-2.1	11 years	44.5	0.7	11 years	21.0	-0.5	11 years	3.5	-2.8
2001	61	43.7	0.7	**2001**	25	-15.4	-0.6	**2001**	0	0.0		10 years	44.2	0.7	10 years	20.4	-0.5	10 years	3.4	-2.9
2002	72	-21.3	-0.3	**2002**	46	-63.8	-1.4	**2002**	15	-50.2	-3.3	9 years	42.3	0.7	9 years	19.9	-0.5	9 years	3.8	-2.9
2003	53	30.0	0.6	**2003**	28	-18.2	-0.7	**2003**	3	-8.4	-2.8	8 years	38.6	0.9	8 years	16.6	-0.4	8 years	2.4	-2.8
2004	36	27.3	0.8	**2004**	14	-12.0	-0.9	**2004**	3	-9.6	-3.2	7 years	36.6	0.9	7 years	15.0	-0.4	7 years	2.3	-2.8
2005	29	38.1	1.3	**2005**	10	2.4	0.2	**2005**	0	0.0		6 years	36.7	0.9	6 years	15.2	-0.3	6 years	2.2	-2.8
2006	54	33.9	0.6	**2006**	27	-15.2	-0.6	**2006**	2	-6.5	-3.3	5 years	38.2	0.9	5 years	16.2	-0.4	5 years	2.6	-2.8
2007	50	12.4	0.2	**2007**	29	-22.3	-0.8	**2007**	7	-19.5	-2.8	4 years	34.3	0.9	4 years	13.5	-0.4	4 years	2.8	-2.6
2008	30	19.7	0.7	**2008**	14	-6.6	-0.5	**2008**	3	-6.8	-2.3	3 years	29.0	1.2	3 years	8.3	-0.3	3 years	1.3	-2.5
2009	23	34.8	1.5	**2009**	4	1.7	0.4	**2009**	0	0.0		2 years	28.5	1.4	2 years	5.5	-0.2	2 years	0.5	-2.7
2010	34	44.8	1.3	**2010**	7	-5.1	-0.7	**2010**	1	-2.7	-2.7	1 years	34.0	1.3	1 years	7.0	-0.7	1 years	1.0	-2.7
2011	50	22.2	0.4	**2011**	28	-21.8	-0.8	**2011**	5	-11.8	-2.4	0 years	50.0	0.4	0 years	28.0	-0.8	0 years	5.0	-2.4
2012	74	-26.0	-0.4	**2012**	47	-72.7	-1.5	**2012**	17	-55.0	-3.2	1 years	74.0	-0.4	1 years	47.0	-1.5	1 years	17.0	-3.2
2013	23	22.9	1.0	**2013**	10	-0.7	-0.1	**2013**	0	0.0		2 years	48.5	0.3	2 years	28.5	-0.8	2 years	8.5	-3.2
2014	45	13.0	0.3	**2014**	27	-18.7	-0.7	**2014**	4	-9.1	-2.3	3 years	47.3	0.3	3 years	28.0	-0.8	3 years	7.0	-2.8
2015	55	15.4	0.3	**2015**	31	-26.9	-0.9	**2015**	6	-19.7	-3.3	4 years	49.3	0.3	4 years	28.8	-0.8	4 years	6.8	-2.9
2016	26	3.2	0.1	**2016**	13	-18.9	-1.5	**2016**	7	-18.9	-2.7	5 years	44.6	0.3	5 years	25.6	-0.9	5 years	6.8	-2.9
2017	37	19.9	0.5	**2017**	16	-17.3	-1.1	**2017**	5	-12.5	-2.5	6 years	43.3	0.3	6 years	24.0	-1.0	6 years	6.5	-2.8
2018	60	6.3	0.1	**2018**	34	-38.6	-1.1	**2018**	10	-27.6	-2.8	7 years	45.7	0.3	7 years	25.4	-1.0	7 years	7.0	-2.8
2019	48	53.1	1.1	**2019**	15	-6.0	-0.4	**2019**	1	-3.2	-3.2	8 years	46.0	0.4	8 years	24.1	-0.9	8 years	6.3	-2.9
2020	45	33.9	0.8	**2020**	25	-3.0	-0.1	**2020**	0	0.0		9 years	45.9	0.4	9 years	24.2	-0.8	9 years	5.6	-2.9
2021	43	40.5	0.9	**2021**	15	-8.1	-0.5	**2021**	3	-6.3	-2.1	10 years	45.6	0.5	10 years	23.3	-0.8	10 years	5.3	-2.8
2022	49	-8.9	-0.2	**2022**	30	-41.1	-1.4	**2022**	11	-32.5	-3.0	11 years	45.9	0.4	11 years	23.9	-0.8	11 years	5.8	-2.8

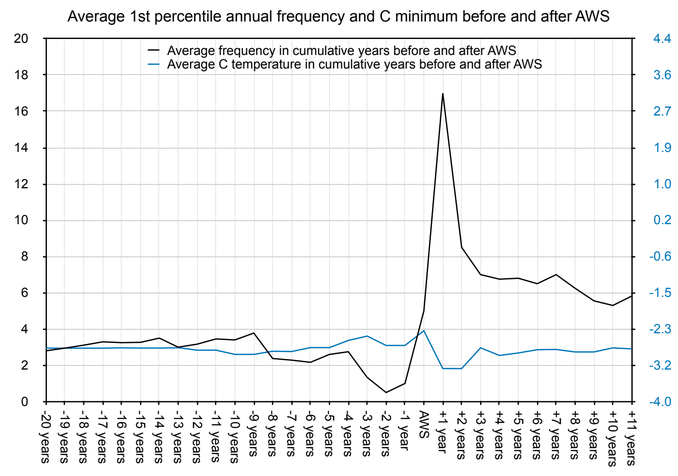
Original AWS probe unknown

6 years				**6 years**				**6 years**			
Pre	36.7	30.6	0.9	**Pre**	15.2	-7.5	-0.3	**Pre**	2.2	-5.9	-2.8
Post	43.3	8.1	0.3	**Post**	24.0	-25.9	-1.0	**Post**	6.5	-19.2	-2.8

		AWS introduction				AWS introduction				AWS introduction
		Probe replacement				Probe replacement				Probe replacement
		Small screen introduction				Small screen introduction				Small screen introduction



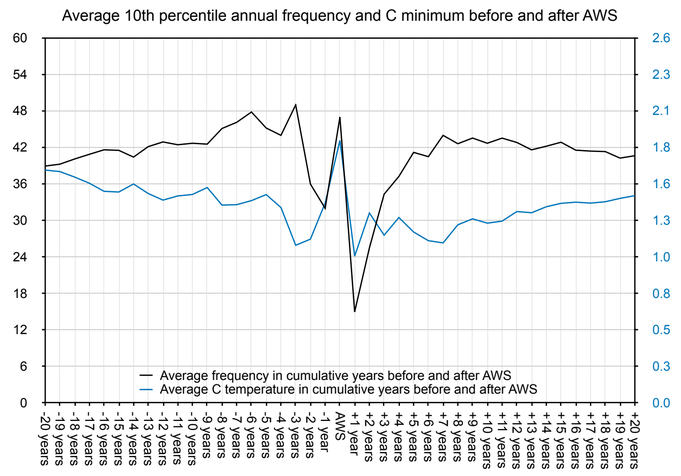


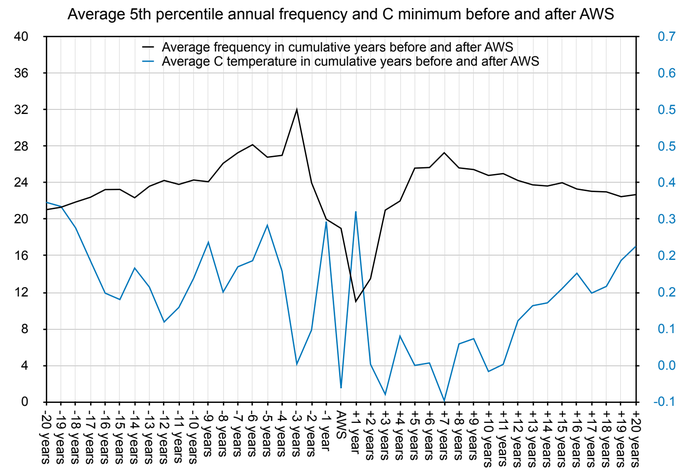


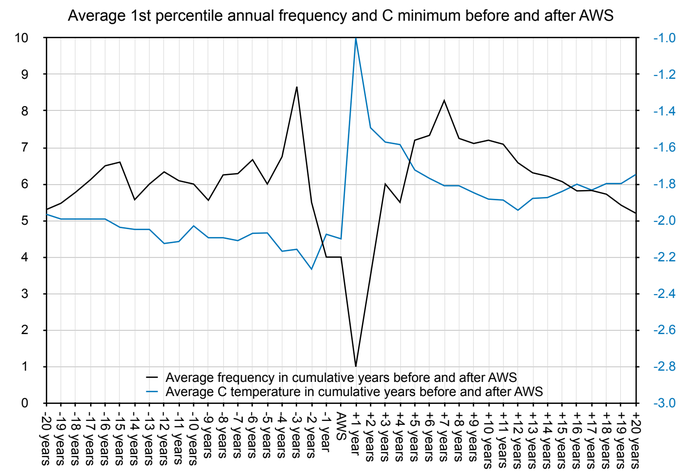
10th 4.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1942	26	67.9	2.6	**1942**	5	4.7	0.9	**1942**	1	-1.1	-1.1									
1943	45	56.9	1.3	**1943**	24	-6.2	-0.3	**1943**	8	-16.4	-2.1									
1944	37	85.4	2.3	**1944**	10	1.0	0.1	**1944**	3	-4.9	-1.6									
1945	19	50.9	2.7	**1945**	4	4.1	1.0	**1945**	0	0.0										
1946	61	38.1	0.6	**1946**	46	-6.7	-0.1	**1946**	18	-29.9	-1.7									
1947	45	74.6	1.7	**1947**	27	19.1	0.7	**1947**	0	0.0										
1948	45	107.0	2.4	**1948**	15	14.8	1.0	**1948**	1	-1.2	-1.2									
1949	43	75.0	1.7	**1949**	25	24.7	1.0	**1949**	0	0.0										
1950	13	34.1	2.6	**1950**	4	6.2	1.6	**1950**	0	0.0										
1951	49	76.7	1.6	**1951**	26	7.7	0.3	**1951**	6	-13.4	-2.2									
1952	29	53.4	1.8	**1952**	16	9.8	0.6	**1952**	3	-5.8	-1.9									
1953	45	69.0	1.5	**1953**	30	22.2	0.7	**1953**	1	-1.1	-1.1									
1954	15	28.7	1.9	**1954**	7	2.8	0.4	**1954**	1	-1.1	-1.1									
1955	21	53.2	2.5	**1955**	6	5.8	1.0	**1955**	0	0.0										
1956	34	78.3	2.3	**1956**	9	5.4	0.6	**1956**	0	0.0										
1957	28	56.4	2.0	**1957**	14	8.5	0.6	**1957**	2	-2.0	-1.0									
1958	25	57.2	2.3	**1958**	10	7.6	0.8	**1958**	1	-1.2	-1.2									
1959	27	65.1	2.4	**1959**	9	11.5	1.3	**1959**	0	0.0										
1960	41	90.8	2.2	**1960**	15	11.7	0.8	**1960**	0	0.0										
1961	41	78.8	1.9	**1961**	19	5.4	0.3	**1961**	1	-1.9	-1.9									
1962	35	86.2	2.5	**1962**	10	8.0	0.8	**1962**	1	-1.0	-1.0									
1963	28	41.5	1.5	**1963**	15	-0.4	-0.0	**1963**	5	-6.5	-1.3									
1964	36	75.4	2.1	**1964**	14	7.7	0.6	**1964**	2	-3.2	-1.6									
1965	28	50.0	1.8	**1965**	12	-2.6	-0.2	**1965**	3	-6.9	-2.3									
1966	26	59.9	2.3	**1966**	10	7.5	0.8	**1966**	0	0.0										
1967	32	82.0	2.6	**1967**	8	9.0	1.1	**1967**	0	0.0										
1968	37	72.8	2.0	**1968**	15	6.5	0.4	**1968**	2	-3.5	-1.8									
1969	10	31.6	3.2	**1969**	0	0.0		**1969**	0	0.0										
1970	61	97.4	1.6	**1970**	33	8.5	0.3	**1970**	7	-11.0	-1.6									
1971	38	65.5	1.7	**1971**	20	8.5	0.4	**1971**	3	-5.9	-2.0									
1972	30	43.9	1.5	**1972**	15	-0.2	-0.0	**1972**	4	-7.0	-1.8									
1973	5	16.9	3.4	**1973**	1	1.5	1.5	**1973**	0	0.0										
1974	35	71.9	2.1	**1974**	17	12.8	0.8	**1974**	2	-2.9	-1.5									
1975	26	73.6	2.8	**1975**	6	10.1	1.7	**1975**	0	0.0										
1976	20	45.1	2.3	**1976**	7	6.7	1.0	**1976**	0	0.0										
1977	33	61.5	1.9	**1977**	16	8.3	0.5	**1977**	2	-3.2	-1.6	20 years	39.0	1.7	20 years	21.1	0.4	20 years	5.3	-2.0
1978	24	56.4	2.4	**1978**	11	12.7	1.2	**1978**	0	0.0		19 years	39.3	1.6	19 years	21.3	0.3	19 years	5.5	-2.0
1979	27	63.5	2.4	**1979**	13	19.0	1.5	**1979**	0	0.0		18 years	40.1	1.6	18 years	21.9	0.3	18 years	5.8	-2.0
1980	29	72.3	2.5	**1980**	9	11.8	1.3	**1980**	0	0.0		17 years	40.9	1.6	17 years	22.4	0.2	17 years	6.1	-2.0
1981	43	68.1	1.6	**1981**	23	8.4	0.4	**1981**	5	-7.0	-1.4	16 years	41.6	1.5	16 years	23.3	0.2	16 years	6.5	-2.0
1982	57	40.0	0.7	**1982**	36	-27.5	-0.8	**1982**	21	-39.9	-1.9	15 years	41.5	1.5	15 years	23.3	0.2	15 years	6.6	-2.0
1983	18	44.0	2.4	**1983**	6	4.4	0.7	**1983**	0	0.0		14 years	40.4	1.6	14 years	22.4	0.2	14 years	5.6	-2.0
1984	33	67.8	2.1	**1984**	16	16.8	1.1	**1984**	2	-2.4	-1.2	13 years	42.2	1.5	13 years	23.6	0.2	13 years	6.0	-2.0
1985	48	53.7	1.1	**1985**	29	-6.6	-0.2	**1985**	9	-20.1	-2.2	12 years	42.9	1.4	12 years	24.3	0.1	12 years	6.3	-2.1
1986	40	54.8	1.4	**1986**	19	-8.9	-0.5	**1986**	7	-20.2	-2.9	11 years	42.5	1.5	11 years	23.8	0.1	11 years	6.1	-2.1
1987	44	45.8	1.0	**1987**	26	-12.4	-0.5	**1987**	10	-15.1	-1.5	10 years	42.7	1.5	10 years	24.3	0.2	10 years	6.0	-2.0
1988	22	55.8	2.5	**1988**	8	8.8	1.1	**1988**	0	0.0		9 years	42.6	1.5	9 years	24.1	0.3	9 years	5.6	-2.1
1989	38	52.8	1.4	**1989**	18	-3.6	-0.2	**1989**	6	-11.9	-2.0	8 years	45.1	1.4	8 years	26.1	0.2	8 years	6.3	-2.1
1990	36	44.6	1.2	**1990**	22	3.2	0.1	**1990**	4	-9.4	-2.4	7 years	46.1	1.4	7 years	27.3	0.2	7 years	6.3	-2.1
1991	61	74.9	1.2	**1991**	35	-4.7	-0.1	**1991**	10	-20.8	-2.1	6 years	47.8	1.4	6 years	28.2	0.2	6 years	6.7	-2.1
1992	50	92.6	1.9	**1992**	26	17.9	0.7	**1992**	3	-5.0	-1.7	5 years	45.2	1.5	5 years	26.8	0.3	5 years	6.0	-2.1
1993	29	63.8	2.2	**1993**	12	9.5	0.8	**1993**	1	-2.2	-2.2	4 years	44.0	1.4	4 years	27.0	0.2	4 years	6.8	-2.2
1994	75	77.8	1.0	**1994**	48	-5.9	-0.1	**1994**	15	-29.1	-1.9	3 years	49.0	1.1	3 years	32.0	0.0	3 years	8.7	-2.2
1995	40	36.4	0.9	**1995**	28	-3.8	-0.1	**1995**	7	-17.2	-2.5	2 years	36.0	1.2	2 years	24.0	0.1	2 years	5.5	-2.3
1996	32	45.6	1.4	**1996**	20	6.3	0.3	**1996**	4	-8.3	-2.1	1 years	32.0	1.4	1 years	20.0	0.3	1 years	4.0	-2.1
1997	47	87.9	1.9	**1997**	19	-0.6	-0.0	**1997**	4	-8.4	-2.1	0 years	47.0	1.9	0 years	19.0	-0.0	0 years	4.0	-2.1
1998	15	15.7	1.0	**1998**	11	3.7	0.3	**1998**	1	-1.0	-1.0	1 years	15.0	1.0	1 years	11.0	0.3	1 years	1.0	-1.0
1999	36	59.8	1.7	**1999**	16	-4.8	-0.3	**1999**	6	-11.9	-2.0	2 years	25.5	1.4	2 years	13.5	0.0	2 years	3.5	-1.5
2000	52	45.8	0.9	**2000**	36	-6.1	-0.2	**2000**	11	-19.0	-1.7	3 years	34.3	1.2	3 years	21.0	-0.0	3 years	6.0	-1.6
2001	46	78.1	1.7	**2001**	25	11.0	0.4	**2001**	4	-6.5	-1.6	4 years	37.3	1.3	4 years	22.0	0.1	4 years	5.5	-1.6
2002	57	45.9	0.8	**2002**	40	-9.1	-0.2	**2002**	14	-31.9	-2.3	5 years	41.2	1.2	5 years	25.6	0.0	5 years	7.2	-1.7
2003	37	31.4	0.8	**2003**	26	1.2	0.0	**2003**	8	-16.0	-2.0	6 years	40.5	1.2	6 years	25.7	0.0	6 years	7.3	-1.8
2004	65	68.0	1.0	**2004**	37	-19.5	-0.5	**2004**	14	-28.7	-2.1	7 years	44.0	1.1	7 years	27.3	-0.1	7 years	8.3	-1.8
2005	33	71.7	2.2	**2005**	14	12.4	0.9	**2005**	0	0.0		8 years	42.6	1.3	8 years	25.6	0.1	8 years	7.3	-1.8
2006	51	84.2	1.7	**2006**	24	3.8	0.2	**2006**	6	-12.7	-2.1	9 years	43.6	1.3	9 years	25.4	0.1	9 years	7.1	-1.8
2007	35	35.2	1.0	**2007**	19	-11.6	-0.6	**2007**	8	-17.3	-2.2	10 years	42.7	1.3	10 years	24.8	0.0	10 years	7.2	-1.9
2008	52	74.8	1.4	**2008**	27	4.5	0.2	**2008**	6	-11.6	-1.9	11 years	43.5	1.3	11 years	25.0	0.0	11 years	7.1	-1.9
2009	35	74.0	2.1	**2009**	16	17.7	1.1	**2009**	1	-2.5	-2.5	12 years	42.8	1.4	12 years	24.3	0.1	12 years	6.6	-1.9
2010	27	33.9	1.3	**2010**	18	9.3	0.5	**2010**	3	-3.5	-1.2	13 years	41.6	1.4	13 years	23.8	0.1	13 years	6.3	-1.9
2011	50	97.5	2.0	**2011**	22	4.9	0.2	**2011**	5	-9.1	-1.8	14 years	42.2	1.4	14 years	23.6	0.1	14 years	6.2	-1.9
2012	52	91.8	1.8	**2012**	29	17.2	0.6	**2012**	4	-5.6	-1.4	15 years	42.9	1.4	15 years	24.0	0.2	15 years	6.1	-1.8
2013	22	34.2	1.6	**2013**	13	8.9	0.7	**2013**	2	-2.5	-1.3	16 years	41.6	1.4	16 years	23.3	0.2	16 years	5.8	-1.8
2014	39	51.4	1.3	**2014**	19	-9.4	-0.5	**2014**	6	-13.9	-2.3	17 years	41.4	1.4	17 years	23.1	0.2	17 years	5.8	-1.8
2015	40	63.9	1.6	**2015**	22	9.2	0.4	**2015**	4	-4.9	-1.2	18 years	41.3	1.4	18 years	23.0	0.2	18 years	5.7	-1.8
2016	21	39.7	1.9	**2016**	13	15.7	1.2	**2016**	0	0.0		19 years	40.3	1.5	19 years	22.5	0.2	19 years	5.4	-1.8
2017	48	88.5	1.8	**2017**	27	22.2	0.8	**2017**	1	-0.9	-0.9	20 years	40.7	1.5	20 years	22.7	0.3	20 years	5.2	-1.7
2018	55	48.6	0.9	**2018**	39	2.6	0.1	**2018**	12	-23.6	-2.0									
2019	34	59.4	1.7	**2019**	16	-1.6	-0.1	**2019**	5	-8.3	-1.7									
2020	32	74.9	2.3	**2020**	11	7.6	0.7	**2020**	1	-2.0	-2.0									
2021	42	95.2	2.3	**2021**	17	18.6	1.1	**2021**	0	0.0										
2022	41	87.5	2.1	**2022**	18	18.7	1.0	**2022**	0	0.0										

Original AWS probe Rosemount

10 years	AWS and small screen both 1997			**10 years**	AWS and small screen both 1997			**10 years**	AWS and small screen both 1997		
Pre AWS	42.7	59.0	1.5	**Pre AWS**	24.3	1.5	0.2	**Pre AWS**	6	-11.9	-2.0
Post AWS	42.7	53.6	1.3	**Post AWS**	24.8	-1.9	0.0	**Post AWS**	7.2	-14.5	-1.9
Pre small	42.7	59.0	1.5	**Pre small**	24.3	1.5	0.2	**Pre small**	6.0	-11.9	-2.0
Post small	42.7	53.6	1.3	**Post small**	24.8	-1.9	0.0	**Post small**	7.2	-14.5	-1.9
5 years				**5 years**				**5 years**			
Pre AWS	45.2	63.2	1.5	**Pre AWS**	26.8	4.8	0.3	**Pre AWS**	6.0	-12.4	-2.1
Post AWS	41.2	49.1	1.2	**Post AWS**	25.6	-1.1	0.0	**Post AWS**	7.2	-14.1	-1.7
Pre small	45.2	63.2	1.5	**Pre small**	26.8	4.8	0.3	**Pre small**	6.0	-12.4	-2.1
Post small	41.2	49.1	1.2	**Post small**	25.6	-1.1	0.0	**Post small**	7.2	-14.1	-1.7
		AWS introduction									
		Small screen introduction									

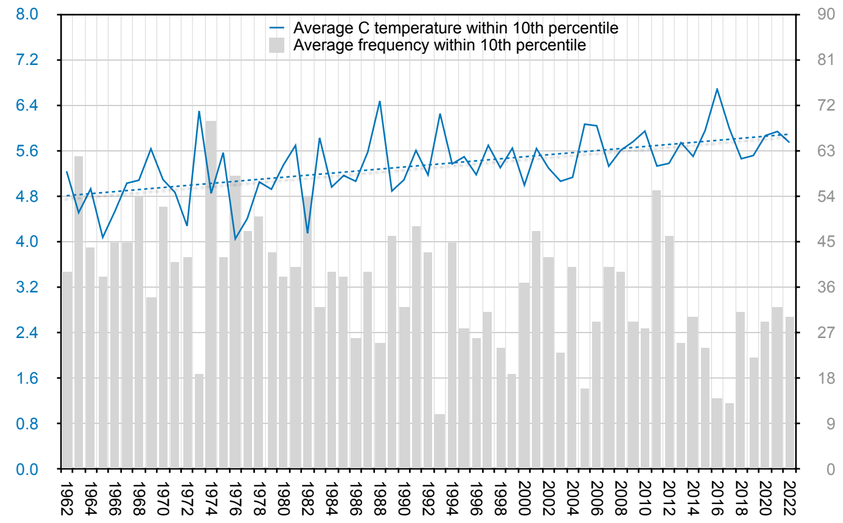




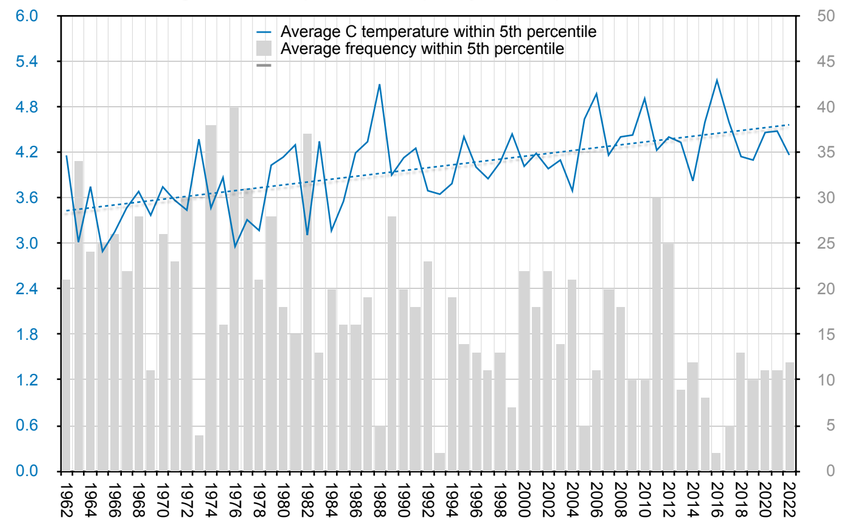


10th 7.5	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.5	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1962	39	204.4	5.2	**1962**	21	87.4	4.2	**1962**	2	4.6	2.3
1963	62	279.9	4.5	**1963**	34	102.6	3.0	**1963**	11	7.1	0.6
1964	44	217.0	4.9	**1964**	24	90.0	3.8	**1964**	7	14.9	2.1
1965	38	155.0	4.1	**1965**	25	72.4	2.9	**1965**	12	17.0	1.4
1966	45	204.0	4.5	**1966**	26	81.9	3.2	**1966**	12	20.8	1.7
1967	45	226.4	5.0	**1967**	22	76.3	3.5	**1967**	5	9.6	1.9
1968	54	274.5	5.1	**1968**	28	103.2	3.7	**1968**	8	11.1	1.4
1969	34	191.6	5.6	**1969**	11	37.1	3.4	**1969**	4	8.9	2.2
1970	52	265.0	5.1	**1970**	26	97.4	3.7	**1970**	9	17.8	2.0
1971	41	199.6	4.9	**1971**	23	82.1	3.6	**1971**	5	9.4	1.9
1972	42	179.8	4.3	**1972**	30	103.2	3.4	**1972**	8	12.0	1.5
1973	19	119.7	6.3	**1973**	4	17.5	4.4	**1973**	0	0.0	
1974	69	334.9	4.9	**1974**	38	131.8	3.5	**1974**	12	18.6	1.6
1975	42	233.9	5.6	**1975**	16	61.9	3.9	**1975**	4	8.3	2.1
1976	58	235.1	4.1	**1976**	40	118.4	3.0	**1976**	16	17.9	1.1
1977	47	207.3	4.4	**1977**	31	102.7	3.3	**1977**	11	22.9	2.1
1978	50	252.6	5.1	**1978**	21	66.6	3.2	**1978**	10	18.4	1.8
1979	43	211.8	4.9	**1979**	28	112.9	4.0	**1979**	5	7.9	1.6
1980	38	203.4	5.4	**1980**	18	74.5	4.1	**1980**	1	1.7	1.7
1981	40	227.8	5.7	**1981**	15	64.5	4.3	**1981**	2	2.0	1.0
1982	54	224.1	4.2	**1982**	37	115.1	3.1	**1982**	18	32.8	1.8
1983	32	186.5	5.8	**1983**	13	56.5	4.3	**1983**	1	2.2	2.2
1984	39	193.6	5.0	**1984**	20	63.4	3.2	**1984**	7	8.6	1.2
1985	38	196.3	5.2	**1985**	16	56.9	3.6	**1985**	3	6.8	2.3
1986	26	131.7	5.1	**1986**	16	67.1	4.2	**1986**	2	4.1	2.1
1987	39	217.6	5.6	**1987**	19	82.5	4.3	**1987**	1	1.9	1.9
1988	25	161.9	6.5	**1988**	5	25.5	5.1	**1988**	0	0.0	
1989	46	225.1	4.9	**1989**	28	109.3	3.9	**1989**	3	8.0	2.7
1990	32	162.9	5.1	**1990**	20	82.6	4.1	**1990**	4	9.2	2.3
1991	48	269.1	5.6	**1991**	18	76.6	4.3	**1991**	1	2.4	2.4
1992	43	222.6	5.2	**1992**	23	85.0	3.7	**1992**	7	14.4	2.1
1993	11	68.8	6.3	**1993**	2	7.3	3.7	**1993**	0	0.0	
1994	45	241.7	5.4	**1994**	19	72.0	3.8	**1994**	5	10.8	2.2
1995	28	153.9	5.5	**1995**	14	61.7	4.4	**1995**	1	2.5	2.5
1996	26	134.7	5.2	**1996**	13	52.1	4.0	**1996**	1	2.7	2.7
1997	31	176.6	5.7	**1997**	11	42.4	3.9	**1997**	2	5.4	2.7
1998	24	127.3	5.3	**1998**	13	52.9	4.1	**1998**	3	7.3	2.4
1999	19	107.3	5.6	**1999**	7	31.1	4.4	**1999**	0	0.0	
2000	37	184.9	5.0	**2000**	22	88.4	4.0	**2000**	4	10.2	2.6
2001	47	265.1	5.6	**2001**	18	75.4	4.2	**2001**	3	6.6	2.2
2002	42	222.5	5.3	**2002**	22	87.7	4.0	**2002**	4	8.1	2.0
2003	23	116.5	5.1	**2003**	14	57.4	4.1	**2003**	2	2.3	1.2
2004	40	205.4	5.1	**2004**	21	77.6	3.7	**2004**	5	9.2	1.8
2005	16	97.1	6.1	**2005**	5	23.2	4.6	**2005**	0	0.0	
2006	29	175.2	6.0	**2006**	11	54.7	5.0	**2006**	0	0.0	
2007	40	213.2	5.3	**2007**	20	83.3	4.2	**2007**	3	7.6	2.5
2008	39	218.8	5.6	**2008**	18	79.3	4.4	**2008**	3	7.9	2.6
2009	29	167.0	5.8	**2009**	10	44.3	4.4	**2009**	0	0.0	
2010	28	166.5	5.9	**2010**	10	49.1	4.9	**2010**	0	0.0	
2011	55	293.3	5.3	**2011**	30	126.9	4.2	**2011**	1	2.4	2.4
2012	46	247.5	5.4	**2012**	25	110.1	4.4	**2012**	1	2.7	2.7
2013	25	143.6	5.7	**2013**	9	39.0	4.3	**2013**	0	0.0	
2014	30	165.1	5.5	**2014**	12	45.9	3.8	**2014**	2	4.7	2.4
2015	24	143.0	6.0	**2015**	8	36.8	4.6	**2015**	0	0.0	
2016	14	93.6	6.7	**2016**	2	10.3	5.2	**2016**	0	0.0	
2017	13	78.0	6.0	**2017**	5	23.0	4.6	**2017**	0	0.0	
2018	31	169.3	5.5	**2018**	13	53.9	4.1	**2018**	1	1.2	1.2
2019	22	121.4	5.5	**2019**	10	41.0	4.1	**2019**	2	3.5	1.8
2020	29	170.2	5.9	**2020**	11	49.1	4.5	**2020**	0	0.0	
2021	32	190.1	5.9	**2021**	11	49.3	4.5	**2021**	1	1.9	1.9
2022	30	172.4	5.7	**2022**	12	50.0	4.2	**2022**	1	2.0	2.0
50/50	Small screen unknown			**50/50**	Small screen unknown			**50/50**	Small screen unknown		
1962-1991	42.7	213.1	5.1	**1962-1991**	22.4	80.7	3.7	**1962-1991**	6.1	10.2	1.8
1992-2022	30.6	169.4	5.6	**1992-2022**	13.6	56.8	4.3	**1992-2022**	1.7	3.7	2.2

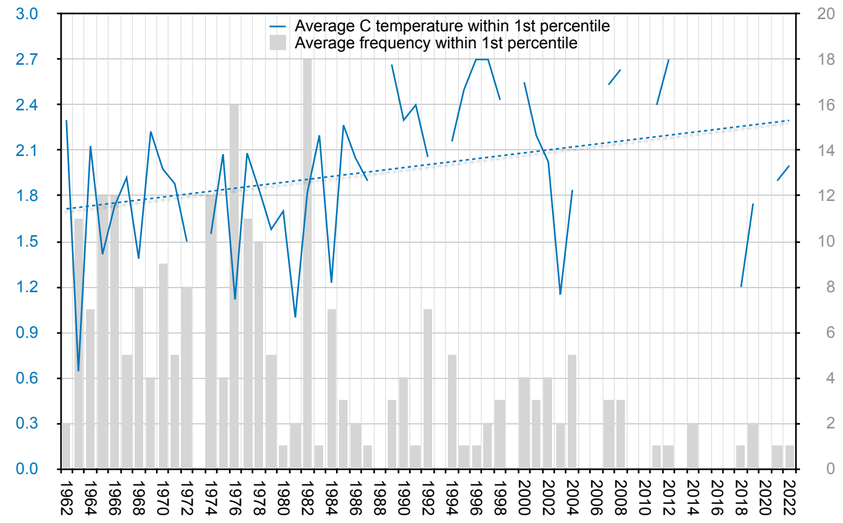
Average annual 10th percentile frequency and temperature 1962-2022



Average annual 5th percentile frequency and temperature 1962-2022



Average annual 1st percentile frequency and temperature 1962-2022

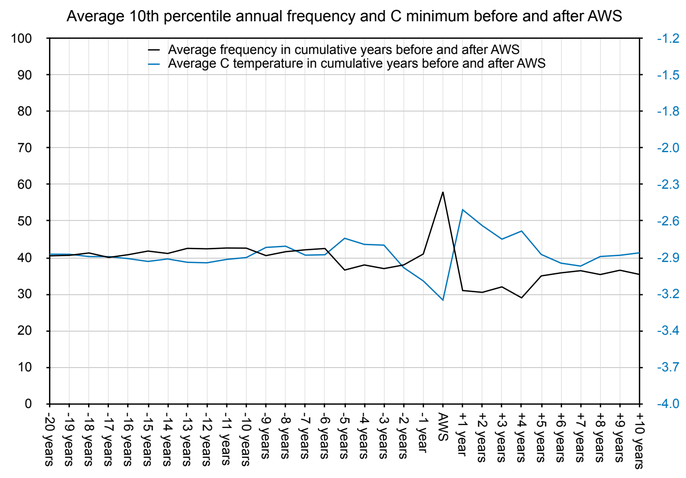


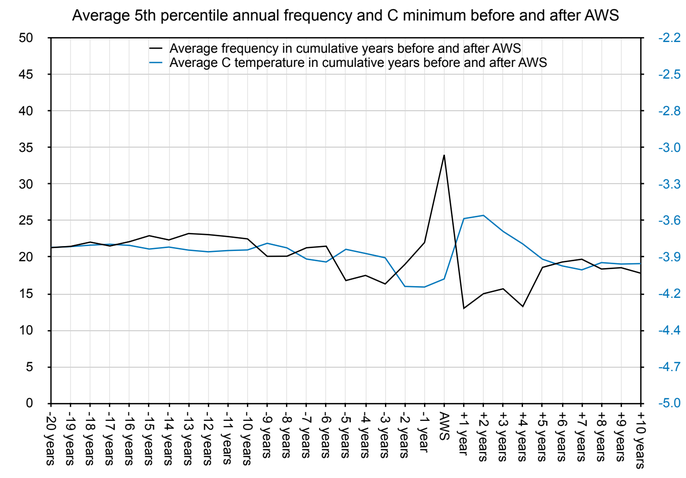
10th -1.1	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -2.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -4.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	34	-67.2	-2.0	**1910**	9	-29.0	-3.2	**1910**	0	0.0										
1911	29	-74.8	-2.6	**1911**	14	-50.6	-3.6	**1911**	1	-5.3	-5.3									
1912	40	-79.9	-2.0	**1912**	11	-34.7	-3.2	**1912**	0	0.0										
1913	46	-104.0	-2.3	**1913**	13	-51.2	-3.9	**1913**	2	-12.3	-6.2									
1914	32	-62.0	-1.9	**1914**	8	-24.4	-3.1	**1914**	0	0.0										
1915	18	-27.0	-1.5	**1915**	0	0.0		**1915**	0	0.0										
1916	16	-26.5	-1.7	**1916**	1	-3.3	-3.3	**1916**	0	0.0										
1917	35	-71.1	-2.0	**1917**	6	-22.6	-3.8	**1917**	0	0.0										
1918	29	-75.8	-2.6	**1918**	12	-46.4	-3.9	**1918**	2	-11.7	-5.9									
1919	29	-80.3	-2.8	**1919**	13	-52.6	-4.0	**1919**	3	-17.5	-5.8									
1920	14	-28.3	-2.0	**1920**	3	-10.5	-3.5	**1920**	0	0.0										
1921	19	-40.0	-2.1	**1921**	4	-12.8	-3.2	**1921**	0	0.0										
1922	23	-53.4	-2.3	**1922**	9	-31.0	-3.4	**1922**	0	0.0										
1923	2	-2.2	-1.1	**1923**	0	0.0		**1923**	0	0.0										
1924	28	-105.3	-3.8	**1924**	24	-98.6	-4.1	**1924**	5	-30.5	-6.1									
1925	17	-31.9	-1.9	**1925**	4	-12.8	-3.2	**1925**	0	0.0										
1926	17	-40.6	-2.4	**1926**	9	-28.2	-3.1	**1926**	0	0.0										
1927	69	-264.6	-3.8	**1927**	48	-228.8	-4.8	**1927**	19	-118.0	-6.2									
1928	32	-75.3	-2.4	**1928**	14	-45.2	-3.2	**1928**	0	0.0										
1929	52	-172.4	-3.3	**1929**	32	-138.1	-4.3	**1929**	11	-64.4	-5.9									
1930	18	-35.1	-2.0	**1930**	4	-11.9	-3.0	**1930**	0	0.0										
1931	19	-38.1	-2.0	**1931**	5	-16.3	-3.3	**1931**	0	0.0										
1932	37	-98.1	-2.7	**1932**	20	-67.8	-3.4	**1932**	1	-4.8	-4.8									
1933	34	-90.9	-2.7	**1933**	19	-63.3	-3.3	**1933**	0	0.0										
1934	24	-68.2	-2.8	**1934**	13	-49.7	-3.8	**1934**	3	-16.0	-5.3									
1935	43	-114.8	-2.7	**1935**	15	-67.1	-4.5	**1935**	6	-35.0	-5.8									
1936	37	-103.2	-2.8	**1936**	15	-62.7	-4.2	**1936**	3	-16.8	-5.6									
1937	43	-114.9	-2.7	**1937**	18	-72.6	-4.0	**1937**	5	-27.9	-5.6									
1938	28	-70.0	-2.5	**1938**	13	-42.3	-3.3	**1938**	0	0.0										
1939	20	-46.6	-2.3	**1939**	5	-18.4	-3.7	**1939**	0	0.0										
1940	68	-190.0	-2.8	**1940**	37	-136.3	-3.7	**1940**	6	-30.3	-5.1									
1941	44	-136.6	-3.1	**1941**	24	-101.9	-4.2	**1941**	9	-48.4	-5.4									
1942	13	-21.6	-1.7	**1942**	1	-2.8	-2.8	**1942**	0	0.0										
1943	28	-73.2	-2.6	**1943**	10	-40.3	-4.0	**1943**	3	-17.9	-6.0									
1944	57	-171.8	-3.0	**1944**	31	-125.8	-4.1	**1944**	7	-41.5	-5.9									
1945	30	-67.8	-2.3	**1945**	10	-36.1	-3.6	**1945**	0	0.0										
1946	49	-125.8	-2.6	**1946**	21	-78.6	-3.7	**1946**	3	-17.7	-5.9									
1947	23	-53.9	-2.3	**1947**	8	-27.1	-3.4	**1947**	1	-5.0	-5.0									
1948	55	-165.4	-3.0	**1948**	33	-128.3	-3.9	**1948**	5	-29.0	-5.8									
1949	28	-84.7	-3.0	**1949**	17	-64.8	-3.8	**1949**	2	-11.1	-5.6									
1950	13	-35.4	-2.7	**1950**	6	-22.8	-3.8	**1950**	1	-5.0	-5.0									
1951	25	-60.2	-2.4	**1951**	11	-35.0	-3.2	**1951**	0	0.0										
1952	22	-60.0	-2.7	**1952**	12	-42.4	-3.5	**1952**	1	-5.0	-5.0									
1953	41	-121.4	-3.0	**1953**	22	-92.5	-4.2	**1953**	7	-38.8	-5.5									
1954	46	-132.6	-2.9	**1954**	24	-95.1	-4.0	**1954**	2	-10.3	-5.2									
1955	32	-96.3	-3.0	**1955**	17	-70.2	-4.1	**1955**	6	-32.0	-5.3									
1956	28	-84.4	-3.0	**1956**	18	-68.4	-3.8	**1956**	3	-19.5	-6.5									
1957	57	-193.0	-3.4	**1957**	37	-160.4	-4.3	**1957**	14	-80.5	-5.8									
1958	25	-77.4	-3.1	**1958**	12	-55.9	-4.7	**1958**	5	-31.1	-6.2									
1959	49	-133.5	-2.7	**1959**	22	-87.0	-4.0	**1959**	2	-13.9	-7.0									
1960	35	-95.5	-2.7	**1960**	22	-73.3	-3.3	**1960**	1	-5.0	-5.0									
1961	33	-95.6	-2.9	**1961**	20	-77.8	-3.9	**1961**	6	-32.3	-5.4									
1962	47	-145.1	-3.1	**1962**	23	-103.4	-4.5	**1962**	8	-50.2	-6.3									
1963	28	-68.4	-2.4	**1963**	10	-37.8	-3.8	**1963**	1	-5.6	-5.6									
1964	34	-88.9	-2.6	**1964**	14	-57.4	-4.1	**1964**	4	-23.6	-5.9									
1965	56	-187.3	-3.3	**1965**	37	-152.8	-4.1	**1965**	11	-64.1	-5.8									
1966	46	-134.1	-2.9	**1966**	26	-97.4	-3.7	**1966**	4	-19.8	-5.0									
1967	44	-132.7	-3.0	**1967**	26	-104.4	-4.0	**1967**	6	-33.8	-5.6									
1968	34	-101.2	-3.0	**1968**	15	-68.4	-4.6	**1968**	5	-31.7	-6.3									
1969	36	-96.0	-2.7	**1969**	17	-65.9	-3.9	**1969**	3	-18.1	-6.0									
1970	47	-147.8	-3.1	**1970**	28	-116.4	-4.2	**1970**	8	-47.5	-5.9									
1971	59	-210.6	-3.6	**1971**	38	-173.3	-4.6	**1971**	14	-91.6	-6.5									
1972	48	-154.5	-3.2	**1972**	29	-119.9	-4.1	**1972**	7	-40.8	-5.8									
1973	30	-73.7	-2.5	**1973**	10	-39.0	-3.9	**1973**	2	-12.2	-6.1									
1974	37	-117.8	-3.2	**1974**	18	-83.7	-4.7	**1974**	8	-45.9	-5.7									
1975	40	-119.3	-3.0	**1975**	21	-81.5	-3.9	**1975**	3	-16.0	-5.3									
1976	60	-193.2	-3.2	**1976**	32	-140.5	-4.4	**1976**	12	-67.2	-5.6									
1977	48	-140.6	-2.9	**1977**	27	-105.9	-3.9	**1977**	5	-25.4	-5.1									
1978	24	-71.8	-3.0	**1978**	14	-52.0	-3.7	**1978**	2	-11.0	-5.5									
1979	63	-187.1	-3.0	**1979**	38	-142.4	-3.7	**1979**	5	-26.8	-5.4									
1980	39	-89.1	-2.3	**1980**	12	-39.8	-3.3	**1980**	1	-5.0	-5.0									
1981	18	-36.5	-2.0	**1981**	3	-9.2	-3.1	**1981**	0	0.0										
1982	69	-207.0	-3.0	**1982**	35	-142.9	-4.1	**1982**	9	-50.1	-5.6									
1983	22	-69.2	-3.1	**1983**	12	-49.6	-4.1	**1983**	3	-15.4	-5.1									
1984	44	-134.6	-3.1	**1984**	26	-101.0	-3.9	**1984**	7	-38.5	-5.5									
1985	52	-161.8	-3.1	**1985**	31	-123.5	-4.0	**1985**	6	-35.8	-6.0									
1986	46	-128.1	-2.8	**1986**	21	-83.4	-4.0	**1986**	4	-26.7	-6.7									
1987	34	-107.6	-3.2	**1987**	20	-77.8	-3.9	**1987**	6	-32.3	-5.4									
1988	33	-84.6	-2.6	**1988**	12	-44.5	-3.7	**1988**	2	-10.9	-5.5									
1989	23	-59.5	-2.6	**1989**	10	-35.7	-3.6	**1989**	1	-5.7	-5.7									
1990	17	-36.7	-2.2	**1990**	4	-14.5	-3.6	**1990**	1	-5.0	-5.0									
1991	18	-40.7	-2.3	**1991**	5	-17.3	-3.5	**1991**	0	0.0										
1992	38	-108.2	-2.8	**1992**	18	-70.7	-3.9	**1992**	2	-10.8	-5.4	20 years	40.5	-2.9	20 years	21.3	-3.8	20 years	4.4	-5.4
1993	29	-73.5	-2.5	**1993**	11	-44.0	-4.0	**1993**	3	-16.6	-5.5	19 years	40.6	-2.9	19 years	21.5	-3.8	19 years	4.5	-5.4
1994	62	-177.6	-2.9	**1994**	31	-121.1	-3.9	**1994**	8	-43.6	-5.5	18 years	41.3	-2.9	18 years	22.1	-3.8	18 years	4.6	-5.4
1995	28	-73.5	-2.6	**1995**	12	-43.7	-3.6	**1995**	0	0.0		17 years	40.1	-2.9	17 years	21.5	-3.8	17 years	4.4	-5.4
1996	26	-66.7	-2.6	**1996**	10	-33.7	-3.4	**1996**	1	-5.5	-5.5	16 years	40.8	-2.9	16 years	22.1	-3.8	16 years	4.7	-5.4
1997	51	-162.0	-3.2	**1997**	31	-124.9	-4.0	**1997**	8	-43.8	-5.5	15 years	41.8	-2.9	15 years	22.9	-3.8	15 years	4.9	-5.4
1998	23	-58.8	-2.6	**1998**	11	-38.5	-3.5	**1998**	0	0.0		14 years	41.1	-2.9	14 years	22.4	-3.8	14 years	4.7	-5.4
1999	44	-126.3	-2.9	**1999**	25	-91.8	-3.7	**1999**	3	-15.6	-5.2	13 years	42.5	-2.9	13 years	23.2	-3.8	13 years	5.1	-5.4
2000	40	-128.2	-3.2	**2000**	26	-102.5	-3.9	**2000**	7	-37.4	-5.3	12 years	42.4	-2.9	12 years	23.1	-3.8	12 years	5.3	-5.4
2001	43	-130.6	-3.0	**2001**	26	-100.8	-3.9	**2001**	6	-30.3	-5.1	11 years	42.6	-2.9	11 years	22.8	-3.8	11 years	5.1	-5.4
2002	61	-218.2	-3.6	**2002**	44	-188.4	-4.3	**2002**	14	-82.7	-5.9	10 years	42.6	-2.9	10 years	22.5	-3.8	10 years	5.0	-5.5
2003	32	-92.0	-2.9	**2003**	20	-69.9	-3.5	**2003**	0	0.0		9 years	40.6	-2.8	9 years	20.1	-3.8	9 years	4.0	-5.4
2004	38	-87.9	-2.3	**2004**	12	-38.5	-3.2	**2004**	0	0.0		8 years	41.6	-2.8	8 years	20.1	-3.8	8 years	4.5	-5.4
2005	40	-115.2	-2.9	**2005**	20	-75.2	-3.8	**2005**	3	-16.0	-5.3	7 years	42.1	-2.9	7 years	21.3	-3.9	7 years	5.1	-5.4
2006	72	-251.1	-3.5	**2006**	45	-198.1	-4.4	**2006**	17	-97.5	-5.7	6 years	42.5	-2.9	6 years	21.5	-3.9	6 years	5.5	-5.4
2007	31	-78.9	-2.5	**2007**	14	-51.7	-3.7	**2007**	2	-11.0	-5.5	5 years	36.6	-2.7	5 years	16.8	-3.8	5 years	3.2	-5.3
2008	41	-113.2	-2.8	**2008**	21	-78.8	-3.8	**2008**	1	-5.1	-5.1	4 years	38.0	-2.8	4 years	17.5	-3.9	4 years	3.5	-5.3
2009	35	-85.4	-2.4	**2009**	11	-37.9	-3.4	**2009**	1	-5.0	-5.0	3 years	37.0	-2.8	3 years	16.3	-3.9	3 years	4.3	-5.4
2010	35	-99.9	-2.9	**2010**	16	-65.6	-4.1	**2010**	5	-28.4	-5.7	2 years	38.0	-3.0	2 years	19.0	-4.1	2 years	6.0	-5.6
2011	41	-125.4	-3.1	**2011**	22	-90.4	-4.1	**2011**	7	-38.1	-5.4	1 years	41.0	-3.1	1 years	22.0	-4.1	1 years	7.0	-5.4
2012	58	-185.9	-3.2	**2012**	34	-137.6	-4.0	**2012**	8	-44.1	-5.5	0 years	58.0	-3.2	0 years	34.0	-4.0	0 years	8.0	-5.5
2013	31	-77.9	-2.5	**2013**	13	-46.6	-3.6	**2013**	2	-10.5	-5.3	1 years	31.0	-2.5	1 years	13.0	-3.6	1 years	2.0	-5.3
2014	30	-82.7	-2.8	**2014**	17	-60.1	-3.5	**2014**	1	-5.0	-5.0	2 years	30.5	-2.6	2 years	15.0	-3.6	2 years	1.5	-5.1
2015	35	-103.1	-2.9	**2015**	17	-66.8	-3.9	**2015**	4	-20.6	-5.2	3 years	32.0	-2.7	3 years	15.7	-3.7	3 years	2.3	-5.1
2016	20	-49.8	-2.5	**2016**	6	-24.4	-4.1	**2016**	1	-4.8	-4.8	4 years	29.0	-2.7	4 years	13.3	-3.8	4 years	2.0	-5.1
2017	59	-210.8	-3.6	**2017**	40	-174.5	-4.4	**2017**	13	-76.1	-5.9	5 years	35.0	-2.9	5 years	18.6	-3.9	5 years	4.2	-5.2
2018	40	-130.2	-3.3	**2018**	23	-96.7	-4.2	**2018**	5	-31.7	-6.3	6 years	35.8	-2.9	6 years	19.3	-3.9	6 years	4.3	-5.4
2019	40	-123.2	-3.1	**2019**	22	-91.5	-4.2	**2019**	6	-31.6	-5.3	7 years	36.4	-2.9	7 years	19.7	-4.0	7 years	4.6	-5.4
2020	28	-66.0	-2.4	**2020**	9	-31.8	-3.5	**2020**	0	0.0		8 years	35.4	-2.9	8 years	18.4	-3.9	8 years	4.0	-5.4
2021	46	-128.2	-2.8	**2021**	20	-80.4	-4.0	**2021**	5	-26.7	-5.3	9 years	36.6	-2.9	9 years	18.6	-3.9	9 years	4.1	-5.4
2022	25	-66.8	-2.7	**2022**	11	-42.9	-3.9	**2022**	3	-16.1	-5.4	10 years	35.4	-2.8	10 years	17.8	-3.9	10 years	4.0	-5.4

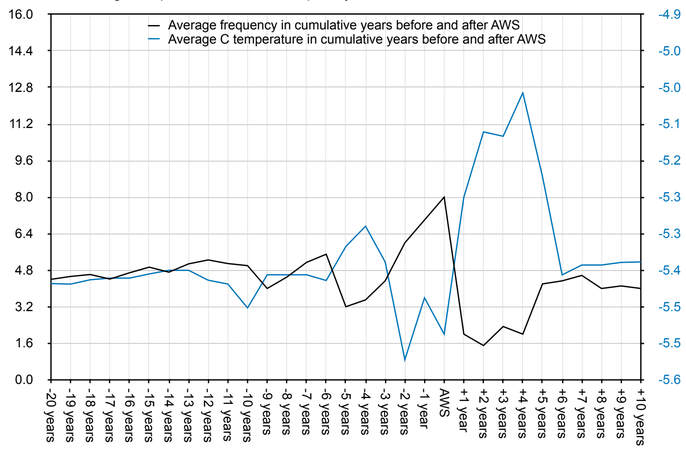
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	42.5	-125.7	-2.9	**Pre**	21.5	-87.1	-3.9	**Pre**	5.5	-30.9	-5.4									
Post	35.8	-109.1	-2.9	**Post**	19.3	-78.2	-3.9	**Post**	4.3	-24.8	-5.4									

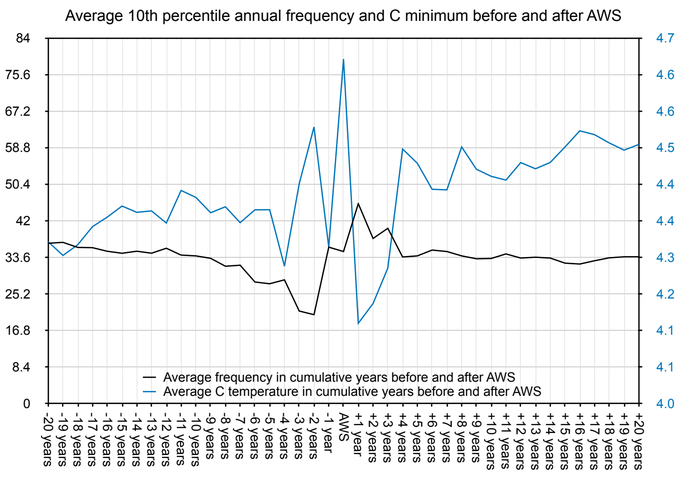
		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										

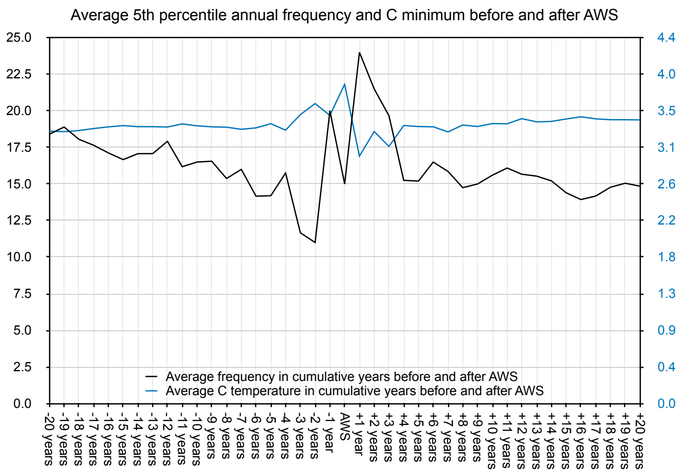


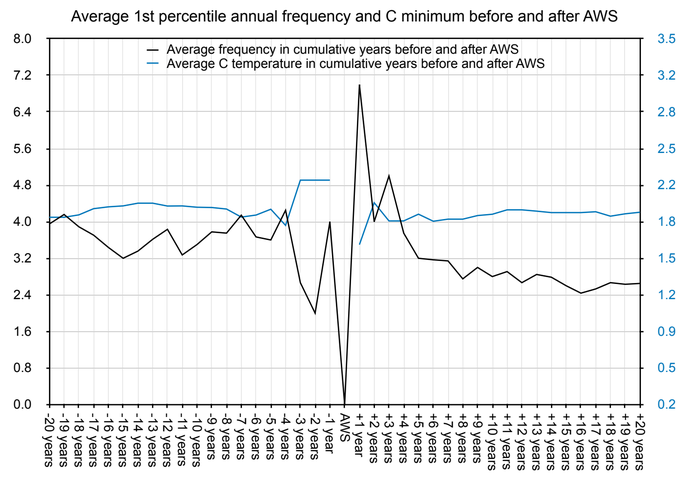




10th 6.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1955	20	86.9	4.3	**1955**	15	60.7	4.0	**1955**	0	0.0										
1956	28	129.4	4.6	**1956**	16	64.6	4.0	**1956**	0	0.0										
1957	38	154.4	4.1	**1957**	24	80.2	3.3	**1957**	6	10.0	1.7									
1958	33	109.5	3.3	**1958**	24	61.5	2.6	**1958**	9	6.2	0.7									
1959	27	119.7	4.4	**1959**	13	44.3	3.4	**1959**	3	5.5	1.8									
1960	47	195.2	4.2	**1960**	25	79.2	3.2	**1960**	9	16.2	1.8									
1961	39	135.0	3.5	**1961**	29	83.2	2.9	**1961**	7	10.0	1.4									
1962	15	76.3	5.1	**1962**	5	21.5	4.3	**1962**	0	0.0										
1963	31	123.9	4.0	**1963**	18	54.7	3.0	**1963**	9	18.8	2.1									
1964	35	134.6	3.8	**1964**	25	82.5	3.3	**1964**	5	7.7	1.5									
1965	40	125.8	3.1	**1965**	27	55.9	2.1	**1965**	15	14.3	1.0									
1966	48	230.0	4.8	**1966**	17	64.8	3.8	**1966**	1	1.7	1.7									
1967	43	173.1	4.0	**1967**	26	85.7	3.3	**1967**	6	12.2	2.0									
1968	36	145.8	4.1	**1968**	21	64.8	3.1	**1968**	8	13.9	1.7									
1969	39	172.3	4.4	**1969**	18	61.9	3.4	**1969**	3	5.0	1.7									
1970	56	214.8	3.8	**1970**	36	113.7	3.2	**1970**	5	5.9	1.2									
1971	51	186.2	3.7	**1971**	36	105.8	2.9	**1971**	7	8.7	1.2									
1972	31	129.0	4.2	**1972**	18	60.4	3.4	**1972**	2	3.4	1.7									
1973	12	59.0	4.9	**1973**	2	7.5	3.8	**1973**	0	0.0										
1974	29	135.5	4.7	**1974**	9	30.5	3.4	**1974**	0	0.0										
1975	34	156.1	4.6	**1975**	12	40.1	3.3	**1975**	2	3.6	1.8									
1976	64	255.6	4.0	**1976**	38	119.0	3.1	**1976**	9	15.5	1.7									
1977	51	212.2	4.2	**1977**	26	82.9	3.2	**1977**	6	10.0	1.7									
1978	33	158.1	4.8	**1978**	10	33.4	3.3	**1978**	1	1.4	1.4									
1979	35	169.6	4.8	**1979**	11	36.7	3.3	**1979**	2	4.6	2.3									
1980	32	151.4	4.7	**1980**	8	25.8	3.2	**1980**	0	0.0										
1981	33	158.7	4.8	**1981**	9	30.8	3.4	**1981**	0	0.0		20 years	36.9	4.3	20 years	18.4	3.3	20 years	4.0	1.9
1982	58	227.1	3.9	**1982**	34	102.5	3.0	**1982**	9	13.9	1.5	19 years	37.1	4.3	19 years	18.9	3.3	19 years	4.2	1.9
1983	37	137.5	3.7	**1983**	25	72.0	2.9	**1983**	7	7.5	1.1	18 years	35.9	4.3	18 years	18.1	3.3	18 years	3.9	1.9
1984	49	198.3	4.0	**1984**	26	77.5	3.0	**1984**	8	13.9	1.7	17 years	35.9	4.3	17 years	17.6	3.3	17 years	3.7	2.0
1985	42	169.7	4.0	**1985**	24	74.5	3.1	**1985**	7	13.1	1.9	16 years	35.1	4.4	16 years	17.1	3.3	16 years	3.4	2.0
1986	28	127.3	4.5	**1986**	11	38.7	3.5	**1986**	1	1.7	1.7	15 years	34.6	4.4	15 years	16.7	3.3	15 years	3.2	2.0
1987	41	177.6	4.3	**1987**	17	56.7	3.3	**1987**	0	0.0		14 years	35.1	4.4	14 years	17.1	3.3	14 years	3.4	2.0
1988	21	97.6	4.6	**1988**	7	23.6	3.4	**1988**	1	2.3	2.3	13 years	34.6	4.4	13 years	17.1	3.3	13 years	3.6	2.0
1989	53	194.0	3.7	**1989**	37	107.9	2.9	**1989**	10	19.8	2.0	12 years	35.8	4.3	12 years	17.9	3.3	12 years	3.8	2.0
1990	36	163.5	4.5	**1990**	13	46.7	3.6	**1990**	1	2.1	2.1	11 years	34.2	4.4	11 years	16.2	3.4	11 years	3.3	2.0
1991	39	181.7	4.7	**1991**	16	55.2	3.5	**1991**	1	2.0	2.0	10 years	34.0	4.4	10 years	16.5	3.3	10 years	3.5	2.0
1992	48	205.2	4.3	**1992**	26	87.4	3.4	**1992**	4	8.3	2.1	9 years	33.4	4.4	9 years	16.6	3.3	9 years	3.8	2.0
1993	30	137.7	4.6	**1993**	11	38.5	3.5	**1993**	1	2.4	2.4	8 years	31.6	4.4	8 years	15.4	3.3	8 years	3.8	2.0
1994	55	231.0	4.2	**1994**	27	86.3	3.2	**1994**	7	12.6	1.8	7 years	31.9	4.3	7 years	16.0	3.3	7 years	4.1	1.9
1995	30	131.1	4.4	**1995**	14	42.9	3.1	**1995**	4	6.8	1.7	6 years	28.0	4.4	6 years	14.2	3.3	6 years	3.7	1.9
1996	24	115.3	4.8	**1996**	8	29.4	3.7	**1996**	1	2.4	2.4	5 years	27.6	4.4	5 years	14.2	3.4	5 years	3.6	2.0
1997	50	189.5	3.8	**1997**	28	76.4	2.7	**1997**	9	9.0	1.0	4 years	28.5	4.3	4 years	15.8	3.3	4 years	4.3	1.8
1998	23	96.7	4.2	**1998**	13	41.7	3.2	**1998**	4	8.9	2.2	3 years	21.3	4.4	3 years	11.7	3.5	3 years	2.7	2.2
1999	5	23.8	4.8	**1999**	2	7.5	3.8	**1999**	0	0.0		2 years	20.5	4.5	2 years	11.0	3.6	2 years	2.0	2.2
2000	36	154.8	4.3	**2000**	20	69.3	3.5	**2000**	4	8.9	2.2	1 years	36.0	4.3	1 years	20.0	3.5	1 years	4.0	2.2
2001	35	163.1	4.7	**2001**	15	57.6	3.8	**2001**	0	0.0		0 years	35.0	4.7	0 years	15.0	3.8	0 years	0.0	
2002	46	191.1	4.2	**2002**	24	71.4	3.0	**2002**	7	11.5	1.6	1 years	46.0	4.2	1 years	24.0	3.0	1 years	7.0	1.6
2003	30	126.9	4.2	**2003**	19	67.8	3.6	**2003**	1	2.4	2.4	2 years	38.0	4.2	2 years	21.5	3.3	2 years	4.0	2.0
2004	45	197.8	4.4	**2004**	16	43.7	2.7	**2004**	7	10.7	1.5	3 years	40.3	4.3	3 years	19.7	3.1	3 years	5.0	1.9
2005	14	72.4	5.2	**2005**	2	8.2	4.1	**2005**	0	0.0		4 years	33.8	4.5	4 years	15.3	3.3	4 years	3.8	1.9
2006	35	152.3	4.4	**2006**	15	49.2	3.3	**2006**	1	2.1	2.1	5 years	34.0	4.5	5 years	15.2	3.3	5 years	3.2	1.9
2007	42	174.8	4.2	**2007**	23	76.2	3.3	**2007**	3	4.8	1.6	6 years	35.3	4.4	6 years	16.5	3.3	6 years	3.2	1.9
2008	33	145.3	4.4	**2008**	12	34.8	2.9	**2008**	3	5.9	2.0	7 years	35.0	4.4	7 years	15.9	3.3	7 years	3.1	1.9
2009	27	136.8	5.1	**2009**	7	27.5	3.9	**2009**	0	0.0		8 years	34.0	4.5	8 years	14.8	3.3	8 years	2.8	1.9
2010	28	115.0	4.1	**2010**	17	54.2	3.2	**2010**	5	10.5	2.1	9 years	33.3	4.4	9 years	15.0	3.3	9 years	3.0	1.9
2011	34	146.7	4.3	**2011**	21	77.3	3.7	**2011**	1	2.0	2.0	10 years	33.4	4.4	10 years	15.6	3.4	10 years	2.8	1.9
2012	45	196.0	4.4	**2012**	21	70.1	3.3	**2012**	4	9.1	2.3	11 years	34.5	4.4	11 years	16.1	3.4	11 years	2.9	2.0
2013	23	111.1	4.8	**2013**	11	45.2	4.1	**2013**	0	0.0		12 years	33.5	4.5	12 years	15.7	3.4	12 years	2.7	2.0
2014	36	155.1	4.3	**2014**	14	40.9	2.9	**2014**	5	9.2	1.8	13 years	33.7	4.5	13 years	15.5	3.4	13 years	2.8	1.9
2015	31	143.2	4.6	**2015**	11	38.1	3.5	**2015**	2	3.6	1.8	14 years	33.5	4.5	14 years	15.2	3.4	14 years	2.8	1.9
2016	16	78.5	4.9	**2016**	3	11.5	3.8	**2016**	0	0.0		15 years	32.3	4.5	15 years	14.4	3.4	15 years	2.6	1.9
2017	29	144.6	5.0	**2017**	7	26.9	3.8	**2017**	0	0.0		16 years	32.1	4.5	16 years	13.9	3.4	16 years	2.4	1.9
2018	45	197.9	4.4	**2018**	18	54.5	3.0	**2018**	4	8.1	2.0	17 years	32.9	4.5	17 years	14.2	3.4	17 years	2.5	1.9
2019	45	190.3	4.2	**2019**	25	80.9	3.2	**2019**	5	7.1	1.4	18 years	33.6	4.5	18 years	14.8	3.4	18 years	2.7	1.9
2020	38	161.1	4.2	**2020**	20	68.2	3.4	**2020**	2	4.4	2.2	19 years	33.8	4.5	19 years	15.1	3.4	19 years	2.6	1.9
2021	34	159.9	4.7	**2021**	11	37.1	3.4	**2021**	3	6.4	2.1	20 years	33.8	4.5	20 years	14.9	3.4	20 years	2.7	1.9
2022	30	125.9	4.2	**2022**	16	51.7	3.2	**2022**	1	1.1	1.1									
Original AWS probe Rosemount				Original AWS probe Rosemount																
10 years	AWS and small screen both 2001			**10 years**	AWS and small screen both 2001			**10 years**	AWS and small screen both 2001											
Pre AWS	34	146.7	4.4	**Pre AWS**	16.5	53.5	3.3	**Pre AWS**	3.5	6.1	2.0									
Post AWS	33.4	145.9	4.4	**Post AWS**	15.6	51.0	3.4	**Post AWS**	2.8	5.0	1.9									
Pre small	34.0	146.7	4.4	**Pre small**	16.5	53.5	3.3	**Pre small**	3.5	6.1	2.0									
Post small	33.4	145.9	4.4	**Post small**	15.6	51.0	3.4	**Post small**	2.8	5.0	1.9									
5 years				**5 years**				**5 years**												
Pre AWS	27.6	116.0	4.4	**Pre AWS**	14.2	44.9	3.4	**Pre AWS**	3.6	5.8	2.0									
Post AWS	34.0	148.1	4.5	**Post AWS**	15.2	48.1	3.3	**Post AWS**	3.2	5.3	1.9									
Pre small	27.6	116.0	4.4	**Pre small**	14.2	44.9	3.4	**Pre small**	3.6	5.8	2.0									
Post small	34.0	148.1	4.5	**Post small**	15.2	48.1	3.3	**Post small**	3.2	5.3	1.9									
		AWS introduction																		
		Small screen introduction																		





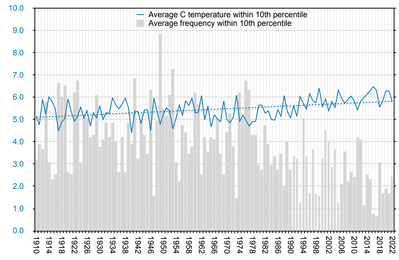


10th 7.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile
1910	30	154.2	5.1
1911	37	176.1	4.8
1912	35	206.7	5.9
1913	55	287.9	5.2
1914	29	174.5	6.0
1915	22	127.7	5.8
1916	24	131.6	5.5
1917	63	282.9	4.5
1918	57	278.2	4.9
1919	62	312.8	5.0
1920	25	148.2	5.9
1921	24	128.8	5.4
1922	59	290.7	4.9
1923	64	328.7	5.1
1924	29	161.2	5.6
1925	48	242.8	5.1
1926	48	259.2	5.4
1927	40	188.3	4.7
1928	41	217.5	5.3
1929	58	294.3	5.1
1930	36	202.4	5.6
1931	39	194.8	5.0
1932	46	244.2	5.3
1933	40	210.9	5.3
1934	46	274.4	6.0
1935	38	215.6	5.7
1936	25	136.9	5.5
1937	40	227.4	5.7
1938	25	148.9	6.0
1939	46	255.4	5.6
1940	37	163.0	4.4
1941	65	349.3	5.4
1942	31	166.0	5.4
1943	48	231.4	4.8
1944	41	222.4	5.4
1945	33	179.2	5.4
1946	60	270.4	4.5
1947	15	89.4	6.0
1948	47	252.9	5.4
1949	84	402.5	4.8
1950	52	272.1	5.2
1951	49	270.9	5.5
1952	58	309.4	5.3
1953	69	316.6	4.6
1954	29	146.7	5.1
1955	21	118.8	5.7
1956	45	233.0	5.2
1957	42	245.1	5.8
1958	33	185.7	5.6
1959	36	214.5	6.0
1960	59	312.3	5.3
1961	54	287.1	5.3
1962	24	145.7	6.1
1963	40	199.3	5.0
1964	34	190.8	5.6
1965	40	186.5	4.7
1966	39	203.3	5.2
1967	48	241.0	5.0
1968	33	161.8	4.9
1969	24	140.1	5.8
1970	42	209.5	5.0
1971	50	242.7	4.9
1972	36	183.8	5.1
1973	14	85.3	6.1
1974	59	289.7	4.9
1975	48	249.6	5.2
1976	64	316.7	4.9
1977	60	282.5	4.7
1978	41	201.0	4.9
1979	41	201.4	4.9
1980	28	158.2	5.7
1981	26	146.7	5.6
1982	45	238.1	5.3
1983	37	199.3	5.4
1984	28	139.8	5.0
1985	32	159.2	5.0
1986	26	141.3	5.4
1987	33	169.7	5.1
1988	19	115.4	6.1
1989	38	203.4	5.4
1990	26	132.1	5.1
1991	32	179.4	5.6
1992	31	159.4	5.1
1993	12	72.4	6.0
1994	48	275.3	5.7
1995	32	174.8	5.5
1996	16	98.6	6.2
1997	35	204.7	5.8
1998	16	92.1	5.8
1999	15	96.0	6.4
2000	31	173.0	5.6
2001	43	254.6	5.9
2002	38	205.1	5.4
2003	27	156.9	5.8
2004	35	194.0	5.5
2005	12	75.8	6.3
2006	20	119.7	6.0
2007	34	194.9	5.7
2008	21	123.7	5.9
2009	25	151.3	6.1
2010	23	134.7	5.9
2011	40	217.1	5.4
2012	39	226.6	5.8
2013	11	65.8	6.0
2014	24	146.8	6.1
2015	22	138.3	6.3
2016	7	45.3	6.5
2017	6	37.9	6.3
2018	29	161.3	5.6
2019	16	93.6	5.9
2020	18	113.2	6.3
2021	16	100.4	6.3
2022	23	133.4	5.8
	Inadequate/no observations 2020/2022		
50/50	No AWS / always had a small screen		
1910-1964	42.5	223.2	5.3
1965-2019	31.2	168.5	5.6

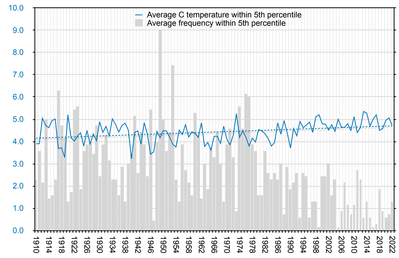
5th 5.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile
1910	16	62.4	3.9
1911	25	97.5	3.9
1912	15	75.7	5.0
1913	35	165.3	4.7
1914	10	46.2	4.6
1915	11	54.3	4.9
1916	16	80.2	5.0
1917	44	162.0	3.7
1918	33	122.8	3.7
1919	29	95.3	3.3
1920	9	46.8	5.2
1921	12	50.1	4.2
1922	38	152.6	4.0
1923	39	165.6	4.2
1924	13	57.1	4.4
1925	25	94.7	3.8
1926	27	121.4	4.5
1927	28	109.0	3.9
1928	24	104.3	4.3
1929	33	133.1	4.0
1930	17	83.0	4.9
1931	27	119.1	4.4
1932	30	140.4	4.7
1933	22	93.6	4.3
1934	16	80.3	5.0
1935	16	76.2	4.8
1936	11	48.7	4.4
1937	20	94.3	4.7
1938	9	43.4	4.8
1939	21	95.0	4.5
1940	24	77.4	3.2
1941	36	158.7	4.4
1942	18	80.6	4.5
1943	31	120.4	3.9
1944	27	130.9	4.8
1945	17	73.7	4.3
1946	38	130.4	3.4
1947	3	10.6	3.5
1948	28	125.0	4.5
1949	63	263.0	4.2
1950	35	157.1	4.5
1951	25	112.0	4.5
1952	31	130.0	4.2
1953	52	201.6	3.9
1954	16	60.0	3.8
1955	9	40.6	4.5
1956	27	116.6	4.3
1957	19	90.4	4.8
1958	15	63.0	4.2
1959	11	48.8	4.4
1960	37	161.8	4.4
1961	30	125.6	4.2
1962	10	48.4	4.8
1963	21	79.3	3.8
1964	13	51.5	4.0
1965	26	94.0	3.6
1966	23	97.4	4.2
1967	31	131.3	4.2
1968	21	82.2	3.9
1969	9	42.2	4.7
1970	27	110.7	4.1
1971	32	123.3	3.9
1972	23	98.2	4.3
1973	6	31.5	5.3
1974	39	163.2	4.2
1975	32	143.7	4.5
1976	43	179.9	4.2
1977	42	159.5	3.8
1978	27	112.1	4.2
1979	25	99.5	4.0
1980	11	49.9	4.5
1981	11	49.3	4.5
1982	25	108.6	4.3
1983	18	74.3	4.1
1984	16	60.7	3.8
1985	18	71.2	4.0
1986	16	77.4	4.8
1987	21	90.9	4.3
1988	5	24.7	4.9
1989	20	87.6	4.4
1990	13	48.2	3.7
1991	15	68.8	4.6
1992	18	76.6	4.3
1993	4	19.6	4.9
1994	18	83.2	4.6
1995	17	80.5	4.7
1996	4	19.5	4.9
1997	9	39.7	4.4
1998	9	46.0	5.1
1999	1	5.2	5.2
2000	17	81.5	4.8
2001	17	81.2	4.8
2002	21	94.8	4.5
2003	11	52.3	4.8
2004	16	71.3	4.5
2005	1	5.0	5.0
2006	6	27.9	4.7
2007	15	69.5	4.6
2008	8	38.4	4.8
2009	5	22.5	4.5
2010	8	40.9	5.1
2011	19	83.7	4.4
2012	16	74.0	4.6
2013	4	21.4	5.4
2014	9	47.4	5.3
2015	4	18.8	4.7
2016	1	5.0	5.0
2017	2	10.4	5.2
2018	13	58.5	4.5
2019	6	27.5	4.6
2020	4	19.8	5.0
2021	5	25.3	5.1
2022	9	42.4	4.7
50/50	No AWS / always had a small screen		
1910-1964	23.8	100.5	4.3
1965-2019	15.9	68.8	4.5

1st 3.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1910	5	10.5	2.1
1911	7	12.7	1.8
1912	0	0.0	
1913	1	2.7	2.7
1914	2	6.1	3.1
1915	0	0.0	
1916	0	0.0	
1917	15	27.5	1.8
1918	12	26.2	2.2
1919	13	25.0	1.9
1920	0	0.0	
1921	2	6.3	3.2
1922	10	24.5	2.5
1923	10	23.1	2.3
1924	4	12.1	3.0
1925	9	24.3	2.7
1926	4	12.8	3.2
1927	12	34.7	2.9
1928	1	2.9	2.9
1929	10	26.4	2.6
1930	0	0.0	
1931	5	13.1	2.6
1932	2	6.6	3.3
1933	3	6.4	2.1
1934	0	0.0	
1935	0	0.0	
1936	2	6.1	3.1
1937	1	2.9	2.9
1938	0	0.0	
1939	3	8.8	2.9
1940	12	29.8	2.5
1941	4	11.2	2.8
1942	3	7.7	2.6
1943	7	15.0	2.1
1944	2	6.1	3.1
1945	2	6.1	3.1
1946	19	38.7	2.0
1947	2	5.0	2.5
1948	5	11.1	2.2
1949	19	46.1	2.4
1950	7	18.7	2.7
1951	5	14.9	3.0
1952	9	21.6	2.4
1953	18	42.2	2.3
1954	7	15.5	2.2
1955	1	2.8	2.8
1956	5	13.0	2.6
1957	1	3.3	3.3
1958	3	6.2	2.1
1959	2	5.0	2.5
1960	9	23.2	2.6
1961	8	22.7	2.8
1962	0	0.0	
1963	8	19.5	2.4
1964	4	9.6	2.4
1965	9	21.2	2.4
1966	5	8.4	1.7
1967	7	18.2	2.6
1968	6	11.7	2.0
1969	1	2.3	2.3
1970	9	21.8	2.4
1971	10	23.1	2.3
1972	6	15.0	2.5
1973	0	0.0	
1974	8	15.6	2.0
1975	5	12.8	2.6
1976	11	29.1	2.6
1977	14	32.0	2.3
1978	8	23.5	2.9
1979	5	9.9	2.0
1980	2	5.5	2.8
1981	1	2.8	2.8
1982	5	13.6	2.7
1983	5	10.7	2.1
1984	4	7.0	1.8
1985	4	8.9	2.2
1986	0	0.0	
1987	3	8.8	2.9
1988	0	0.0	
1989	1	2.6	2.6
1990	4	6.3	1.6
1991	2	5.5	2.8
1992	1	2.9	2.9
1993	0	0.0	
1994	3	8.9	3.0
1995	1	3.2	3.2
1996	0	0.0	
1997	0	0.0	
1998	0	0.0	
1999	0	0.0	
2000	1	2.9	2.9
2001	1	1.9	1.9
2002	3	8.4	2.8
2003	1	3.2	3.2
2004	4	10.4	2.6
2005	0	0.0	
2006	0	0.0	
2007	0	0.0	
2008	1	3.0	3.0
2009	0	0.0	
2010	0	0.0	
2011	2	5.6	2.8
2012	2	6.3	3.2
2013	0	0.0	
2014	0	0.0	
2015	0	0.0	
2016	0	0.0	
2017	0	0.0	
2018	1	2.2	2.2
2019	0	0.0	
2020	0	0.0	
2021	0	0.0	
2022	1	2.5	2.5
50/50	No AWS / always had a small screen		
1910-1964	5.4	13.0	2.6
1965-2019	2.8	6.8	2.5

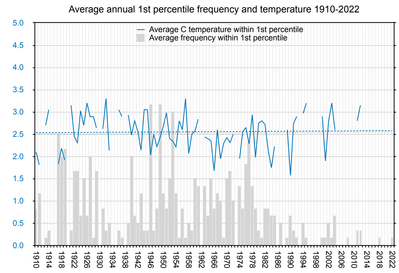
Average annual 10th percentile frequency and temperature 1910-2022



Average annual 5th percentile frequency and temperature 1910-2022



Average annual 1st percentile frequency and temperature 1910-2022

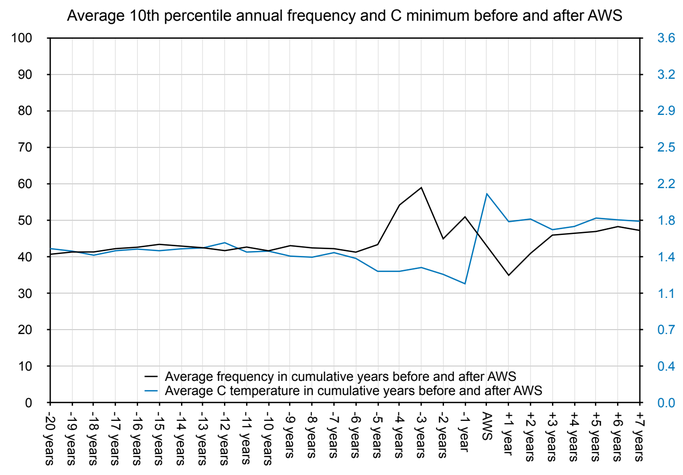


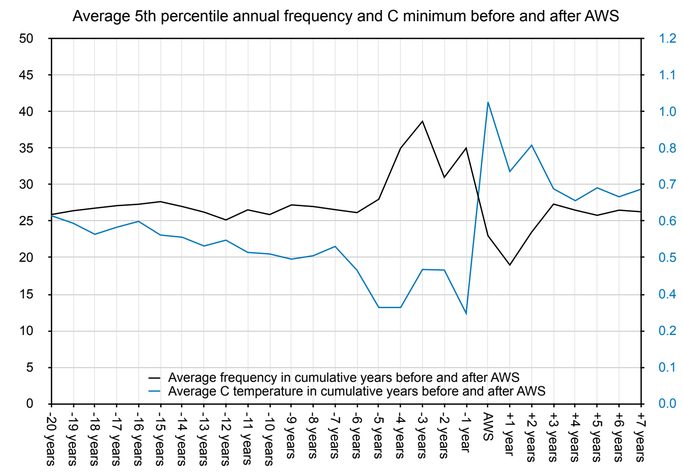
10th 3.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	25	70.2	2.8	**1910**	5	5.3	1.1	**1910**	1	-0.1	-0.1									
1911	42	66.1	1.6	**1911**	26	16.4	0.6	**1911**	6	-7.7	-1.3									
1912	34	80.4	2.4	**1912**	15	20.7	1.4	**1912**	0	0.0										
1913	52	124.6	2.4	**1913**	22	31.0	1.4	**1913**	1	0.0	0.0									
1914	36	91.8	2.6	**1914**	13	14.9	1.1	**1914**	2	-1.2	-0.6									
1915	29	89.1	3.1	**1915**	7	11.8	1.7	**1915**	0	0.0										
1916	24	77.4	3.2	**1916**	4	8.8	2.2	**1916**	0	0.0										
1917	48	110.6	2.3	**1917**	23	25.6	1.1	**1917**	6	-3.9	-0.7									
1918	61	86.4	1.4	**1918**	41	19.6	0.5	**1918**	17	-16.2	-1.0									
1919	41	58.7	1.4	**1919**	23	-0.6	-0.0	**1919**	13	-14.1	-1.1									
1920	24	67.3	2.8	**1920**	6	7.9	1.3	**1920**	1	0.0	0.0									
1921	14	47.2	3.4	**1921**	0	0.0		**1921**	0	0.0										
1922	39	98.5	2.5	**1922**	17	26.8	1.6	**1922**	2	-1.1	-0.6									
1923	30	89.8	3.0	**1923**	6	8.9	1.5	**1923**	1	0.0	0.0									
1924	52	129.5	2.5	**1924**	21	27.3	1.3	**1924**	4	-0.6	-0.2									
1925	47	114.7	2.4	**1925**	22	29.2	1.3	**1925**	3	-0.6	-0.2									
1926	27	80.4	3.0	**1926**	6	9.4	1.6	**1926**	0	0.0										
1927	51	96.5	1.9	**1927**	29	28.0	1.0	**1927**	9	-7.2	-0.8									
1928	42	104.5	2.5	**1928**	19	24.5	1.3	**1928**	3	-1.7	-0.6									
1929	60	88.1	1.5	**1929**	39	20.4	0.5	**1929**	17	-13.6	-0.8									
1930	35	104.1	3.0	**1930**	9	11.8	1.3	**1930**	1	-0.6	-0.6									
1931	30	90.0	3.0	**1931**	5	10.2	2.0	**1931**	0	0.0										
1932	39	87.4	2.2	**1932**	22	26.8	1.2	**1932**	4	-3.3	-0.8									
1933	37	85.9	2.3	**1933**	18	24.2	1.3	**1933**	4	-0.3	-0.1									
1934	35	99.7	2.8	**1934**	14	27.1	1.9	**1934**	0	0.0										
1935	38	86.3	2.3	**1935**	19	27.4	1.4	**1935**	2	-0.6	-0.3									
1936	35	72.8	2.1	**1936**	20	19.9	1.0	**1936**	5	-1.7	-0.3									
1937	50	129.5	2.6	**1937**	18	28.4	1.6	**1937**	0	0.0										
1938	33	83.3	2.5	**1938**	13	17.2	1.3	**1938**	1	-0.7	-0.7									
1939	32	95.8	3.0	**1939**	6	9.5	1.6	**1939**	0	0.0										
1940	46	93.0	2.0	**1940**	24	24.2	1.0	**1940**	5	-3.1	-0.6									
1941	47	105.7	2.2	**1941**	24	33.1	1.4	**1941**	2	-1.0	-0.5									
1942	27	76.4	2.8	**1942**	6	8.1	1.4	**1942**	1	-0.3	-0.3									
1943	60	106.2	1.8	**1943**	38	34.1	0.9	**1943**	11	-6.4	-0.6									
1944	45	114.1	2.5	**1944**	20	30.9	1.5	**1944**	2	-1.1	-0.6									
1945	30	63.1	2.1	**1945**	20	28.6	1.4	**1945**	1	-1.7	-1.7									
1946	50	108.8	2.2	**1946**	26	31.3	1.2	**1946**	5	-0.6	-0.1									
1947	33	84.1	2.5	**1947**	14	16.9	1.2	**1947**	3	0.0	0.0									
1948	50	123.3	2.5	**1948**	20	30.1	1.5	**1948**	1	-0.6	-0.6									
1949	57	135.4	2.4	**1949**	25	26.8	1.1	**1949**	5	-3.8	-0.8									
1950	13	35.9	2.8	**1950**	4	6.2	1.6	**1950**	0	0.0										
1951	45	119.6	2.7	**1951**	15	18.5	1.2	**1951**	2	-1.1	-0.6									
1952	41	97.4	2.4	**1952**	19	24.0	1.3	**1952**	3	-1.7	-0.6									
1953	49	116.9	2.4	**1953**	21	18.0	0.9	**1953**	8	-1.1	-0.1									
1954	31	90.6	2.9	**1954**	7	11.8	1.7	**1954**	0	0.0										
1955	32	61.6	1.9	**1955**	20	22.2	1.1	**1955**	3	-1.2	-0.4									
1956	17	53.9	3.2	**1956**	3	5.0	1.7	**1956**	0	0.0										
1957	40	100.5	2.5	**1957**	17	22.8	1.3	**1957**	3	-2.8	-0.9									
1958	34	69.6	2.0	**1958**	19	19.0	1.0	**1958**	4	-3.4	-0.9									
1959	28	75.4	2.7	**1959**	9	12.2	1.4	**1959**	1	-0.6	-0.6									
1960	50	124.1	2.5	**1960**	18	16.2	0.9	**1960**	4	-0.6	-0.2									
1961	38	85.2	2.2	**1961**	22	27.5	1.3	**1961**	2	-0.6	-0.3									
1962	31	86.5	2.8	**1962**	9	11.6	1.3	**1962**	2	-0.6	-0.3									
1963	40	83.4	2.1	**1963**	22	24.6	1.1	**1963**	4	-1.7	-0.4									
1964	34	78.3	2.3	**1964**	15	12.8	0.9	**1964**	5	-4.5	-0.9									
1965	48	118.2	2.5	**1965**	20	23.2	1.2	**1965**	2	-1.1	-0.6									
1966	37	95.1	2.6	**1966**	12	11.4	1.0	**1966**	2	-1.2	-0.6									
1967	31	75.3	2.4	**1967**	17	26.5	1.6	**1967**	0	0.0										
1968	38	101.5	2.7	**1968**	15	22.6	1.5	**1968**	2	-2.5	-1.3									
1969	35	114.2	3.3	**1969**	5	9.5	1.9	**1969**	0	0.0										
1970	64	160.8	2.5	**1970**	25	29.4	1.2	**1970**	5	-1.9	-0.4									
1971	44	82.4	1.9	**1971**	24	22.0	0.9	**1971**	8	-3.8	-0.5									
1972	29	77.5	2.7	**1972**	9	7.3	0.8	**1972**	1	-1.7	-1.7									
1973	17	51.0	3.0	**1973**	2	2.6	1.3	**1973**	0	0.0										
1974	32	63.8	2.0	**1974**	15	12.1	0.8	**1974**	2	0.0	0.0									
1975	29	83.1	2.9	**1975**	6	8.5	1.4	**1975**	1	0.0	0.0									
1976	42	86.6	2.1	**1976**	21	23.0	1.1	**1976**	3	-0.6	-0.2									
1977	42	94.6	2.3	**1977**	18	20.7	1.2	**1977**	1	0.0	0.0									
1978	35	83.0	2.4	**1978**	14	14.6	1.0	**1978**	1	-0.1	-0.1									
1979	30	81.8	2.7	**1979**	7	11.9	1.7	**1979**	0	0.0										
1980	20	57.6	2.9	**1980**	4	6.2	1.6	**1980**	0	0.0										
1981	21	58.6	2.8	**1981**	3	4.0	1.3	**1981**	0	0.0										
1982	41	88.2	2.2	**1982**	20	22.2	1.1	**1982**	3	-1.4	-0.5									
1983	27	43.8	1.6	**1983**	18	17.4	1.0	**1983**	6	-1.0	-0.2									
1984	26	68.0	2.6	**1984**	9	14.3	1.6	**1984**	0	0.0										
1985	26	62.4	2.4	**1985**	10	13.6	1.4	**1985**	1	0.0	0.0									
1986	39	78.3	2.0	**1986**	20	17.2	0.9	**1986**	6	-2.7	-0.5									
1987	28	71.9	2.6	**1987**	10	15.7	1.6	**1987**	0	0.0										
1988	11	30.0	2.7	**1988**	2	3.4	1.7	**1988**	0	0.0										
1989	34	79.4	2.3	**1989**	15	19.8	1.3	**1989**	2	-0.5	-0.3									
1990	18	48.1	2.7	**1990**	3	3.7	1.2	**1990**	0	0.0										
1991	22	51.9	2.4	**1991**	9	11.8	1.3	**1991**	1	0.0	0.0									
1992	25	62.9	2.5	**1992**	8	10.2	1.3	**1992**	0	0.0										
1993	13	35.0	2.7	**1993**	5	9.5	1.9	**1993**	0	0.0										
1994	36	72.8	2.0	**1994**	19	20.7	1.1	**1994**	4	-1.0	-0.3									
1995	29	57.0	2.0	**1995**	16	17.0	1.1	**1995**	4	-1.9	-0.5	20 years	40.8	1.5	20 years	25.9	0.6	20 years	8.5	-1.0
1996	41	89.6	2.2	**1996**	20	24.3	1.2	**1996**	2	-0.9	-0.5	19 years	41.4	1.5	19 years	26.4	0.6	19 years	8.7	-1.0
1997	26	19.6	0.8	**1997**	21	3.9	0.2	**1997**	5	-14.3	-2.9	18 years	41.4	1.5	18 years	26.8	0.6	18 years	9.1	-1.0
1998	36	45.4	1.3	**1998**	24	7.0	0.3	**1998**	8	-9.2	-1.2	17 years	42.3	1.5	17 years	27.1	0.6	17 years	9.3	-0.9
1999	31	54.0	1.7	**1999**	22	27.0	1.2	**1999**	5	0.0	0.0	16 years	42.7	1.5	16 years	27.3	0.6	16 years	9.4	-0.9
2000	50	63.0	1.3	**2000**	37	24.0	0.6	**2000**	14	-10.0	-0.7	15 years	43.5	1.5	15 years	27.7	0.6	15 years	9.7	-1.0
2001	49	69.0	1.4	**2001**	37	33.0	0.9	**2001**	11	-6.0	-0.5	14 years	43.0	1.5	14 years	27.0	0.5	14 years	9.4	-1.0
2002	52	50.4	1.0	**2002**	39	12.0	0.3	**2002**	18	-19.0	-1.1	13 years	42.5	1.5	13 years	26.2	0.5	13 years	9.2	-1.0
2003	31	77.6	2.5	**2003**	10	9.4	0.9	**2003**	3	-0.5	-0.2	12 years	41.8	1.6	12 years	25.2	0.5	12 years	8.5	-1.0
2004	53	74.5	1.4	**2004**	33	17.9	0.5	**2004**	11	-8.4	-0.8	11 years	42.7	1.5	11 years	26.5	0.5	11 years	9.0	-1.1
2005	29	54.9	1.9	**2005**	14	8.8	0.6	**2005**	2	-3.5	-1.8	10 years	41.7	1.5	10 years	25.9	0.5	10 years	8.8	-1.2
2006	48	73.1	1.5	**2006**	29	11.5	0.4	**2006**	12	-10.5	-0.9	9 years	43.1	1.4	9 years	27.2	0.5	9 years	9.6	-1.1
2007	44	51.4	1.2	**2007**	30	9.1	0.3	**2007**	11	-15.1	-1.4	8 years	42.5	1.4	8 years	27.0	0.5	8 years	9.3	-1.1
2008	48	84.8	1.8	**2008**	29	26.3	0.9	**2008**	6	-6.9	-1.2	7 years	42.3	1.5	7 years	26.6	0.5	7 years	9.0	-1.1
2009	31	60.0	1.9	**2009**	17	15.8	0.9	**2009**	4	-3.2	-0.8	6 years	41.3	1.4	6 years	26.2	0.4	6 years	9.5	-1.1
2010	0	0.0		**2010**	0	0.0		**2010**	0	0.0		5 years	43.4	1.3	5 years	28.0	0.3	5 years	10.6	-1.1
2011	40	47.5	1.2	**2011**	24	-1.4	-0.1	**2011**	13	-17.3	-1.3	4 years	54.3	1.3	4 years	35.0	0.3	4 years	13.3	-1.1
2012	87	128.0	1.5	**2012**	54	24.0	0.4	**2012**	17	-20.4	-1.2	3 years	59.0	1.3	3 years	38.7	0.4	3 years	13.3	-1.1
2013	39	53.1	1.4	**2013**	27	15.7	0.6	**2013**	8	-7.1	-0.9	2 years	45.0	1.3	2 years	31.0	0.4	2 years	11.5	-1.0
2014	51	60.0	1.2	**2014**	35	10.4	0.3	**2014**	15	-16.0	-1.1	1 years	51.0	1.2	1 years	35.0	0.3	1 years	15.0	-1.1
2015	43	88.7	2.1	**2015**	23	22.8	1.0	**2015**	2	-1.0	-0.5	0 years	43.0	2.1	0 years	23.0	1.0	0 years	2.0	-0.5
2016	35	62.6	1.8	**2016**	19	14.5	0.8	**2016**	5	-1.9	-0.4	1 years	35.0	1.8	1 years	19.0	0.8	1 years	5.0	-0.4
2017	47	86.5	1.8	**2017**	28	26.2	0.9	**2017**	7	-5.6	-0.8	2 years	41.0	1.8	2 years	23.5	0.8	2 years	6.0	-0.6
2018	56	84.0	1.5	**2018**	35	14.7	0.4	**2018**	13	-14.4	-1.1	3 years	46.0	1.7	3 years	27.3	0.7	3 years	8.3	-0.8
2019	48	88.1	1.8	**2019**	24	13.2	0.6	**2019**	6	-7.2	-1.2	4 years	46.5	1.7	4 years	26.5	0.7	4 years	7.8	-0.9
2020	49	105.6	2.2	**2020**	23	20.2	0.9	**2020**	4	-1.8	-0.5	5 years	47.0	1.8	5 years	25.8	0.7	5 years	7.0	-0.8
2021	55	94.6	1.7	**2021**	30	16.0	0.5	**2021**	9	-7.7	-0.9	6 years	48.3	1.8	6 years	26.5	0.7	6 years	7.3	-0.8
2022	41	70.1	1.7	**2022**	25	21.3	0.9	**2022**	5	-6.7	-1.3	7 years	47.3	1.8	7 years	26.3	0.7	7 years	7.0	-0.9

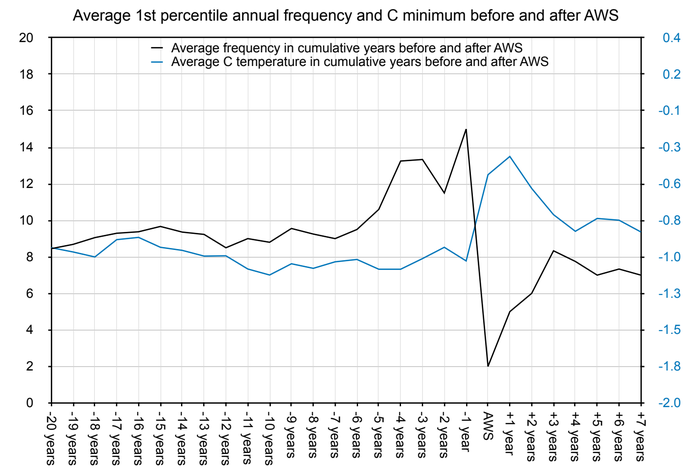
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	41.3	58.1	1.4	**Pre**	26.2	10.8	0.4	**Pre**	9.5	-10.7	-1.1									
Post	48.3	86.9	1.8	**Post**	26.5	17.5	0.7	**Post**	7.3	-6.4	-0.8									

		AWS introduction
		Probe replacement
		Small screen introduction







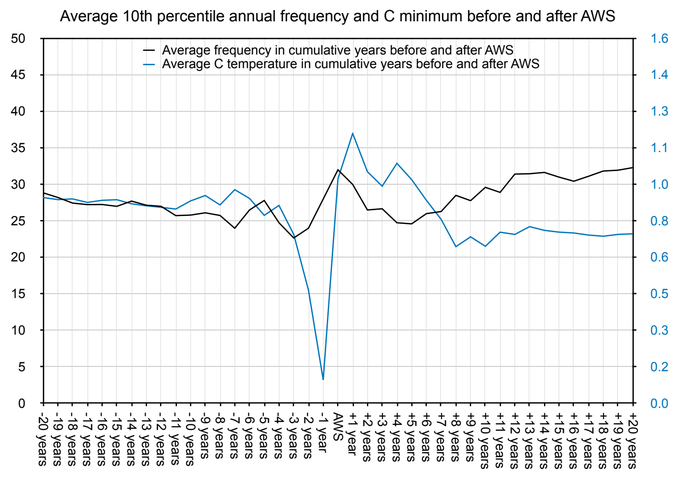
10th 2.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.9	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	36	38.0	1.1	**1910**	14	1.1	0.1	**1910**	2	-2.4	-1.2									
1911	44	26.5	0.6	**1911**	31	1.8	0.1	**1911**	0	0.0										
1912	28	27.2	1.0	**1912**	7	-4.8	-0.7	**1912**	2	-2.8	-1.4									
1913	8	7.1	0.9	**1913**	3	-0.8	-0.3	**1913**	1	-1.1	-1.1									
1914	50	24.9	0.5	**1914**	27	-11.2	-0.4	**1914**	6	-12.1	-2.0									
1915	17	13.2	0.8	**1915**	8	-2.0	-0.3	**1915**	1	-1.1	-1.1									
1916	55	19.8	0.4	**1916**	34	-18.2	-0.5	**1916**	9	-18.0	-2.0									
1917	53	65.1	1.2	**1917**	17	5.2	0.3	**1917**	0	0.0										
1918	36	11.0	0.3	**1918**	23	-8.8	-0.4	**1918**	6	-9.2	-1.5									
1919	45	29.5	0.7	**1919**	27	-2.0	-0.1	**1919**	5	-5.9	-1.2									
1920	36	24.0	0.7	**1920**	17	-7.4	-0.4	**1920**	4	-6.6	-1.7									
1921	29	35.0	1.2	**1921**	11	4.2	0.4	**1921**	0	0.0										
1922	47	27.0	0.6	**1922**	29	-2.5	-0.1	**1922**	4	-5.9	-1.5									
1923	29	27.8	1.0	**1923**	15	1.1	0.1	**1923**	1	-2.1	-2.1									
1924	45	46.6	1.0	**1924**	20	3.5	0.2	**1924**	1	-1.1	-1.1									
1925	61	26.8	0.4	**1925**	36	-14.4	-0.4	**1925**	10	-19.4	-1.9									
1926	24	23.6	1.0	**1926**	10	1.6	0.2	**1926**	0	0.0										
1927	39	33.1	0.8	**1927**	17	-5.6	-0.3	**1927**	4	-9.8	-2.5									
1928	35	32.8	0.9	**1928**	14	-2.3	-0.2	**1928**	3	-4.8	-1.6									
1929	53	50.1	0.9	**1929**	19	-4.4	-0.2	**1929**	3	-5.0	-1.7									
1930	29	36.2	1.2	**1930**	9	-1.1	-0.1	**1930**	1	-1.8	-1.8									
1931	49	14.2	0.3	**1931**	32	-12.5	-0.4	**1931**	8	-12.9	-1.6									
1932	40	36.8	0.9	**1932**	17	-2.3	-0.1	**1932**	1	-1.2	-1.2									
1933	35	20.1	0.6	**1933**	18	-6.3	-0.4	**1933**	4	-5.9	-1.5									
1934	53	65.1	1.2	**1934**	15	1.1	0.1	**1934**	1	-1.6	-1.6									
1935	52	46.0	0.9	**1935**	20	-8.9	-0.4	**1935**	5	-9.8	-2.0									
1936	48	31.9	0.7	**1936**	24	-4.1	-0.2	**1936**	6	-8.4	-1.4									
1937	57	21.3	0.4	**1937**	37	-10.6	-0.3	**1937**	7	-13.6	-1.9									
1938	37	20.9	0.6	**1938**	18	-9.5	-0.5	**1938**	6	-10.9	-1.8									
1939	49	31.1	0.6	**1939**	26	-10.7	-0.4	**1939**	10	-16.2	-1.6									
1940	59	31.8	0.5	**1940**	31	-17.9	-0.6	**1940**	7	-13.2	-1.9									
1941	41	29.7	0.7	**1941**	19	-5.2	-0.3	**1941**	4	-5.5	-1.4									
1942	35	30.4	0.9	**1942**	16	1.1	0.1	**1942**	2	-2.7	-1.4									
1943	66	48.0	0.7	**1943**	34	-11.0	-0.3	**1943**	9	-16.4	-1.8									
1944	46	36.3	0.8	**1944**	24	-2.9	-0.1	**1944**	5	-6.6	-1.3									
1945	28	26.1	0.9	**1945**	12	-1.4	-0.1	**1945**	2	-2.8	-1.4									
1946	50	42.3	0.8	**1946**	24	-1.4	-0.1	**1946**	3	-4.0	-1.3									
1947	54	41.5	0.8	**1947**	24	-7.2	-0.3	**1947**	4	-5.2	-1.3									
1948	56	23.4	0.4	**1948**	32	-16.0	-0.5	**1948**	11	-20.5	-1.9									
1949	52	43.9	0.8	**1949**	25	-2.9	-0.1	**1949**	4	-5.6	-1.4									
1950	47	28.3	0.6	**1950**	20	-13.2	-0.7	**1950**	9	-14.5	-1.6									
1951	58	45.3	0.8	**1951**	20	-18.9	-0.9	**1951**	12	-18.9	-1.6									
1952	71	43.8	0.6	**1952**	33	-22.9	-0.7	**1952**	15	-22.9	-1.5									
1953	48	5.7	0.1	**1953**	31	-24.6	-0.8	**1953**	10	-22.2	-2.2									
1954	61	29.1	0.5	**1954**	26	-30.0	-1.2	**1954**	15	-28.8	-1.9									
1955	56	46.6	0.8	**1955**	24	-9.8	-0.4	**1955**	8	-11.6	-1.5									
1956	78	20.2	0.3	**1956**	49	-35.3	-0.7	**1956**	23	-38.3	-1.7									
1957	44	45.6	1.0	**1957**	16	-2.2	-0.1	**1957**	2	-2.2	-1.1									
1958	58	30.2	0.5	**1958**	32	-11.6	-0.4	**1958**	9	-12.2	-1.4									
1959	45	38.6	0.9	**1959**	18	-6.5	-0.4	**1959**	7	-7.7	-1.1									
1960	62	40.4	0.7	**1960**	35	-7.6	-0.2	**1960**	8	-12.7	-1.6									
1961	42	18.8	0.4	**1961**	23	-13.7	-0.6	**1961**	9	-15.4	-1.7									
1962	38	32.5	0.9	**1962**	16	-8.3	-0.5	**1962**	4	-10.1	-2.5									
1963	21	20.6	1.0	**1963**	8	-0.4	-0.1	**1963**	0	0.0										
1964	46	41.9	0.9	**1964**	17	-4.5	-0.3	**1964**	2	-3.1	-1.6									
1965	36	27.3	0.8	**1965**	16	-5.3	-0.3	**1965**	1	-2.1	-2.1									
1966	43	28.7	0.7	**1966**	25	-0.6	-0.0	**1966**	4	-5.5	-1.4									
1967	27	28.1	1.0	**1967**	9	0.0	0.0	**1967**	1	-1.6	-1.6									
1968	35	31.5	0.9	**1968**	16	-0.9	-0.1	**1968**	3	-4.9	-1.6									
1969	49	28.7	0.6	**1969**	30	-1.8	-0.1	**1969**	4	-6.0	-1.5									
1970	33	27.4	0.8	**1970**	11	-8.0	-0.7	**1970**	5	-8.2	-1.6									
1971	37	42.2	1.1	**1971**	11	-1.2	-0.1	**1971**	1	-2.7	-2.7									
1972	33	33.0	1.0	**1972**	13	-2.7	-0.2	**1972**	3	-4.7	-1.6									
1973	43	32.2	0.7	**1973**	18	-7.3	-0.4	**1973**	3	-5.4	-1.8									
1974	41	35.9	0.9	**1974**	19	-1.8	-0.1	**1974**	3	-4.4	-1.5									
1975	36	26.0	0.7	**1975**	18	-3.6	-0.2	**1975**	3	-6.2	-2.1									
1976	29	24.6	0.8	**1976**	16	3.6	0.2	**1976**	0	0.0										
1977	34	24.1	0.7	**1977**	15	-5.9	-0.4	**1977**	3	-6.5	-2.2									
1978	41	44.1	1.1	**1978**	12	-0.4	-0.0	**1978**	1	-1.9	-1.9	20 years	28.9	0.9	20 years	12.1	-0.1	20 years	1.6	-1.7
1979	42	35.2	0.8	**1979**	20	-0.3	-0.0	**1979**	1	-1.4	-1.4	19 years	28.2	0.9	19 years	12.1	-0.1	19 years	1.6	-1.7
1980	31	35.9	1.2	**1980**	11	2.8	0.3	**1980**	0	0.0		18 years	27.4	0.9	18 years	11.6	-0.1	18 years	1.6	-1.8
1981	27	19.8	0.7	**1981**	11	-6.4	-0.6	**1981**	4	-8.5	-2.1	17 years	27.2	0.9	17 years	11.6	-0.1	17 years	1.7	-1.8
1982	31	26.4	0.9	**1982**	12	-3.0	-0.3	**1982**	1	-2.0	-2.0	16 years	27.3	0.9	16 years	11.7	-0.1	16 years	1.6	-1.7
1983	17	19.4	1.1	**1983**	4	-1.5	-0.4	**1983**	1	-1.2	-1.2	15 years	27.0	0.9	15 years	11.7	-0.1	15 years	1.6	-1.7
1984	35	34.7	1.0	**1984**	15	0.5	0.0	**1984**	2	-2.9	-1.5	14 years	27.7	0.9	14 years	12.2	-0.0	14 years	1.6	-1.8
1985	29	27.4	0.9	**1985**	11	-1.9	-0.2	**1985**	0	0.0		13 years	27.2	0.9	13 years	12.0	-0.0	13 years	1.6	-1.8
1986	41	38.7	0.9	**1986**	16	-3.2	-0.2	**1986**	3	-6.9	-2.3	12 years	27.0	0.9	12 years	12.1	-0.0	12 years	1.8	-1.8
1987	25	12.4	0.5	**1987**	13	-5.6	-0.4	**1987**	4	-7.3	-1.8	11 years	25.7	0.9	11 years	11.7	-0.0	11 years	1.6	-1.7
1988	23	15.5	0.7	**1988**	14	3.5	0.3	**1988**	1	-1.4	-1.4	10 years	25.8	0.9	10 years	11.6	0.0	10 years	1.4	-1.7
1989	29	36.0	1.2	**1989**	9	1.8	0.2	**1989**	1	-1.2	-1.2	9 years	26.1	0.9	9 years	11.3	0.0	9 years	1.4	-1.8
1990	38	15.3	0.4	**1990**	25	-8.7	-0.3	**1990**	4	-6.6	-1.7	8 years	25.8	0.9	8 years	11.6	-0.0	8 years	1.5	-1.9
1991	9	10.5	1.2	**1991**	2	-0.2	-0.1	**1991**	0	0.0		7 years	24.0	0.9	7 years	9.7	0.0	7 years	1.1	-2.1
1992	20	25.4	1.3	**1992**	6	2.9	0.5	**1992**	0	0.0		6 years	26.5	0.9	6 years	11.0	0.0	6 years	1.3	-2.1
1993	40	26.0	0.7	**1993**	20	-4.2	-0.2	**1993**	3	-5.2	-1.7	5 years	27.8	0.8	5 years	12.0	-0.0	5 years	1.6	-2.1
1994	31	38.7	1.2	**1994**	7	2.1	0.3	**1994**	0	0.0		4 years	24.8	0.9	4 years	10.0	0.0	4 years	1.3	-2.5
1995	20	24.6	1.2	**1995**	5	1.1	0.2	**1995**	0	0.0		3 years	22.7	0.7	3 years	11.0	-0.1	3 years	1.7	-2.5
1996	20	17.8	0.9	**1996**	10	1.7	0.2	**1996**	0	0.0		2 years	24.0	0.5	2 years	14.0	-0.3	2 years	2.5	-2.5
1997	28	2.9	0.1	**1997**	18	-12.2	-0.7	**1997**	5	-12.3	-2.5	1 years	28.0	0.1	1 years	18.0	-0.7	1 years	5.0	-2.5
1998	32	31.5	1.0	**1998**	12	-1.1	-0.1	**1998**	2	-3.9	-2.0	0 years	32.0	1.0	0 years	12.0	-0.1	0 years	2.0	-2.0
1999	30	35.5	1.2	**1999**	11	2.8	0.3	**1999**	0	0.0		1 years	30.0	1.2	1 years	11.0	0.3	1 years	0.0	
2000	23	19.5	0.8	**2000**	8	-3.0	-0.4	**2000**	1	-1.9	-1.9	2 years	26.5	1.0	2 years	9.5	-0.1	2 years	0.5	-1.9
2001	27	22.3	0.8	**2001**	10	-6.8	-0.7	**2001**	2	-3.9	-2.0	3 years	26.7	1.0	3 years	9.7	-0.3	3 years	1.0	-1.9
2002	19	25.7	1.4	**2002**	4	0.3	0.1	**2002**	0	0.0		4 years	24.8	1.1	4 years	8.3	-0.2	4 years	0.8	-1.9
2003	24	16.7	0.7	**2003**	11	-4.9	-0.4	**2003**	3	-4.5	-1.5	5 years	24.6	1.0	5 years	8.8	-0.2	5 years	1.2	-1.8
2004	33	14.4	0.4	**2004**	23	-2.1	-0.1	**2004**	3	-4.5	-1.5	6 years	26.0	0.9	6 years	11.2	-0.2	6 years	1.5	-1.7
2005	28	8.6	0.3	**2005**	16	-12.2	-0.8	**2005**	7	-13.9	-2.0	7 years	26.3	0.8	7 years	11.9	-0.3	7 years	2.3	-1.8
2006	44	-6.6	-0.2	**2006**	31	-28.8	-0.9	**2006**	13	-29.4	-2.3	8 years	28.5	0.7	8 years	14.3	-0.4	8 years	3.6	-1.8
2007	22	23.6	1.1	**2007**	8	-0.8	-0.1	**2007**	0	0.0		9 years	27.8	0.7	9 years	13.6	-0.3	9 years	3.2	-1.8
2008	46	14.6	0.3	**2008**	25	-16.3	-0.7	**2008**	9	-14.4	-1.6	10 years	29.6	0.7	10 years	14.7	-0.4	10 years	3.8	-1.8
2009	22	30.1	1.4	**2009**	5	3.3	0.7	**2009**	0	0.0		11 years	28.9	0.8	11 years	13.8	-0.3	11 years	3.5	-1.8
2010	59	37.4	0.6	**2010**	29	-9.1	-0.3	**2010**	5	-9.3	-1.9	12 years	31.4	0.7	12 years	15.1	-0.3	12 years	3.6	-1.8
2011	32	37.9	1.2	**2011**	10	0.5	0.1	**2011**	1	-2.0	-2.0	13 years	31.5	0.8	13 years	14.7	-0.3	13 years	3.4	-1.8
2012	34	18.6	0.5	**2012**	19	-5.7	-0.3	**2012**	4	-8.0	-2.0	14 years	31.6	0.8	14 years	15.0	-0.3	14 years	3.4	-1.9
2013	22	14.1	0.6	**2013**	13	-2.0	-0.2	**2013**	2	-4.6	-2.3	15 years	31.0	0.8	15 years	14.9	-0.3	15 years	3.3	-1.9
2014	22	15.2	0.7	**2014**	9	-4.2	-0.5	**2014**	2	-2.3	-1.2	16 years	30.4	0.7	16 years	14.5	-0.3	16 years	3.3	-1.8
2015	42	24.9	0.6	**2015**	26	1.0	0.0	**2015**	4	-6.0	-1.5	17 years	31.1	0.7	17 years	15.2	-0.2	17 years	3.3	-1.8
2016	44	28.5	0.6	**2016**	21	-9.4	-0.4	**2016**	6	-10.8	-1.8	18 years	31.8	0.7	18 years	15.5	-0.3	18 years	3.4	-1.8
2017	34	30.0	0.9	**2017**	11	-6.2	-0.6	**2017**	3	-5.7	-1.9	19 years	31.9	0.7	19 years	15.3	-0.3	19 years	3.4	-1.8
2018	39	31.0	0.8	**2018**	18	-5.6	-0.3	**2018**	2	-3.4	-1.7	20 years	32.3	0.7	20 years	15.4	-0.3	20 years	3.4	-1.8
2019	45	33.9	0.8	**2019**	25	-0.1	-0.0	**2019**	3	-4.1	-1.4									
2020	18	14.5	0.8	**2020**	8	-2.8	-0.4	**2020**	2	-2.2	-1.1									
2021	22	29.8	1.4	**2021**	5	1.1	0.2	**2021**	1	-1.3	-1.3									
2022	22	23.6	1.1	**2022**	9	0.2	0.0	**2022**	2	-2.7	-1.4									

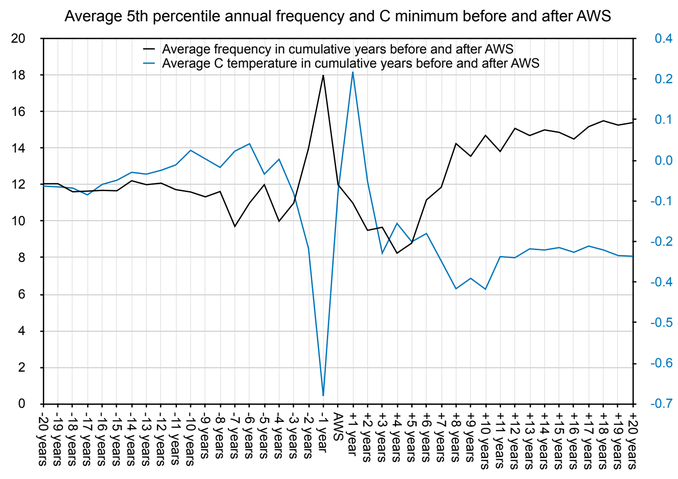
Original AWS probe Rosemount

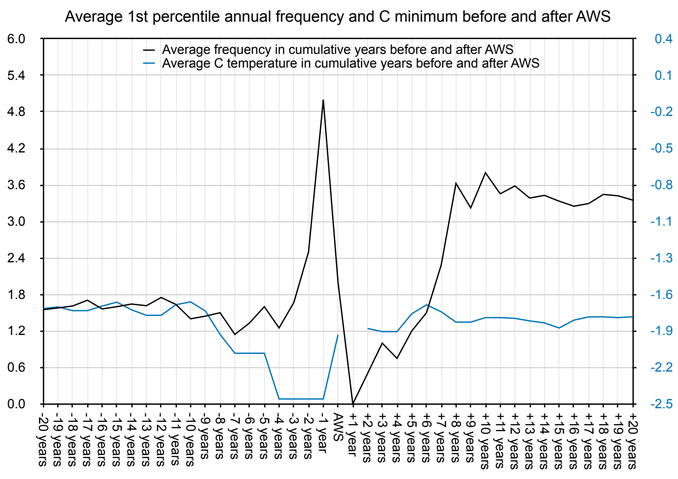
10 years				**10 years**				**10 years**			
Pre AWS	25.8	21.3	0.9	**Pre AWS**	11.6	-1.2	0.0	**Pre AWS**	1.4	-2.7	-1.7
Post AWS	29.6	17.4	0.7	**Post AWS**	14.7	-7.2	-0.4	**Post AWS**	3.8	-7.3	-1.8
Pre small	32.8	30.6	0.9	**Pre small**	12.7	-1.9	-0.2	**Pre small**	1.6	-3.1	-1.8
Post small	25.8	21.3	0.9	**Post small**	11.6	-1.2	0.0	**Post small**	1.4	-2.7	-1.7
5 years				**5 years**				**5 years**			
Pre AWS	27.8	22.0	0.8	**Pre AWS**	12.0	-2.3	-0.0	**Pre AWS**	1.6	-3.5	-2.1
Post AWS	24.6	23.9	1.0	**Post AWS**	8.8	-2.3	-0.2	**Post AWS**	1.2	-2.1	-1.8
Pre small	30.6	29.3	1.0	**Pre small**	11.6	-1.8	-0.2	**Pre small**	1.4	-2.6	-1.7
Post small	23.8	20.5	1.0	**Post small**	11.2	-0.1	0.1	**Post small**	1.2	-1.8	-1.4

AWS introduction

Small screen introduction





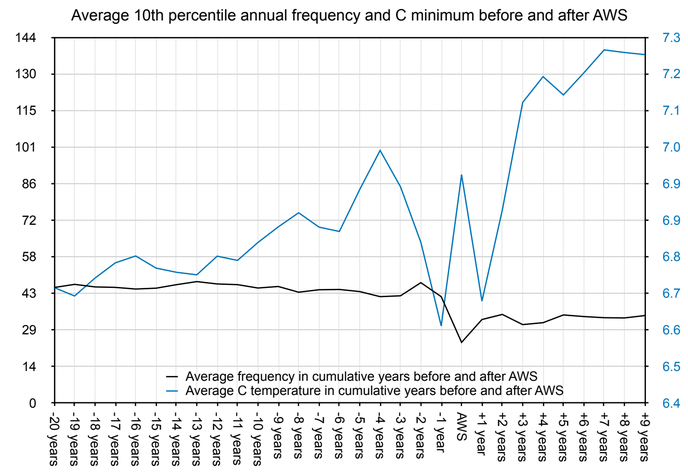


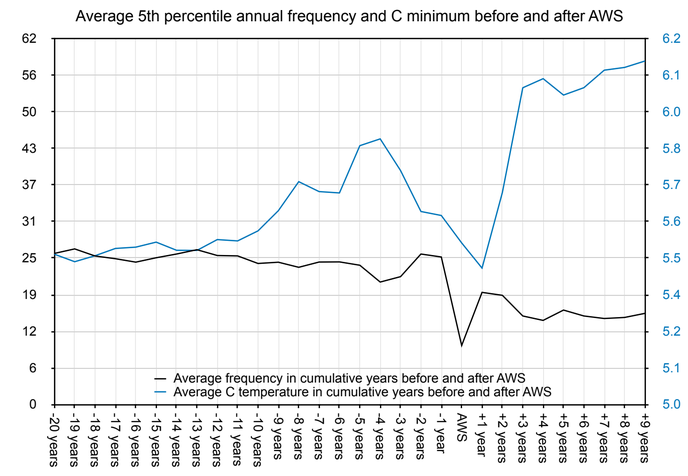
10th 8.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 7.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 4.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	26	180.4	6.9	**1910**	16	101.9	6.4	**1910**	0	0.0										
1911	52	356.8	6.9	**1911**	25	137.2	5.5	**1911**	6	20.4	3.4									
1912	26	203.2	7.8	**1912**	6	37.5	6.3	**1912**	0	0.0										
1913	39	278.6	7.1	**1913**	19	115.6	6.1	**1913**	2	8.4	4.2									
1914	32	229.0	7.2	**1914**	16	96.3	6.0	**1914**	5	22.7	4.5									
1915	50	376.5	7.5	**1915**	17	104.3	6.1	**1915**	1	3.3	3.3									
1916	38	286.2	7.5	**1916**	12	70.7	5.9	**1916**	2	8.6	4.3									
1917	48	337.3	7.0	**1917**	20	108.5	5.4	**1917**	6	22.9	3.8									
1918	67	481.3	7.2	**1918**	26	139.7	5.4	**1918**	9	37.1	4.1									
1919	31	224.6	7.2	**1919**	14	80.5	5.8	**1919**	4	16.5	4.1									
1920	31	225.1	7.3	**1920**	14	87.8	6.3	**1920**	0	0.0										
1921	18	139.5	7.8	**1921**	5	32.1	6.4	**1921**	0	0.0										
1922	37	255.3	6.9	**1922**	21	125.8	6.0	**1922**	4	16.9	4.2									
1923	34	249.7	7.3	**1923**	14	90.7	6.5	**1923**	0	0.0										
1924	26	195.8	7.5	**1924**	7	42.5	6.1	**1924**	0	0.0										
1925	47	334.7	7.1	**1925**	22	133.8	6.1	**1925**	2	7.4	3.7									
1926	30	214.3	7.1	**1926**	17	107.9	6.3	**1926**	0	0.0										
1927	54	370.2	6.9	**1927**	29	170.8	5.9	**1927**	6	26.5	4.4									
1928	37	268.6	7.3	**1928**	17	105.2	6.2	**1928**	1	4.7	4.7									
1929	50	338.7	6.8	**1929**	29	162.2	5.6	**1929**	9	40.6	4.5									
1930	26	188.1	7.2	**1930**	11	65.8	6.0	**1930**	1	4.8	4.8									
1931	29	221.8	7.6	**1931**	10	65.5	6.6	**1931**	0	0.0										
1932	37	279.1	7.5	**1932**	14	88.9	6.4	**1932**	0	0.0										
1933	35	235.5	6.7	**1933**	19	111.0	5.8	**1933**	3	12.1	4.0									
1934	34	238.3	7.0	**1934**	18	112.4	6.2	**1934**	1	4.3	4.3									
1935	47	330.6	7.0	**1935**	21	122.2	5.8	**1935**	2	7.6	3.8									
1936	30	217.8	7.3	**1936**	12	74.5	6.2	**1936**	1	4.4	4.4									
1937	27	202.7	7.5	**1937**	10	62.7	6.3	**1937**	0	0.0										
1938	32	249.2	7.8	**1938**	8	48.6	6.1	**1938**	0	0.0										
1939	39	290.4	7.4	**1939**	14	87.4	6.2	**1939**	1	4.7	4.7									
1940	28	196.1	7.0	**1940**	12	66.8	5.6	**1940**	2	7.6	3.8									
1941	38	276.9	7.3	**1941**	17	103.8	6.1	**1941**	2	9.1	4.6									
1942	19	147.9	7.8	**1942**	4	26.6	6.7	**1942**	0	0.0										
1943	44	304.9	6.9	**1943**	22	127.4	5.8	**1943**	5	18.6	3.7									
1944	30	229.6	7.7	**1944**	8	44.5	5.6	**1944**	2	8.3	4.2									
1945	29	223.8	7.7	**1945**	9	60.2	6.7	**1945**	0	0.0										
1946	53	356.8	6.7	**1946**	29	162.9	5.6	**1946**	9	39.2	4.4									
1947	52	398.3	7.7	**1947**	14	86.6	6.2	**1947**	1	4.4	4.4									
1948	45	325.6	7.2	**1948**	21	129.9	6.2	**1948**	1	2.7	2.7									
1949	50	356.6	7.1	**1949**	24	144.9	6.0	**1949**	2	7.6	3.8									
1950	18	131.9	7.3	**1950**	7	43.7	6.2	**1950**	1	4.8	4.8									
1951	46	303.2	6.6	**1951**	28	157.6	5.6	**1951**	8	30.6	3.8									
1952	37	259.0	7.0	**1952**	20	118.2	5.9	**1952**	4	16.5	4.1									
1953	49	352.0	7.2	**1953**	23	144.7	6.3	**1953**	3	12.2	4.1									
1954	14	99.9	7.1	**1954**	9	57.0	6.3	**1954**	1	3.8	3.8									
1955	35	258.2	7.4	**1955**	16	101.7	6.4	**1955**	0	0.0										
1956	49	360.7	7.4	**1956**	22	142.6	6.5	**1956**	1	4.8	4.8									
1957	29	209.0	7.2	**1957**	14	85.6	6.1	**1957**	1	3.4	3.4									
1958	32	247.6	7.7	**1958**	12	79.2	6.6	**1958**	0	0.0										
1959	23	164.2	7.1	**1959**	12	74.5	6.2	**1959**	1	3.9	3.9									
1960	54	397.6	7.4	**1960**	22	133.8	6.1	**1960**	2	8.8	4.4									
1961	39	275.3	7.1	**1961**	19	116.4	6.1	**1961**	2	9.2	4.6									
1962	26	200.8	7.7	**1962**	6	35.3	5.9	**1962**	0	0.0										
1963	33	241.9	7.3	**1963**	14	83.4	6.0	**1963**	1	4.5	4.5									
1964	40	296.6	7.4	**1964**	15	88.9	5.9	**1964**	2	7.7	3.9									
1965	31	229.5	7.4	**1965**	15	94.1	6.3	**1965**	1	4.5	4.5									
1966	23	168.1	7.3	**1966**	9	55.6	6.2	**1966**	1	3.8	3.8									
1967	30	229.6	7.7	**1967**	11	74.4	6.8	**1967**	0	0.0										
1968	27	200.8	7.4	**1968**	12	75.8	6.3	**1968**	1	4.7	4.7									
1969	10	81.8	8.2	**1969**	0	0.0		**1969**	0	0.0										
1970	64	398.1	6.2	**1970**	42	216.9	5.2	**1970**	13	48.4	3.7									
1971	49	335.4	6.8	**1971**	28	160.0	5.7	**1971**	7	26.5	3.8									
1972	42	273.3	6.5	**1972**	22	109.6	5.0	**1972**	9	30.7	3.4									
1973	13	95.7	7.4	**1973**	5	31.1	6.2	**1973**	0	0.0										
1974	54	365.4	6.8	**1974**	30	170.7	5.7	**1974**	7	28.1	4.0									
1975	36	260.3	7.2	**1975**	14	81.2	5.8	**1975**	3	12.6	4.2									
1976	37	251.2	6.8	**1976**	18	100.4	5.6	**1976**	4	17.9	4.5									
1977	49	327.7	6.7	**1977**	28	158.3	5.7	**1977**	6	22.2	3.7									
1978	40	269.2	6.7	**1978**	22	122.0	5.5	**1978**	5	21.4	4.3									
1979	28	191.1	6.8	**1979**	14	78.7	5.6	**1979**	5	18.3	3.7									
1980	26	182.5	7.0	**1980**	10	54.8	5.5	**1980**	3	11.8	3.9									
1981	47	322.4	6.9	**1981**	26	152.3	5.9	**1981**	3	10.3	3.4									
1982	45	289.3	6.4	**1982**	26	136.7	5.3	**1982**	10	37.0	3.7									
1983	25	191.2	7.6	**1983**	8	51.1	6.4	**1983**	0	0.0										
1984	37	271.3	7.3	**1984**	18	113.4	6.3	**1984**	1	4.4	4.4									
1985	38	274.0	7.2	**1985**	15	85.3	5.7	**1985**	2	4.7	2.4									
1986	24	176.6	7.4	**1986**	7	41.2	5.9	**1986**	1	3.6	3.6									
1987	30	213.5	7.1	**1987**	17	109.8	6.5	**1987**	0	0.0										
1988	24	178.0	7.4	**1988**	9	54.1	6.0	**1988**	3	13.0	4.3									
1989	50	327.3	6.5	**1989**	27	140.6	5.2	**1989**	11	43.7	4.0									
1990	44	260.6	5.9	**1990**	29	138.7	4.8	**1990**	13	44.3	3.4									
1991	50	322.9	6.5	**1991**	32	177.4	5.5	**1991**	8	30.0	3.8									
1992	54	357.2	6.6	**1992**	35	205.2	5.9	**1992**	8	33.9	4.2									
1993	22	155.7	7.1	**1993**	11	65.6	6.0	**1993**	1	4.2	4.2	20 years	45.6	6.7	20 years	25.6	5.5	20 years	8.2	3.8
1994	65	381.8	5.9	**1994**	48	245.5	5.1	**1994**	16	48.7	3.0	19 years	46.8	6.7	19 years	26.4	5.5	19 years	8.6	3.7
1995	49	297.4	6.1	**1995**	33	167.7	5.1	**1995**	11	35.5	3.2	18 years	45.8	6.7	18 years	25.2	5.5	18 years	8.2	3.8
1996	56	362.6	6.5	**1996**	34	185.1	5.4	**1996**	12	42.8	3.6	17 years	45.6	6.7	17 years	24.7	5.5	17 years	8.0	3.8
1997	40	288.4	7.2	**1997**	13	68.5	5.3	**1997**	4	11.6	2.9	16 years	45.0	6.8	16 years	24.1	5.5	16 years	7.8	3.8
1998	26	178.8	6.9	**1998**	16	94.5	5.9	**1998**	3	12.8	4.3	15 years	45.3	6.7	15 years	24.9	5.5	15 years	8.0	3.9
1999	31	210.9	6.8	**1999**	16	88.2	5.5	**1999**	5	19.0	3.8	14 years	46.7	6.7	14 years	25.5	5.5	14 years	8.4	3.9
2000	59	363.8	6.2	**2000**	38	193.0	5.1	**2000**	17	67.5	4.0	13 years	47.9	6.7	13 years	26.2	5.5	13 years	8.6	3.9
2001	50	343.8	6.9	**2001**	26	145.3	5.6	**2001**	6	22.4	3.7	12 years	47.0	6.8	12 years	25.3	5.5	12 years	7.9	3.8
2002	60	378.7	6.3	**2002**	38	197.9	5.2	**2002**	16	60.1	3.8	11 years	46.7	6.8	11 years	25.2	5.5	11 years	8.1	3.9
2003	40	258.0	6.5	**2003**	22	109.4	5.0	**2003**	11	39.3	3.6	10 years	45.4	6.8	10 years	23.9	5.6	10 years	7.3	3.9
2004	64	419.6	6.6	**2004**	31	151.1	4.9	**2004**	15	59.8	4.0	9 years	46.0	6.8	9 years	24.1	5.6	9 years	6.9	3.9
2005	37	263.3	7.1	**2005**	17	101.3	6.0	**2005**	5	21.4	4.3	8 years	43.8	6.9	8 years	23.3	5.7	8 years	5.9	3.9
2006	44	303.5	6.9	**2006**	24	137.4	5.7	**2006**	5	20.2	4.0	7 years	44.7	6.8	7 years	24.1	5.7	7 years	6.0	3.8
2007	49	309.0	6.3	**2007**	27	132.8	4.9	**2007**	12	42.1	3.5	6 years	44.8	6.8	6 years	24.2	5.7	6 years	6.2	3.8
2008	52	340.2	6.5	**2008**	35	201.6	5.8	**2008**	9	32.9	3.7	5 years	44.0	6.9	5 years	23.6	5.8	5 years	5.0	3.9
2009	41	298.9	7.3	**2009**	18	111.3	6.2	**2009**	2	7.1	3.6	4 years	42.0	7.0	4 years	20.8	5.9	4 years	4.0	3.9
2010	32	230.6	7.2	**2010**	14	84.5	6.0	**2010**	0	0.0		3 years	42.3	6.9	3 years	21.7	5.8	3 years	4.7	4.1
2011	53	371.1	7.0	**2011**	26	146.8	5.6	**2011**	6	23.6	3.9	2 years	47.5	6.8	2 years	25.5	5.6	2 years	7.0	4.1
2012	42	276.8	6.6	**2012**	25	140.5	5.6	**2012**	8	34.3	4.3	1 years	42.0	6.6	1 years	25.0	5.6	1 years	8.0	4.3
2013	24	167.1	7.0	**2013**	10	55.3	5.5	**2013**	4	17.7	4.4	0 years	24.0	7.0	0 years	10.0	5.5	0 years	4.0	4.4
2014	33	219.5	6.7	**2014**	19	103.5	5.4	**2014**	4	14.4	3.6	1 years	33.0	6.7	1 years	19.0	5.4	1 years	4.0	3.6
2015	37	262.7	7.1	**2015**	18	107.0	5.9	**2015**	2	9.0	4.5	2 years	35.0	6.9	2 years	18.5	5.7	2 years	3.0	4.1
2016	23	176.4	7.7	**2016**	8	53.8	6.7	**2016**	1	4.6	4.6	3 years	31.0	7.1	3 years	15.0	6.0	3 years	2.3	4.2
2017	34	251.4	7.4	**2017**	12	73.9	6.2	**2017**	1	4.3	4.3	4 years	31.8	7.2	4 years	14.3	6.1	4 years	2.0	4.3
2018	47	328.0	7.0	**2018**	23	133.4	5.8	**2018**	4	16.5	4.1	5 years	34.8	7.2	5 years	16.0	6.0	5 years	2.4	4.2
2019	31	232.0	7.5	**2019**	10	61.6	6.2	**2019**	1	4.7	4.7	6 years	34.2	7.2	6 years	15.0	6.0	6 years	2.2	4.3
2020	31	235.9	7.6	**2020**	12	77.3	6.4	**2020**	1	3.8	3.8	7 years	33.7	7.3	7 years	14.6	6.1	7 years	2.0	4.2
2021	33	238.2	7.2	**2021**	16	98.7	6.2	**2021**	1	4.3	4.3	8 years	33.6	7.3	8 years	14.8	6.1	8 years	1.9	4.2
2022	42	303.1	7.2	**2022**	21	132.2	6.3	**2022**	0	0.0		9 years	34.6	7.3	9 years	15.4	6.1	9 years	1.7	4.2

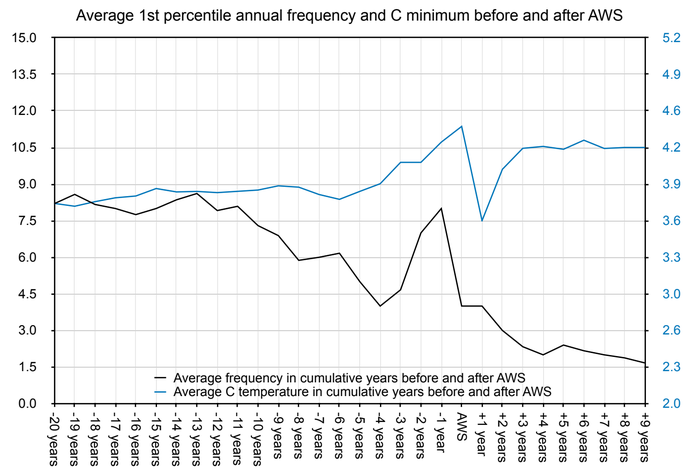
Original AWS probe Rosemount

6 years				6 years				6 years			
Pre	44.8	304.4	6.8	**Pre**	24.2	136.3	5.7	**Pre**	6.2	23.3	3.8
Post	34.2	245.0	7.2	**Post**	15.0	88.9	6.0	**Post**	2.2	8.9	4.3

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		





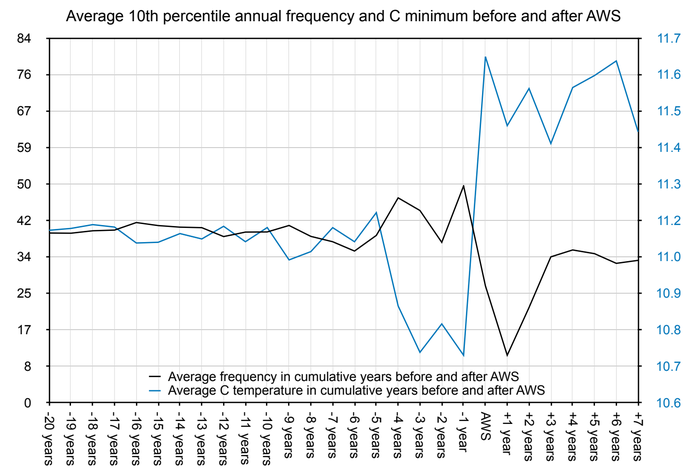


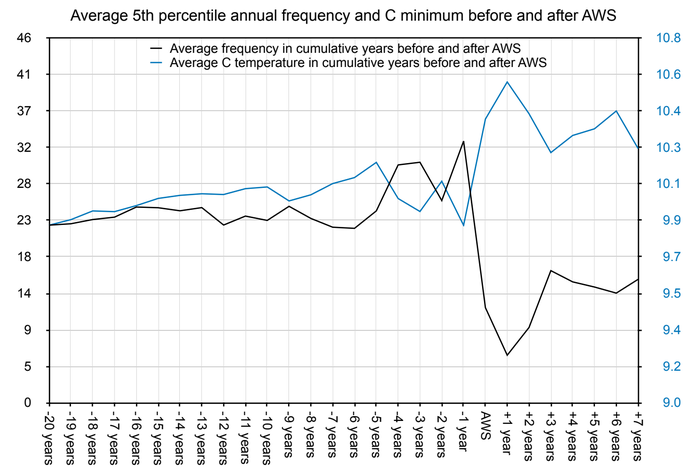
10th 13.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 11.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 8.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	14	161.9	11.6	**1910**	6	62.0	10.3	**1910**	1	8.4	8.4									
1911	31	355.0	11.5	**1911**	14	138.2	9.9	**1911**	1	8.2	8.2									
1912	41	472.2	11.5	**1912**	16	154.3	9.6	**1912**	3	22.8	7.6									
1913	65	755.7	11.6	**1913**	22	227.8	10.4	**1913**	2	17.1	8.6									
1914	32	353.2	11.0	**1914**	20	197.0	9.9	**1914**	3	23.9	8.0									
1915	31	354.0	11.4	**1915**	16	167.7	10.5	**1915**	1	7.8	7.8									
1916	26	305.2	11.7	**1916**	9	89.7	10.0	**1916**	2	14.8	7.4									
1917	38	436.0	11.5	**1917**	15	147.4	9.8	**1917**	2	14.5	7.3									
1918	24	286.5	11.9	**1918**	6	62.3	10.4	**1918**	1	8.1	8.1									
1919	41	462.6	11.3	**1919**	18	175.1	9.7	**1919**	4	30.5	7.6									
1920	24	283.0	11.8	**1920**	10	107.6	10.8	**1920**	0	0.0										
1921	22	254.2	11.6	**1921**	8	81.0	10.1	**1921**	1	8.6	8.6									
1922	29	341.0	11.8	**1922**	10	101.0	10.1	**1922**	2	16.1	8.1									
1923	32	381.0	11.9	**1923**	10	99.5	10.0	**1923**	2	16.1	8.1									
1924	18	219.1	12.2	**1924**	6	64.8	10.8	**1924**	0	0.0										
1925	47	552.5	11.8	**1925**	17	174.1	10.2	**1925**	2	15.9	8.0									
1926	54	599.4	11.1	**1926**	30	296.5	9.9	**1926**	3	24.2	8.1									
1927	42	460.4	11.0	**1927**	24	235.5	9.8	**1927**	3	22.3	7.4									
1928	40	456.5	11.4	**1928**	18	185.1	10.3	**1928**	2	16.2	8.1									
1929	57	631.1	11.1	**1929**	31	304.0	9.8	**1929**	6	44.8	7.5									
1930	13	151.3	11.6	**1930**	5	50.1	10.0	**1930**	1	8.6	8.6									
1931	18	218.6	12.1	**1931**	5	52.9	10.6	**1931**	0	0.0										
1932	38	422.1	11.1	**1932**	24	243.9	10.2	**1932**	1	8.6	8.6									
1933	29	316.2	10.9	**1933**	19	188.2	9.9	**1933**	3	24.7	8.2									
1934	28	338.9	12.1	**1934**	6	63.0	10.5	**1934**	0	0.0										
1935	49	543.1	11.1	**1935**	22	206.3	9.4	**1935**	7	49.0	7.0									
1936	19	216.6	11.4	**1936**	9	91.4	10.2	**1936**	1	6.4	6.4									
1937	38	443.7	11.7	**1937**	15	153.6	10.2	**1937**	2	16.9	8.5									
1938	6	74.0	12.3	**1938**	1	10.6	10.6	**1938**	0	0.0										
1939	29	353.7	12.2	**1939**	8	85.6	10.7	**1939**	0	0.0										
1940	58	644.6	11.1	**1940**	27	255.7	9.5	**1940**	7	55.7	8.0									
1941	31	371.8	12.0	**1941**	6	58.9	9.8	**1941**	0	0.0										
1942	8	96.2	12.0	**1942**	3	33.1	11.0	**1942**	0	0.0										
1943	34	383.8	11.3	**1943**	19	196.4	10.3	**1943**	1	8.2	8.2									
1944	42	477.5	11.4	**1944**	18	177.9	9.9	**1944**	2	13.7	6.9									
1945	27	299.3	11.1	**1945**	14	135.3	9.7	**1945**	3	24.1	8.0									
1946	20	232.1	11.6	**1946**	7	70.5	10.1	**1946**	2	16.1	8.1									
1947	20	243.4	12.2	**1947**	7	79.4	11.3	**1947**	0	0.0										
1948	55	636.7	11.6	**1948**	25	256.7	10.3	**1948**	2	16.3	8.2									
1949	62	645.4	10.4	**1949**	39	354.0	9.1	**1949**	13	95.5	7.3									
1950	54	596.4	11.0	**1950**	27	253.9	9.4	**1950**	8	55.6	7.0									
1951	33	383.3	11.6	**1951**	13	126.1	9.7	**1951**	4	27.3	6.8									
1952	44	459.1	10.4	**1952**	29	274.2	9.5	**1952**	8	59.5	7.4									
1953	44	427.8	9.7	**1953**	37	340.1	9.2	**1953**	11	77.7	7.1									
1954	43	467.7	10.9	**1954**	20	173.8	8.7	**1954**	8	55.2	6.9									
1955	22	255.2	11.6	**1955**	8	76.2	9.5	**1955**	3	22.4	7.5									
1956	35	400.4	11.4	**1956**	15	147.2	9.8	**1956**	3	22.1	7.4									
1957	24	262.1	10.9	**1957**	13	124.4	9.6	**1957**	3	22.9	7.6									
1958	13	148.6	11.4	**1958**	8	85.8	10.7	**1958**	0	0.0										
1959	10	125.0	12.5	**1959**	2	22.1	11.1	**1959**	0	0.0										
1960	30	364.3	12.1	**1960**	5	48.8	9.8	**1960**	0	0.0										
1961	49	540.1	11.0	**1961**	25	242.6	9.7	**1961**	5	37.7	7.5									
1962	33	382.8	11.6	**1962**	13	129.2	9.9	**1962**	3	24.7	8.2									
1963	48	516.2	10.8	**1963**	26	245.0	9.4	**1963**	8	55.2	6.9									
1964	41	470.5	11.5	**1964**	19	192.1	10.1	**1964**	3	23.1	7.7									
1965	36	365.0	10.1	**1965**	20	165.9	8.3	**1965**	7	38.1	5.4									
1966	34	372.2	10.9	**1966**	20	199.5	10.0	**1966**	3	25.0	8.3									
1967	74	776.3	10.5	**1967**	47	435.8	9.3	**1967**	17	127.1	7.5									
1968	24	281.4	11.7	**1968**	6	57.4	9.6	**1968**	1	8.3	8.3									
1969	61	667.2	10.9	**1969**	38	376.6	9.9	**1969**	7	55.9	8.0									
1970	55	635.8	11.6	**1970**	25	259.2	10.4	**1970**	1	8.1	8.1									
1971	56	575.4	10.3	**1971**	38	346.1	9.1	**1971**	13	94.3	7.3									
1972	34	401.4	11.8	**1972**	10	99.6	10.0	**1972**	2	15.5	7.8									
1973	5	62.4	12.5	**1973**	1	11.1	11.1	**1973**	0	0.0										
1974	32	366.5	11.5	**1974**	17	178.9	10.5	**1974**	1	8.1	8.1									
1975	20	235.8	11.8	**1975**	7	70.1	10.0	**1975**	1	8.6	8.6									
1976	88	921.5	10.5	**1976**	61	585.8	9.6	**1976**	14	98.6	7.0									
1977	64	671.7	10.5	**1977**	43	407.6	9.5	**1977**	11	82.6	7.5									
1978	30	343.2	11.4	**1978**	16	168.5	10.5	**1978**	2	16.3	8.2									
1979	36	393.5	10.9	**1979**	18	168.3	9.4	**1979**	6	40.7	6.8									
1980	20	232.4	11.6	**1980**	9	95.1	10.6	**1980**	1	8.5	8.5									
1981	34	401.7	11.8	**1981**	12	125.4	10.5	**1981**	1	8.3	8.3									
1982	51	560.0	11.0	**1982**	25	235.1	9.4	**1982**	4	28.0	7.0									
1983	56	621.5	11.1	**1983**	29	285.7	9.9	**1983**	7	51.5	7.4									
1984	48	497.1	10.4	**1984**	31	284.4	9.2	**1984**	10	71.5	7.2									
1985	44	486.8	11.1	**1985**	27	271.2	10.0	**1985**	4	30.3	7.6									
1986	20	215.2	10.8	**1986**	14	140.3	10.0	**1986**	2	14.9	7.5									
1987	45	522.8	11.6	**1987**	19	197.2	10.4	**1987**	1	8.2	8.2									
1988	36	416.1	11.6	**1988**	17	172.6	10.2	**1988**	4	30.2	7.6									
1989	28	293.3	10.5	**1989**	17	157.9	9.3	**1989**	6	40.9	6.8									
1990	13	155.2	11.9	**1990**	5	53.8	10.8	**1990**	0	0.0										
1991	37	425.2	11.5	**1991**	20	210.6	10.5	**1991**	1	8.5	8.5									
1992	25	297.1	11.9	**1992**	7	70.9	10.1	**1992**	0	0.0										
1993	23	252.0	11.0	**1993**	14	138.5	9.9	**1993**	4	32.1	8.0									
1994	90	927.6	10.3	**1994**	67	640.2	9.6	**1994**	17	123.3	7.3									
1995	40	440.6	11.0	**1995**	19	177.8	9.4	**1995**	5	38.8	7.8	20 years	39.2	11.1	20 years	22.4	9.9	20 years	4.5	7.8
1996	29	316.7	10.9	**1996**	13	118.7	9.1	**1996**	4	29.7	7.4	19 years	39.1	11.1	19 years	22.6	9.9	19 years	4.4	7.8
1997	37	416.7	11.3	**1997**	18	180.1	10.0	**1997**	3	23.9	8.0	18 years	39.7	11.1	18 years	23.1	9.9	18 years	4.4	7.8
1998	12	142.8	11.9	**1998**	3	28.4	9.5	**1998**	0	0.0		17 years	39.8	11.1	17 years	23.4	9.9	17 years	4.5	7.8
1999	52	574.6	11.1	**1999**	26	245.5	9.4	**1999**	9	69.5	7.7	16 years	41.6	11.1	16 years	24.7	10.0	16 years	4.8	7.8
2000	46	493.0	10.7	**2000**	30	293.9	9.8	**2000**	7	53.8	7.7	15 years	40.9	11.1	15 years	24.6	10.0	15 years	4.5	7.8
2001	42	475.5	11.3	**2001**	19	188.5	9.9	**2001**	5	39.9	8.0	14 years	40.5	11.1	14 years	24.2	10.0	14 years	4.4	7.8
2002	65	691.4	10.6	**2002**	51	513.9	10.1	**2002**	8	64.3	8.0	13 years	40.4	11.1	13 years	24.6	10.0	13 years	4.3	7.8
2003	27	314.4	11.6	**2003**	10	97.1	9.7	**2003**	2	15.5	7.8	12 years	38.3	11.1	12 years	22.4	10.0	12 years	4.0	7.8
2004	39	415.7	10.7	**2004**	29	289.2	10.0	**2004**	5	41.2	8.2	11 years	39.4	11.1	11 years	23.5	10.1	11 years	4.2	7.8
2005	26	312.2	12.0	**2005**	7	74.8	10.7	**2005**	0	0.0		10 years	39.4	11.1	10 years	23.0	10.1	10 years	4.1	7.8
2006	61	660.7	10.8	**2006**	37	360.9	9.8	**2006**	8	62.1	7.8	9 years	40.9	11.0	9 years	24.8	10.0	9 years	4.6	7.8
2007	47	495.9	10.6	**2007**	31	298.8	9.6	**2007**	9	71.0	7.9	8 years	38.4	11.1	8 years	23.3	10.0	8 years	4.1	7.8
2008	50	569.2	11.4	**2008**	23	227.8	9.9	**2008**	5	39.1	7.8	7 years	37.1	11.1	7 years	22.1	10.1	7 years	3.4	7.7
2009	17	181.0	10.6	**2009**	11	107.1	9.7	**2009**	3	23.5	7.8	6 years	35.0	11.1	6 years	22.0	10.1	6 years	3.2	7.7
2010	4	49.2	12.3	**2010**	1	10.9	10.9	**2010**	0	0.0		5 years	38.6	11.2	5 years	24.2	10.2	5 years	3.2	7.7
2011	56	633.5	11.3	**2011**	29	295.8	10.2	**2011**	3	20.4	6.8	4 years	47.3	10.9	4 years	30.0	10.0	4 years	4.0	7.7
2012	59	624.3	10.6	**2012**	40	385.8	9.6	**2012**	9	71.9	8.0	3 years	44.3	10.8	3 years	30.3	9.9	3 years	4.3	8.1
2013	24	262.4	10.9	**2013**	18	185.6	10.3	**2013**	0	0.0		2 years	37.0	10.8	2 years	25.5	10.1	2 years	2.0	8.2
2014	50	537.2	10.7	**2014**	33	325.9	9.9	**2014**	4	32.9	8.2	1 years	50.0	10.7	1 years	33.0	9.9	1 years	4.0	8.2
2015	27	314.4	11.6	**2015**	12	124.8	10.4	**2015**	2	16.1	8.1	0 years	27.0	11.6	0 years	12.0	10.4	0 years	2.0	8.1
2016	11	125.8	11.4	**2016**	6	63.5	10.6	**2016**	0	0.0		1 years	11.0	11.4	1 years	6.0	10.6	1 years	0.0	
2017	33	384.8	11.7	**2017**	13	133.5	10.3	**2017**	1	7.6	7.6	2 years	22.0	11.5	2 years	9.5	10.4	2 years	0.5	7.6
2018	57	629.9	11.1	**2018**	31	305.4	9.9	**2018**	5	35.5	7.1	3 years	33.7	11.4	3 years	16.7	10.2	3 years	2.0	7.4
2019	40	482.3	12.1	**2019**	11	116.3	10.6	**2019**	1	8.5	8.5	4 years	35.3	11.6	4 years	15.3	10.3	4 years	1.8	7.7
2020	31	363.7	11.7	**2020**	12	125.8	10.5	**2020**	1	8.4	8.4	5 years	34.4	11.6	5 years	14.6	10.4	5 years	1.6	7.9
2021	21	248.9	11.9	**2021**	10	108.8	10.9	**2021**	0	0.0		6 years	32.2	11.6	6 years	13.8	10.4	6 years	1.3	7.9
2022	37	375.0	10.1	**2022**	26	237.7	9.1	**2022**	13	98.8	7.6	7 years	32.9	11.4	7 years	15.6	10.3	7 years	3.0	7.8

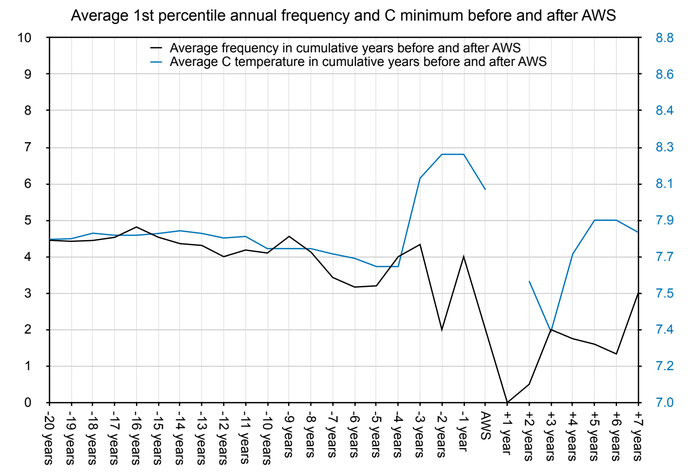
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	35.0	381.3	11.1	**Pre**	22.0	218.5	10.1	**Pre**	3.2	24.8	7.7
Post	32.2	372.6	11.6	**Post**	13.8	142.2	10.4	**Post**	1.3	10.0	7.9

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	





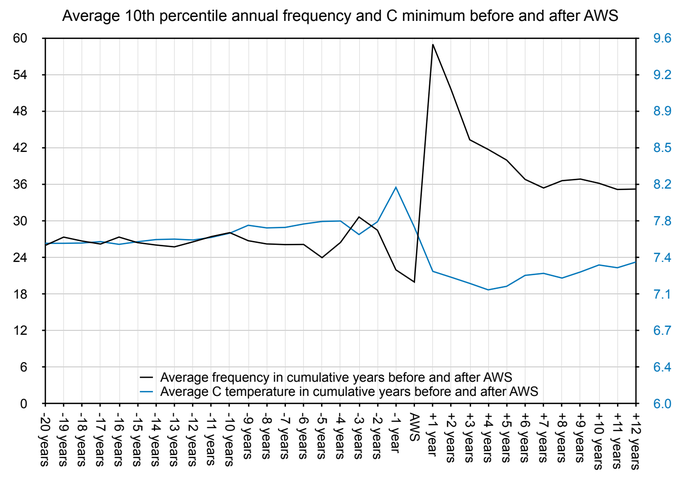


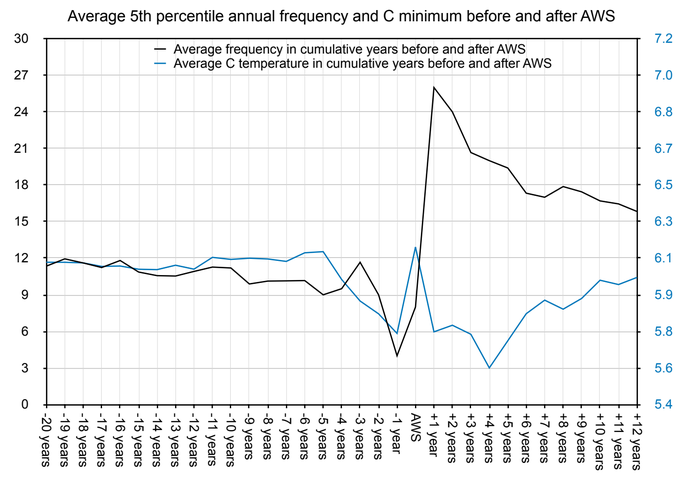
10th 9.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 7.5	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	40	278.5	7.0	**1910**	27	167.1	6.2	**1910**	4	19.1	4.8									
1911	62	410.0	6.6	**1911**	35	179.0	5.1	**1911**	17	64.4	3.8									
1912	40	274.0	6.9	**1912**	27	160.1	5.9	**1912**	6	26.2	4.4									
1913	50	344.3	6.9	**1913**	31	184.3	5.9	**1913**	7	27.9	4.0									
1914	38	246.6	6.5	**1914**	22	107.2	4.9	**1914**	10	34.9	3.5									
1915	52	376.2	7.2	**1915**	28	169.2	6.0	**1915**	7	30.7	4.4									
1916	38	264.9	7.0	**1916**	18	91.8	5.1	**1916**	9	33.5	3.7									
1917	68	455.9	6.7	**1917**	40	214.2	5.4	**1917**	13	53.4	4.1									
1918	65	437.2	6.7	**1918**	39	217.0	5.6	**1918**	14	49.9	3.6									
1919	41	273.2	6.7	**1919**	24	123.6	5.2	**1919**	11	37.8	3.4									
1920	41	279.7	6.8	**1920**	22	116.7	5.3	**1920**	7	26.8	3.8									
1921	19	142.2	7.5	**1921**	9	53.5	5.9	**1921**	3	13.2	4.4									
1922	52	373.5	7.2	**1922**	25	140.8	5.6	**1922**	10	42.0	4.2									
1923	76	512.1	6.7	**1923**	47	265.4	5.6	**1923**	14	55.5	4.0									
1924	38	267.1	7.0	**1924**	19	103.9	5.5	**1924**	9	39.4	4.4									
1925	71	514.4	7.2	**1925**	42	266.3	6.3	**1925**	5	20.4	4.1									
1926	53	397.0	7.5	**1926**	23	139.1	6.0	**1926**	7	30.4	4.3									
1927	71	469.6	6.6	**1927**	43	234.6	5.5	**1927**	22	94.7	4.3									
1928	44	324.7	7.4	**1928**	22	133.8	6.1	**1928**	5	23.0	4.6									
1929	54	362.0	6.7	**1929**	28	138.8	5.0	**1929**	14	51.3	3.7									
1930	50	351.8	7.0	**1930**	26	145.3	5.6	**1930**	9	39.4	4.4									
1931	39	280.4	7.2	**1931**	23	143.6	6.2	**1931**	4	19.3	4.8									
1932	45	276.9	6.2	**1932**	35	190.6	5.4	**1932**	11	42.6	3.9									
1933	35	246.5	7.0	**1933**	19	110.3	5.8	**1933**	6	26.0	4.3									
1934	38	265.7	7.0	**1934**	24	145.2	6.1	**1934**	3	14.5	4.8									
1935	58	410.6	7.1	**1935**	32	188.3	5.9	**1935**	10	42.3	4.2									
1936	28	193.6	6.9	**1936**	19	112.7	5.9	**1936**	6	28.2	4.7									
1937	41	307.7	7.5	**1937**	22	140.9	6.4	**1937**	4	18.8	4.7									
1938	31	238.8	7.7	**1938**	12	77.2	6.4	**1938**	1	4.7	4.7									
1939	64	474.8	7.4	**1939**	36	232.6	6.5	**1939**	2	9.7	4.9									
1940	37	264.0	7.1	**1940**	19	108.9	5.7	**1940**	6	27.5	4.6									
1941	55	389.6	7.1	**1941**	26	143.5	5.5	**1941**	10	43.8	4.4									
1942	29	229.8	7.9	**1942**	9	58.4	6.5	**1942**	0	0.0										
1943	58	379.1	6.5	**1943**	40	222.7	5.6	**1943**	11	41.4	3.8									
1944	38	292.4	7.7	**1944**	11	66.6	6.1	**1944**	4	17.9	4.5									
1945	26	194.9	7.5	**1945**	12	74.5	6.2	**1945**	2	7.8	3.9									
1946	59	364.1	6.2	**1946**	43	226.6	5.3	**1946**	21	86.4	4.1									
1947	43	332.5	7.7	**1947**	15	95.6	6.4	**1947**	1	4.8	4.8									
1948	53	395.3	7.5	**1948**	28	181.2	6.5	**1948**	1	5.0	5.0									
1949	54	392.4	7.3	**1949**	27	160.5	5.9	**1949**	9	39.9	4.4									
1950	22	163.9	7.5	**1950**	10	63.8	6.4	**1950**	1	5.0	5.0									
1951	61	428.4	7.0	**1951**	36	210.7	5.9	**1951**	7	19.3	2.8									
1952	46	348.0	7.6	**1952**	24	153.0	6.4	**1952**	3	13.8	4.6									
1953	60	409.5	6.8	**1953**	39	229.0	5.9	**1953**	8	33.6	4.2									
1954	23	173.6	7.5	**1954**	9	51.4	5.7	**1954**	2	10.0	5.0									
1955	40	286.3	7.2	**1955**	22	126.1	5.7	**1955**	6	25.3	4.2									
1956	59	440.4	7.5	**1956**	28	172.3	6.2	**1956**	4	17.6	4.4									
1957	40	292.7	7.3	**1957**	21	127.4	6.1	**1957**	3	14.1	4.7									
1958	40	309.5	7.7	**1958**	17	110.6	6.5	**1958**	1	3.7	3.7									
1959	32	249.3	7.8	**1959**	13	86.8	6.7	**1959**	0	0.0										
1960	55	391.9	7.1	**1960**	30	178.0	5.9	**1960**	7	32.3	4.6									
1961	50	362.0	7.2	**1961**	28	174.3	6.2	**1961**	4	18.3	4.6									
1962	32	258.4	8.1	**1962**	8	49.8	6.2	**1962**	1	4.7	4.7									
1963	41	304.5	7.4	**1963**	18	102.9	5.7	**1963**	4	14.3	3.6									
1964	38	282.2	7.4	**1964**	18	110.6	6.1	**1964**	2	8.2	4.1									
1965	36	259.2	7.2	**1965**	19	110.2	5.8	**1965**	6	26.4	4.4									
1966	35	263.2	7.5	**1966**	17	105.2	6.2	**1966**	3	12.5	4.2									
1967	29	235.5	8.1	**1967**	7	45.8	6.5	**1967**	0	0.0										
1968	43	328.7	7.6	**1968**	20	130.9	6.5	**1968**	2	8.8	4.4									
1969	17	145.1	8.5	**1969**	2	14.3	7.2	**1969**	0	0.0										
1970	46	347.4	7.6	**1970**	22	141.4	6.4	**1970**	1	4.5	4.5									
1971	31	243.7	7.9	**1971**	11	72.7	6.6	**1971**	0	0.0										
1972	21	144.9	6.9	**1972**	13	79.5	6.1	**1972**	3	12.8	4.3									
1973	10	84.9	8.5	**1973**	0	0.0		**1973**	0	0.0										
1974	35	266.5	7.6	**1974**	17	111.3	6.5	**1974**	2	9.6	4.8									
1975	14	119.9	8.6	**1975**	1	7.2	7.2	**1975**	0	0.0										
1976	30	246.8	8.2	**1976**	8	56.2	7.0	**1976**	0	0.0										
1977	29	219.2	7.6	**1977**	15	99.2	6.6	**1977**	0	0.0										
1978	21	161.2	7.7	**1978**	12	82.3	6.9	**1978**	0	0.0										
1979	22	175.0	8.0	**1979**	6	39.7	6.6	**1979**	0	0.0										
1980	17	138.5	8.1	**1980**	6	41.9	7.0	**1980**	0	0.0										
1981	31	243.9	7.9	**1981**	12	81.0	6.8	**1981**	0	0.0										
1982	45	324.7	7.2	**1982**	27	168.6	6.2	**1982**	2	9.5	4.8									
1983	19	156.9	8.3	**1983**	5	36.1	7.2	**1983**	0	0.0										
1984	28	226.6	8.1	**1984**	7	44.1	6.3	**1984**	1	3.5	3.5									
1985	26	198.1	7.6	**1985**	9	54.4	6.0	**1985**	2	7.7	3.9									
1986	19	137.1	7.2	**1986**	10	60.7	6.1	**1986**	0	0.0										
1987	31	238.8	7.7	**1987**	13	83.5	6.4	**1987**	0	0.0										
1988	9	71.7	8.0	**1988**	3	19.9	6.6	**1988**	0	0.0										
1989	39	304.9	7.8	**1989**	16	103.0	6.4	**1989**	1	4.3	4.3									
1990	0	0.0		**1990**	0	0.0		**1990**	0	0.0		20 years	26.0	7.6	20 years	11.4	6.1	20 years	2.1	4.5
1991	39	293.7	7.5	**1991**	18	110.8	6.2	**1991**	4	17.5	4.4	19 years	27.4	7.6	19 years	11.9	6.1	19 years	2.2	4.5
1992	35	257.3	7.4	**1992**	18	115.0	6.4	**1992**	1	4.3	4.3	18 years	26.7	7.6	18 years	11.6	6.1	18 years	2.1	4.5
1993	8	64.2	8.0	**1993**	2	12.1	6.1	**1993**	0	0.0		17 years	26.2	7.6	17 years	11.2	6.1	17 years	2.2	4.5
1994	41	294.7	7.2	**1994**	26	164.3	6.3	**1994**	4	17.3	4.3	16 years	27.4	7.6	16 years	11.8	6.1	16 years	2.3	4.5
1995	32	233.5	7.3	**1995**	15	91.4	6.1	**1995**	2	8.6	4.3	15 years	26.5	7.6	15 years	10.9	6.1	15 years	2.2	4.5
1996	30	226.8	7.6	**1996**	11	63.6	5.8	**1996**	3	12.5	4.2	14 years	26.1	7.6	14 years	10.6	6.1	14 years	2.2	4.5
1997	16	123.6	7.7	**1997**	6	37.9	6.3	**1997**	1	4.8	4.8	13 years	25.8	7.6	13 years	10.5	6.1	13 years	2.2	4.5
1998	17	124.7	7.3	**1998**	7	38.0	5.4	**1998**	3	12.8	4.3	12 years	26.6	7.6	12 years	10.9	6.1	12 years	2.3	4.5
1999	21	151.7	7.2	**1999**	12	74.7	6.2	**1999**	2	9.3	4.7	11 years	27.5	7.6	11 years	11.3	6.1	11 years	2.2	4.5
2000	40	279.2	7.0	**2000**	23	139.4	6.1	**2000**	5	24.5	4.9	10 years	28.1	7.7	10 years	11.2	6.1	10 years	2.2	4.5
2001	31	246.9	8.0	**2001**	8	49.2	6.2	**2001**	1	4.8	4.8	9 years	26.8	7.8	9 years	9.9	6.1	9 years	1.9	4.5
2002	27	207.9	7.7	**2002**	10	62.0	6.2	**2002**	2	8.6	4.3	8 years	26.3	7.7	8 years	10.1	6.1	8 years	2.0	4.4
2003	26	195.9	7.5	**2003**	10	58.5	5.9	**2003**	2	9.2	4.6	7 years	26.1	7.7	7 years	10.1	6.1	7 years	2.0	4.4
2004	37	282.9	7.6	**2004**	16	97.9	6.1	**2004**	4	19.0	4.8	6 years	26.2	7.8	6 years	10.2	6.1	6 years	2.0	4.4
2005	14	108.9	7.8	**2005**	7	46.9	6.7	**2005**	0	0.0		5 years	24.0	7.8	5 years	9.0	6.2	5 years	1.6	4.3
2006	14	114.8	8.2	**2006**	3	19.0	6.3	**2006**	0	0.0		4 years	26.5	7.8	4 years	9.5	6.0	4 years	2.0	4.3
2007	35	259.6	7.4	**2007**	17	102.6	6.0	**2007**	5	22.4	4.5	3 years	30.7	7.7	3 years	11.7	5.9	3 years	2.7	4.3
2008	35	260.9	7.5	**2008**	14	83.2	5.9	**2008**	2	8.1	4.1	2 years	28.5	7.8	2 years	9.0	5.8	2 years	1.5	4.2
2009	22	178.9	8.1	**2009**	4	23.0	5.8	**2009**	1	4.3	4.3	1 years	22.0	8.1	1 years	4.0	5.8	1 years	1.0	4.3
2010	20	154.8	7.7	**2010**	8	49.4	6.2	**2010**	1	4.8	4.8	0 years	20.0	7.7	0 years	8.0	6.2	0 years	1.0	4.8
2011	59	431.0	7.3	**2011**	26	149.7	5.8	**2011**	5	21.5	4.3	1 years	59.0	7.3	1 years	26.0	5.8	1 years	5.0	4.3
2012	44	316.3	7.2	**2012**	22	128.1	5.8	**2012**	6	24.1	4.0	2 years	51.5	7.2	2 years	24.0	5.8	2 years	5.5	4.2
2013	27	190.8	7.1	**2013**	14	79.2	5.7	**2013**	3	11.1	3.7	3 years	43.3	7.2	3 years	20.7	5.7	3 years	4.7	4.0
2014	37	256.5	6.9	**2014**	18	91.5	5.1	**2014**	8	29.7	3.7	4 years	41.8	7.1	4 years	20.0	5.6	4 years	5.5	3.9
2015	33	240.8	7.3	**2015**	17	106.2	6.2	**2015**	3	13.1	4.4	5 years	40.0	7.2	5 years	19.4	5.7	5 years	5.0	4.0
2016	21	163.9	7.8	**2016**	7	45.6	6.5	**2016**	0	0.0		6 years	36.8	7.3	6 years	17.3	5.8	6 years	4.2	4.0
2017	27	199.9	7.4	**2017**	15	94.7	6.3	**2017**	1	4.8	4.8	7 years	35.4	7.3	7 years	17.0	5.9	7 years	3.7	4.1
2018	45	311.2	6.9	**2018**	24	133.4	5.6	**2018**	8	29.0	3.6	8 years	36.6	7.2	8 years	17.9	5.9	8 years	4.3	4.1
2019	39	303.4	7.8	**2019**	14	88.8	6.3	**2019**	1	4.8	4.8	9 years	36.9	7.3	9 years	17.4	5.9	9 years	3.9	4.2
2020	30	239.6	8.0	**2020**	10	68.2	6.8	**2020**	0	0.0		10 years	36.2	7.4	10 years	16.7	6.0	10 years	3.5	4.2
2021	25	176.7	7.1	**2021**	14	80.9	5.8	**2021**	3	10.9	3.6	11 years	35.2	7.3	11 years	16.5	6.0	11 years	3.5	4.1
2022	36	288.5	8.0	**2022**	9	57.7	6.4	**2022**	1	4.6	4.6	12 years	35.3	7.4	12 years	15.8	6.0	12 years	3.3	4.2

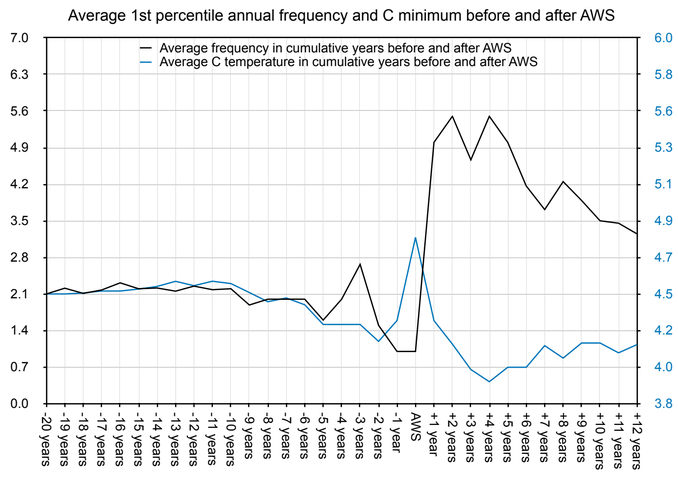
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	26.2	201.0	7.8	**Pre**	10.2	62.1	6.1	**Pre**	2.0	9.0	4.4									
Post	36.8	266.6	7.3	**Post**	17.3	100.1	5.8	**Post**	4.2	16.6	4.0									

		AWS introduction
		Probe replacement
		Small screen introduction





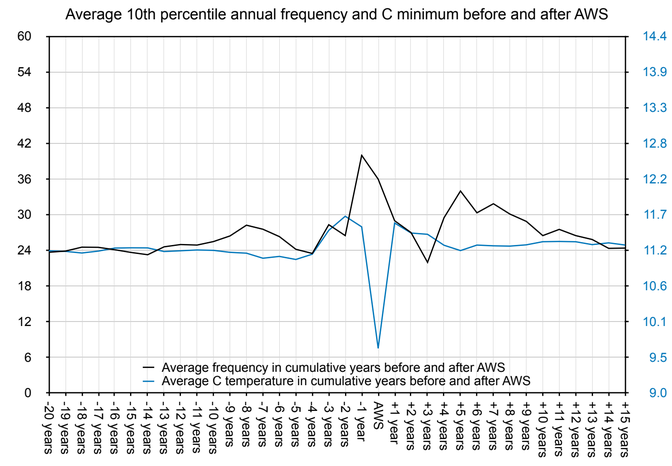


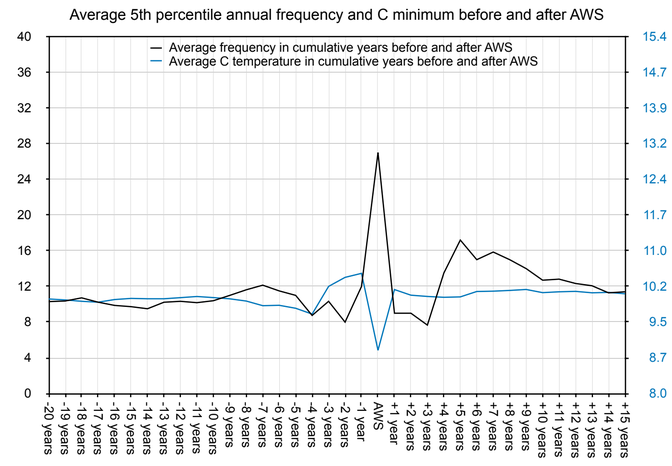
10th 12.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 11.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	30	309.4	10.3	**1910**	16	140.2	8.8	**1910**	6	44.4	7.4									
1911	58	585.2	10.1	**1911**	37	333.5	9.0	**1911**	11	75.6	6.9									
1912	36	384.5	10.7	**1912**	22	217.3	9.9	**1912**	0	0.0										
1913	71	752.3	10.6	**1913**	36	329.2	9.1	**1913**	16	122.8	7.7									
1914	35	365.7	10.4	**1914**	19	170.8	9.0	**1914**	8	59.8	7.5									
1915	29	334.6	11.5	**1915**	11	113.4	10.3	**1915**	0	0.0										
1916	24	258.1	10.8	**1916**	12	112.5	9.4	**1916**	1	7.8	7.8									
1917	50	537.5	10.8	**1917**	27	261.3	9.7	**1917**	6	46.2	7.7									
1918	59	632.0	10.7	**1918**	32	305.4	9.5	**1918**	6	45.6	7.6									
1919	55	588.5	10.7	**1919**	30	284.4	9.5	**1919**	9	68.3	7.6									
1920	21	253.1	12.1	**1920**	3	30.0	10.0	**1920**	0	0.0										
1921	36	366.4	10.2	**1921**	20	176.2	8.8	**1921**	10	75.0	7.5									
1922	71	678.8	9.6	**1922**	49	415.9	8.5	**1922**	23	157.2	6.8									
1923	82	820.3	10.0	**1923**	60	556.6	9.3	**1923**	16	117.8	7.4									
1924	43	475.1	11.0	**1924**	16	148.9	9.3	**1924**	4	29.3	7.3									
1925	68	709.9	10.4	**1925**	43	406.5	9.5	**1925**	8	54.2	6.8									
1926	46	500.3	10.9	**1926**	22	205.8	9.4	**1926**	6	45.5	7.6									
1927	34	349.5	10.3	**1927**	18	156.3	8.7	**1927**	8	56.9	7.1									
1928	45	452.4	10.1	**1928**	34	317.0	9.3	**1928**	8	60.5	7.6									
1929	59	650.4	11.0	**1929**	32	323.8	10.1	**1929**	1	8.3	8.3									
1930	41	466.3	11.4	**1930**	18	184.4	10.2	**1930**	0	0.0										
1931	32	340.4	10.6	**1931**	20	190.8	9.5	**1931**	4	29.2	7.3									
1932	53	547.2	10.3	**1932**	34	314.8	9.3	**1932**	12	92.7	7.7									
1933	28	275.3	9.8	**1933**	18	157.3	8.7	**1933**	6	40.6	6.8									
1934	37	421.1	11.4	**1934**	16	163.5	10.2	**1934**	0	0.0										
1935	35	403.5	11.5	**1935**	12	121.7	10.1	**1935**	1	7.8	7.8									
1936	19	189.8	10.0	**1936**	13	118.9	9.1	**1936**	3	23.5	7.8									
1937	43	454.6	10.6	**1937**	26	245.9	9.5	**1937**	6	45.5	7.6									
1938	18	196.2	10.9	**1938**	9	83.4	9.3	**1938**	2	13.9	7.0									
1939	57	567.9	10.0	**1939**	40	358.2	9.0	**1939**	15	108.6	7.2									
1940	43	462.2	10.7	**1940**	25	242.9	9.7	**1940**	6	46.5	7.8									
1941	62	628.0	10.1	**1941**	43	394.0	9.2	**1941**	13	90.4	7.0									
1942	41	456.6	11.1	**1942**	16	150.5	9.4	**1942**	2	15.0	7.5									
1943	50	513.9	10.3	**1943**	32	294.4	9.2	**1943**	10	77.0	7.7									
1944	47	515.7	11.0	**1944**	29	294.3	10.1	**1944**	0	0.0										
1945	44	464.3	10.6	**1945**	23	206.7	9.0	**1945**	7	48.1	6.9									
1946	71	742.0	10.5	**1946**	37	329.1	8.9	**1946**	12	79.6	6.6									
1947	34	386.5	11.4	**1947**	13	132.7	10.2	**1947**	1	8.1	8.1									
1948	51	559.3	11.0	**1948**	24	228.7	9.5	**1948**	3	22.2	7.4									
1949	67	670.8	10.0	**1949**	44	389.3	8.8	**1949**	14	90.8	6.5									
1950	55	589.1	10.7	**1950**	31	295.3	9.5	**1950**	7	53.0	7.6									
1951	59	638.3	10.8	**1951**	34	327.4	9.6	**1951**	5	37.2	7.4									
1952	68	733.6	10.8	**1952**	48	488.6	10.2	**1952**	0	0.0										
1953	23	255.6	11.1	**1953**	12	118.2	9.9	**1953**	2	16.6	8.3									
1954	82	800.5	9.8	**1954**	63	566.0	9.0	**1954**	20	144.8	7.2									
1955	23	275.2	12.0	**1955**	5	51.7	10.3	**1955**	0	0.0										
1956	0	0.0		**1956**	0	0.0		**1956**	0	0.0										
1957	35	379.1	10.8	**1957**	19	183.3	9.6	**1957**	3	23.0	7.7									
1958	33	378.6	11.5	**1958**	9	82.4	9.2	**1958**	3	20.2	6.7									
1959	32	345.5	10.8	**1959**	17	163.2	9.6	**1959**	5	38.2	7.6									
1960	50	522.7	10.5	**1960**	31	289.6	9.3	**1960**	7	48.9	7.0									
1961	48	497.9	10.4	**1961**	29	263.9	9.1	**1961**	6	40.7	6.8									
1962	33	370.2	11.2	**1962**	18	184.4	10.2	**1962**	1	8.3	8.3									
1963	38	400.1	10.5	**1963**	21	189.4	9.0	**1963**	8	58.3	7.3									
1964	32	352.2	11.0	**1964**	14	133.2	9.5	**1964**	4	31.7	7.9									
1965	44	435.1	9.9	**1965**	32	289.6	9.1	**1965**	13	92.4	7.1									
1966	24	275.4	11.5	**1966**	10	101.4	10.1	**1966**	0	0.0										
1967	46	487.0	10.6	**1967**	26	241.3	9.3	**1967**	5	41.0	8.2									
1968	42	460.2	11.0	**1968**	19	178.3	9.4	**1968**	7	54.4	7.8									
1969	20	227.3	11.4	**1969**	6	54.9	9.2	**1969**	1	4.4	4.4									
1970	31	336.0	10.8	**1970**	18	177.3	9.9	**1970**	2	14.7	7.4									
1971	46	502.8	10.9	**1971**	21	196.9	9.4	**1971**	8	60.5	7.6									
1972	34	358.8	10.6	**1972**	20	185.7	9.3	**1972**	5	38.8	7.8									
1973	7	83.5	11.9	**1973**	1	11.0	11.0	**1973**	0	0.0										
1974	48	478.0	10.0	**1974**	36	333.5	9.3	**1974**	8	58.5	7.3									
1975	24	253.0	10.5	**1975**	11	98.0	8.9	**1975**	5	37.0	7.4									
1976	3	34.0	11.3	**1976**	2	21.5	10.8	**1976**	0	0.0										
1977	0	0.0		**1977**	0	0.0		**1977**	0	0.0										
1978	0	0.0		**1978**	0	0.0		**1978**	0	0.0										
1979	0	0.0		**1979**	0	0.0		**1979**	0	0.0										
1980	16	173.5	10.8	**1980**	7	65.0	9.3	**1980**	0	0.0										
1981	30	332.8	11.1	**1981**	15	149.5	10.0	**1981**	1	8.0	8.0									
1982	39	407.6	10.5	**1982**	24	227.7	9.5	**1982**	7	54.9	7.8									
1983	25	285.9	11.4	**1983**	5	45.3	9.1	**1983**	2	13.7	6.9									
1984	28	266.8	9.5	**1984**	17	131.7	7.7	**1984**	9	54.9	6.1									
1985	42	451.0	10.7	**1985**	22	212.7	9.7	**1985**	4	32.3	8.1									
1986	21	232.9	11.1	**1986**	10	100.0	10.0	**1986**	1	8.2	8.2									
1987	20	226.5	11.3	**1987**	9	92.8	10.3	**1987**	0	0.0		20 years	23.7	11.2	20 years	10.3	10.0	20 years	1.0	6.9
1988	12	139.1	11.6	**1988**	4	41.7	10.4	**1988**	0	0.0		19 years	23.9	11.1	19 years	10.4	9.9	19 years	1.1	6.9
1989	25	265.9	10.6	**1989**	19	194.0	10.2	**1989**	1	8.1	8.1	18 years	24.6	11.1	18 years	10.7	9.9	18 years	1.1	6.9
1990	31	322.8	10.4	**1990**	16	145.1	9.1	**1990**	5	35.5	7.1	17 years	24.5	11.2	17 years	10.2	9.9	17 years	1.1	6.8
1991	31	345.3	11.1	**1991**	12	115.4	9.6	**1991**	3	20.8	6.9	16 years	24.1	11.2	16 years	9.9	9.9	16 years	0.9	6.8
1992	29	325.3	11.2	**1992**	13	130.9	10.1	**1992**	0	0.0		15 years	23.7	11.2	15 years	9.7	10.0	15 years	0.7	6.7
1993	6	71.5	11.9	**1993**	0	0.0		**1993**	0	0.0		14 years	23.3	11.2	14 years	9.5	10.0	14 years	0.8	6.7
1994	20	220.1	11.0	**1994**	9	87.2	9.7	**1994**	1	7.6	7.6	13 years	24.6	11.1	13 years	10.2	10.0	13 years	0.8	6.7
1995	26	286.6	11.0	**1995**	12	116.7	9.7	**1995**	2	14.6	7.3	12 years	25.0	11.2	12 years	10.3	10.0	12 years	0.8	6.6
1996	19	213.3	11.2	**1996**	8	81.9	10.2	**1996**	0	0.0		11 years	24.9	11.2	11 years	10.2	10.0	11 years	0.7	6.4
1997	17	194.3	11.4	**1997**	5	51.1	10.2	**1997**	0	0.0		10 years	25.5	11.2	10 years	10.4	10.0	10 years	0.8	6.4
1998	12	134.8	11.2	**1998**	6	62.0	10.3	**1998**	0	0.0		9 years	26.4	11.1	9 years	11.0	10.0	9 years	0.9	6.4
1999	33	384.6	11.7	**1999**	8	84.7	10.6	**1999**	0	0.0		8 years	28.3	11.1	8 years	11.6	9.9	8 years	1.0	6.4
2000	35	380.7	10.9	**2000**	16	156.4	9.8	**2000**	3	23.6	7.9	7 years	27.6	11.0	7 years	12.1	9.8	7 years	1.1	6.4
2001	37	418.2	11.3	**2001**	14	141.9	10.1	**2001**	2	16.0	8.0	6 years	26.3	11.1	6 years	11.5	9.8	6 years	0.8	6.1
2002	27	289.0	10.7	**2002**	20	205.0	10.3	**2002**	1	8.0	8.0	5 years	24.2	11.0	5 years	11.0	9.8	5 years	0.6	5.4
2003	9	90.2	10.0	**2003**	4	31.7	7.9	**2003**	1	0.0	0.0	4 years	23.5	11.1	4 years	8.8	9.6	4 years	0.5	4.2
2004	32	353.2	11.0	**2004**	15	147.7	9.8	**2004**	1	8.3	8.3	3 years	28.3	11.5	3 years	10.3	10.2	3 years	0.3	8.3
2005	13	153.9	11.8	**2005**	4	41.3	10.3	**2005**	0	0.0		2 years	26.5	11.7	2 years	8.0	10.4	2 years	0.0	
2006	40	460.7	11.5	**2006**	12	125.9	10.5	**2006**	0	0.0		1 years	40.0	11.5	1 years	12.0	10.5	1 years	0.0	
2007	36	348.5	9.7	**2007**	27	240.2	8.9	**2007**	8	56.1	7.0	0 years	36.0	9.7	0 years	27.0	8.9	0 years	8.0	7.0
2008	29	335.7	11.6	**2008**	9	91.4	10.2	**2008**	1	8.3	8.3	1 years	29.0	11.6	1 years	9.0	10.2	1 years	1.0	8.3
2009	25	281.8	11.3	**2009**	9	89.3	9.9	**2009**	0	0.0		2 years	27.0	11.4	2 years	9.0	10.0	2 years	0.5	8.3
2010	12	136.4	11.4	**2010**	5	49.8	10.0	**2010**	0	0.0		3 years	22.0	11.4	3 years	7.7	10.0	3 years	0.3	8.3
2011	52	558.6	10.7	**2011**	31	308.2	9.9	**2011**	4	30.8	7.7	4 years	29.5	11.2	4 years	13.5	10.0	4 years	1.3	8.0
2012	52	563.4	10.8	**2012**	32	321.2	10.0	**2012**	1	7.8	7.8	5 years	34.0	11.2	5 years	17.2	10.0	5 years	1.2	7.9
2013	12	139.9	11.7	**2013**	4	42.7	10.7	**2013**	0	0.0		6 years	30.3	11.2	6 years	15.0	10.1	6 years	1.0	7.9
2014	41	457.7	11.2	**2014**	21	213.4	10.2	**2014**	0	0.0		7 years	31.9	11.2	7 years	15.9	10.1	7 years	0.9	7.9
2015	18	201.5	11.2	**2015**	9	92.2	10.2	**2015**	1	8.2	8.2	8 years	30.1	11.2	8 years	15.0	10.1	8 years	0.9	8.0
2016	19	216.6	11.4	**2016**	6	61.9	10.3	**2016**	1	8.3	8.3	9 years	28.9	11.2	9 years	14.0	10.2	9 years	0.9	8.1
2017	5	58.6	11.7	**2017**	1	9.5	9.5	**2017**	0	0.0		10 years	26.5	11.3	10 years	12.7	10.1	10 years	0.8	8.1
2018	38	430.6	11.3	**2018**	14	144.0	10.3	**2018**	0	0.0		11 years	27.5	11.3	11 years	12.8	10.1	11 years	0.7	8.1
2019	15	168.7	11.2	**2019**	7	71.5	10.2	**2019**	1	7.3	7.3	12 years	26.5	11.3	12 years	12.3	10.1	12 years	0.8	7.9
2020	18	193.1	10.7	**2020**	9	87.6	9.7	**2020**	1	8.0	8.0	13 years	25.8	11.2	13 years	12.1	10.1	13 years	0.8	7.9
2021	5	58.1	11.6	**2021**	1	10.2	10.2	**2021**	0	0.0		14 years	24.4	11.3	14 years	11.3	10.1	14 years	0.7	7.9
2022	25	269.6	10.8	**2022**	13	125.8	9.7	**2022**	1	8.0	8.0	15 years	24.4	11.2	15 years	11.4	10.1	15 years	0.7	8.0

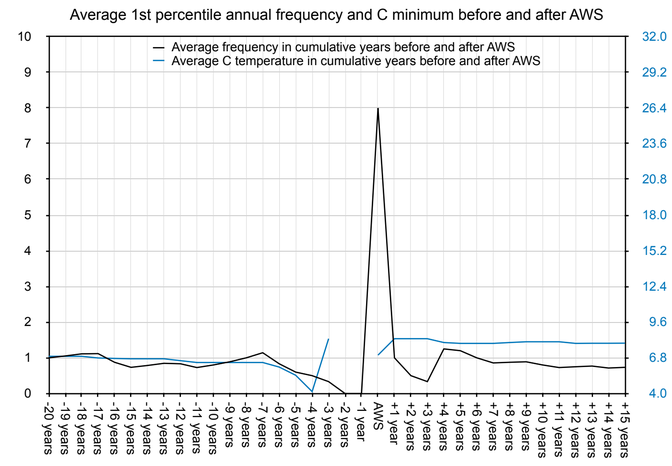
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	26.3	294.2	11.1	**Pre**	11.5	115.6	9.8	**Pre**	0.8	5.4	6.1									
Post	30.3	336.0	11.2	**Post**	15.0	150.4	10.1	**Post**	1.0	7.8	7.9									

		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										







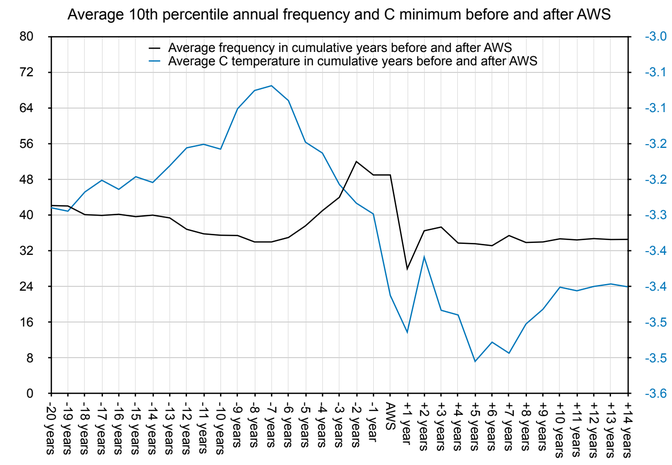
10th -2.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -3.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1945	36	-125.0	-3.5	**1945**	22	-93.0	-4.2	**1945**	5	-28.0	-5.6									
1946	41	-136.2	-3.3	**1946**	20	-88.8	-4.4	**1946**	8	-48.1	-6.0									
1947	31	-107.9	-3.5	**1947**	16	-71.9	-4.5	**1947**	4	-25.0	-6.3									
1948	24	-105.3	-4.4	**1948**	18	-90.3	-5.0	**1948**	6	-45.1	-7.5									
1949	48	-176.3	-3.7	**1949**	28	-128.1	-4.6	**1949**	6	-38.9	-6.5									
1950	60	-226.1	-3.8	**1950**	43	-186.3	-4.3	**1950**	11	-63.7	-5.8									
1951	52	-181.3	-3.5	**1951**	28	-123.7	-4.4	**1951**	8	-47.4	-5.9									
1952	34	-133.1	-3.9	**1952**	24	-108.1	-4.5	**1952**	6	-35.2	-5.9									
1953	41	-141.1	-3.4	**1953**	21	-96.5	-4.6	**1953**	5	-35.7	-7.1									
1954	33	-115.3	-3.5	**1954**	16	-74.3	-4.6	**1954**	4	-25.6	-6.4									
1955	32	-115.5	-3.6	**1955**	16	-73.7	-4.6	**1955**	5	-30.6	-6.1									
1956	25	-98.7	-3.9	**1956**	17	-78.1	-4.6	**1956**	5	-31.1	-6.2									
1957	39	-130.5	-3.3	**1957**	20	-85.7	-4.3	**1957**	2	-12.2	-6.1									
1958	33	-121.6	-3.7	**1958**	19	-86.0	-4.5	**1958**	5	-31.3	-6.3									
1959	30	-99.8	-3.3	**1959**	18	-69.2	-3.8	**1959**	1	-5.6	-5.6									
1960	34	-119.5	-3.5	**1960**	22	-90.7	-4.1	**1960**	2	-13.9	-7.0									
1961	32	-121.1	-3.8	**1961**	20	-89.3	-4.5	**1961**	4	-25.5	-6.4									
1962	23	-85.7	-3.7	**1962**	14	-62.9	-4.5	**1962**	4	-24.6	-6.2									
1963	44	-172.6	-3.9	**1963**	28	-133.0	-4.8	**1963**	9	-52.7	-5.9									
1964	19	-63.0	-3.3	**1964**	7	-31.5	-4.5	**1964**	0	0.0										
1965	34	-113.7	-3.3	**1965**	18	-74.4	-4.1	**1965**	0	0.0										
1966	38	-140.0	-3.7	**1966**	24	-104.7	-4.4	**1966**	3	-17.3	-5.8									
1967	54	-226.1	-4.2	**1967**	40	-188.1	-4.7	**1967**	13	-78.5	-6.0									
1968	30	-114.3	-3.8	**1968**	18	-84.3	-4.7	**1968**	2	-12.0	-6.0									
1969	47	-163.3	-3.5	**1969**	26	-110.5	-4.3	**1969**	2	-11.6	-5.8									
1970	32	-101.4	-3.2	**1970**	12	-49.0	-4.1	**1970**	1	-5.8	-5.8									
1971	40	-129.5	-3.2	**1971**	19	-76.4	-4.0	**1971**	2	-11.1	-5.6									
1972	42	-152.1	-3.6	**1972**	24	-108.0	-4.5	**1972**	5	-30.8	-6.2									
1973	49	-188.5	-3.8	**1973**	32	-146.7	-4.6	**1973**	8	-50.2	-6.3									
1974	40	-144.3	-3.6	**1974**	18	-88.1	-4.9	**1974**	6	-38.9	-6.5									
1975	26	-88.1	-3.4	**1975**	13	-56.7	-4.4	**1975**	2	-12.3	-6.2									
1976	44	-153.6	-3.5	**1976**	21	-97.1	-4.6	**1976**	4	-26.5	-6.6									
1977	36	-118.0	-3.3	**1977**	14	-64.5	-4.6	**1977**	3	-19.0	-6.3									
1978	41	-153.7	-3.7	**1978**	21	-105.7	-5.0	**1978**	10	-62.5	-6.3									
1979	47	-152.2	-3.2	**1979**	19	-84.0	-4.4	**1979**	5	-28.0	-5.6									
1980	21	-61.0	-2.9	**1980**	6	-25.0	-4.2	**1980**	1	-5.5	-5.5									
1981	30	-100.0	-3.3	**1981**	13	-62.5	-4.8	**1981**	3	-19.5	-6.5									
1982	46	-169.5	-3.7	**1982**	25	-117.0	-4.7	**1982**	6	-39.5	-6.6									
1983	58	-213.0	-3.7	**1983**	25	-131.5	-5.3	**1983**	8	-64.0	-8.0									
1984	39	-131.5	-3.4	**1984**	17	-80.0	-4.7	**1984**	5	-29.0	-5.8									
1985	47	-140.0	-3.0	**1985**	15	-66.5	-4.4	**1985**	2	-12.0	-6.0									
1986	34	-110.2	-3.2	**1986**	11	-54.0	-4.9	**1986**	4	-26.0	-6.5									
1987	43	-148.5	-3.5	**1987**	19	-88.5	-4.7	**1987**	5	-33.0	-6.6									
1988	44	-139.8	-3.2	**1988**	18	-76.5	-4.3	**1988**	2	-11.0	-5.5	20 years	42.2	-3.3	20 years	18.2	-4.4	20 years	3.5	-6.0
1989	77	-298.3	-3.9	**1989**	45	-218.2	-4.8	**1989**	16	-94.7	-5.9	19 years	42.1	-3.3	19 years	18.2	-4.5	19 years	3.5	-6.0
1990	43	-154.6	-3.6	**1990**	21	-98.7	-4.7	**1990**	3	-17.6	-5.9	18 years	40.1	-3.3	18 years	16.7	-4.4	18 years	2.8	-6.0
1991	36	-107.9	-3.0	**1991**	13	-55.1	-4.2	**1991**	1	-6.0	-6.0	17 years	39.9	-3.2	17 years	16.5	-4.4	17 years	2.8	-6.0
1992	48	-171.6	-3.6	**1992**	22	-108.0	-4.9	**1992**	5	-30.9	-6.2	16 years	40.2	-3.3	16 years	16.7	-4.4	16 years	2.9	-6.0
1993	35	-108.5	-3.1	**1993**	11	-51.7	-4.7	**1993**	2	-11.3	-5.7	15 years	39.7	-3.2	15 years	16.3	-4.4	15 years	2.8	-6.0
1994	48	-173.2	-3.6	**1994**	21	-104.0	-5.0	**1994**	8	-48.8	-6.1	14 years	40.0	-3.2	14 years	16.7	-4.4	14 years	2.9	-6.0
1995	70	-250.6	-3.6	**1995**	36	-162.2	-4.5	**1995**	7	-45.3	-6.5	13 years	39.4	-3.2	13 years	16.4	-4.3	13 years	2.5	-6.0
1996	48	-156.1	-3.3	**1996**	23	-95.4	-4.1	**1996**	1	-6.4	-6.4	12 years	36.8	-3.2	12 years	14.8	-4.3	12 years	2.1	-6.0
1997	39	-120.9	-3.1	**1997**	12	-58.3	-4.9	**1997**	4	-25.5	-6.4	11 years	35.8	-3.2	11 years	14.0	-4.3	11 years	2.2	-5.9
1998	36	-136.8	-3.8	**1998**	17	-87.0	-5.1	**1998**	6	-39.5	-6.6	10 years	35.5	-3.2	10 years	14.2	-4.3	10 years	2.0	-5.9
1999	47	-158.2	-3.4	**1999**	21	-91.4	-4.4	**1999**	4	-23.0	-5.8	9 years	35.4	-3.1	9 years	13.9	-4.2	9 years	1.6	-5.8
2000	34	-107.0	-3.1	**2000**	14	-59.0	-4.2	**2000**	1	-6.5	-6.5	8 years	34.0	-3.1	8 years	13.0	-4.2	8 years	1.3	-5.8
2001	28	-82.1	-2.9	**2001**	7	-28.9	-4.1	**2001**	0	0.0		7 years	34.0	-3.1	7 years	12.9	-4.2	7 years	1.3	-5.6
2002	22	-60.7	-2.8	**2002**	6	-24.9	-4.2	**2002**	1	-5.5	-5.5	6 years	35.0	-3.1	6 years	13.8	-4.2	6 years	1.5	-5.6
2003	24	-74.5	-3.1	**2003**	9	-39.6	-4.4	**2003**	1	-5.5	-5.5	5 years	37.6	-3.2	5 years	15.4	-4.2	5 years	1.6	-5.7
2004	32	-97.2	-3.0	**2004**	12	-47.7	-4.0	**2004**	0	0.0		4 years	41.0	-3.2	4 years	17.0	-4.1	4 years	1.8	-5.7
2005	28	-89.2	-3.2	**2005**	12	-46.9	-3.9	**2005**	1	-5.6	-5.6	3 years	44.0	-3.2	3 years	18.7	-4.2	3 years	2.3	-5.7
2006	55	-179.4	-3.3	**2006**	24	-103.7	-4.3	**2006**	4	-24.0	-6.0	2 years	52.0	-3.3	2 years	22.0	-4.3	2 years	3.0	-5.8
2007	49	-161.6	-3.3	**2007**	20	-84.7	-4.2	**2007**	2	-11.0	-5.5	1 years	49.0	-3.3	1 years	20.0	-4.2	1 years	2.0	-5.5
2008	49	-168.3	-3.4	**2008**	23	-105.8	-4.6	**2008**	7	-41.2	-5.9	0 years	49.0	-3.4	0 years	23.0	-4.6	0 years	7.0	-5.9
2009	28	-97.9	-3.5	**2009**	13	-59.6	-4.6	**2009**	3	-19.0	-6.3	1 years	28.0	-3.5	1 years	13.0	-4.6	1 years	3.0	-6.3
2010	45	-146.0	-3.2	**2010**	19	-80.1	-4.2	**2010**	3	-17.7	-5.9	2 years	36.5	-3.4	2 years	16.0	-4.4	2 years	3.0	-6.1
2011	39	-141.9	-3.6	**2011**	22	-101.9	-4.6	**2011**	2	-12.1	-6.1	3 years	37.3	-3.5	3 years	18.0	-4.5	3 years	2.7	-6.1
2012	23	-80.3	-3.5	**2012**	11	-49.8	-4.5	**2012**	2	-12.4	-6.2	4 years	33.8	-3.5	4 years	16.3	-4.5	4 years	2.5	-6.1
2013	33	-127.3	-3.9	**2013**	20	-92.8	-4.6	**2013**	4	-24.8	-6.2	5 years	33.6	-3.5	5 years	17.0	-4.5	5 years	2.8	-6.1
2014	31	-103.9	-3.4	**2014**	15	-61.2	-4.1	**2014**	1	-6.5	-6.5	6 years	33.2	-3.5	6 years	16.7	-4.4	6 years	2.5	-6.2
2015	49	-178.5	-3.6	**2015**	26	-116.3	-4.5	**2015**	5	-31.2	-6.2	7 years	35.4	-3.5	7 years	18.0	-4.5	7 years	2.9	-6.2
2016	23	-72.2	-3.1	**2016**	8	-32.5	-4.1	**2016**	0	0.0		8 years	33.9	-3.5	8 years	16.8	-4.4	8 years	2.5	-6.2
2017	35	-114.1	-3.3	**2017**	15	-63.1	-4.2	**2017**	2	-12.4	-6.2	9 years	34.0	-3.5	9 years	16.6	-4.4	9 years	2.4	-6.2
2018	41	-126.6	-3.1	**2018**	16	-64.9	-4.1	**2018**	1	-5.8	-5.8	10 years	34.7	-3.4	10 years	16.5	-4.3	10 years	2.3	-6.2
2019	32	-111.6	-3.5	**2019**	21	-85.2	-4.1	**2019**	1	-7.0	-7.0	11 years	34.5	-3.4	11 years	16.9	-4.3	11 years	2.2	-6.2
2020	38	-126.9	-3.3	**2020**	13	-61.9	-4.8	**2020**	4	-25.9	-6.5	12 years	34.8	-3.4	12 years	16.6	-4.4	12 years	2.3	-6.3
2021	32	-107.7	-3.4	**2021**	18	-74.9	-4.2	**2021**	1	-5.6	-5.6	13 years	34.5	-3.4	13 years	16.7	-4.3	13 years	2.2	-6.2
2022	35	-121.9	-3.5	**2022**	17	-77.0	-4.5	**2022**	4	-23.8	-6.0	14 years	34.6	-3.4	14 years	16.7	-4.4	14 years	2.4	-6.2

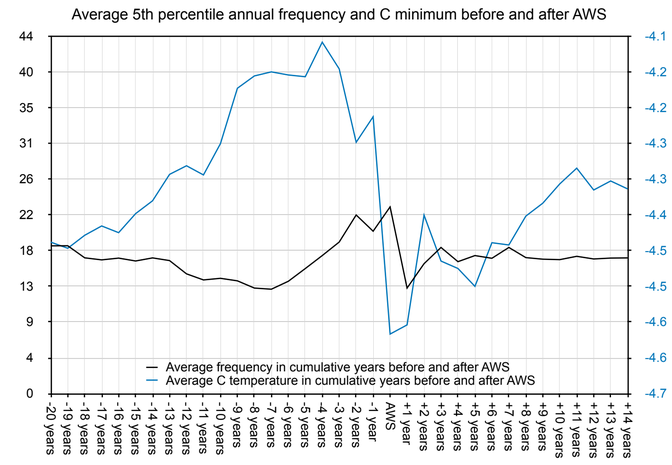
Original AWS probe Temp Control

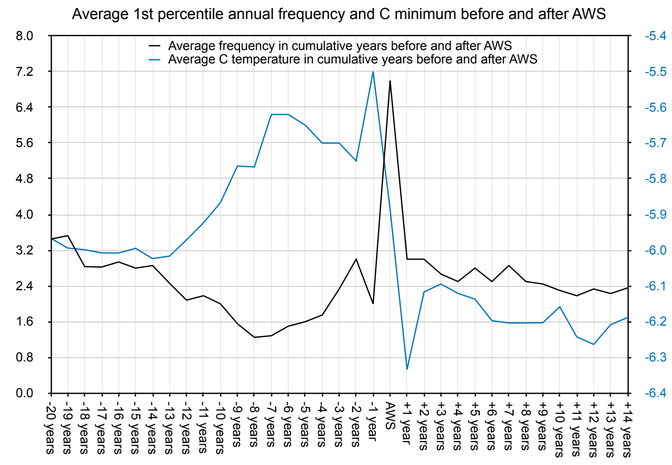
10 years				**10 years**				**10 years**			
Pre AWS	35.5	-114.7	-3.2	**Pre AWS**	14.2	-61.4	-4.3	**Pre AWS**	2	-12.1	-5.9
Post AWS	34.7	-118.9	-3.4	**Post AWS**	16.5	-72.2	-4.3	**Post AWS**	2.3	-14.2	-6.2
Pre small	40.9	-136.6	-3.3	**Pre small**	16.8	-78.6	-4.6	**Pre small**	4.1	-26.8	-6.3
Post small	45	-153.8	-3.4	**Post small**	19.7	-91.2	-4.6	**Post small**	4.1	-25.4	-6.1
5 years				**5 years**				**5 years**			
Pre AWS	37.6	-120.4	-3.2	**Pre AWS**	15.4	-64.5	-4.2	**Pre AWS**	1.6	-9.2	-5.7
Post AWS	33.6	-118.7	-3.5	**Post AWS**	17.0	-76.8	-4.5	**Post AWS**	2.8	-17.2	-6.1
Pre small	41.4	-134.0	-3.2	**Pre small**	16.0	-73.1	-4.6	**Pre small**	3.6	-22.2	-6.1
Post small	42.0	-143.2	-3.4	**Post small**	17.6	-83.5	-4.7	**Post small**	3.8	-22.9	-6.0

AWS introduction

Small screen introduction





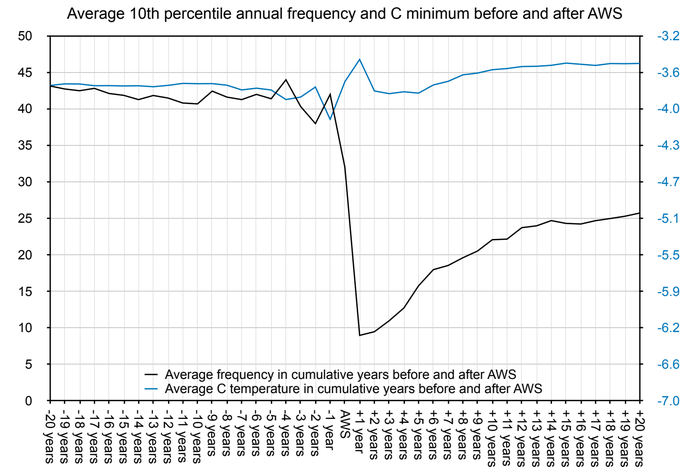


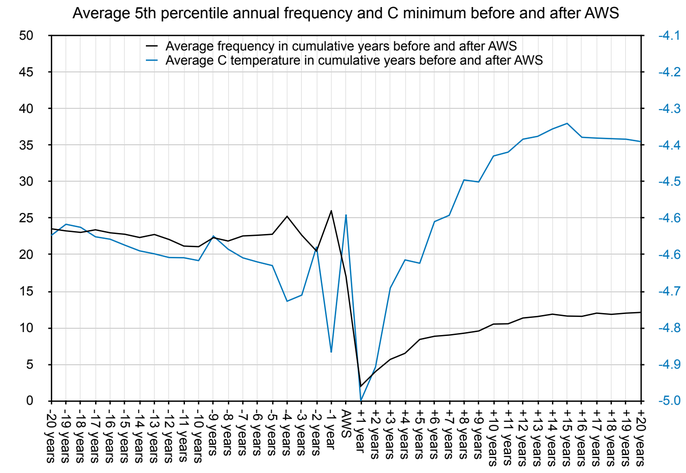
10th -2.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -3.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1962	33	-112.9	-3.4	**1962**	17	-72.4	-4.3	**1962**	4	-23.9	-6.0									
1963	38	-137.0	-3.6	**1963**	22	-97.0	-4.4	**1963**	5	-31.2	-6.2									
1964	52	-173.4	-3.3	**1964**	25	-109.7	-4.4	**1964**	5	-28.7	-5.7									
1965	46	-161.0	-3.5	**1965**	24	-106.5	-4.4	**1965**	4	-25.6	-6.4									
1966	65	-241.6	-3.7	**1966**	44	-190.0	-4.3	**1966**	7	-44.0	-6.3									
1967	42	-144.0	-3.4	**1967**	16	-73.2	-4.6	**1967**	4	-26.2	-6.6									
1968	67	-239.7	-3.6	**1968**	42	-172.4	-4.1	**1968**	3	-17.9	-6.0									
1969	38	-157.9	-4.2	**1969**	29	-132.0	-4.6	**1969**	8	-48.9	-6.1									
1970	54	-201.7	-3.7	**1970**	35	-152.2	-4.3	**1970**	4	-22.6	-5.7									
1971	45	-163.7	-3.6	**1971**	25	-109.4	-4.4	**1971**	6	-34.3	-5.7									
1972	35	-116.1	-3.3	**1972**	14	-62.3	-4.5	**1972**	2	-11.5	-5.8									
1973	29	-100.2	-3.5	**1973**	14	-59.0	-4.2	**1973**	2	-11.4	-5.7									
1974	49	-179.3	-3.7	**1974**	19	-99.2	-5.2	**1974**	4	-36.5	-9.1									
1975	37	-119.4	-3.2	**1975**	15	-61.3	-4.1	**1975**	1	-5.5	-5.5									
1976	49	-173.1	-3.5	**1976**	24	-104.5	-4.4	**1976**	3	-21.0	-7.0									
1977	52	-208.5	-4.0	**1977**	34	-160.2	-4.7	**1977**	7	-42.4	-6.1									
1978	51	-205.7	-4.0	**1978**	29	-148.4	-5.1	**1978**	13	-82.2	-6.3	20 years	43.2	-3.7	20 years	23.6	-4.6	20 years	6.0	-6.3
1979	47	-172.8	-3.7	**1979**	27	-119.6	-4.4	**1979**	5	-32.8	-6.6	19 years	42.7	-3.7	19 years	23.3	-4.6	19 years	5.6	-6.3
1980	37	-125.8	-3.4	**1980**	17	-71.0	-4.2	**1980**	1	-6.8	-6.8	18 years	42.5	-3.7	18 years	23.1	-4.6	18 years	5.6	-6.3
1981	54	-201.1	-3.7	**1981**	30	-135.0	-4.5	**1981**	7	-42.8	-6.1	17 years	42.8	-3.7	17 years	23.4	-4.6	17 years	5.9	-6.2
1982	46	-168.8	-3.7	**1982**	26	-113.9	-4.4	**1982**	5	-29.3	-5.9	16 years	42.1	-3.7	16 years	23.0	-4.6	16 years	5.8	-6.2
1983	50	-187.3	-3.7	**1983**	29	-128.2	-4.4	**1983**	8	-48.1	-6.0	15 years	41.9	-3.7	15 years	22.8	-4.6	15 years	5.9	-6.3
1984	34	-122.0	-3.6	**1984**	17	-77.1	-4.5	**1984**	5	-28.7	-5.7	14 years	41.3	-3.7	14 years	22.4	-4.6	14 years	5.7	-6.3
1985	46	-179.3	-3.9	**1985**	31	-140.4	-4.5	**1985**	8	-48.7	-6.1	13 years	41.8	-3.7	13 years	22.8	-4.6	13 years	5.8	-6.3
1986	49	-193.1	-3.9	**1986**	32	-148.5	-4.6	**1986**	6	-41.9	-7.0	12 years	41.5	-3.7	12 years	22.1	-4.6	12 years	5.6	-6.3
1987	42	-153.8	-3.7	**1987**	22	-100.7	-4.6	**1987**	5	-32.7	-6.5	11 years	40.8	-3.7	11 years	21.2	-4.6	11 years	5.5	-6.3
1988	25	-92.6	-3.7	**1988**	10	-52.0	-5.2	**1988**	4	-26.4	-6.6	10 years	40.7	-3.7	10 years	21.1	-4.7	10 years	5.6	-6.3
1989	49	-174.7	-3.6	**1989**	26	-112.7	-4.3	**1989**	4	-22.8	-5.7	9 years	42.4	-3.7	9 years	22.3	-4.6	9 years	5.8	-6.2
1990	44	-148.2	-3.4	**1990**	17	-76.1	-4.5	**1990**	4	-25.0	-6.3	8 years	41.6	-3.7	8 years	21.9	-4.6	8 years	6.0	-6.3
1991	37	-143.2	-3.9	**1991**	22	-100.9	-4.6	**1991**	9	-50.9	-5.7	7 years	41.3	-3.8	7 years	22.6	-4.6	7 years	6.3	-6.3
1992	45	-164.2	-3.6	**1992**	22	-101.5	-4.6	**1992**	5	-28.1	-5.6	6 years	42.0	-3.7	6 years	22.7	-4.7	6 years	5.8	-6.4
1993	31	-104.3	-3.4	**1993**	13	-56.1	-4.3	**1993**	1	-7.2	-7.2	5 years	41.4	-3.8	5 years	22.8	-4.7	5 years	6.0	-6.6
1994	55	-216.7	-3.9	**1994**	33	-158.4	-4.8	**1994**	11	-69.0	-6.3	4 years	44.0	-3.9	4 years	25.3	-4.8	4 years	7.3	-6.4
1995	45	-182.0	-4.0	**1995**	27	-134.4	-5.0	**1995**	7	-49.8	-7.1	3 years	40.3	-3.8	3 years	22.7	-4.7	3 years	6.0	-6.5
1996	34	-115.4	-3.4	**1996**	15	-65.4	-4.4	**1996**	3	-16.9	-5.6	2 years	38.0	-3.7	2 years	20.5	-4.6	2 years	5.5	-6.1
1997	42	-170.9	-4.1	**1997**	26	-126.9	-4.9	**1997**	8	-52.9	-6.6	1 years	42.0	-4.1	1 years	26.0	-4.9	1 years	8.0	-6.6
1998	32	-117.6	-3.7	**1998**	17	-77.2	-4.5	**1998**	5	-29.6	-5.9	0 years	32.0	-3.7	0 years	17.0	-4.5	0 years	5.0	-5.9
1999	9	-31.0	-3.4	**1999**	2	-10.0	-5.0	**1999**	0	0.0		1 years	9.0	-3.4	1 years	2.0	-5.0	1 years	0.0	
2000	10	-41.0	-4.1	**2000**	6	-29.0	-4.8	**2000**	0	0.0		2 years	9.5	-3.8	2 years	4.0	-4.9	2 years	0.0	
2001	14	-54.0	-3.9	**2001**	9	-39.0	-4.3	**2001**	1	-6.0	-6.0	3 years	11.0	-3.8	3 years	5.7	-4.7	3 years	0.3	-6.0
2002	18	-67.0	-3.7	**2002**	9	-40.0	-4.4	**2002**	1	-6.0	-6.0	4 years	12.8	-3.8	4 years	6.5	-4.7	4 years	0.5	-6.0
2003	28	-107.8	-3.9	**2003**	16	-75.1	-4.7	**2003**	3	-18.3	-6.1	5 years	15.8	-3.8	5 years	8.4	-4.7	5 years	1.0	-6.0
2004	29	-95.3	-3.3	**2004**	11	-44.5	-4.0	**2004**	2	-10.8	-5.4	6 years	18.0	-3.7	6 years	8.8	-4.6	6 years	1.2	-5.9
2005	22	-75.8	-3.4	**2005**	10	-44.5	-4.5	**2005**	3	-17.1	-5.7	7 years	18.6	-3.7	7 years	9.0	-4.5	7 years	1.4	-5.8
2006	27	-84.6	-3.1	**2006**	11	-42.3	-3.8	**2006**	1	-5.5	-5.5	8 years	19.6	-3.6	8 years	9.3	-4.5	8 years	1.4	-5.8
2007	28	-96.2	-3.4	**2007**	12	-54.0	-4.5	**2007**	1	-6.1	-6.1	9 years	20.6	-3.6	9 years	9.6	-4.5	9 years	1.3	-5.8
2008	36	-116.6	-3.2	**2008**	19	-72.6	-3.8	**2008**	0	0.0		10 years	22.1	-3.6	10 years	10.5	-4.4	10 years	1.2	-5.8
2009	23	-78.6	-3.4	**2009**	11	-47.2	-4.3	**2009**	2	-12.3	-6.2	11 years	22.2	-3.5	11 years	10.5	-4.4	11 years	1.3	-5.9
2010	41	-134.9	-3.3	**2010**	20	-80.1	-4.0	**2010**	0	0.0		12 years	23.8	-3.5	12 years	11.3	-4.4	12 years	1.2	-5.9
2011	27	-94.0	-3.5	**2011**	14	-59.7	-4.3	**2011**	1	-5.5	-5.5	13 years	24.0	-3.5	13 years	11.5	-4.3	13 years	1.2	-5.8
2012	34	-114.7	-3.4	**2012**	16	-65.5	-4.1	**2012**	1	-5.3	-5.3	14 years	24.7	-3.5	14 years	11.9	-4.3	14 years	1.1	-5.8
2013	19	-60.1	-3.2	**2013**	8	-33.0	-4.1	**2013**	0	0.0		15 years	24.3	-3.5	15 years	11.6	-4.3	15 years	1.1	-5.8
2014	23	-84.5	-3.7	**2014**	11	-53.5	-4.9	**2014**	4	-23.4	-5.9	16 years	24.3	-3.5	16 years	11.6	-4.4	16 years	1.3	-5.8
2015	32	-118.4	-3.7	**2015**	19	-83.3	-4.4	**2015**	2	-12.5	-6.3	17 years	24.7	-3.5	17 years	12.0	-4.4	17 years	1.3	-5.8
2016	30	-94.7	-3.2	**2016**	9	-39.4	-4.4	**2016**	2	-10.9	-5.5	18 years	25.0	-3.5	18 years	11.8	-4.4	18 years	1.3	-5.8
2017	31	-108.9	-3.5	**2017**	15	-65.7	-4.4	**2017**	3	-16.9	-5.6	19 years	25.3	-3.5	19 years	12.0	-4.4	19 years	1.4	-5.8
2018	34	-116.9	-3.4	**2018**	14	-62.6	-4.5	**2018**	2	-11.7	-5.9	20 years	25.8	-3.5	20 years	12.1	-4.4	20 years	1.5	-5.8
2019	35	-114.4	-3.3	**2019**	17	-66.8	-3.9	**2019**	1	-5.3	-5.3									
2020	10	-38.3	-3.8	**2020**	6	-27.9	-4.7	**2020**	1	-6.4	-6.4									
2021	23	-68.5	-3.0	**2021**	7	-29.0	-4.1	**2021**	0	0.0										
2022	28	-84.5	-3.0	**2022**	9	-35.4	-3.9	**2022**	0	0.0										

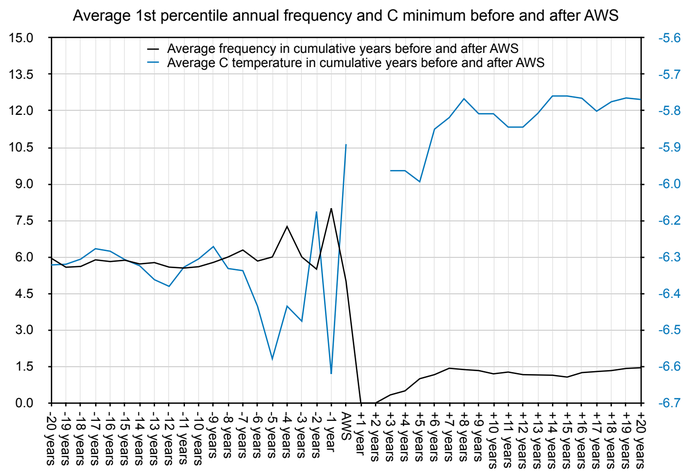
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	42.0	-158.9	-3.7	**Pre**	22.7	-107.1	-4.7	**Pre**	5.8	-37.3	-6.4
Post	18.0	-66.0	-3.7	**Post**	8.8	-39.6	-4.6	**Post**	1.2	-6.9	-5.9

		AWS introduction
		Probe replacement
		Small screen introduction





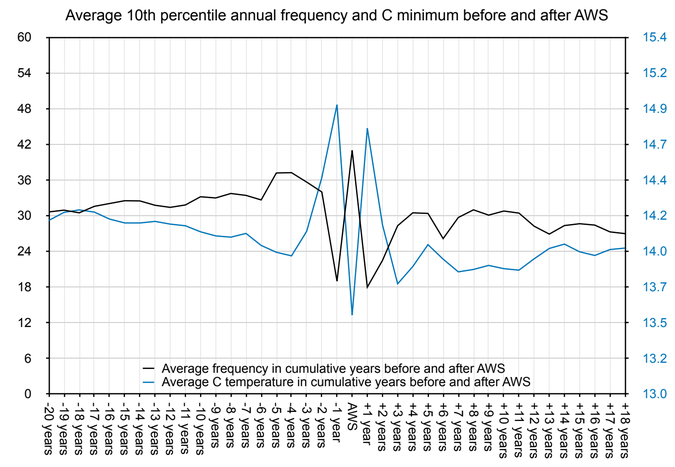


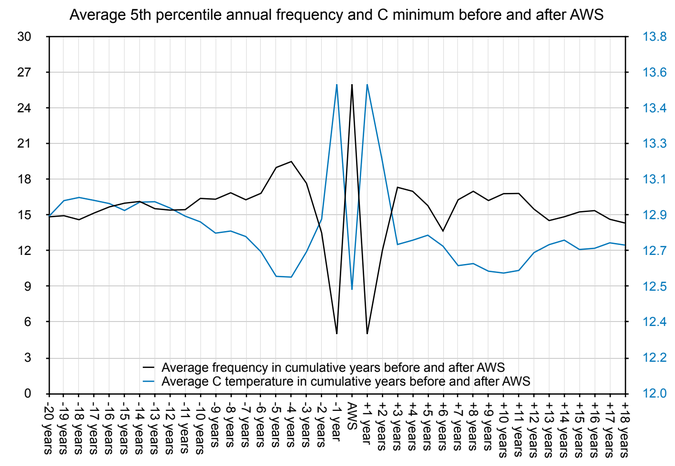
10th 16.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 14.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 11.2	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	34	463.5	13.6	**1910**	19	234.8	12.4	**1910**	4	37.8	9.5									
1911	70	978.7	14.0	**1911**	32	397.8	12.4	**1911**	6	59.1	9.9									
1912	43	607.9	14.1	**1912**	18	222.3	12.4	**1912**	6	63.2	10.5									
1913	39	542.2	13.9	**1913**	23	295.6	12.9	**1913**	3	29.1	9.7									
1914	42	602.7	14.4	**1914**	16	202.2	12.6	**1914**	2	21.3	10.7									
1915	33	477.1	14.5	**1915**	15	202.2	13.5	**1915**	1	11.0	11.0									
1916	16	227.3	14.2	**1916**	8	104.6	13.1	**1916**	1	11.1	11.1									
1917	36	518.3	14.4	**1917**	11	134.1	12.2	**1917**	3	28.3	9.4									
1918	60	830.0	13.8	**1918**	36	464.2	12.9	**1918**	5	49.5	9.9									
1919	65	858.3	13.2	**1919**	46	570.2	12.4	**1919**	8	72.9	9.1									
1920	28	404.2	14.4	**1920**	11	144.9	13.2	**1920**	2	21.8	10.9									
1921	31	427.5	13.8	**1921**	16	194.8	12.2	**1921**	5	49.9	10.0									
1922	74	994.0	13.4	**1922**	45	550.5	12.2	**1922**	12	118.5	9.9									
1923	93	1192.2	12.8	**1923**	68	808.9	11.9	**1923**	25	245.1	9.8									
1924	41	585.6	14.3	**1924**	15	190.1	12.7	**1924**	2	19.4	9.7									
1925	67	930.6	13.9	**1925**	39	498.7	12.8	**1925**	4	39.1	9.8									
1926	40	565.6	14.1	**1926**	20	260.8	13.0	**1926**	1	11.1	11.1									
1927	44	600.6	13.7	**1927**	30	383.3	12.8	**1927**	6	61.9	10.3									
1928	43	575.6	13.4	**1928**	26	314.8	12.1	**1928**	8	82.5	10.3									
1929	86	1156.7	13.5	**1929**	57	713.9	12.5	**1929**	15	144.9	9.7									
1930	48	628.6	13.1	**1930**	36	444.0	12.3	**1930**	13	137.7	10.6									
1931	43	602.8	14.0	**1931**	26	341.2	13.1	**1931**	3	31.1	10.4									
1932	64	787.9	12.3	**1932**	51	589.3	11.6	**1932**	21	198.3	9.4									
1933	21	292.4	13.9	**1933**	11	137.5	12.5	**1933**	4	42.3	10.6									
1934	26	345.1	13.3	**1934**	21	267.6	12.7	**1934**	3	30.1	10.0									
1935	42	589.0	14.0	**1935**	21	266.8	12.7	**1935**	3	29.9	10.0									
1936	33	456.4	13.8	**1936**	19	240.4	12.7	**1936**	5	48.6	9.7									
1937	44	598.3	13.6	**1937**	28	352.1	12.6	**1937**	6	60.0	10.0									
1938	25	351.7	14.1	**1938**	14	182.9	13.1	**1938**	1	10.7	10.7									
1939	70	935.1	13.4	**1939**	49	609.5	12.4	**1939**	10	100.5	10.1									
1940	48	691.3	14.4	**1940**	23	304.8	13.3	**1940**	2	20.8	10.4									
1941	80	1069.8	13.4	**1941**	46	549.1	11.9	**1941**	18	181.2	10.1									
1942	34	460.9	13.6	**1942**	18	217.1	12.1	**1942**	5	52.0	10.4									
1943	36	484.2	13.5	**1943**	20	238.8	11.9	**1943**	3	28.1	9.4									
1944	53	768.7	14.5	**1944**	22	290.0	13.2	**1944**	0	0.0										
1945	61	871.0	14.3	**1945**	24	304.2	12.7	**1945**	4	36.5	9.1									
1946	76	1043.5	13.7	**1946**	42	520.8	12.4	**1946**	10	95.6	9.6									
1947	33	476.4	14.4	**1947**	14	181.0	12.9	**1947**	1	10.7	10.7									
1948	63	869.5	13.8	**1948**	40	516.7	12.9	**1948**	5	52.9	10.6									
1949	43	559.2	13.0	**1949**	32	386.0	12.1	**1949**	14	146.0	10.4									
1950	33	460.8	14.0	**1950**	17	217.0	12.8	**1950**	4	42.4	10.6									
1951	37	526.9	14.2	**1951**	19	250.1	13.2	**1951**	0	0.0										
1952	23	337.9	14.7	**1952**	7	92.2	13.2	**1952**	0	0.0										
1953	48	667.7	13.9	**1953**	26	328.1	12.6	**1953**	4	38.7	9.7									
1954	16	227.8	14.2	**1954**	6	74.6	12.4	**1954**	1	11.2	11.2									
1955	16	240.3	15.0	**1955**	4	53.3	13.3	**1955**	0	0.0										
1956	28	394.3	14.1	**1956**	12	148.2	12.4	**1956**	3	30.6	10.2									
1957	24	344.7	14.4	**1957**	11	145.4	13.2	**1957**	1	10.6	10.6									
1958	17	243.0	14.3	**1958**	7	88.4	12.6	**1958**	2	20.3	10.2									
1959	37	504.9	13.6	**1959**	20	244.9	12.2	**1959**	7	72.8	10.4									
1960	39	543.7	13.9	**1960**	21	266.6	12.7	**1960**	5	52.9	10.6									
1961	44	633.8	14.4	**1961**	21	279.8	13.3	**1961**	0	0.0										
1962	19	273.8	14.4	**1962**	11	149.6	13.6	**1962**	0	0.0										
1963	47	645.2	13.7	**1963**	25	304.0	12.2	**1963**	8	80.0	10.0									
1964	23	335.0	14.6	**1964**	10	133.2	13.3	**1964**	0	0.0										
1965	44	596.8	13.6	**1965**	22	262.2	11.9	**1965**	8	78.9	9.9									
1966	19	269.9	14.2	**1966**	9	118.2	13.1	**1966**	1	11.1	11.1									
1967	30	423.6	14.1	**1967**	17	221.5	13.0	**1967**	0	0.0										
1968	22	321.3	14.6	**1968**	8	107.0	13.4	**1968**	0	0.0										
1969	24	349.6	14.6	**1969**	9	118.6	13.2	**1969**	0	0.0										
1970	26	382.4	14.7	**1970**	8	107.3	13.4	**1970**	0	0.0										
1971	28	381.8	13.6	**1971**	17	214.3	12.6	**1971**	3	29.6	9.9									
1972	47	684.1	14.6	**1972**	19	257.5	13.6	**1972**	0	0.0										
1973	9	137.9	15.3	**1973**	1	14.1	14.1	**1973**	0	0.0										
1974	54	741.5	13.7	**1974**	33	425.7	12.9	**1974**	4	42.3	10.6									
1975	17	235.3	13.8	**1975**	11	144.7	13.2	**1975**	1	11.2	11.2									
1976	48	643.6	13.4	**1976**	31	382.3	12.3	**1976**	6	63.8	10.6									
1977	38	528.1	13.9	**1977**	19	237.0	12.5	**1977**	5	52.3	10.5									
1978	34	481.9	14.2	**1978**	19	248.9	13.1	**1978**	2	20.6	10.3									
1979	30	427.2	14.2	**1979**	12	151.3	12.6	**1979**	2	19.3	9.7									
1980	23	336.4	14.6	**1980**	9	119.2	13.2	**1980**	0	0.0										
1981	22	324.2	14.7	**1981**	9	122.8	13.6	**1981**	0	0.0										
1982	60	830.5	13.8	**1982**	33	418.1	12.7	**1982**	6	63.1	10.5									
1983	24	344.7	14.4	**1983**	6	71.2	11.9	**1983**	2	20.9	10.5									
1984	25	328.6	13.1	**1984**	13	147.7	11.4	**1984**	7	67.3	9.6	20 years	30.7	14.2	20 years	14.9	12.9	20 years	2.2	10.3
1985	39	543.1	13.9	**1985**	21	266.4	12.7	**1985**	3	31.2	10.4	19 years	30.9	14.2	19 years	14.9	13.0	19 years	1.9	10.3
1986	12	173.9	14.5	**1986**	5	66.2	13.2	**1986**	0	0.0		18 years	30.5	14.2	18 years	14.6	13.0	18 years	1.9	10.3
1987	24	359.4	15.0	**1987**	7	92.6	13.2	**1987**	0	0.0		17 years	31.6	14.2	17 years	15.2	13.0	17 years	2.0	10.3
1988	25	364.2	14.6	**1988**	11	148.3	13.5	**1988**	0	0.0		16 years	32.1	14.2	16 years	15.7	13.0	16 years	2.1	10.3
1989	33	467.1	14.2	**1989**	14	172.7	12.3	**1989**	3	31.0	10.3	15 years	32.5	14.2	15 years	16.0	12.9	15 years	2.3	10.3
1990	42	588.6	14.0	**1990**	24	310.5	12.9	**1990**	1	10.2	10.2	14 years	32.5	14.2	14 years	16.1	13.0	14 years	2.2	10.3
1991	36	517.7	14.4	**1991**	17	226.9	13.3	**1991**	0	0.0		13 years	31.8	14.2	13 years	15.5	13.0	13 years	2.3	10.4
1992	27	385.2	14.3	**1992**	15	200.8	13.4	**1992**	1	11.0	11.0	12 years	31.4	14.1	12 years	15.4	12.9	12 years	2.5	10.4
1993	18	261.7	14.5	**1993**	6	79.1	13.2	**1993**	2	22.3	11.2	11 years	31.8	14.1	11 years	15.5	12.9	11 years	2.6	10.3
1994	35	501.9	14.3	**1994**	17	227.4	13.4	**1994**	0	0.0		10 years	33.2	14.1	10 years	16.4	12.9	10 years	2.7	10.1
1995	27	381.6	14.1	**1995**	12	152.7	12.7	**1995**	1	9.8	9.8	9 years	33.0	14.1	9 years	16.3	12.8	9 years	3.0	10.1
1996	36	499.7	13.9	**1996**	21	273.3	13.0	**1996**	4	43.6	10.9	8 years	33.8	14.1	8 years	16.9	12.8	8 years	3.3	10.2
1997	38	553.5	14.6	**1997**	13	172.3	13.3	**1997**	2	21.0	10.5	7 years	33.4	14.1	7 years	16.3	12.8	7 years	3.1	10.1
1998	10	142.3	14.2	**1998**	6	80.0	13.3	**1998**	0	0.0		6 years	32.7	14.0	6 years	16.8	12.7	6 years	3.3	10.0
1999	37	519.9	14.1	**1999**	17	214.3	12.6	**1999**	3	32.3	10.8	5 years	37.2	14.0	5 years	19.0	12.6	5 years	4.0	10.0
2000	42	564.3	13.4	**2000**	25	305.1	12.2	**2000**	6	58.4	9.7	4 years	37.3	13.9	4 years	19.5	12.6	4 years	4.3	9.7
2001	39	521.5	13.4	**2001**	26	322.0	12.4	**2001**	5	47.6	9.5	3 years	35.7	14.1	3 years	17.7	12.7	3 years	3.7	9.7
2002	49	684.4	14.0	**2002**	22	268.4	12.2	**2002**	6	58.7	9.8	2 years	34.0	14.5	2 years	13.5	12.9	2 years	3.0	9.8
2003	19	284.0	14.9	**2003**	5	67.8	13.6	**2003**	0	0.0		1 years	19.0	14.9	1 years	5.0	13.6	1 years	0.0	
2004	41	554.8	13.5	**2004**	26	325.6	12.5	**2004**	3	31.0	10.3	0 years	41.0	13.5	0 years	26.0	12.5	0 years	3.0	10.3
2005	18	266.2	14.8	**2005**	5	67.8	13.6	**2005**	0	0.0		1 years	18.0	14.8	1 years	5.0	13.6	1 years	0.0	
2006	27	364.2	13.5	**2006**	19	242.9	12.8	**2006**	1	10.1	10.1	2 years	22.5	14.1	2 years	12.0	13.2	2 years	0.5	10.1
2007	40	518.0	13.0	**2007**	28	333.5	11.9	**2007**	9	88.5	9.8	3 years	28.3	13.7	3 years	17.3	12.8	3 years	3.3	10.0
2008	37	525.7	14.2	**2008**	16	205.4	12.8	**2008**	1	8.7	8.7	4 years	30.5	13.9	4 years	17.0	12.8	4 years	2.8	9.5
2009	30	437.8	14.6	**2009**	11	141.9	12.9	**2009**	0	0.0		5 years	30.4	14.0	5 years	15.8	12.8	5 years	2.2	9.5
2010	5	67.1	13.4	**2010**	3	37.4	12.5	**2010**	1	11.2	11.2	6 years	26.2	13.9	6 years	13.7	12.7	6 years	2.0	10.0
2011	51	678.9	13.3	**2011**	32	385.8	12.1	**2011**	9	89.8	10.0	7 years	29.7	13.8	7 years	16.3	12.6	7 years	3.0	10.0
2012	40	558.1	14.0	**2012**	22	280.0	12.7	**2012**	1	9.8	9.8	8 years	31.0	13.8	8 years	17.0	12.7	8 years	2.8	9.9
2013	23	323.9	14.1	**2013**	10	123.1	12.3	**2013**	3	31.7	10.6	9 years	30.1	13.9	9 years	16.2	12.6	9 years	2.8	10.0
2014	37	505.0	13.6	**2014**	22	275.5	12.5	**2014**	5	53.9	10.8	10 years	30.8	13.8	10 years	16.8	12.6	10 years	3.0	10.1
2015	27	370.8	13.7	**2015**	17	216.8	12.8	**2015**	5	52.6	10.5	11 years	30.5	13.8	11 years	16.8	12.6	11 years	3.2	10.2
2016	4	59.0	14.8	**2016**	1	13.7	13.7	**2016**	0	0.0		12 years	28.3	13.9	12 years	15.5	12.7	12 years	2.9	10.2
2017	11	163.0	14.8	**2017**	3	39.7	13.2	**2017**	0	0.0		13 years	26.9	14.0	13 years	14.5	12.8	13 years	2.7	10.2
2018	47	676.2	14.4	**2018**	19	248.3	13.1	**2018**	1	11.2	11.2	14 years	28.4	14.0	14 years	14.9	12.8	14 years	2.6	10.3
2019	33	436.7	13.2	**2019**	21	253.4	12.1	**2019**	6	60.1	10.0	15 years	28.7	14.0	15 years	15.3	12.7	15 years	2.8	10.2
2020	25	339.1	13.6	**2020**	17	218.0	12.8	**2020**	2	20.6	10.3	16 years	28.4	13.9	16 years	15.4	12.7	16 years	2.8	10.2
2021	9	131.5	14.6	**2021**	3	39.6	13.2	**2021**	0	0.0		17 years	27.3	14.0	17 years	14.6	12.8	17 years	2.6	10.2
2022	22	311.3	14.2	**2022**	9	113.0	12.6	**2022**	2	21.3	10.7	18 years	27.0	14.0	18 years	14.3	12.7	18 years	2.6	10.3

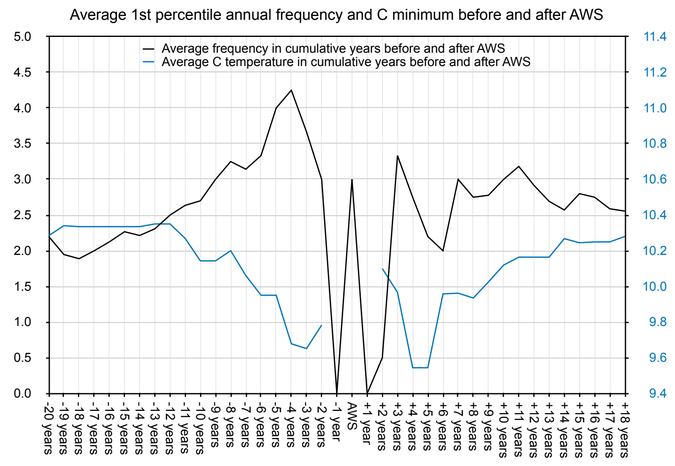
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	32.7	452.7	14.0	**Pre**	16.8	209.6	12.7	**Pre**	3.3	32.8	10.0									
Post	26.2	363.2	13.9	**Post**	13.7	171.5	12.7	**Post**	2.0	19.8	10.0									

		AWS introduction
		Probe replacement
		Small screen introduction







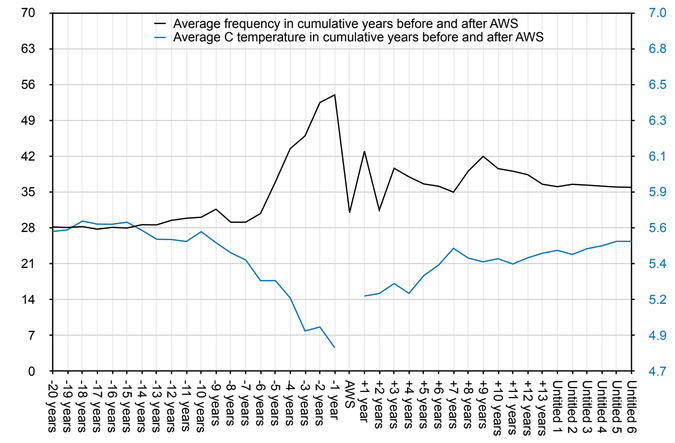
10th 7.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1940	47	252.7	5.4	**1940**	26	104.2	4.0	**1940**	6	11.9	2.0									
1941	59	271.5	4.6	**1941**	37	132.6	3.6	**1941**	12	17.1	1.4									
1942	22	141.3	6.4	**1942**	7	35.1	5.0	**1942**	0	0.0										
1943	50	252.3	5.0	**1943**	30	120.0	4.0	**1943**	5	10.4	2.1									
1944	38	244.7	6.4	**1944**	12	56.7	4.7	**1944**	1	2.8	2.8									
1945	32	168.7	5.3	**1945**	14	45.4	3.2	**1945**	6	12.8	2.1									
1946	57	275.8	4.8	**1946**	35	124.0	3.5	**1946**	12	20.6	1.7									
1947	27	164.3	6.1	**1947**	9	37.7	4.2	**1947**	1	1.7	1.7									
1948	45	275.3	6.1	**1948**	15	66.2	4.4	**1948**	2	4.5	2.3									
1949	71	340.5	4.8	**1949**	42	139.9	3.3	**1949**	16	26.8	1.7									
1950	52	294.2	5.7	**1950**	25	108.5	4.3	**1950**	3	5.6	1.9									
1951	51	266.9	5.2	**1951**	30	117.9	3.9	**1951**	7	15.1	2.2									
1952	56	317.9	5.7	**1952**	27	111.6	4.1	**1952**	2	2.8	1.4									
1953	61	302.2	5.0	**1953**	40	160.0	4.0	**1953**	6	14.6	2.4									
1954	23	116.0	5.0	**1954**	18	78.8	4.4	**1954**	1	2.8	2.8									
1955	17	103.5	6.1	**1955**	6	25.4	4.2	**1955**	0	0.0										
1956	51	294.1	5.8	**1956**	16	55.6	3.5	**1956**	3	5.0	1.7									
1957	36	192.3	5.3	**1957**	18	73.0	4.1	**1957**	3	6.2	2.1									
1958	26	154.4	5.9	**1958**	9	42.8	4.8	**1958**	1	2.8	2.8									
1959	22	133.3	6.1	**1959**	9	43.4	4.8	**1959**	0	0.0										
1960	51	294.6	5.8	**1960**	17	65.5	3.9	**1960**	5	10.6	2.1									
1961	43	240.7	5.6	**1961**	21	92.7	4.4	**1961**	3	6.1	2.0									
1962	33	208.6	6.3	**1962**	11	53.9	4.9	**1962**	1	2.8	2.8									
1963	38	208.9	5.5	**1963**	19	75.4	4.0	**1963**	5	8.9	1.8									
1964	26	141.4	5.4	**1964**	12	50.3	4.2	**1964**	2	3.6	1.8									
1965	41	198.0	4.8	**1965**	25	84.5	3.4	**1965**	7	8.5	1.2									
1966	37	221.4	6.0	**1966**	12	47.0	3.9	**1966**	3	5.2	1.7									
1967	46	224.1	4.9	**1967**	32	126.9	4.0	**1967**	6	13.6	2.3									
1968	28	154.0	5.5	**1968**	15	63.5	4.2	**1968**	3	4.2	1.4									
1969	31	180.3	5.8	**1969**	12	51.8	4.3	**1969**	1	1.1	1.1									
1970	42	219.9	5.2	**1970**	21	75.6	3.6	**1970**	7	11.9	1.7									
1971	50	211.0	4.2	**1971**	32	88.0	2.8	**1971**	16	18.0	1.1									
1972	23	127.1	5.5	**1972**	13	61.2	4.7	**1972**	1	2.3	2.3									
1973	13	83.4	6.4	**1973**	3	15.0	5.0	**1973**	0	0.0										
1974	53	256.3	4.8	**1974**	32	116.6	3.6	**1974**	6	8.8	1.5									
1975	32	146.9	4.6	**1975**	19	60.6	3.2	**1975**	8	12.1	1.5									
1976	61	292.9	4.8	**1976**	35	117.7	3.4	**1976**	16	30.6	1.9									
1977	50	206.9	4.1	**1977**	31	81.2	2.6	**1977**	16	18.4	1.2									
1978	42	214.2	5.1	**1978**	24	96.0	4.0	**1978**	5	10.5	2.1									
1979	33	170.8	5.2	**1979**	18	68.5	3.8	**1979**	5	9.2	1.8									
1980	25	149.7	6.0	**1980**	11	52.6	4.8	**1980**	1	2.3	2.3									
1981	19	123.8	6.5	**1981**	4	16.1	4.0	**1981**	0	0.0										
1982	52	246.0	4.7	**1982**	32	107.7	3.4	**1982**	16	36.0	2.3									
1983	30	162.0	5.4	**1983**	14	52.0	3.7	**1983**	4	7.2	1.8	20 years	28.2	5.6	20 years	12.7	4.2	20 years	1.9	1.9
1984	25	116.5	4.7	**1984**	18	67.6	3.8	**1984**	6	10.2	1.7	19 years	28.1	5.6	19 years	12.6	4.2	19 years	1.8	1.9
1985	37	221.1	6.0	**1985**	13	55.0	4.2	**1985**	0	0.0		18 years	28.3	5.7	18 years	12.3	4.2	18 years	1.6	1.9
1986	22	124.5	5.7	**1986**	10	43.9	4.4	**1986**	1	2.6	2.6	17 years	27.8	5.6	17 years	12.3	4.2	17 years	1.6	1.9
1987	30	163.8	5.5	**1987**	17	77.5	4.6	**1987**	0	0.0		16 years	28.1	5.6	16 years	12.4	4.2	16 years	1.7	1.8
1988	19	120.2	6.3	**1988**	6	30.0	5.0	**1988**	0	0.0		15 years	28.0	5.7	15 years	12.1	4.2	15 years	1.8	1.8
1989	29	182.7	6.3	**1989**	6	28.0	4.7	**1989**	0	0.0		14 years	28.6	5.6	14 years	12.6	4.1	14 years	1.9	1.8
1990	18	100.2	5.6	**1990**	9	40.0	4.4	**1990**	0	0.0		13 years	28.6	5.5	13 years	13.1	4.1	13 years	2.1	1.8
1991	25	141.8	5.7	**1991**	13	59.2	4.6	**1991**	1	2.4	2.4	12 years	29.5	5.5	12 years	13.4	4.0	12 years	2.3	1.8
1992	28	139.1	5.0	**1992**	17	64.5	3.8	**1992**	5	11.7	2.3	11 years	29.9	5.5	11 years	13.5	4.0	11 years	2.4	1.7
1993	16	98.6	6.2	**1993**	4	16.3	4.1	**1993**	0	0.0		10 years	30.1	5.6	10 years	13.1	4.0	10 years	2.1	1.6
1994	52	311.0	6.0	**1994**	15	63.2	4.2	**1994**	2	3.7	1.9	9 years	31.7	5.5	9 years	14.1	4.0	9 years	2.3	1.6
1995	29	166.3	5.7	**1995**	14	62.1	4.4	**1995**	1	1.3	1.3	8 years	29.1	5.5	8 years	14.0	4.0	8 years	2.4	1.5
1996	19	115.5	6.1	**1996**	8	40.0	5.0	**1996**	0	0.0		7 years	29.1	5.4	7 years	14.0	3.9	7 years	2.6	1.5
1997	0	0.0		**1997**	0	0.0		**1997**	0	0.0		6 years	30.8	5.3	6 years	15.0	3.7	6 years	3.0	1.5
1998	11	63.0	5.7	**1998**	3	10.0	3.3	**1998**	0	0.0		5 years	37.0	5.3	5 years	18.0	3.7	5 years	3.6	1.5
1999	36	209.0	5.8	**1999**	14	62.0	4.4	**1999**	0	0.0		4 years	43.5	5.2	4 years	21.8	3.7	4 years	4.5	1.5
2000	33	162.0	4.9	**2000**	16	50.0	3.1	**2000**	6	9.0	1.5	3 years	46.0	5.0	3 years	24.3	3.5	3 years	6.0	1.5
2001	51	261.0	5.1	**2001**	27	102.0	3.8	**2001**	4	6.0	1.5	2 years	52.5	5.0	2 years	28.5	3.7	2 years	6.0	1.6
2002	54	262.0	4.9	**2002**	30	108.0	3.6	**2002**	8	13.0	1.6	1 years	54.0	4.9	1 years	30.0	3.6	1 years	8.0	
2003	31	172.4	5.6	**2003**	14	58.8	4.2	**2003**	2	4.8	2.4	0 years	31.0		0 years	14.0		0 years	2.0	
2004	43	222.9	5.2	**2004**	21	71.2	3.4	**2004**	7	11.3	1.6	1 years	43.0	5.2	1 years	21.0	3.4	1 years	7.0	
2005	20	104.3	5.2	**2005**	13	58.0	4.5	**2005**	0	0.0		2 years	31.5	5.2	2 years	17.0	3.9	2 years	3.5	
2006	56	302.0	5.4	**2006**	29	126.3	4.4	**2006**	2	3.9	2.0	3 years	39.7	5.3	3 years	21.0	4.1	3 years	3.0	1.8
2007	33	165.4	5.0	**2007**	19	72.4	3.8	**2007**	4	9.1	2.3	4 years	38.0	5.2	4 years	20.5	4.0	4 years	3.3	1.9
2008	31	178.8	5.8	**2008**	11	46.6	4.2	**2008**	1	2.2	2.2	5 years	36.6	5.3	5 years	18.6	4.1	5 years	2.8	2.0
2009	34	194.6	5.7	**2009**	16	71.3	4.5	**2009**	0	0.0		6 years	36.2	5.4	6 years	18.2	4.1	6 years	2.3	2.0
2010	28	171.7	6.1	**2010**	8	36.9	4.6	**2010**	0	0.0		7 years	35.0	5.5	7 years	16.7	4.2	7 years	2.0	2.0
2011	68	339.1	5.0	**2011**	41	152.6	3.7	**2011**	11	26.2	2.4	8 years	39.1	5.4	8 years	19.8	4.1	8 years	3.1	2.1
2012	65	339.0	5.2	**2012**	39	168.1	4.3	**2012**	3	8.1	2.7	9 years	42.0	5.4	9 years	21.9	4.2	9 years	3.1	2.2
2013	18	100.8	5.6	**2013**	8	33.6	4.2	**2013**	0	0.0		10 years	39.6	5.4	10 years	20.5	4.2	10 years	2.8	2.2
2014	34	171.7	5.1	**2014**	20	81.3	4.1	**2014**	3	7.7	2.6	11 years	39.1	5.4	11 years	20.5	4.1	11 years	2.8	2.2
2015	31	181.8	5.9	**2015**	11	45.9	4.2	**2015**	2	4.4	2.2	12 years	38.4	5.4	12 years	19.7	4.1	12 years	2.8	2.2
2016	14	81.4	5.8	**2016**	6	25.9	4.3	**2016**	1	2.8	2.8	13 years	36.5	5.5	13 years	18.6	4.2	13 years	2.6	2.3
2017	30	171.4	5.7	**2017**	16	74.3	4.6	**2017**	1	2.2	2.2	14 years	36.1	5.5	14 years	18.4	4.2	14 years	2.5	2.3
2018	43	218.5	5.1	**2018**	25	95.3	3.8	**2018**	4	9.0	2.3	15 years	36.5	5.5	15 years	18.9	4.2	15 years	2.6	2.3
2019	34	205.5	6.0	**2019**	10	43.0	4.3	**2019**	2	4.8	2.4	16 years	36.4	5.5	16 years	18.3	4.2	16 years	2.6	2.3
2020	33	191.4	5.8	**2020**	14	64.2	4.6	**2020**	0	0.0		17 years	36.2	5.5	17 years	18.1	4.2	17 years	2.4	2.3
2021	33	198.9	6.0	**2021**	11	50.4	4.6	**2021**	1	2.4	2.4	18 years	36.0	5.5	18 years	17.7	4.2	18 years	2.3	2.3
2022	35	193.4	5.5	**2022**	15	59.4	4.0	**2022**	2	4.8	2.4	19 years	35.9	5.5	19 years	17.5	4.2	19 years	2.3	2.3

Original AWS probe Rosemount

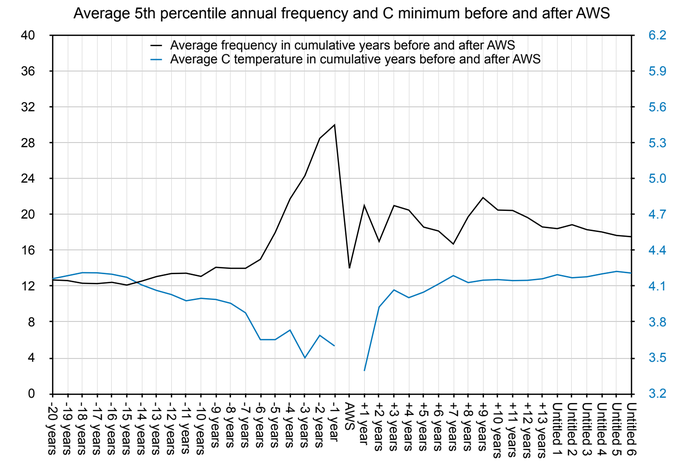
6 years				**6 years**				**6 years**			
Pre	30.8	159.5	5.3	**Pre**	15.0	55.3	3.7	**Pre**	3.0	4.7	1.5
Post	36.2	194.7	5.4	**Post**	18.2	74.3	4.1	**Post**	2.3	4.4	2.0

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		

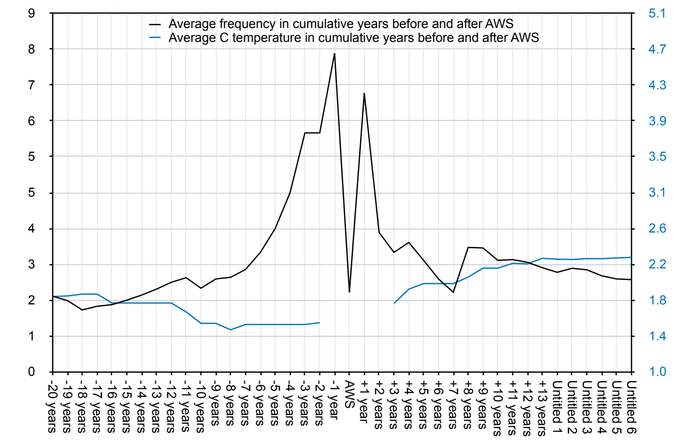
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS

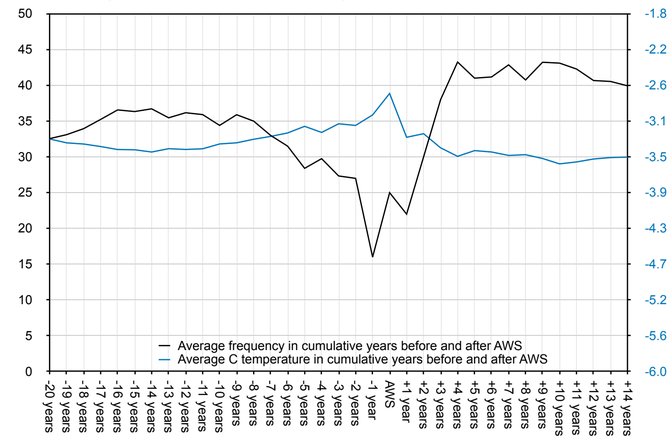


10th -1.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -3.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1921	30	-85.3	-2.8	1921	8	-34.7	-4.3	1921	1	-5.9	-5.9									
1922	0	0.0		1922	0	0.0		1922	0	0.0										
1923	18	-47.7	-2.7	1923	6	-22.1	-3.7	1923	1	-5.6	-5.6									
1924	44	-199.2	-4.5	1924	31	-171.9	-5.5	1924	13	-91.9	-7.1									
1925	10	-23.4	-2.3	1925	2	-7.7	-3.9	1925	0	0.0										
1926	21	-55.1	-2.6	1926	7	-26.2	-3.7	1926	0	0.0										
1927	45	-167.6	-3.7	1927	27	-127.1	-4.7	1927	7	-41.1	-5.9									
1928	37	-132.6	-3.6	1928	19	-88.8	-4.7	1928	4	-24.1	-6.0									
1929	48	-204.4	-4.3	1929	30	-160.8	-5.4	1929	13	-88.4	-6.8									
1930	19	-45.0	-2.4	1930	3	-10.4	-3.5	1930	0	0.0										
1931	22	-59.2	-2.7	1931	5	-18.2	-3.6	1931	0	0.0										
1932	37	-113.3	-3.1	1932	12	-55.7	-4.6	1932	2	-14.2	-7.1									
1933	32	-100.5	-3.1	1933	16	-65.1	-4.1	1933	1	-6.1	-6.1									
1934	31	-74.6	-2.4	1934	4	-14.3	-3.6	1934	0	0.0										
1935	34	-112.9	-3.3	1935	16	-74.4	-4.7	1935	1	-7.9	-7.9									
1936	38	-117.5	-3.1	1936	13	-57.4	-4.4	1936	1	-5.9	-5.9									
1937	43	-168.3	-3.9	1937	24	-122.0	-5.1	1937	8	-52.1	-6.5									
1938	34	-116.2	-3.4	1938	17	-75.5	-4.4	1938	2	-14.0	-7.0									
1939	0	0.0		1939	0	0.0		1939	0	0.0										
1940	57	-198.8	-3.5	1940	36	-151.1	-4.2	1940	3	-17.0	-5.7									
1941	47	-180.6	-3.8	1941	32	-145.7	-4.6	1941	6	-39.1	-6.5									
1942	9	-19.7	-2.2	1942	0	0.0		1942	0	0.0										
1943	24	-74.4	-3.1	1943	9	-37.3	-4.1	1943	1	-5.7	-5.7									
1944	50	-156.8	-3.1	1944	21	-90.0	-4.3	1944	2	-11.4	-5.7									
1945	9	-27.0	-3.0	1945	3	-12.1	-4.0	1945	0	0.0										
1946	33	-105.4	-3.2	1946	12	-52.8	-4.4	1946	1	-5.7	-5.7									
1947	17	-56.2	-3.3	1947	8	-33.3	-4.2	1947	0	0.0										
1948	44	-156.9	-3.6	1948	25	-110.8	-4.4	1948	3	-16.8	-5.6									
1949	49	-178.9	-3.7	1949	30	-133.5	-4.5	1949	5	-29.9	-6.0									
1950	25	-80.7	-3.2	1950	10	-45.8	-4.6	1950	2	-12.2	-6.1									
1951	35	-109.5	-3.1	1951	15	-63.4	-4.2	1951	1	-6.1	-6.1									
1952	36	-125.0	-3.5	1952	18	-79.2	-4.4	1952	1	-5.7	-5.7									
1953	56	-205.1	-3.7	1953	34	-154.0	-4.5	1953	4	-24.4	-6.1									
1954	51	-183.2	-3.6	1954	30	-130.6	-4.4	1954	4	-24.4	-6.1									
1955	29	-102.8	-3.5	1955	16	-70.9	-4.4	1955	2	-11.6	-5.8									
1956	41	-142.7	-3.5	1956	20	-90.1	-4.5	1956	3	-20.0	-6.7									
1957	75	-307.8	-4.1	1957	44	-233.2	-5.3	1957	18	-120.4	-6.7									
1958	34	-114.1	-3.4	1958	17	-74.1	-4.4	1958	2	-12.0	-6.0									
1959	46	-165.8	-3.6	1959	26	-118.0	-4.5	1959	7	-45.1	-6.4									
1960	43	-161.8	-3.8	1960	25	-115.2	-4.6	1960	5	-30.0	-6.0									
1961	47	-174.6	-3.7	1961	24	-118.3	-4.9	1961	6	-37.7	-6.3									
1962	53	-199.6	-3.8	1962	23	-127.9	-5.6	1962	12	-81.0	-6.8									
1963	39	-133.3	-3.4	1963	21	-91.9	-4.4	1963	3	-18.8	-6.3									
1964	32	-101.4	-3.2	1964	13	-56.9	-4.4	1964	0	0.0										
1965	49	-210.6	-4.3	1965	34	-172.9	-5.1	1965	10	-67.8	-6.8									
1966	44	-156.6	-3.6	1966	23	-106.2	-4.6	1966	4	-22.8	-5.7									
1967	39	-152.7	-3.9	1967	23	-115.8	-5.0	1967	9	-58.0	-6.4									
1968	35	-118.2	-3.4	1968	18	-77.0	-4.3	1968	2	-11.8	-5.9									
1969	47	-167.4	-3.6	1969	25	-113.5	-4.5	1969	3	-21.8	-7.3									
1970	46	-172.2	-3.7	1970	26	-126.5	-4.9	1970	9	-55.2	-6.1									
1971	65	-305.0	-4.7	1971	52	-275.7	-5.3	1971	14	-105.6	-7.5									
1972	50	-186.4	-3.7	1972	28	-131.4	-4.7	1972	8	-49.6	-6.2									
1973	19	-53.5	-2.8	1973	3	-14.3	-4.8	1973	0	0.0										
1974	32	-128.6	-4.0	1974	20	-100.4	-5.0	1974	6	-37.5	-6.3									
1975	34	-114.1	-3.4	1975	17	-73.2	-4.3	1975	1	-6.8	-6.8									
1976	51	-213.1	-4.2	1976	31	-169.2	-5.5	1976	16	-99.6	-6.2									
1977	45	-157.2	-3.5	1977	18	-90.0	-5.0	1977	7	-43.3	-6.2									
1978	31	-106.6	-3.4	1978	18	-73.4	-4.1	1978	1	-6.4	-6.4									
1979	50	-207.3	-4.1	1979	35	-170.4	-4.9	1979	9	-54.9	-6.1									
1980	30	-89.3	-3.0	1980	11	-43.6	-4.0	1980	1	-5.6	-5.6									
1981	21	-55.7	-2.7	1981	4	-16.2	-4.1	1981	0	0.0										
1982	54	-202.6	-3.8	1982	29	-141.0	-4.9	1982	6	-43.1	-7.2									
1983	24	-83.1	-3.5	1983	14	-58.8	-4.2	1983	0	0.0										
1984	46	-161.6	-3.5	1984	24	-106.3	-4.4	1984	3	-18.6	-6.2									
1985	47	-176.2	-3.7	1985	28	-132.9	-4.7	1985	9	-56.4	-6.3									
1986	43	-155.5	-3.6	1986	22	-111.1	-5.1	1986	8	-52.1	-6.5									
1987	37	-143.9	-3.9	1987	21	-105.7	-5.0	1987	7	-43.7	-6.2									
1988	22	-52.8	-2.4	1988	1	-3.4	-3.4	1988	0	0.0		20 years	32.6	-3.3	20 years	15.7	-4.3	20 years	1.9	-6.2
1989	18	-55.3	-3.1	1989	7	-28.7	-4.1	1989	0	0.0		19 years	33.1	-3.3	19 years	16.4	-4.3	19 years	1.9	-6.2
1990	12	-33.9	-2.8	1990	4	-15.3	-3.8	1990	0	0.0		18 years	33.9	-3.3	18 years	16.9	-4.3	18 years	2.1	-6.2
1991	14	-39.2	-2.8	1991	4	-14.6	-3.7	1991	0	0.0		17 years	35.2	-3.4	17 years	17.7	-4.4	17 years	2.2	-6.2
1992	40	-133.9	-3.3	1992	19	-83.4	-4.4	1992	1	-5.6	-5.6	16 years	36.6	-3.4	16 years	18.6	-4.4	16 years	2.3	-6.2
1993	31	-93.9	-3.0	1993	8	-34.5	-4.3	1993	1	-6.2	-6.2	15 years	36.3	-3.4	15 years	18.5	-4.4	15 years	2.4	-6.2
1994	53	-208.3	-3.9	1994	30	-156.7	-5.2	1994	10	-67.6	-6.8	14 years	36.7	-3.4	14 years	19.3	-4.4	14 years	2.5	-6.2
1995	27	-88.5	-3.3	1995	13	-54.6	-4.2	1995	0	0.0		13 years	35.5	-3.4	13 years	18.5	-4.4	13 years	1.9	-6.1
1996	39	-135.6	-3.5	1996	21	-94.3	-4.5	1996	4	-24.8	-6.2	12 years	36.2	-3.4	12 years	18.9	-4.4	12 years	2.1	-6.1
1997	51	-201.6	-4.0	1997	35	-159.9	-4.6	1997	6	-38.3	-6.4	11 years	35.9	-3.4	11 years	18.7	-4.4	11 years	1.9	-6.1
1998	21	-72.4	-3.4	1998	10	-46.8	-4.7	1998	1	-6.0	-6.0	10 years	34.4	-3.3	10 years	17.1	-4.4	10 years	1.5	-6.1
1999	43	-156.9	-3.6	1999	23	-111.2	-4.8	1999	4	-23.9	-6.0	9 years	35.9	-3.3	9 years	17.9	-4.3	9 years	1.6	-6.1
2000	49	-171.9	-3.5	2000	28	-121.9	-4.4	2000	3	-19.2	-6.4	8 years	35.0	-3.3	8 years	17.3	-4.3	8 years	1.3	-6.1
2001	42	-146.3	-3.5	2001	23	-101.0	-4.4	2001	1	-6.0	-6.0	7 years	33.0	-3.2	7 years	15.7	-4.3	7 years	1.0	-6.1
2002	47	-168.6	-3.6	2002	26	-117.4	-4.5	2002	2	-11.8	-5.9	6 years	31.5	-3.2	6 years	14.5	-4.2	6 years	1.0	-6.1
2003	23	-65.2	-2.8	2003	7	-29.3	-4.2	2003	0	0.0		5 years	28.4	-3.1	5 years	12.2	-4.2	5 years	0.8	-6.2
2004	37	-129.4	-3.5	2004	21	-91.8	-4.4	2004	2	-13.0	-6.5	4 years	29.8	-3.2	4 years	13.5	-4.2	4 years	1.0	-6.2
2005	28	-85.5	-3.1	2005	10	-39.1	-3.9	2005	0	0.0		3 years	27.3	-3.1	3 years	11.0	-4.1	3 years	0.7	-5.9
2006	38	-122.9	-3.2	2006	16	-74.1	-4.6	2006	2	-11.8	-5.9	2 years	27.0	-3.1	2 years	11.5	-4.2	2 years	1.0	-5.9
2007	16	-47.8	-3.0	2007	7	-26.3	-3.8	2007	0	0.0		1 years	16.0	-3.0	1 years	7.0	-3.8	1 years	0.0	
2008	25	-68.4	-2.7	2008	7	-26.4	-3.8	2008	0	0.0		0 years	25.0	-2.7	0 years	7.0	-3.8	0 years	0.0	
2009	22	-71.5	-3.3	2009	10	-43.3	-4.3	2009	1	-6.8	-6.8	1 years	22.0	-3.3	1 years	10.0	-4.3	1 years	1.0	-6.8
2010	38	-120.3	-3.2	2010	19	-74.6	-3.9	2010	0	0.0		2 years	30.0	-3.2	2 years	14.5	-4.1	2 years	0.5	-6.8
2011	54	-200.1	-3.7	2011	31	-143.9	-4.6	2011	6	-40.7	-6.8	3 years	38.0	-3.4	3 years	20.0	-4.3	3 years	2.3	-6.8
2012	59	-222.6	-3.8	2012	34	-162.8	-4.8	2012	7	-43.2	-6.2	4 years	43.3	-3.5	4 years	23.5	-4.4	4 years	3.5	-6.6
2013	32	-100.4	-3.1	2013	13	-53.4	-4.1	2013	1	-6.0	-6.0	5 years	41.0	-3.4	5 years	21.4	-4.4	5 years	3.0	-6.4
2014	42	-147.2	-3.5	2014	20	-97.7	-4.9	2014	4	-26.5	-6.6	6 years	41.2	-3.4	6 years	21.2	-4.4	6 years	3.2	-6.5
2015	53	-196.3	-3.7	2015	28	-131.9	-4.7	2015	4	-26.7	-6.7	7 years	42.9	-3.5	7 years	22.1	-4.5	7 years	3.3	-6.5
2016	26	-88.3	-3.4	2016	14	-59.2	-4.2	2016	0	0.0		8 years	40.8	-3.5	8 years	21.1	-4.5	8 years	2.9	-6.5
2017	63	-242.8	-3.9	2017	33	-166.1	-5.0	2017	9	-62.0	-6.9	9 years	43.2	-3.5	9 years	22.4	-4.5	9 years	3.6	-6.6
2018	42	-173.5	-4.1	2018	27	-137.0	-5.1	2018	9	-57.1	-6.3	10 years	43.1	-3.6	10 years	22.9	-4.6	10 years	4.1	-6.5
2019	34	-112.6	-3.3	2019	15	-65.2	-4.3	2019	0	0.0		11 years	42.3	-3.5	11 years	22.2	-4.6	11 years	3.7	-6.5
2020	23	-71.9	-3.1	2020	9	-34.7	-3.9	2020	0	0.0		12 years	40.7	-3.5	12 years	21.1	-4.5	12 years	3.4	-6.5
2021	39	-128.1	-3.3	2021	18	-79.6	-4.4	2021	2	-12.3	-6.2	13 years	40.5	-3.5	13 years	20.8	-4.5	13 years	3.3	-6.5
2022	32	-109.2	-3.4	2022	14	-66.2	-4.7	2022	4	-24.7	-6.2	14 year	39.9	-3.5	14 years	20.4	-4.5	14 years	3.4	-6.5

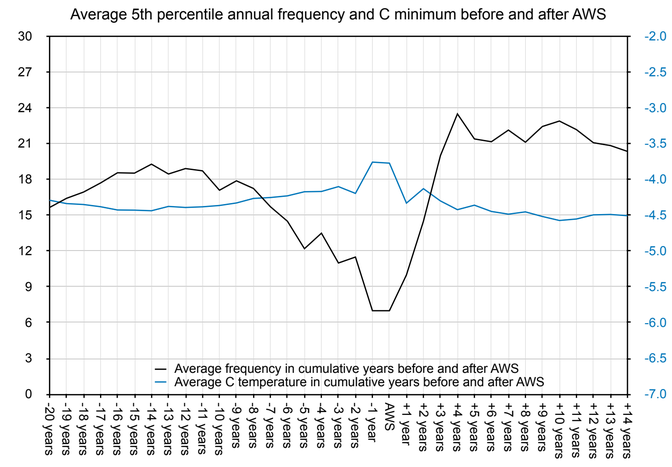
Original AWS probe Temp Control

10 years	Always been large screen			**10 years**	Always been large screen			**10 years**	Always been large screen		
Pre AWS	34.4	-116.7	-3.3	**Pre AWS**	17.1	-75.9	-4.4	**Pre AWS**	1.5	-9.2	-6.1
Post AWS	43.1	-156.3	-3.6	**Post AWS**	22.9	-107.0	-4.6	**Post AWS**	4.1	-26.9	-6.5
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
5 years				**5 years**				**5 years**			
Pre AWS	28.4	-90.2	-3.1	**Pre AWS**	12.2	-52.1	-4.2	**Pre AWS**	0.8	-5.0	-6.2
Post AWS	41.0	-143.0	-3.4	**Post AWS**	21.4	-95.6	-4.4	**Post AWS**	3.0	-19.3	-6.4
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
		AWS introduction									
		Small screen introduction									

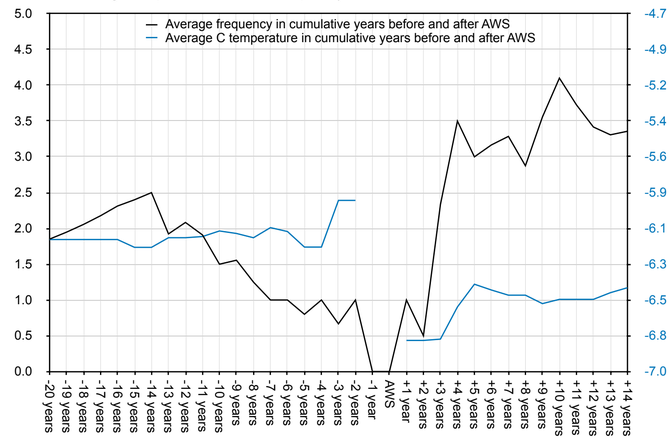
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS



10th 7.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 6.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.2	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1962	23	142.7	6.2	**1962**	13	70.7	5.4	**1962**	5	22.5	4.5									
1963	35	222.8	6.4	**1963**	23	136.3	5.9	**1963**	4	18.0	4.5									
1964	43	266.7	6.2	**1964**	28	159.2	5.7	**1964**	9	43.1	4.8									
1965	44	267.2	6.1	**1965**	32	180.8	5.7	**1965**	8	32.6	4.1									
1966	64	387.0	6.0	**1966**	47	266.6	5.7	**1966**	13	56.9	4.4									
1967	45	290.7	6.5	**1967**	27	161.5	6.0	**1967**	4	18.7	4.7									
1968	58	355.3	6.1	**1968**	38	210.6	5.5	**1968**	12	52.3	4.4									
1969	47	288.6	6.1	**1969**	33	186.3	5.6	**1969**	11	53.0	4.8									
1970	41	263.3	6.4	**1970**	23	132.9	5.8	**1970**	5	22.7	4.5									
1971	42	269.8	6.4	**1971**	26	153.7	5.9	**1971**	5	22.5	4.5									
1972	36	230.7	6.4	**1972**	20	115.4	5.8	**1972**	6	28.7	4.8									
1973	37	240.3	6.5	**1973**	17	96.3	5.7	**1973**	4	19.0	4.8									
1974	34	230.6	6.8	**1974**	10	58.1	5.8	**1974**	3	14.5	4.8									
1975	23	155.2	6.7	**1975**	8	48.2	6.0	**1975**	1	5.0	5.0									
1976	39	260.0	6.7	**1976**	20	120.9	6.0	**1976**	1	4.8	4.8									
1977	47	320.2	6.8	**1977**	19	117.7	6.2	**1977**	0	0.0										
1978	47	307.1	6.5	**1978**	25	144.5	5.8	**1978**	6	29.2	4.9									
1979	36	241.0	6.7	**1979**	15	89.0	5.9	**1979**	3	14.7	4.9									
1980	23	158.1	6.9	**1980**	7	42.1	6.0	**1980**	1	4.5	4.5									
1981	33	213.6	6.5	**1981**	21	127.0	6.0	**1981**	2	8.0	4.0									
1982	49	325.5	6.6	**1982**	25	150.4	6.0	**1982**	2	10.1	5.1	20 years	35.9	6.6	20 years	16.9	5.9	20 years	2.8	4.5
1983	36	238.1	6.6	**1983**	16	92.5	5.8	**1983**	4	19.3	4.8	19 years	35.2	6.6	19 years	16.5	5.9	19 years	2.8	4.4
1984	47	311.6	6.6	**1984**	23	139.5	6.1	**1984**	1	4.6	4.6	18 years	35.1	6.6	18 years	16.5	5.9	18 years	2.8	4.4
1985	53	354.9	6.7	**1985**	23	136.8	5.9	**1985**	4	18.9	4.7	17 years	34.4	6.6	17 years	16.1	5.9	17 years	2.9	4.4
1986	48	317.2	6.6	**1986**	19	108.7	5.7	**1986**	7	32.8	4.7	16 years	33.3	6.6	16 years	15.7	5.9	16 years	2.8	4.4
1987	50	327.8	6.6	**1987**	22	122.8	5.6	**1987**	7	33.0	4.7	15 years	32.3	6.6	15 years	15.5	5.9	15 years	2.5	4.4
1988	22	146.3	6.7	**1988**	11	66.2	6.0	**1988**	1	5.0	5.0	14 years	31.0	6.6	14 years	15.0	5.9	14 years	2.2	4.3
1989	59	379.4	6.4	**1989**	35	205.6	5.9	**1989**	6	27.8	4.6	13 years	31.7	6.6	13 years	15.3	5.9	13 years	2.3	4.3
1990	33	224.2	6.8	**1990**	10	57.2	5.7	**1990**	2	7.5	3.8	12 years	29.4	6.6	12 years	13.7	5.9	12 years	2.0	4.2
1991	24	160.6	6.7	**1991**	13	79.8	6.1	**1991**	1	4.5	4.5	11 years	29.1	6.6	11 years	14.0	5.9	11 years	2.0	4.3
1992	39	255.8	6.6	**1992**	18	103.9	5.8	**1992**	4	18.8	4.7	10 years	29.6	6.6	10 years	14.1	5.9	10 years	2.1	4.3
1993	24	160.1	6.7	**1993**	12	73.0	6.1	**1993**	0	0.0		9 years	28.6	6.6	9 years	13.7	5.9	9 years	1.9	4.2
1994	30	199.8	6.7	**1994**	16	99.7	6.2	**1994**	2	9.9	5.0	8 years	29.1	6.6	8 years	13.9	5.9	8 years	2.1	4.2
1995	27	170.2	6.3	**1995**	18	103.5	5.8	**1995**	4	17.1	4.3	7 years	29.0	6.6	7 years	13.6	5.8	7 years	2.1	4.1
1996	22	144.7	6.6	**1996**	8	43.4	5.4	**1996**	3	13.0	4.3	6 years	29.3	6.6	6 years	12.8	5.8	6 years	1.8	4.0
1997	39	260.4	6.7	**1997**	17	101.5	6.0	**1997**	2	10.0	5.0	5 years	30.8	6.6	5 years	13.8	5.9	5 years	1.6	3.9
1998	41	271.0	6.6	**1998**	21	124.8	5.9	**1998**	2	7.5	3.8	4 years	28.8	6.6	4 years	13.0	5.9	4 years	1.5	3.6
1999	26	169.6	6.5	**1999**	12	68.4	5.7	**1999**	2	6.2	3.1	3 years	24.7	6.6	3 years	10.3	5.9	3 years	1.3	3.5
2000	21	134.1	6.4	**2000**	13	76.2	5.9	**2000**	2	7.8	3.9	2 years	24.0	6.7	2 years	9.5	5.9	2 years	1.0	3.9
2001	27	188.2	7.0	**2001**	6	36.2	6.0	**2001**	0	0.0		1 years	27.0	7.0	1 years	6.0	6.0	1 years	0.0	
2002	31	201.1	6.5	**2002**	17	100.8	5.9	**2002**	3	15.3	5.1	0 years	31.0	6.5	0 years	17.0	5.9	0 years	3.0	5.1
2003	40	259.1	6.5	**2003**	23	136.6	5.9	**2003**	4	19.7	4.9	1 years	40.0	6.5	1 years	23.0	5.9	1 years	4.0	4.9
2004	23	147.5	6.4	**2004**	13	75.7	5.8	**2004**	3	14.6	4.9	2 years	31.5	6.4	2 years	18.0	5.9	2 years	3.5	4.9
2005	25	167.0	6.7	**2005**	13	80.9	6.2	**2005**	1	5.2	5.2	3 years	29.3	6.5	3 years	16.3	6.0	3 years	2.7	5.0
2006	39	262.9	6.7	**2006**	17	103.8	6.1	**2006**	2	10.1	5.1	4 years	31.8	6.6	4 years	16.5	6.0	4 years	2.5	5.0
2007	45	277.1	6.2	**2007**	30	169.7	5.7	**2007**	8	36.9	4.6	5 years	34.4	6.5	5 years	19.2	5.9	5 years	3.6	4.9
2008	31	206.2	6.7	**2008**	18	110.3	6.1	**2008**	1	5.1	5.1	6 years	33.8	6.5	6 years	19.0	6.0	6 years	3.2	5.0
2009	15	104.1	6.9	**2009**	4	24.6	6.2	**2009**	0	0.0		7 years	31.1	6.6	7 years	16.9	6.0	7 years	2.7	5.0
2010	36	243.3	6.8	**2010**	14	86.5	6.2	**2010**	0	0.0		8 years	31.8	6.6	8 years	16.5	6.0	8 years	2.4	5.0
2011	23	154.3	6.7	**2011**	9	53.7	6.0	**2011**	1	4.6	4.6	9 years	30.8	6.6	9 years	15.7	6.0	9 years	2.2	4.9
2012	50	332.3	6.6	**2012**	21	123.6	5.9	**2012**	3	14.8	4.9	10 years	32.7	6.6	10 years	16.2	6.0	10 years	2.3	4.9
2013	25	174.1	7.0	**2013**	7	42.5	6.1	**2013**	1	3.9	3.9	11 years	32.0	6.6	11 years	15.4	6.0	11 years	2.2	4.8
2014	40	247.5	6.2	**2014**	25	137.7	5.5	**2014**	7	31.1	4.4	12 years	32.7	6.6	12 years	16.2	6.0	12 years	2.6	4.8
2015	57	369.5	6.5	**2015**	33	197.1	6.0	**2015**	4	19.0	4.8	13 years	34.5	6.6	13 years	17.5	6.0	13 years	2.7	4.8
2016	49	327.7	6.7	**2016**	22	130.7	5.9	**2016**	3	14.8	4.9	14 years	35.6	6.6	14 years	17.8	6.0	14 years	2.7	4.8
2017	36	228.9	6.4	**2017**	21	118.3	5.6	**2017**	8	38.8	4.9	15 years	35.6	6.6	15 years	18.0	5.9	15 years	3.1	4.8
2018	41	252.2	6.2	**2018**	24	130.3	5.4	**2018**	8	33.0	4.1	16 years	35.9	6.6	16 years	18.4	5.9	16 years	3.4	4.7
2019	49	301.3	6.1	**2019**	28	151.4	5.4	**2019**	12	53.3	4.4	17 years	36.7	6.5	17 years	18.9	5.9	17 years	3.9	4.7
2020	29	188.5	6.5	**2020**	15	87.9	5.9	**2020**	3	13.2	4.4	18 years	36.3	6.5	18 years	18.7	5.9	18 years	3.8	4.7
2021	28	181.9	6.5	**2021**	15	88.4	5.9	**2021**	3	14.6	4.9	19 years	35.8	6.5	19 years	18.5	5.9	19 years	3.8	4.7
2022	32	215.2	6.7	**2022**	15	92.3	6.2	**2022**	0	0.0		20 years	35.7	6.5	20 years	18.4	5.9	20 years	3.6	4.7

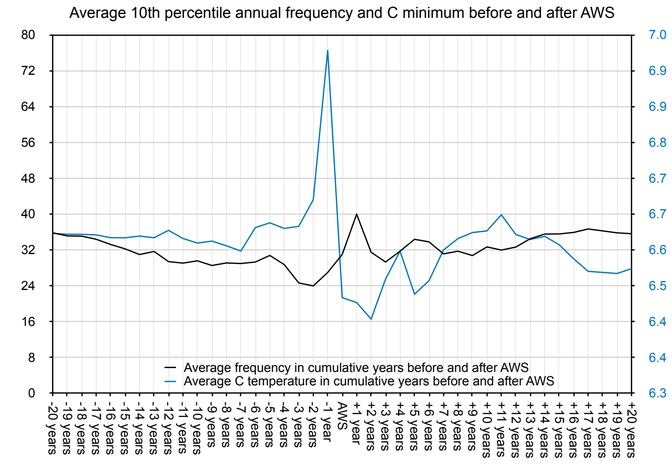
Original AWS probe Rosemount

10 years	AWS and small screen both 2002		
Pre AWS	29.6	195.4	6.6
Post AWS	32.7	215.4	6.6
Pre small	29.6	195.4	6.6
Post small	32.7	215.4	6.6
5 years			
Pre AWS	30.8	204.7	6.6
Post AWS	34.4	222.7	6.5
Pre small	30.8	204.7	6.6
Post small	34.4	222.7	6.5
		AWS introduction	
		Small screen introduction	

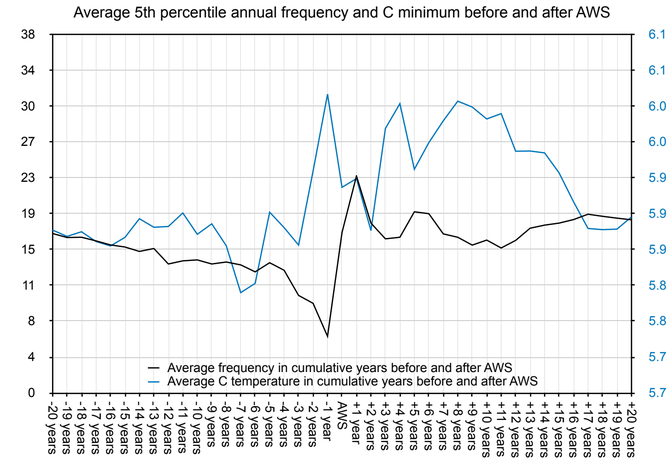
10 years	AWS and small screen both 2002		
Pre AWS	14.1	83.1	5.9
Post AWS	16.2	96.5	6.0
Pre small	14.1	83.1	5.9
Post small	16.2	96.5	6.0
5 years			
Pre AWS	13.8	81.4	5.9
Post AWS	19.2	113.3	5.9
Pre small	13.8	81.4	5.9
Post small	19.2	113.3	5.9

10 years	AWS and small screen both 2002		
Pre AWS	2.1	9.0	4.3
Post AWS	2.3	11.1	4.9
Pre small	2.1	9.0	4.3
Post small	2.3	11.1	4.9
5 years			
Pre AWS	1.6	6.3	3.9
Post AWS	3.6	17.3	4.9
Pre small	1.6	6.3	3.9
Post small	3.6	17.3	4.9

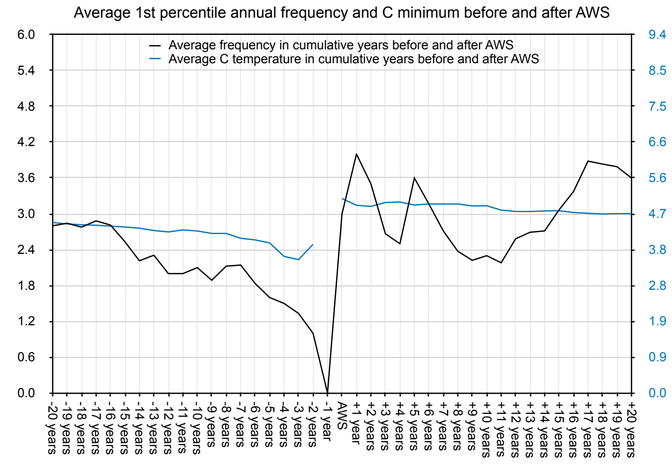
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS



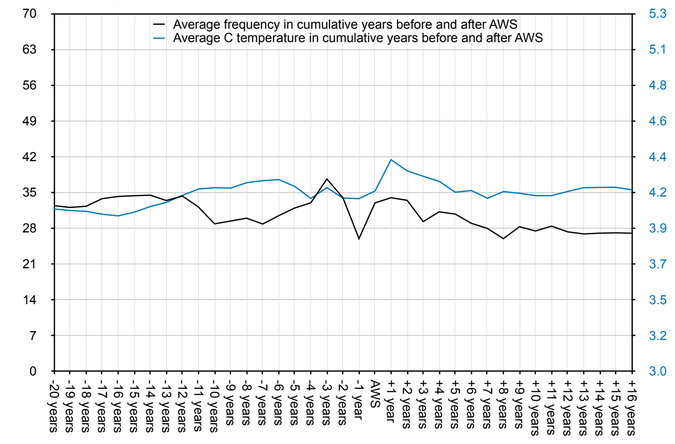
10th 5.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1923	31	121.2	3.9	1923	15	46.5	3.1	1923	2	2.9	1.5									
1924	39	150.8	3.9	1924	21	66.7	3.2	1924	4	6.6	1.7									
1925	49	165.0	3.4	1925	29	74.1	2.6	1925	15	25.7	1.7									
1926	35	136.7	3.9	1926	20	65.7	3.3	1926	3	6.4	2.1									
1927	60	210.0	3.5	1927	36	97.4	2.7	1927	15	28.4	1.9									
1928	65	250.0	3.8	1928	31	96.4	3.1	1928	8	15.6	2.0									
1929	59	212.5	3.6	1929	34	96.2	2.8	1929	12	18.8	1.6									
1930	29	113.6	3.9	1930	14	43.4	3.1	1930	2	2.0	1.0									
1931	44	177.1	4.0	1931	19	61.4	3.2	1931	2	4.2	2.1									
1932	37	151.2	4.1	1932	17	58.6	3.4	1932	1	1.7	1.7									
1933	35	137.5	3.9	1933	12	32.3	2.7	1933	4	5.0	1.3									
1934	48	198.3	4.1	1934	18	58.6	3.3	1934	1	1.7	1.7									
1935	33	133.1	4.0	1935	13	41.0	3.2	1935	4	8.8	2.2									
1936	51	200.8	3.9	1936	24	76.3	3.2	1936	4	7.1	1.8									
1937	41	151.2	3.7	1937	22	65.5	3.0	1937	3	3.5	1.2									
1938	34	131.0	3.9	1938	15	45.0	3.0	1938	3	3.6	1.2									
1939	41	143.4	3.5	1939	18	36.1	2.0	1939	10	7.2	0.7									
1940	42	154.3	3.7	1940	26	80.3	3.1	1940	5	4.9	1.0									
1941	49	181.5	3.7	1941	24	68.3	2.8	1941	10	16.4	1.6									
1942	33	132.9	4.0	1942	13	41.5	3.2	1942	2	2.2	1.1									
1943	69	258.0	3.7	1943	37	110.0	3.0	1943	12	19.8	1.7									
1944	61	208.5	3.4	1944	43	121.8	2.8	1944	11	11.0	1.0									
1945	65	249.8	3.8	1945	35	108.2	3.1	1945	8	12.8	1.6									
1946	65	240.7	3.7	1946	39	116.7	3.0	1946	9	12.9	1.4									
1947	52	215.2	4.1	1947	22	74.2	3.4	1947	2	4.4	2.2									
1948	46	170.5	3.7	1948	23	62.7	2.7	1948	9	11.6	1.3									
1949	58	226.6	3.9	1949	29	88.2	3.0	1949	7	11.1	1.6									
1950	43	175.1	4.1	1950	23	77.5	3.4	1950	0	0.0										
1951	56	219.1	3.9	1951	27	78.9	2.9	1951	7	7.8	1.1									
1952	51	197.7	3.9	1952	27	84.9	3.1	1952	2	2.2	1.1									
1953	71	267.4	3.8	1953	37	109.4	3.0	1953	11	18.9	1.7									
1954	58	204.6	3.5	1954	36	97.6	2.7	1954	11	9.4	0.9									
1955	58	235.6	4.1	1955	23	70.8	3.1	1955	6	9.9	1.7									
1956	49	184.4	3.8	1956	26	77.2	3.0	1956	8	13.4	1.7									
1957	52	217.6	4.2	1957	20	67.2	3.4	1957	2	4.4	2.2									
1958	56	212.3	3.8	1958	31	95.7	3.1	1958	5	7.8	1.6									
1959	51	191.4	3.8	1959	27	76.8	2.8	1959	6	6.7	1.1									
1960	41	142.4	3.5	1960	22	53.4	2.4	1960	11	13.2	1.2									
1961	33	116.4	3.5	1961	20	55.6	2.8	1961	6	9.4	1.6									
1962	56	224.0	4.0	1962	21	61.6	2.9	1962	6	8.1	1.4									
1963	62	250.3	4.0	1963	28	89.8	3.2	1963	4	6.9	1.7									
1964	41	166.2	4.1	1964	19	62.2	3.3	1964	3	5.1	1.7									
1965	54	228.3	4.2	1965	19	64.1	3.4	1965	1	1.7	1.7									
1966	55	216.0	3.9	1966	27	82.6	3.1	1966	3	5.0	1.7									
1967	32	134.0	4.2	1967	14	47.6	3.4	1967	1	2.2	2.2									
1968	61	240.2	3.9	1968	28	86.6	3.1	1968	7	10.6	1.5									
1969	45	174.9	3.9	1969	24	74.4	3.1	1969	4	5.8	1.5									
1970	56	229.2	4.1	1970	25	82.9	3.3	1970	4	8.0	2.0									
1971	36	151.3	4.2	1971	15	49.9	3.3	1971	3	5.5	1.8									
1972	41	156.8	3.8	1972	21	64.3	3.1	1972	5	8.7	1.7									
1973	28	116.2	4.2	1973	10	31.7	3.2	1973	1	2.3	2.3									
1974	30	120.3	4.0	1974	16	53.9	3.4	1974	2	3.6	1.8									
1975	22	96.3	4.4	1975	6	20.8	3.5	1975	0	0.0										
1976	38	158.4	4.2	1976	15	52.6	3.5	1976	0	0.0										
1977	24	100.9	4.2	1977	7	23.0	3.3	1977	0	0.0										
1978	36	129.8	3.6	1978	28	92.2	3.3	1978	3	6.2	2.1									
1979	28	113.9	4.1	1979	9	25.2	2.8	1979	4	7.0	1.8									
1980	18	83.7	4.7	1980	0	0.0		1980	0	0.0										
1981	19	82.5	4.3	1981	5	16.9	3.4	1981	1	2.4	2.4									
1982	42	181.5	4.3	1982	11	35.0	3.2	1982	2	4.6	2.3									
1983	32	106.5	3.3	1983	21	54.4	2.6	1983	8	12.5	1.6									
1984	22	89.1	4.1	1984	10	34.7	3.5	1984	0	0.0										
1985	24	97.1	4.0	1985	9	29.1	3.2	1985	2	4.3	2.2									
1986	39	165.1	4.2	1986	14	47.6	3.4	1986	1	0.1	0.1	20 years	32.5	4.0	20 years	14.6	3.2	20 years	2.7	1.7
1987	28	115.7	4.1	1987	14	50.8	3.6	1987	0	0.0		19 years	32.1	4.0	19 years	14.6	3.2	19 years	2.7	1.8
1988	7	30.4	4.3	1988	3	11.7	3.9	1988	0	0.0		18 years	32.3	4.0	18 years	14.6	3.2	18 years	2.9	1.8
1989	27	112.9	4.2	1989	9	29.4	3.3	1989	1	2.1	2.1	17 years	33.8	4.0	17 years	15.3	3.2	17 years	3.1	1.8
1990	32	116.6	3.6	1990	19	56.4	3.0	1990	4	3.0	0.8	16 years	34.3	4.0	16 years	15.7	3.1	16 years	3.2	1.8
1991	33	116.1	3.5	1991	25	77.3	3.1	1991	8	16.3	2.0	15 years	34.4	4.0	15 years	15.5	3.2	15 years	3.1	1.9
1992	48	178.5	3.7	1992	23	63.6	2.8	1992	10	19.4	1.9	14 years	34.5	4.1	14 years	14.8	3.2	14 years	2.8	1.9
1993	23	81.4	3.5	1993	16	49.4	3.1	1993	4	8.6	2.2	13 years	33.5	4.1	13 years	14.2	3.2	13 years	2.2	1.9
1994	58	213.9	3.7	1994	35	107.1	3.1	1994	5	7.4	1.5	12 years	34.3	4.1	12 years	14.0	3.2	12 years	2.1	1.8
1995	65	265.6	4.1	1995	29	96.2	3.3	1995	3	7.2	2.4	11 years	32.2	4.2	11 years	12.1	3.2	11 years	1.8	1.9
1996	24	100.9	4.2	1996	10	32.6	3.3	1996	2	4.0	2.0	10 years	28.9	4.2	10 years	10.4	3.2	10 years	1.7	1.8
1997	25	97.6	3.9	1997	9	22.8	2.5	1997	4	5.1	1.3	9 years	29.4	4.2	9 years	10.4	3.2	9 years	1.7	1.8
1998	38	156.6	4.1	1998	12	34.4	2.9	1998	2	1.5	0.8	8 years	30.0	4.2	8 years	10.6	3.3	8 years	1.4	1.9
1999	19	79.5	4.2	1999	7	24.7	3.5	1999	1	2.4	2.4	7 years	28.9	4.2	7 years	10.4	3.3	7 years	1.3	2.1
2000	23	102.4	4.5	2000	3	10.3	3.4	2000	0	0.0		6 years	30.5	4.2	6 years	11.0	3.3	6 years	1.3	2.0
2001	28	126.0	4.5	2001	9	31.0	3.4	2001	0	0.0		5 years	32.0	4.2	5 years	12.6	3.3	5 years	1.6	2.0
2002	19	74.2	3.9	2002	10	30.9	3.1	2002	2	3.7	1.9	4 years	33.0	4.1	4 years	13.5	3.2	4 years	2.0	2.0
2003	45	194.2	4.3	2003	23	84.9	3.7	2003	1	2.0	2.0	3 years	37.7	4.2	3 years	14.7	3.3	3 years	2.0	2.0
2004	42	173.0	4.1	2004	14	45.2	3.2	2004	3	6.5	2.2	2 years	34.0	4.1	2 years	10.5	3.1	2 years	2.5	2.1
2005	26	106.9	4.1	2005	7	20.9	3.0	2005	2	3.9	2.0	1 years	26.0	4.1	1 years	7.0	3.0	1 years	2.0	2.0
2006	33	137.3	4.2	2006	12	40.1	3.3	2006	2	3.8	1.9	0 years	33.0	4.2	0 years	12.0	3.3	0 years	2.0	1.9
2007	34	148.3	4.4	2007	10	35.4	3.5	2007	1	2.4	2.4	1 years	34.0	4.4	1 years	10.0	3.5	1 years	1.0	2.4
2008	33	139.2	4.2	2008	12	40.8	3.4	2008	1	2.1	2.1	2 years	33.5	4.3	2 years	11.0	3.5	2 years	1.0	2.3
2009	21	87.9	4.2	2009	8	28.2	3.5	2009	0	0.0		3 years	29.3	4.3	3 years	10.0	3.5	3 years	0.7	2.3
2010	37	152.6	4.1	2010	13	40.3	3.1	2010	2	4.6	2.3	4 years	31.3	4.2	4 years	10.8	3.4	4 years	1.0	2.3
2011	29	112.3	3.9	2011	15	47.8	3.2	2011	3	6.8	2.3	5 years	30.8	4.2	5 years	11.6	3.4	5 years	1.4	2.3
2012	20	84.4	4.2	2012	5	16.8	3.4	2012	0	0.0		6 years	29.0	4.2	6 years	10.5	3.4	6 years	1.2	2.3
2013	22	83.9	3.8	2013	13	43.2	3.3	2013	2	3.9	2.0	7 years	28.0	4.1	7 years	10.9	3.3	7 years	1.3	2.2
2014	12	53.5	4.5	2014	2	7.4	3.7	2014	0	0.0		8 years	26.0	4.2	8 years	9.8	3.4	8 years	1.1	2.2
2015	47	190.7	4.1	2015	19	61.0	3.2	2015	2	3.8	1.9	9 years	28.3	4.1	9 years	10.8	3.4	9 years	1.2	2.2
2016	20	79.9	4.0	2016	8	25.4	3.2	2016	1	2.2	2.2	10 years	27.5	4.1	10 years	10.5	3.4	10 years	1.2	2.2
2017	38	156.9	4.1	2017	14	48.0	3.4	2017	1	1.8	1.8	11 years	28.5	4.1	11 years	10.8	3.4	11 years	1.2	2.1
2018	15	66.8	4.5	2018	4	14.2	3.6	2018	0	0.0		12 years	27.3	4.2	12 years	10.3	3.4	12 years	1.1	2.1
2019	22	98.4	4.5	2019	4	13.4	3.4	2019	0	0.0		13 years	26.9	4.2	13 years	9.8	3.4	13 years	1.0	2.1
2020	29	122.0	4.2	2020	11	39.3	3.6	2020	0	0.0		14 years	27.1	4.2	14 years	9.9	3.4	14 years	0.9	2.1
2021	28	117.5	4.2	2021	10	32.7	3.3	2021	0	0.0		15 years	27.1	4.2	15 years	9.9	3.4	15 years	0.9	2.1
2022	26	102.0	3.9	2022	14	46.7	3.3	2022	2	3.9	2.0	16 years	27.1	4.2	16 years	10.1	3.4	16 years	0.9	2.1

Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	30.5	129.5	4.2	**Pre**	11.0	37.2	3.3	**Pre**	1.3	2.7	2.0
Post	29.0	120.8	4.2	**Post**	10.5	34.9	3.4	**Post**	1.2	2.7	2.3

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	

Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS

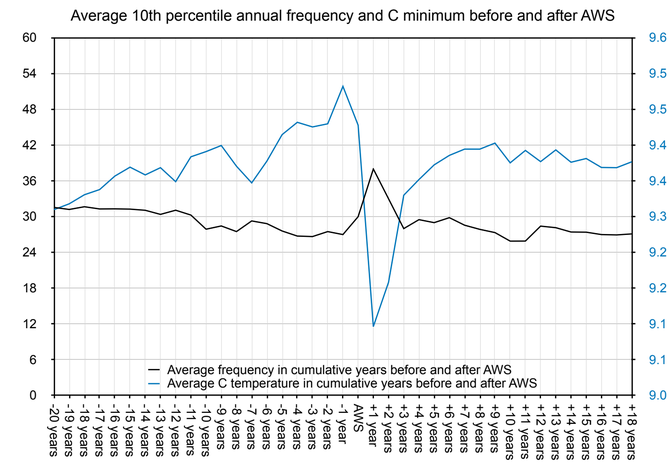
Average 1st percentile annual frequency and C minimum before and after AWS

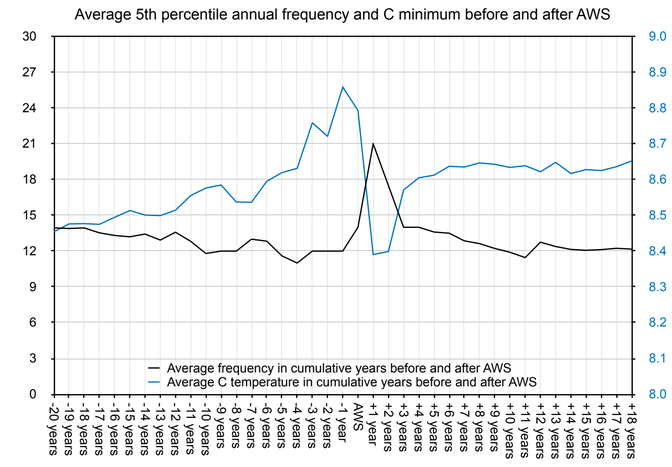
10th 10.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 9.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 7.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	41	370.7	9.0	**1910**	31	270.9	8.7	**1910**	2	15.6	7.8									
1911	40	372.2	9.3	**1911**	21	181.9	8.7	**1911**	3	22.5	7.5									
1912	35	323.0	9.2	**1912**	19	163.1	8.6	**1912**	3	21.8	7.3									
1913	28	263.7	9.4	**1913**	14	122.3	8.7	**1913**	3	22.8	7.6									
1914	21	192.2	9.2	**1914**	10	82.6	8.3	**1914**	3	20.0	6.7									
1915	21	187.7	8.9	**1915**	15	127.7	8.5	**1915**	4	28.8	7.2									
1916	43	388.8	9.0	**1916**	25	209.2	8.4	**1916**	7	50.4	7.2									
1917	64	582.7	9.1	**1917**	37	309.5	8.4	**1917**	9	58.8	6.5									
1918	29	262.7	9.1	**1918**	20	172.4	8.6	**1918**	5	37.3	7.5									
1919	50	464.4	9.3	**1919**	28	245.8	8.8	**1919**	2	13.4	6.7									
1920	45	397.8	8.8	**1920**	28	227.7	8.1	**1920**	10	68.8	6.9									
1921	21	193.0	9.2	**1921**	11	93.4	8.5	**1921**	3	21.3	7.1									
1922	44	395.9	9.0	**1922**	28	237.3	8.5	**1922**	6	43.3	7.2									
1923	41	380.4	9.3	**1923**	23	200.1	8.7	**1923**	2	12.3	6.2									
1924	35	329.2	9.4	**1924**	17	148.6	8.7	**1924**	1	7.2	7.2									
1925	45	416.4	9.3	**1925**	22	187.6	8.5	**1925**	3	21.2	7.1									
1926	44	400.5	9.1	**1926**	23	192.1	8.4	**1926**	4	26.7	6.7									
1927	41	374.9	9.1	**1927**	25	215.6	8.6	**1927**	4	28.5	7.1									
1928	34	304.6	9.0	**1928**	26	224.8	8.6	**1928**	5	34.7	6.9									
1929	60	531.2	8.9	**1929**	37	300.5	8.1	**1929**	13	88.1	6.8									
1930	35	328.5	9.4	**1930**	16	137.9	8.6	**1930**	3	20.5	6.8									
1931	61	556.7	9.1	**1931**	36	308.5	8.6	**1931**	9	66.5	7.4									
1932	37	346.6	9.4	**1932**	17	145.8	8.6	**1932**	3	21.6	7.2									
1933	40	358.2	9.0	**1933**	25	207.7	8.3	**1933**	7	50.2	7.2									
1934	44	414.5	9.4	**1934**	25	223.9	9.0	**1934**	2	14.5	7.3									
1935	55	493.9	9.0	**1935**	36	303.1	8.4	**1935**	10	70.3	7.0									
1936	46	432.4	9.4	**1936**	22	191.9	8.7	**1936**	3	23.0	7.7									
1937	47	434.2	9.2	**1937**	27	233.3	8.6	**1937**	3	21.4	7.1									
1938	31	286.6	9.2	**1938**	15	127.0	8.5	**1938**	4	30.3	7.6									
1939	37	336.2	9.1	**1939**	20	166.9	8.3	**1939**	5	36.5	7.3									
1940	25	228.0	9.1	**1940**	15	128.7	8.6	**1940**	4	30.4	7.6									
1941	32	298.6	9.3	**1941**	16	138.6	8.7	**1941**	3	21.6	7.2									
1942	40	364.8	9.1	**1942**	23	193.5	8.4	**1942**	6	40.9	6.8									
1943	43	392.4	9.1	**1943**	24	203.3	8.5	**1943**	5	35.8	7.2									
1944	27	245.7	9.1	**1944**	18	155.9	8.7	**1944**	4	29.5	7.4									
1945	28	243.0	8.7	**1945**	23	193.0	8.4	**1945**	5	31.8	6.4									
1946	47	429.4	9.1	**1946**	33	289.4	8.8	**1946**	4	26.1	6.5									
1947	39	357.3	9.2	**1947**	28	247.3	8.8	**1947**	3	21.7	7.2									
1948	30	264.8	8.8	**1948**	19	154.8	8.1	**1948**	7	49.5	7.1									
1949	22	186.5	8.5	**1949**	17	136.5	8.0	**1949**	6	39.0	6.5									
1950	39	334.7	8.6	**1950**	32	264.7	8.3	**1950**	10	67.8	6.8									
1951	44	387.9	8.8	**1951**	27	217.9	8.1	**1951**	12	85.5	7.1									
1952	49	452.8	9.2	**1952**	29	252.8	8.7	**1952**	7	54.0	7.7									
1953	39	364.2	9.3	**1953**	19	164.2	8.6	**1953**	5	37.8	7.6									
1954	35	323.3	9.2	**1954**	19	163.3	8.6	**1954**	5	37.3	7.5									
1955	47	429.2	9.1	**1955**	30	259.1	8.6	**1955**	7	52.2	7.5									
1956	52	468.3	9.0	**1956**	33	277.2	8.4	**1956**	8	54.1	6.8									
1957	33	305.7	9.3	**1957**	18	156.5	8.7	**1957**	2	13.4	6.7									
1958	45	407.4	9.1	**1958**	31	267.3	8.6	**1958**	8	59.0	7.4									
1959	30	267.7	8.9	**1959**	20	167.7	8.4	**1959**	6	44.2	7.4									
1960	49	442.9	9.0	**1960**	30	253.2	8.4	**1960**	4	20.6	5.2									
1961	42	392.1	9.3	**1961**	23	202.4	8.8	**1961**	4	29.5	7.4									
1962	38	353.2	9.3	**1962**	21	181.4	8.6	**1962**	2	14.1	7.1									
1963	39	356.2	9.1	**1963**	24	205.0	8.5	**1963**	4	27.6	6.9									
1964	59	515.8	8.7	**1964**	40	327.2	8.2	**1964**	12	76.9	6.4									
1965	32	301.4	9.4	**1965**	14	120.7	8.6	**1965**	3	21.1	7.0									
1966	47	420.1	8.9	**1966**	29	240.9	8.3	**1966**	7	45.1	6.4									
1967	40	371.8	9.3	**1967**	24	211.8	8.8	**1967**	4	30.6	7.7									
1968	71	619.6	8.7	**1968**	44	350.5	8.0	**1968**	20	135.8	6.8									
1969	47	433.5	9.2	**1969**	27	234.1	8.7	**1969**	6	45.0	7.5									
1970	53	479.6	9.0	**1970**	27	219.6	8.1	**1970**	11	76.6	7.0									
1971	55	467.0	8.5	**1971**	37	289.3	7.8	**1971**	20	138.2	6.9									
1972	54	479.5	8.9	**1972**	37	311.0	8.4	**1972**	12	90.1	7.5									
1973	52	462.3	8.9	**1973**	31	254.2	8.2	**1973**	10	69.7	7.0									
1974	26	245.4	9.4	**1974**	10	87.6	8.8	**1974**	0	0.0										
1975	39	347.1	8.9	**1975**	23	189.3	8.2	**1975**	7	47.9	6.8									
1976	32	292.3	9.1	**1976**	14	115.4	8.2	**1976**	5	35.0	7.0									
1977	37	328.7	8.9	**1977**	20	160.5	8.0	**1977**	9	65.3	7.3									
1978	51	460.3	9.0	**1978**	26	214.3	8.2	**1978**	6	40.8	6.8									
1979	41	380.3	9.3	**1979**	16	133.9	8.4	**1979**	3	22.0	7.3									
1980	38	344.2	9.1	**1980**	18	147.5	8.2	**1980**	4	27.5	6.9									
1981	48	439.0	9.1	**1981**	23	189.7	8.2	**1981**	3	17.0	5.7									
1982	42	390.4	9.3	**1982**	19	165.4	8.7	**1982**	2	15.0	7.5									
1983	14	130.8	9.3	**1983**	6	50.4	8.4	**1983**	1	7.5	7.5									
1984	38	346.8	9.1	**1984**	15	120.6	8.0	**1984**	5	35.3	7.1	20 years	31.6	9.3	20 years	14.0	8.5	20 years	2.4	7.1
1985	23	208.1	9.0	**1985**	13	110.0	8.5	**1985**	1	7.0	7.0	19 years	31.2	9.3	19 years	13.9	8.5	19 years	2.2	7.1
1986	38	349.2	9.2	**1986**	21	178.7	8.5	**1986**	3	22.7	7.6	18 years	31.7	9.3	18 years	13.9	8.5	18 years	2.3	7.1
1987	31	278.5	9.0	**1987**	17	138.7	8.2	**1987**	4	26.0	6.5	17 years	31.3	9.3	17 years	13.5	8.5	17 years	2.2	7.1
1988	32	292.6	9.1	**1988**	15	123.2	8.2	**1988**	4	28.5	7.1	16 years	31.3	9.4	16 years	13.3	8.5	16 years	2.1	7.1
1989	34	325.2	9.6	**1989**	10	86.9	8.7	**1989**	1	7.7	7.7	15 years	31.3	9.4	15 years	13.2	8.5	15 years	2.0	7.1
1990	40	368.5	9.2	**1990**	20	170.4	8.5	**1990**	3	22.4	7.5	14 years	31.1	9.4	14 years	13.4	8.5	14 years	2.1	7.0
1991	22	212.6	9.7	**1991**	5	41.6	8.3	**1991**	1	7.6	7.6	13 years	30.4	9.4	13 years	12.9	8.5	13 years	2.0	7.0
1992	40	356.0	8.9	**1992**	22	177.4	8.1	**1992**	6	37.7	6.3	12 years	31.1	9.4	12 years	13.6	8.5	12 years	2.1	6.9
1993	54	502.9	9.3	**1993**	23	191.9	8.3	**1993**	5	35.1	7.0	11 years	30.3	9.4	11 years	12.8	8.6	11 years	1.7	7.0
1994	23	214.3	9.3	**1994**	10	85.0	8.5	**1994**	2	14.7	7.4	10 years	27.9	9.4	10 years	11.8	8.6	10 years	1.4	7.0
1995	36	349.1	9.7	**1995**	12	107.6	9.0	**1995**	0	0.0		9 years	28.4	9.4	9 years	12.0	8.6	9 years	1.3	6.9
1996	15	143.7	9.6	**1996**	5	42.7	8.5	**1996**	1	6.9	6.9	8 years	27.5	9.4	8 years	12.0	8.5	8 years	1.5	6.9
1997	32	292.4	9.1	**1997**	14	114.6	8.2	**1997**	5	35.4	7.1	7 years	29.3	9.4	7 years	13.0	8.5	7 years	1.6	6.9
1998	35	321.0	9.2	**1998**	19	161.0	8.5	**1998**	3	20.0	6.7	6 years	28.8	9.4	6 years	12.8	8.6	6 years	1.0	6.9
1999	31	290.0	9.4	**1999**	14	120.0	8.6	**1999**	0	0.0		5 years	27.6	9.4	5 years	11.6	8.6	5 years	0.6	7.0
2000	27	256.0	9.5	**2000**	8	66.0	8.3	**2000**	2	14.0	7.0	4 years	26.8	9.5	4 years	11.0	8.6	4 years	0.8	7.0
2001	25	236.0	9.4	**2001**	12	106.0	8.8	**2001**	0	0.0		3 years	26.7	9.5	3 years	12.0	8.8	3 years	0.3	7.0
2002	28	263.0	9.4	**2002**	12	103.0	8.6	**2002**	1	7.0	7.0	2 years	27.5	9.5	2 years	12.0	8.7	2 years	0.5	7.0
2003	27	257.0	9.5	**2003**	12	106.3	8.9	**2003**	0	0.0		1 years	27.0	9.5	1 years	12.0	8.9	1 years	0.0	
2004	30	283.6	9.5	**2004**	14	123.1	8.8	**2004**	3	23.2	7.7	0 years	30.0	9.5	0 years	14.0	8.8	0 years	3.0	7.7
2005	38	346.4	9.1	**2005**	21	176.2	8.4	**2005**	5	35.4	7.1	1 years	38.0	9.1	1 years	21.0	8.4	1 years	5.0	7.1
2006	28	259.4	9.3	**2006**	14	117.7	8.4	**2006**	2	13.7	6.9	2 years	33.0	9.2	2 years	17.5	8.4	2 years	3.5	7.0
2007	18	173.3	9.6	**2007**	7	62.4	8.9	**2007**	0	0.0		3 years	28.0	9.3	3 years	14.0	8.6	3 years	2.3	7.0
2008	34	321.0	9.4	**2008**	14	121.9	8.7	**2008**	0	0.0		4 years	29.5	9.4	4 years	14.0	8.6	4 years	1.8	7.0
2009	27	256.1	9.5	**2009**	12	103.7	8.6	**2009**	0	0.0		5 years	29.0	9.4	5 years	13.6	8.6	5 years	1.4	7.0
2010	34	322.4	9.5	**2010**	13	113.9	8.8	**2010**	1	6.9	6.9	6 years	29.8	9.4	6 years	13.5	8.6	6 years	1.3	6.9
2011	21	199.0	9.5	**2011**	9	77.6	8.6	**2011**	1	6.7	6.7	7 years	28.6	9.4	7 years	12.9	8.6	7 years	1.3	6.9
2012	23	216.5	9.4	**2012**	11	96.0	8.7	**2012**	1	7.1	7.1	8 years	27.9	9.4	8 years	12.6	8.6	8 years	1.3	6.9
2013	23	218.6	9.5	**2013**	9	77.5	8.6	**2013**	1	7.5	7.5	9 years	27.3	9.4	9 years	12.2	8.6	9 years	1.2	7.0
2014	13	118.2	9.1	**2014**	9	77.0	8.6	**2014**	1	7.4	7.4	10 years	25.9	9.4	10 years	11.9	8.6	10 years	1.2	7.1
2015	26	250.1	9.6	**2015**	7	60.8	8.7	**2015**	1	7.8	7.8	11 years	25.9	9.4	11 years	11.5	8.6	11 years	1.2	7.2
2016	56	514.4	9.2	**2016**	27	227.8	8.4	**2016**	4	28.3	7.1	12 years	28.4	9.4	12 years	12.8	8.6	12 years	1.4	7.2
2017	25	241.2	9.6	**2017**	8	71.7	9.0	**2017**	0	0.0		13 years	28.2	9.4	13 years	12.4	8.6	13 years	1.3	7.2
2018	18	164.2	9.1	**2018**	9	73.9	8.2	**2018**	3	22.6	7.5	14 years	27.4	9.4	14 years	12.1	8.6	14 years	1.4	7.2
2019	27	256.1	9.5	**2019**	11	96.6	8.8	**2019**	0	0.0		15 years	27.4	9.4	15 years	12.1	8.6	15 years	1.3	7.2
2020	21	192.3	9.2	**2020**	13	111.6	8.6	**2020**	2	14.3	7.2	16 years	27.0	9.4	16 years	12.1	8.6	16 years	1.4	7.2
2021	26	243.8	9.4	**2021**	14	123.3	8.8	**2021**	0	0.0		17 years	26.9	9.4	17 years	12.2	8.6	17 years	1.3	7.2
2022	30	286.8	9.6	**2022**	11	98.2	8.9	**2022**	0	0.0		18 years	27.1	9.4	18 years	12.2	8.7	18 years	1.2	7.2

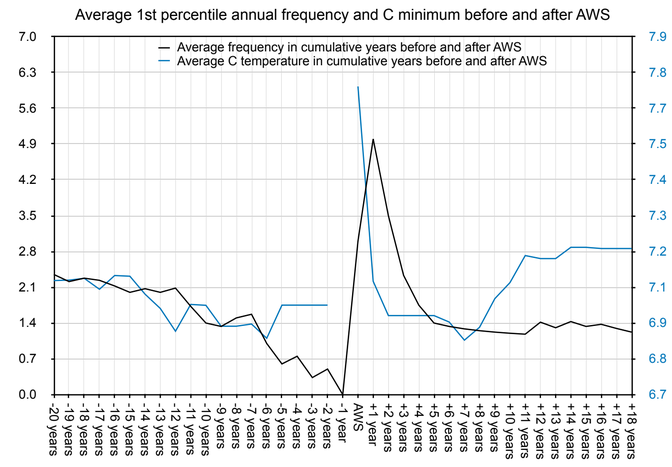
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	28.8	270.5	9.4	**Pre**	12.8	110.4	8.6	**Pre**	1.0	6.8	6.9
Post	29.8	279.8	9.4	**Post**	13.5	116.0	8.6	**Post**	1.3	9.3	6.9

		AWS introduction
		Probe replacement
		Small screen introduction





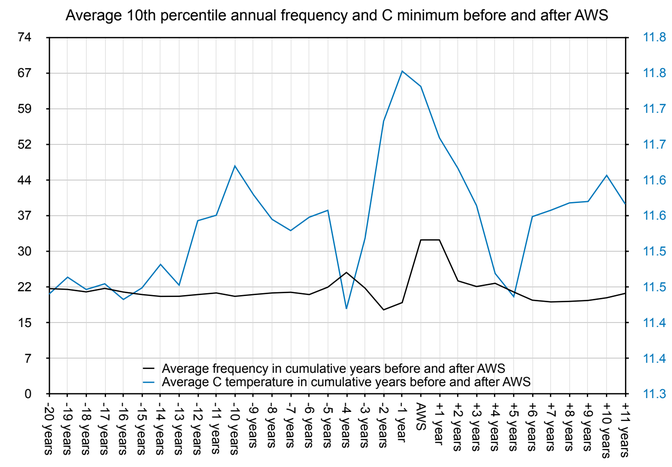


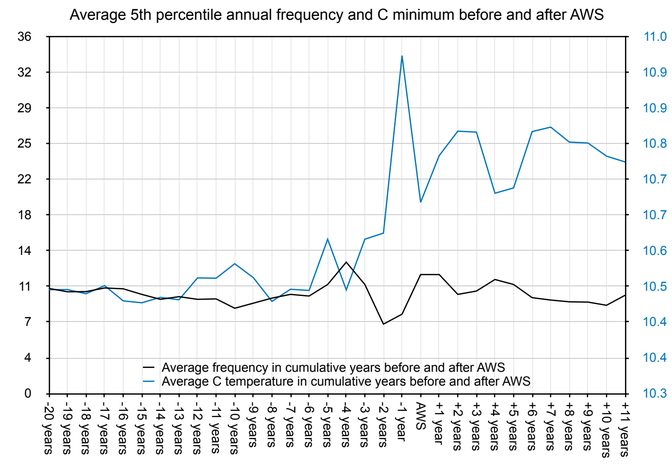
10th 12.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 11.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 7.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	43	478.9	11.1	**1910**	23	234.6	10.2	**1910**	4	33.2	8.3									
1911	56	629.5	11.2	**1911**	32	324.7	10.1	**1911**	6	51.0	8.5									
1912	41	469.2	11.4	**1912**	20	207.1	10.4	**1912**	4	37.4	9.4									
1913	51	591.7	11.6	**1913**	19	196.2	10.3	**1913**	3	25.8	8.6									
1914	31	330.8	10.7	**1914**	18	172.3	9.6	**1914**	8	68.1	8.5									
1915	34	398.4	11.7	**1915**	10	103.9	10.4	**1915**	2	18.3	9.2									
1916	40	434.6	10.9	**1916**	26	264.5	10.2	**1916**	7	61.7	8.8									
1917	49	559.9	11.4	**1917**	23	238.5	10.4	**1917**	4	34.3	8.6									
1918	54	627.2	11.6	**1918**	25	266.8	10.7	**1918**	3	24.1	8.0									
1919	36	402.9	11.2	**1919**	16	160.5	10.0	**1919**	6	53.4	8.9									
1920	44	489.7	11.1	**1920**	22	220.9	10.0	**1920**	6	52.9	8.8									
1921	20	212.5	10.6	**1921**	9	76.6	8.5	**1921**	6	44.9	7.5									
1922	48	540.7	11.3	**1922**	20	201.0	10.1	**1922**	8	71.6	9.0									
1923	56	628.6	11.2	**1923**	32	333.1	10.4	**1923**	8	69.3	8.7									
1924	26	293.9	11.3	**1924**	12	125.1	10.4	**1924**	2	17.2	8.6									
1925	50	563.1	11.3	**1925**	28	292.2	10.4	**1925**	5	44.0	8.8									
1926	42	473.4	11.3	**1926**	18	180.4	10.0	**1926**	5	43.0	8.6									
1927	47	524.9	11.2	**1927**	24	241.0	10.0	**1927**	8	71.1	8.9									
1928	48	545.5	11.4	**1928**	21	213.8	10.2	**1928**	6	54.2	9.0									
1929	65	729.0	11.2	**1929**	31	312.7	10.1	**1929**	10	89.3	8.9									
1930	38	426.4	11.2	**1930**	19	192.9	10.2	**1930**	4	32.7	8.2									
1931	36	398.1	11.1	**1931**	19	189.9	10.0	**1931**	7	62.8	9.0									
1932	56	614.1	11.0	**1932**	31	304.7	9.8	**1932**	13	112.2	8.6									
1933	44	484.8	11.0	**1933**	23	229.6	10.0	**1933**	10	89.9	9.0									
1934	44	500.8	11.4	**1934**	24	257.3	10.7	**1934**	3	27.5	9.2									
1935	40	441.1	11.0	**1935**	27	282.6	10.5	**1935**	3	25.0	8.3									
1936	36	406.0	11.3	**1936**	17	170.6	10.0	**1936**	6	50.5	8.4									
1937	46	528.7	11.5	**1937**	22	236.5	10.8	**1937**	2	16.6	8.3									
1938	49	553.1	11.3	**1938**	22	221.6	10.1	**1938**	6	52.9	8.8									
1939	55	609.3	11.1	**1939**	32	329.1	10.3	**1939**	9	81.9	9.1									
1940	34	396.8	11.7	**1940**	10	100.9	10.1	**1940**	1	8.9	8.9									
1941	51	578.6	11.3	**1941**	21	210.6	10.0	**1941**	7	63.2	9.0									
1942	28	329.7	11.8	**1942**	9	93.9	10.4	**1942**	0	0.0										
1943	55	608.6	11.1	**1943**	26	254.2	9.8	**1943**	11	95.5	8.7									
1944	48	557.5	11.6	**1944**	18	185.8	10.3	**1944**	3	24.4	8.1									
1945	35	400.3	11.4	**1945**	13	128.4	9.9	**1945**	5	43.9	8.8									
1946	46	514.3	11.2	**1946**	21	207.4	9.9	**1946**	10	89.5	9.0									
1947	16	186.8	11.7	**1947**	5	51.7	10.3	**1947**	1	8.9	8.9									
1948	52	584.9	11.2	**1948**	20	200.0	10.0	**1948**	8	70.5	8.8									
1949	56	629.8	11.2	**1949**	23	220.6	9.6	**1949**	9	71.1	7.9									
1950	34	396.8	11.7	**1950**	11	113.3	10.3	**1950**	2	17.7	8.9									
1951	56	619.3	11.1	**1951**	30	299.4	10.0	**1951**	9	74.9	8.3									
1952	49	550.6	11.2	**1952**	23	231.6	10.1	**1952**	7	60.9	8.7									
1953	51	566.2	11.1	**1953**	28	287.6	10.3	**1953**	7	63.7	9.1									
1954	33	376.4	11.4	**1954**	15	154.5	10.3	**1954**	4	36.6	9.2									
1955	39	437.0	11.2	**1955**	19	189.3	10.0	**1955**	7	62.9	9.0									
1956	69	762.8	11.1	**1956**	42	430.8	10.3	**1956**	11	99.9	9.1									
1957	41	466.3	11.4	**1957**	19	198.9	10.5	**1957**	2	18.8	9.4									
1958	40	459.0	11.5	**1958**	20	210.6	10.5	**1958**	3	27.3	9.1									
1959	33	367.0	11.1	**1959**	19	195.1	10.3	**1959**	6	54.4	9.1									
1960	61	662.2	10.9	**1960**	38	380.3	10.0	**1960**	14	122.5	8.8									
1961	61	696.2	11.4	**1961**	25	253.3	10.1	**1961**	7	61.6	8.8									
1962	38	434.5	11.4	**1962**	19	199.0	10.5	**1962**	3	23.9	8.0									
1963	47	526.3	11.2	**1963**	20	195.6	9.8	**1963**	9	78.5	8.7									
1964	36	396.5	11.0	**1964**	20	201.6	10.1	**1964**	6	52.2	8.7									
1965	58	657.6	11.3	**1965**	24	237.3	9.9	**1965**	9	79.8	8.9									
1966	48	544.0	11.3	**1966**	19	186.5	9.8	**1966**	6	49.9	8.3									
1967	42	491.1	11.7	**1967**	12	119.4	10.0	**1967**	3	24.4	8.1									
1968	74	813.6	11.0	**1968**	42	420.2	10.0	**1968**	11	94.9	8.6									
1969	47	543.7	11.6	**1969**	19	198.3	10.4	**1969**	3	28.0	9.3									
1970	51	580.1	11.4	**1970**	23	236.4	10.3	**1970**	4	34.4	8.6									
1971	44	504.4	11.5	**1971**	15	154.0	10.3	**1971**	3	26.9	9.0									
1972	32	363.8	11.4	**1972**	14	141.5	10.1	**1972**	3	25.2	8.4									
1973	16	184.3	11.5	**1973**	6	63.0	10.5	**1973**	1	9.3	9.3									
1974	48	532.0	11.1	**1974**	31	323.1	10.4	**1974**	6	54.3	9.1									
1975	27	312.8	11.6	**1975**	11	115.6	10.5	**1975**	2	17.4	8.7									
1976	29	328.3	11.3	**1976**	18	193.6	10.8	**1976**	1	9.0	9.0									
1977	37	401.1	10.8	**1977**	23	229.7	10.0	**1977**	9	79.0	8.8									
1978	54	601.8	11.1	**1978**	32	331.9	10.4	**1978**	7	60.0	8.6									
1979	36	411.9	11.4	**1979**	18	191.3	10.6	**1979**	2	17.1	8.6									
1980	30	348.1	11.6	**1980**	11	115.8	10.5	**1980**	1	9.2	9.2									
1981	47	537.3	11.4	**1981**	24	255.8	10.7	**1981**	2	18.7	9.4									
1982	44	497.1	11.3	**1982**	25	265.0	10.6	**1982**	4	35.9	9.0									
1983	40	457.5	11.4	**1983**	20	209.0	10.5	**1983**	3	25.5	8.5									
1984	31	346.0	11.2	**1984**	19	197.8	10.4	**1984**	2	17.4	8.7									
1985	39	428.9	11.0	**1985**	24	245.2	10.2	**1985**	7	62.0	8.9									
1986	31	352.5	11.4	**1986**	14	143.3	10.2	**1986**	4	34.0	8.5									
1987	29	317.6	11.0	**1987**	19	195.7	10.3	**1987**	4	35.8	9.0									
1988	18	206.4	11.5	**1988**	9	95.9	10.7	**1988**	1	8.4	8.4									
1989	49	524.1	10.7	**1989**	36	364.4	10.1	**1989**	10	88.2	8.8									
1990	44	487.5	11.1	**1990**	27	279.3	10.3	**1990**	6	53.2	8.9									
1991	25	274.7	11.0	**1991**	17	178.5	10.5	**1991**	3	27.4	9.1	20 years	21.9	11.4	20 years	10.6	10.5	20 years	1.9	9.0
1992	31	365.0	11.8	**1992**	10	106.5	10.7	**1992**	1	9.0	9.0	19 years	21.7	11.5	19 years	10.3	10.5	19 years	1.8	9.0
1993	9	101.8	11.3	**1993**	4	40.9	10.2	**1993**	0	0.0		18 years	21.2	11.4	18 years	10.3	10.5	18 years	1.9	9.0
1994	34	401.4	11.8	**1994**	12	131.9	11.0	**1994**	0	0.0		17 years	21.9	11.5	17 years	10.6	10.5	17 years	2.0	9.0
1995	29	324.5	11.2	**1995**	19	200.2	10.5	**1995**	3	26.5	8.8	16 years	21.2	11.4	16 years	10.6	10.5	16 years	2.1	9.0
1996	26	285.7	11.0	**1996**	17	175.6	10.3	**1996**	2	17.5	8.8	15 years	20.7	11.4	15 years	10.0	10.5	15 years	2.1	9.0
1997	20	237.2	11.9	**1997**	6	63.3	10.6	**1997**	1	8.9	8.9	14 years	20.3	11.5	14 years	9.5	10.5	14 years	2.1	9.0
1998	16	165.9	10.4	**1998**	13	129.6	10.0	**1998**	6	53.7	9.0	13 years	20.3	11.5	13 years	9.8	10.5	13 years	2.2	9.0
1999	17	194.8	11.5	**1999**	9	94.8	10.5	**1999**	1	9.4	9.4	12 years	20.7	11.5	12 years	9.5	10.5	12 years	1.8	9.0
2000	28	304.1	10.9	**2000**	19	194.6	10.2	**2000**	4	33.5	8.4	11 years	21.0	11.6	11 years	9.5	10.5	11 years	1.9	9.0
2001	17	203.7	12.0	**2001**	4	43.2	10.8	**2001**	1	9.2	9.2	10 years	20.3	11.6	10 years	8.6	10.6	10 years	1.7	9.0
2002	18	213.4	11.9	**2002**	5	54.5	10.9	**2002**	1	9.4	9.4	9 years	20.7	11.6	9 years	9.1	10.5	9 years	1.8	9.0
2003	20	233.1	11.7	**2003**	7	72.2	10.3	**2003**	2	18.5	9.3	8 years	21.0	11.5	8 years	9.6	10.5	8 years	1.9	8.9
2004	24	274.0	11.4	**2004**	11	115.7	10.5	**2004**	2	18.1	9.1	7 years	21.1	11.5	7 years	10.0	10.5	7 years	1.9	8.9
2005	13	149.5	11.5	**2005**	4	40.0	10.0	**2005**	2	17.6	8.8	6 years	20.7	11.5	6 years	9.8	10.5	6 years	1.8	8.8
2006	10	121.1	12.1	**2006**	2	22.0	11.0	**2006**	0	0.0		5 years	22.2	11.6	5 years	11.0	10.6	5 years	1.8	8.8
2007	35	389.3	11.1	**2007**	20	204.1	10.2	**2007**	6	53.6	8.9	4 years	25.3	11.4	4 years	13.3	10.5	4 years	2.3	8.8
2008	31	346.9	11.2	**2008**	19	201.0	10.6	**2008**	2	17.1	8.6	3 years	22.0	11.5	3 years	11.0	10.6	3 years	1.0	8.8
2009	16	185.8	11.6	**2009**	6	61.6	10.3	**2009**	1	9.0	9.0	2 years	17.5	11.7	2 years	7.0	10.6	2 years	0.5	9.0
2010	19	223.3	11.8	**2010**	8	87.7	11.0	**2010**	0	0.0		1 years	19.0	11.8	1 years	8.0	11.0	1 years	0.0	
2011	32	375.4	11.7	**2011**	12	128.1	10.7	**2011**	1	9.1	9.1	0 years	32.0	11.7	0 years	12.0	10.7	0 years	1.0	9.1
2012	32	373.1	11.7	**2012**	12	129.2	10.8	**2012**	0	0.0		1 years	32.0	11.7	1 years	12.0	10.8	1 years	0.0	
2013	15	173.6	11.6	**2013**	8	86.9	10.9	**2013**	0	0.0		2 years	23.5	11.6	2 years	10.0	10.8	2 years	0.0	
2014	20	229.2	11.5	**2014**	11	118.9	10.8	**2014**	1	8.9	8.9	3 years	22.3	11.6	3 years	10.3	10.8	3 years	0.3	8.9
2015	25	279.6	11.2	**2015**	15	155.0	10.3	**2015**	3	24.4	8.1	4 years	23.0	11.5	4 years	11.5	10.7	4 years	1.0	8.5
2016	14	158.3	11.3	**2016**	9	96.7	10.7	**2016**	1	8.4	8.4	5 years	21.2	11.4	5 years	11.0	10.7	5 years	1.0	8.5
2017	11	133.2	12.1	**2017**	3	34.1	11.4	**2017**	0	0.0		6 years	19.5	11.5	6 years	9.7	10.8	6 years	0.8	8.5
2018	17	197.4	11.6	**2018**	8	87.0	10.9	**2018**	0	0.0		7 years	19.1	11.6	7 years	9.4	10.8	7 years	0.7	8.5
2019	20	232.8	11.6	**2019**	8	84.7	10.6	**2019**	0	0.0		8 years	19.3	11.6	8 years	9.3	10.8	8 years	0.6	8.5
2020	21	243.3	11.6	**2020**	9	97.0	10.8	**2020**	0	0.0		9 years	19.4	11.6	9 years	9.2	10.8	9 years	0.6	8.5
2021	25	298.4	11.9	**2021**	6	63.2	10.5	**2021**	0	0.0		10 years	20.0	11.6	10 years	8.9	10.8	10 years	0.5	8.5
2022	30	334.9	11.2	**2022**	20	212.8	10.6	**2022**	2	17.9	9.0	11 years	20.9	11.6	11 years	9.9	10.8	11 years	0.6	8.6

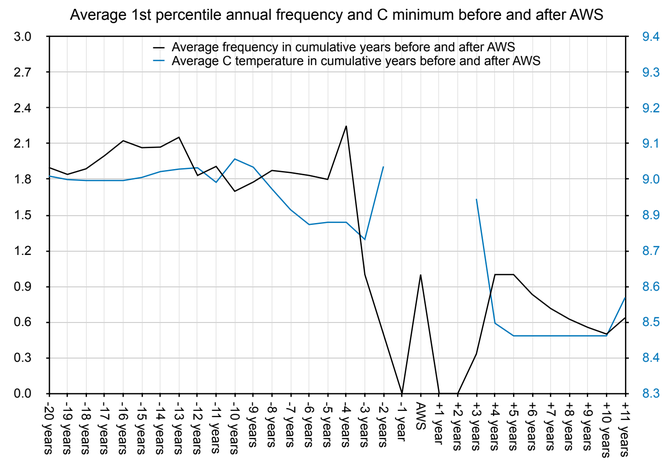
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	20.7	236.0	11.5	**Pre**	9.8	102.7	10.5	**Pre**	1.8	16.2	8.8
Post	19.5	224.5	11.5	**Post**	9.7	103.5	10.8	**Post**	0.8	7.0	8.5

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	





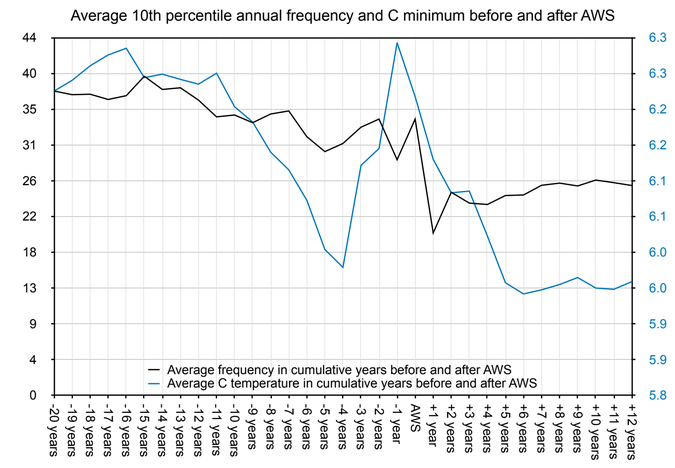


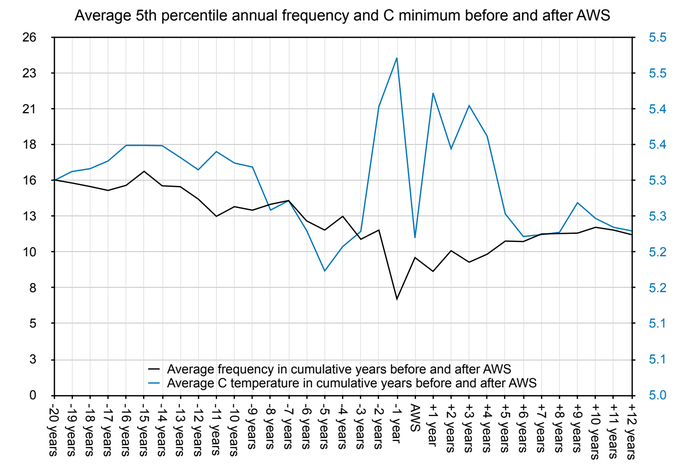
10th 7.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 6.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 4.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	21	125.5	6.0	**1910**	8	41.3	5.2	**1910**	1	4.3	4.3									
1911	34	191.1	5.6	**1911**	19	93.5	4.9	**1911**	5	18.5	3.7									
1912	30	174.6	5.8	**1912**	14	68.7	4.9	**1912**	5	19.5	3.9									
1913	34	199.9	5.9	**1913**	18	95.4	5.3	**1913**	4	16.4	4.1									
1914	75	391.3	5.2	**1914**	49	223.7	4.6	**1914**	22	79.6	3.6									
1915	37	220.4	6.0	**1915**	13	66.5	5.1	**1915**	2	6.6	3.3									
1916	51	311.7	6.1	**1916**	20	107.2	5.4	**1916**	2	6.9	3.5									
1917	31	181.3	5.8	**1917**	14	71.3	5.1	**1917**	2	7.8	3.9									
1918	18	104.2	5.8	**1918**	8	39.3	4.9	**1918**	2	6.8	3.4									
1919	25	146.3	5.9	**1919**	11	54.8	5.0	**1919**	4	17.3	4.3									
1920	37	219.4	5.9	**1920**	17	90.2	5.3	**1920**	2	7.2	3.6									
1921	18	109.3	6.1	**1921**	6	29.5	4.9	**1921**	2	8.3	4.2									
1922	31	169.3	5.5	**1922**	19	90.3	4.8	**1922**	7	25.0	3.6									
1923	31	186.4	6.0	**1923**	14	76.3	5.5	**1923**	1	4.2	4.2									
1924	30	167.5	5.6	**1924**	19	96.2	5.1	**1924**	4	16.7	4.2									
1925	39	224.7	5.8	**1925**	19	96.7	5.1	**1925**	5	20.5	4.1									
1926	23	141.2	6.1	**1926**	9	49.6	5.5	**1926**	0	0.0										
1927	53	302.1	5.7	**1927**	28	138.7	5.0	**1927**	9	35.0	3.9									
1928	33	189.0	5.7	**1928**	19	98.1	5.2	**1928**	4	15.7	3.9									
1929	48	264.1	5.5	**1929**	28	131.1	4.7	**1929**	11	39.5	3.6									
1930	34	203.0	6.0	**1930**	13	63.3	4.9	**1930**	4	17.2	4.3									
1931	41	244.4	6.0	**1931**	17	88.4	5.2	**1931**	4	15.6	3.9									
1932	33	188.6	5.7	**1932**	20	103.1	5.2	**1932**	3	10.4	3.5									
1933	43	255.4	5.9	**1933**	21	111.0	5.3	**1933**	2	8.8	4.4									
1934	19	113.7	6.0	**1934**	7	36.9	5.3	**1934**	1	3.9	3.9									
1935	82	465.9	5.7	**1935**	40	197.3	4.9	**1935**	9	28.2	3.1									
1936	30	179.8	6.0	**1936**	11	58.2	5.3	**1936**	1	4.4	4.4									
1937	23	135.6	5.9	**1937**	10	53.0	5.3	**1937**	1	4.4	4.4									
1938	32	179.6	5.6	**1938**	18	88.6	4.9	**1938**	6	23.1	3.9									
1939	49	289.2	5.9	**1939**	19	94.2	5.0	**1939**	6	23.4	3.9									
1940	36	217.9	6.1	**1940**	12	59.8	5.0	**1940**	2	7.6	3.8									
1941	43	247.9	5.8	**1941**	20	98.6	4.9	**1941**	7	29.3	4.2									
1942	39	228.3	5.9	**1942**	19	97.7	5.1	**1942**	3	10.5	3.5									
1943	48	267.1	5.6	**1943**	27	133.6	4.9	**1943**	8	32.0	4.0									
1944	66	359.4	5.4	**1944**	36	167.4	4.7	**1944**	15	55.8	3.7									
1945	53	292.7	5.5	**1945**	33	163.5	5.0	**1945**	10	41.9	4.2									
1946	58	345.7	6.0	**1946**	19	92.8	4.9	**1946**	6	24.2	4.0									
1947	38	222.9	5.9	**1947**	19	98.0	5.2	**1947**	5	22.0	4.4									
1948	49	288.5	5.9	**1948**	20	101.4	5.1	**1948**	5	20.4	4.1									
1949	58	328.7	5.7	**1949**	28	133.7	4.8	**1949**	12	46.5	3.9									
1950	37	218.9	5.9	**1950**	13	62.3	4.8	**1950**	5	20.5	4.1									
1951	42	239.0	5.7	**1951**	21	102.8	4.9	**1951**	5	17.4	3.5									
1952	57	315.4	5.5	**1952**	27	122.8	4.5	**1952**	12	42.7	3.6									
1953	47	273.5	5.8	**1953**	19	92.8	4.9	**1953**	5	17.7	3.5									
1954	43	250.5	5.8	**1954**	18	90.2	5.0	**1954**	3	12.2	4.1									
1955	48	284.5	5.9	**1955**	16	77.3	4.8	**1955**	6	24.3	4.1									
1956	46	259.9	5.7	**1956**	26	130.5	5.0	**1956**	7	29.8	4.3									
1957	41	234.0	5.7	**1957**	21	105.2	5.0	**1957**	4	15.4	3.9									
1958	53	294.9	5.6	**1958**	31	152.9	4.9	**1958**	11	46.3	4.2									
1959	37	212.2	5.7	**1959**	17	83.0	4.9	**1959**	7	28.2	4.0									
1960	102	509.3	5.0	**1960**	64	267.3	4.2	**1960**	36	113.5	3.2									
1961	39	224.2	5.7	**1961**	17	82.8	4.9	**1961**	7	29.2	4.2									
1962	46	251.1	5.5	**1962**	20	82.3	4.1	**1962**	12	40.5	3.4									
1963	45	238.8	5.3	**1963**	28	129.7	4.6	**1963**	11	38.7	3.5									
1964	46	257.1	5.6	**1964**	22	104.0	4.7	**1964**	11	43.3	3.9									
1965	41	231.7	5.7	**1965**	24	122.0	5.1	**1965**	7	29.8	4.3									
1966	48	270.0	5.6	**1966**	18	76.8	4.3	**1966**	8	22.6	2.8									
1967	30	177.4	5.9	**1967**	10	50.6	5.1	**1967**	3	13.2	4.4									
1968	66	378.6	5.7	**1968**	29	141.5	4.9	**1968**	10	39.2	3.9									
1969	43	252.9	5.9	**1969**	17	83.4	4.9	**1969**	5	17.5	3.5									
1970	53	311.3	5.9	**1970**	25	129.0	5.2	**1970**	5	20.4	4.1									
1971	44	249.7	5.7	**1971**	23	113.1	4.9	**1971**	6	24.3	4.1									
1972	36	214.3	6.0	**1972**	14	68.6	4.9	**1972**	3	11.5	3.8									
1973	35	211.9	6.1	**1973**	13	67.6	5.2	**1973**	2	8.5	4.3									
1974	32	190.0	5.9	**1974**	17	88.7	5.2	**1974**	2	6.8	3.4									
1975	27	163.1	6.0	**1975**	12	64.1	5.3	**1975**	0	0.0										
1976	34	194.0	5.7	**1976**	22	113.1	5.1	**1976**	2	7.0	3.5									
1977	55	338.4	6.2	**1977**	18	93.3	5.2	**1977**	4	16.8	4.2									
1978	34	193.7	5.7	**1978**	20	101.0	5.1	**1978**	5	19.8	4.0									
1979	42	258.5	6.2	**1979**	16	84.4	5.3	**1979**	3	12.7	4.2									
1980	22	138.4	6.3	**1980**	9	51.2	5.7	**1980**	0	0.0										
1981	41	244.0	6.0	**1981**	20	104.4	5.2	**1981**	4	15.0	3.8									
1982	55	318.1	5.8	**1982**	33	172.6	5.2	**1982**	3	11.4	3.8									
1983	33	202.4	6.1	**1983**	12	62.1	5.2	**1983**	2	7.9	4.0									
1984	38	226.9	6.0	**1984**	19	97.8	5.1	**1984**	4	13.6	3.4									
1985	40	231.3	5.8	**1985**	26	137.0	5.3	**1985**	5	19.8	4.0									
1986	40	237.9	5.9	**1986**	18	91.7	5.1	**1986**	3	11.4	3.8									
1987	33	206.6	6.3	**1987**	10	51.8	5.2	**1987**	1	3.9	3.9									
1988	17	111.0	6.5	**1988**	2	9.6	4.8	**1988**	1	4.2	4.2									
1989	67	401.3	6.0	**1989**	31	162.1	5.2	**1989**	3	11.9	4.0									
1990	46	273.2	5.9	**1990**	20	101.4	5.1	**1990**	5	18.7	3.7	20 years	37.5	6.2	20 years	15.7	5.3	20 years	2.1	3.9
1991	36	211.5	5.9	**1991**	20	104.9	5.2	**1991**	2	8.0	4.0	19 years	37.0	6.2	19 years	15.4	5.3	19 years	1.9	3.9
1992	48	288.1	6.0	**1992**	20	102.9	5.1	**1992**	3	12.5	4.2	18 years	37.1	6.3	18 years	15.2	5.3	18 years	1.9	3.9
1993	29	177.7	6.1	**1993**	9	45.0	5.0	**1993**	1	3.9	3.9	17 years	36.4	6.3	17 years	14.9	5.3	17 years	1.8	3.9
1994	1	6.9	6.9	**1994**	0	0.0		**1994**	0	0.0		16 years	36.9	6.3	16 years	15.3	5.3	16 years	1.9	3.9
1995	62	383.0	6.2	**1995**	31	166.0	5.4	**1995**	4	14.0	3.5	15 years	39.3	6.2	15 years	16.3	5.3	15 years	2.0	3.9
1996	35	222.0	6.3	**1996**	16	89.0	5.6	**1996**	1	4.0	4.0	14 years	37.6	6.2	14 years	15.2	5.3	14 years	1.9	3.9
1997	56	354.0	6.3	**1997**	26	144.0	5.5	**1997**	2	8.0	4.0	13 years	37.8	6.2	13 years	15.2	5.3	13 years	1.9	3.9
1998	59	358.0	6.1	**1998**	28	141.0	5.0	**1998**	5	19.0	3.8	12 years	36.3	6.2	12 years	14.3	5.3	12 years	1.9	3.9
1999	32	215.0	6.7	**1999**	6	33.0	5.5	**1999**	1	4.0	4.0	11 years	34.3	6.3	11 years	13.0	5.3	11 years	1.6	3.9
2000	43	275.0	6.4	**2000**	16	86.0	5.4	**2000**	1	4.0	4.0	10 years	34.5	6.2	10 years	13.7	5.3	10 years	1.7	3.9
2001	25	163.0	6.5	**2001**	10	58.0	5.8	**2001**	0	0.0		9 years	33.6	6.2	9 years	13.4	5.3	9 years	1.8	3.9
2002	32	202.0	6.3	**2002**	12	62.0	5.2	**2002**	3	11.0	3.7	8 years	34.6	6.1	8 years	13.9	5.3	8 years	2.0	3.9
2003	54	344.0	6.4	**2003**	23	127.0	5.5	**2003**	1	4.0	4.0	7 years	35.0	6.1	7 years	14.1	5.3	7 years	1.9	4.0
2004	41	263.1	6.4	**2004**	16	88.2	5.5	**2004**	1	4.0	4.0	6 years	31.8	6.1	6 years	12.7	5.2	6 years	2.0	4.0
2005	26	158.7	6.1	**2005**	8	40.3	5.0	**2005**	2	8.1	4.1	5 years	30.0	6.0	5 years	12.0	5.2	5 years	2.2	4.0
2006	25	138.8	5.6	**2006**	18	92.6	5.1	**2006**	4	16.0	4.0	4 years	31.0	6.0	4 years	13.0	5.2	4 years	2.3	3.9
2007	31	188.3	6.1	**2007**	10	48.8	4.9	**2007**	2	6.5	3.3	3 years	33.0	6.1	3 years	11.3	5.2	3 years	1.7	3.9
2008	39	233.9	6.0	**2008**	17	90.7	5.3	**2008**	2	8.8	4.4	2 years	34.0	6.1	2 years	12.0	5.4	2 years	1.5	4.3
2009	29	182.5	6.3	**2009**	7	38.3	5.5	**2009**	1	4.1	4.1	1 years	29.0	6.3	1 years	7.0	5.5	1 years	1.0	4.1
2010	34	211.4	6.2	**2010**	10	52.2	5.2	**2010**	0	0.0		0 years	34.0	6.2	0 years	10.0	5.2	0 years	0.0	
2011	20	122.6	6.1	**2011**	9	48.8	5.4	**2011**	0	0.0		1 years	20.0	6.1	1 years	9.0	5.4	1 years	0.0	
2012	30	181.1	6.0	**2012**	12	63.2	5.3	**2012**	1	3.6	3.6	2 years	25.0	6.1	2 years	10.5	5.3	2 years	0.5	3.6
2013	21	127.9	6.1	**2013**	8	44.2	5.5	**2013**	0	0.0		3 years	23.7	6.1	3 years	9.7	5.4	3 years	0.3	3.6
2014	23	134.2	5.8	**2014**	12	62.8	5.2	**2014**	2	7.6	3.8	4 years	23.5	6.0	4 years	10.3	5.4	4 years	0.8	3.7
2015	29	165.2	5.7	**2015**	15	72.3	4.8	**2015**	4	14.6	3.7	5 years	24.6	6.0	5 years	11.2	5.3	5 years	1.4	3.7
2016	25	146.6	5.9	**2016**	11	55.7	5.1	**2016**	2	8.2	4.1	6 years	24.7	5.9	6 years	11.2	5.2	6 years	1.5	3.8
2017	33	197.4	6.0	**2017**	15	78.6	5.2	**2017**	2	8.4	4.2	7 years	25.9	5.9	7 years	11.7	5.2	7 years	1.6	3.9
2018	28	168.2	6.0	**2018**	12	63.0	5.3	**2018**	1	3.7	3.7	8 years	26.1	6.0	8 years	11.8	5.2	8 years	1.5	3.8
2019	23	139.0	6.0	**2019**	12	67.2	5.6	**2019**	0	0.0		9 years	25.8	6.0	9 years	11.8	5.3	9 years	1.3	3.8
2020	33	192.0	5.8	**2020**	16	80.8	5.1	**2020**	2	8.6	4.3	10 years	26.5	6.0	10 years	12.2	5.2	10 years	1.4	3.9
2021	23	136.4	5.9	**2021**	10	51.1	5.1	**2021**	3	12.5	4.2	11 years	26.2	5.9	11 years	12.0	5.2	11 years	1.5	3.9
2022	22	133.7	6.1	**2022**	8	41.4	5.2	**2022**	1	3.3	3.3	12 years	25.8	6.0	12 years	11.7	5.2	12 years	1.5	3.9

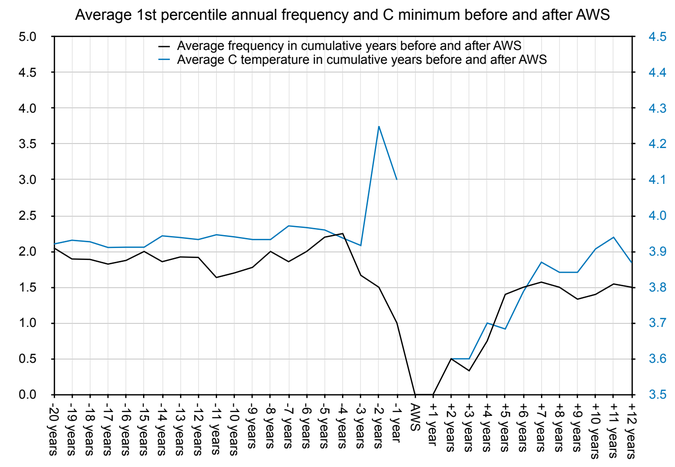
Original AWS probe type unknown

6 years				**6 years**				**6 years**												
Pre	31.8	194.2	6.1	**Pre**	12.7	66.5	5.2	**Pre**	2.0	7.9	4.0									
Post	24.7	146.3	5.9	**Post**	11.2	57.8	5.2	**Post**	1.5	5.7	3.8									

		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										





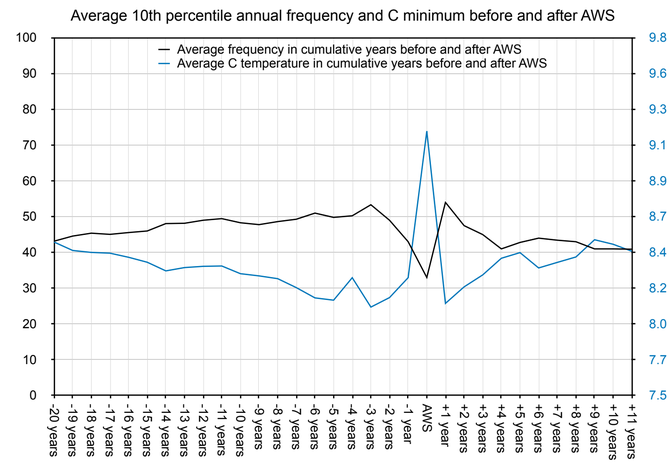


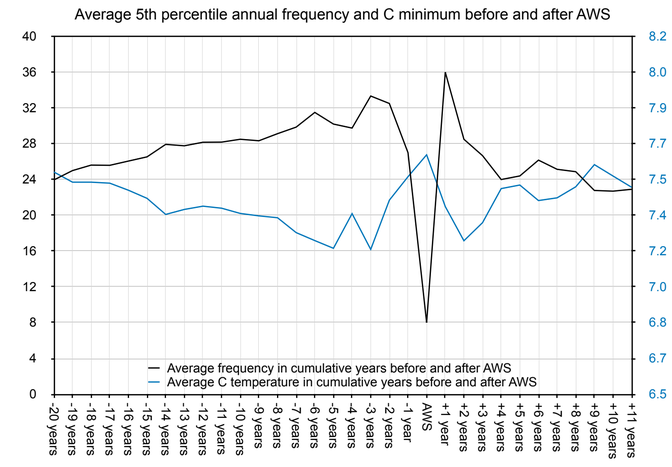
10th 10.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 8.9	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 6.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	48	412.1	8.6	**1910**	26	197.2	7.6	**1910**	3	17.3	5.8									
1911	52	452.5	8.7	**1911**	23	171.7	7.5	**1911**	5	27.8	5.6									
1912	33	296.0	9.0	**1912**	15	121.2	8.1	**1912**	0	0.0										
1913	33	303.7	9.2	**1913**	12	100.1	8.3	**1913**	0	0.0										
1914	33	278.2	8.4	**1914**	18	133.5	7.4	**1914**	3	16.3	5.4									
1915	21	192.6	9.2	**1915**	6	48.6	8.1	**1915**	0	0.0										
1916	34	268.2	7.9	**1916**	20	132.0	6.6	**1916**	7	30.6	4.4									
1917	52	458.5	8.8	**1917**	21	161.1	7.7	**1917**	3	16.3	5.4									
1918	35	294.2	8.4	**1918**	24	186.5	7.8	**1918**	1	6.1	6.1									
1919	25	232.1	9.3	**1919**	9	74.8	8.3	**1919**	0	0.0										
1920	41	330.9	8.1	**1920**	25	176.2	7.0	**1920**	7	35.5	5.1									
1921	32	277.8	8.7	**1921**	17	135.7	8.0	**1921**	0	0.0										
1922	55	445.4	8.1	**1922**	34	241.6	7.1	**1922**	11	61.7	5.6									
1923	40	341.2	8.5	**1923**	25	194.9	7.8	**1923**	4	23.9	6.0									
1924	34	271.6	8.0	**1924**	24	175.0	7.3	**1924**	5	22.2	4.4									
1925	65	556.1	8.6	**1925**	34	256.9	7.6	**1925**	7	37.8	5.4									
1926	45	387.3	8.6	**1926**	21	155.5	7.4	**1926**	5	30.5	6.1									
1927	37	309.1	8.4	**1927**	23	172.1	7.5	**1927**	5	28.7	5.7									
1928	44	381.8	8.7	**1928**	21	159.9	7.6	**1928**	5	31.1	6.2									
1929	50	407.0	8.1	**1929**	31	224.6	7.2	**1929**	6	33.1	5.5									
1930	21	193.1	9.2	**1930**	7	56.1	8.0	**1930**	0	0.0										
1931	53	462.0	8.7	**1931**	24	182.8	7.6	**1931**	5	29.0	5.8									
1932	29	256.0	8.8	**1932**	11	84.3	7.7	**1932**	2	12.3	6.2									
1933	40	343.0	8.6	**1933**	22	169.0	7.7	**1933**	2	12.1	6.1									
1934	41	327.9	8.0	**1934**	30	221.7	7.4	**1934**	9	53.9	6.0									
1935	40	362.4	9.1	**1935**	16	131.5	8.2	**1935**	1	6.3	6.3									
1936	26	226.7	8.7	**1936**	14	111.0	7.9	**1936**	0	0.0										
1937	43	362.5	8.4	**1937**	27	208.5	7.7	**1937**	3	17.6	5.9									
1938	28	237.6	8.5	**1938**	16	124.2	7.8	**1938**	3	18.0	6.0									
1939	34	296.7	8.7	**1939**	18	141.2	7.8	**1939**	2	11.7	5.9									
1940	18	172.7	9.6	**1940**	3	26.7	8.9	**1940**	0	0.0										
1941	19	182.6	9.6	**1941**	2	16.4	8.2	**1941**	0	0.0										
1942	27	231.5	8.6	**1942**	17	135.3	8.0	**1942**	1	6.1	6.1									
1943	38	310.3	8.2	**1943**	24	174.9	7.3	**1943**	7	36.5	5.2									
1944	24	210.0	8.8	**1944**	13	101.8	7.8	**1944**	1	6.1	6.1									
1945	20	186.7	9.3	**1945**	5	41.1	8.2	**1945**	0	0.0										
1946	23	183.6	8.0	**1946**	18	134.7	7.5	**1946**	4	19.6	4.9									
1947	28	262.2	9.4	**1947**	8	66.7	8.3	**1947**	0	0.0										
1948	28	255.7	9.1	**1948**	10	79.5	8.0	**1948**	0	0.0										
1949	20	188.4	9.4	**1949**	6	51.2	8.5	**1949**	0	0.0										
1950	39	318.3	8.2	**1950**	28	211.5	7.6	**1950**	4	19.9	5.0									
1951	43	367.9	8.6	**1951**	22	166.1	7.6	**1951**	3	15.9	5.3									
1952	46	385.1	8.4	**1952**	30	229.7	7.7	**1952**	2	11.1	5.6									
1953	42	372.8	8.9	**1953**	16	121.8	7.6	**1953**	2	9.0	4.5									
1954	51	445.4	8.7	**1954**	26	202.5	7.8	**1954**	3	18.9	6.3									
1955	38	315.6	8.3	**1955**	19	130.9	6.9	**1955**	7	35.9	5.1									
1956	44	372.6	8.5	**1956**	30	238.9	8.0	**1956**	3	17.8	5.9									
1957	46	367.9	8.0	**1957**	30	213.1	7.1	**1957**	10	52.5	5.3									
1958	30	250.5	8.4	**1958**	19	146.5	7.7	**1958**	1	5.9	5.9									
1959	14	123.3	8.8	**1959**	7	56.4	8.1	**1959**	0	0.0										
1960	43	367.5	8.5	**1960**	24	182.8	7.6	**1960**	5	28.9	5.8									
1961	30	242.7	8.1	**1961**	22	165.3	7.5	**1961**	6	34.5	5.8									
1962	33	285.5	8.7	**1962**	18	138.5	7.7	**1962**	2	11.9	6.0									
1963	19	170.4	9.0	**1963**	8	63.2	7.9	**1963**	0	0.0										
1964	29	245.7	8.5	**1964**	14	101.0	7.2	**1964**	4	23.0	5.8									
1965	22	195.3	8.9	**1965**	11	89.9	8.2	**1965**	0	0.0										
1966	59	487.8	8.3	**1966**	38	282.5	7.4	**1966**	6	34.0	5.7									
1967	42	347.1	8.3	**1967**	25	184.7	7.4	**1967**	6	33.7	5.6									
1968	53	438.5	8.3	**1968**	32	236.1	7.4	**1968**	7	39.2	5.6									
1969	36	292.8	8.1	**1969**	25	188.2	7.5	**1969**	1	4.6	4.6									
1970	27	234.1	8.7	**1970**	16	126.9	7.9	**1970**	0	0.0										
1971	33	296.5	9.0	**1971**	14	113.2	8.1	**1971**	0	0.0										
1972	26	231.8	8.9	**1972**	10	76.3	7.6	**1972**	0	0.0										
1973	32	281.0	8.8	**1973**	15	117.7	7.8	**1973**	1	5.1	5.1									
1974	22	200.7	9.1	**1974**	7	57.8	8.3	**1974**	0	0.0										
1975	44	378.3	8.6	**1975**	24	185.7	7.7	**1975**	4	24.3	6.1									
1976	29	248.7	8.6	**1976**	18	142.4	7.9	**1976**	2	11.7	5.9									
1977	33	294.0	8.9	**1977**	13	102.0	7.8	**1977**	0	0.0										
1978	51	449.6	8.8	**1978**	24	188.5	7.9	**1978**	3	18.5	6.2									
1979	49	405.9	8.3	**1979**	29	213.4	7.4	**1979**	6	32.2	5.4									
1980	28	254.5	9.1	**1980**	10	80.6	8.1	**1980**	0	0.0										
1981	32	275.2	8.6	**1981**	17	131.1	7.7	**1981**	3	17.7	5.9									
1982	50	418.4	8.4	**1982**	28	208.0	7.4	**1982**	7	41.5	5.9									
1983	31	256.1	8.3	**1983**	14	90.2	6.4	**1983**	8	44.5	5.6									
1984	35	312.5	8.9	**1984**	11	85.1	7.7	**1984**	2	12.3	6.2									
1985	49	451.1	9.2	**1985**	17	138.8	8.2	**1985**	1	5.9	5.9									
1986	57	467.4	8.2	**1986**	30	205.1	6.8	**1986**	11	55.7	5.1									
1987	27	249.5	9.2	**1987**	7	55.2	7.9	**1987**	1	6.3	6.3									
1988	12	114.4	9.5	**1988**	2	17.6	8.8	**1988**	0	0.0										
1989	39	299.8	7.7	**1989**	25	166.5	6.7	**1989**	8	40.8	5.1									
1990	37	299.8	8.1	**1990**	22	156.6	7.1	**1990**	7	37.8	5.4									
1991	16	152.3	9.5	**1991**	4	33.9	8.5	**1991**	0	0.0		20 years	43.2	8.5	20 years	24.0	7.6	20 years	5.5	5.5
1992	30	259.8	8.7	**1992**	14	105.1	7.5	**1992**	4	24.6	6.2	19 years	44.6	8.4	19 years	25.0	7.5	19 years	5.8	5.5
1993	51	433.6	8.5	**1993**	26	197.3	7.6	**1993**	5	30.0	6.0	18 years	45.4	8.4	18 years	25.6	7.5	18 years	5.9	5.5
1994	37	327.0	8.8	**1994**	18	144.7	8.0	**1994**	1	5.7	5.7	17 years	45.1	8.4	17 years	25.6	7.5	17 years	5.9	5.5
1995	39	345.8	8.9	**1995**	19	152.9	8.0	**1995**	0	0.0		16 years	45.6	8.4	16 years	26.1	7.5	16 years	6.3	5.4
1996	17	155.3	9.1	**1996**	7	59.5	8.5	**1996**	0	0.0		15 years	46.0	8.4	15 years	26.5	7.4	15 years	6.7	5.4
1997	47	377.2	8.0	**1997**	30	211.4	7.0	**1997**	8	40.2	5.0	14 years	48.1	8.3	14 years	27.9	7.4	14 years	7.1	5.4
1998	38	312.6	8.2	**1998**	23	165.4	7.2	**1998**	5	22.2	4.4	13 years	48.2	8.3	13 years	27.8	7.4	13 years	7.1	5.5
1999	44	365.5	8.3	**1999**	28	210.0	7.5	**1999**	6	31.8	5.3	12 years	49.0	8.3	12 years	28.2	7.4	12 years	7.3	5.6
2000	61	538.5	8.8	**2000**	25	190.8	7.6	**2000**	5	27.3	5.5	11 years	49.5	8.3	11 years	28.2	7.4	11 years	7.4	5.6
2001	53	445.8	8.4	**2001**	30	223.9	7.5	**2001**	7	38.4	5.5	10 years	48.3	8.3	10 years	28.5	7.4	10 years	7.6	5.6
2002	41	344.9	8.4	**2002**	22	163.2	7.4	**2002**	7	41.8	6.0	9 years	47.8	8.3	9 years	28.3	7.3	9 years	7.7	5.6
2003	44	380.8	8.7	**2003**	24	188.0	7.8	**2003**	3	15.2	5.1	8 years	48.6	8.3	8 years	29.1	7.3	8 years	7.8	5.6
2004	39	335.0	8.6	**2004**	20	149.9	7.5	**2004**	2	11.4	5.7	7 years	49.3	8.2	7 years	29.9	7.3	7 years	8.4	5.6
2005	57	467.5	8.2	**2005**	38	281.7	7.4	**2005**	9	54.9	6.1	6 years	51.0	8.1	6 years	31.5	7.2	6 years	9.5	5.6
2006	48	361.7	7.5	**2006**	32	209.1	6.5	**2006**	14	70.3	5.0	5 years	49.8	8.1	5 years	30.2	7.2	5 years	9.6	5.5
2007	41	361.8	8.8	**2007**	19	149.5	7.9	**2007**	2	12.7	6.4	4 years	50.3	8.3	4 years	29.8	7.4	4 years	8.5	5.7
2008	62	492.7	7.9	**2008**	35	235.2	6.7	**2008**	14	73.5	5.3	3 years	53.3	8.1	3 years	33.3	7.2	3 years	10.7	5.4
2009	55	440.1	8.0	**2009**	38	277.8	7.3	**2009**	11	63.2	5.7	2 years	49.0	8.1	2 years	32.5	7.4	2 years	9.0	5.5
2010	43	355.1	8.3	**2010**	27	203.4	7.5	**2010**	7	37.2	5.3	1 years	43.0	8.3	1 years	27.0	7.5	1 years	7.0	5.3
2011	33	303.6	9.2	**2011**	8	61.1	7.6	**2011**	1	6.5	6.5	0 years	33.0	9.2	0 years	8.0	7.6	0 years	1.0	6.5
2012	54	437.0	8.1	**2012**	36	266.1	7.4	**2012**	10	53.7	5.4	1 years	54.0	8.1	1 years	36.0	7.4	1 years	10.0	5.4
2013	41	340.5	8.3	**2013**	21	148.4	7.1	**2013**	5	24.3	4.9	2 years	47.5	8.2	2 years	28.5	7.2	2 years	7.5	5.1
2014	40	337.2	8.4	**2014**	23	172.2	7.5	**2014**	5	29.5	5.9	3 years	45.0	8.3	3 years	26.7	7.3	3 years	6.7	5.4
2015	29	252.4	8.7	**2015**	16	127.4	8.0	**2015**	1	5.2	5.2	4 years	41.0	8.4	4 years	24.0	7.5	4 years	5.3	5.3
2016	50	428.2	8.6	**2016**	26	196.6	7.6	**2016**	4	22.9	5.7	5 years	42.8	8.4	5 years	24.4	7.5	5 years	5.0	5.4
2017	50	391.4	7.8	**2017**	35	246.8	7.1	**2017**	11	56.3	5.1	6 years	44.0	8.3	6 years	26.2	7.4	6 years	6.0	5.4
2018	40	342.8	8.6	**2018**	19	142.7	7.5	**2018**	3	16.8	5.6	7 years	43.4	8.4	7 years	25.1	7.4	7 years	5.6	5.4
2019	40	345.4	8.6	**2019**	23	180.6	7.9	**2019**	3	18.8	6.3	8 years	43.0	8.4	8 years	24.9	7.5	8 years	5.3	5.5
2020	25	234.7	9.4	**2020**	6	50.6	8.4	**2020**	0	0.0		9 years	41.0	8.5	9 years	22.8	7.6	9 years	4.7	5.5
2021	41	336.6	8.2	**2021**	22	155.1	7.1	**2021**	10	59.4	5.9	10 years	41.0	8.5	10 years	22.7	7.5	10 years	5.2	5.6
2022	40	319.2	8.0	**2022**	25	173.7	6.9	**2022**	10	57.3	5.7	11 years	40.9	8.4	11 years	22.9	7.5	11 years	5.6	5.6

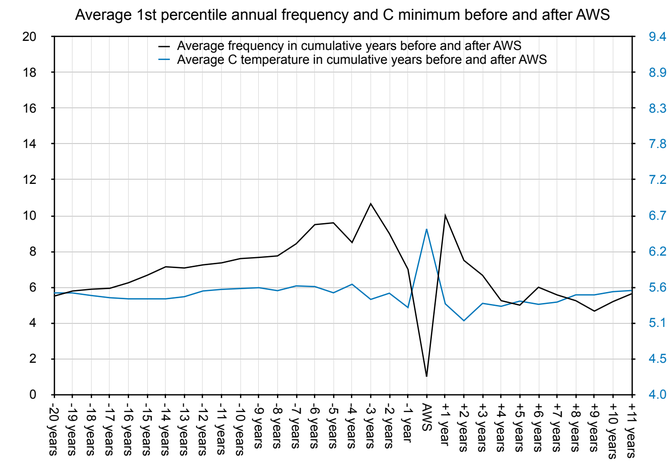
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	51.0	413.2	8.1	**Pre**	31.5	226.1	7.2	**Pre**	9.5	52.0	5.6
Post	44.0	364.5	8.3	**Post**	26.2	192.9	7.4	**Post**	6.0	32.0	5.4

		AWS introduction
		Probe replacement
		Small screen introduction





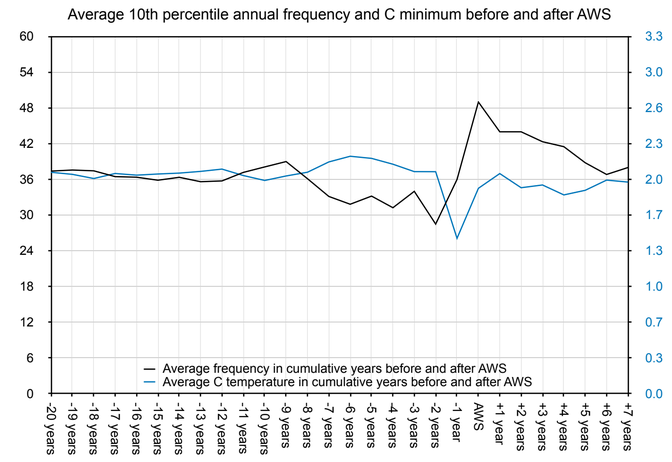


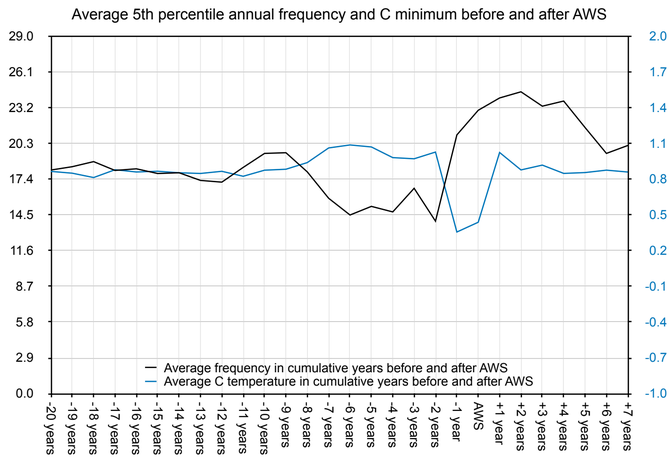
10th 3.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1943	50	102.0	2.0	**1943**	23	14.1	0.6	**1943**	6	-9.0	-1.5									
1944	55	77.8	1.4	**1944**	33	9.4	0.3	**1944**	12	-12.4	-1.0									
1945	32	66.1	2.1	**1945**	16	14.9	0.9	**1945**	2	-1.4	-0.7									
1946	35	71.2	2.0	**1946**	18	17.3	1.0	**1946**	1	-0.7	-0.7									
1947	25	61.2	2.4	**1947**	13	22.7	1.7	**1947**	0	0.0										
1948	36	82.2	2.3	**1948**	14	12.1	0.9	**1948**	1	-0.4	-0.4									
1949	28	58.4	2.1	**1949**	13	10.4	0.8	**1949**	2	-2.1	-1.1									
1950	34	60.8	1.8	**1950**	18	10.9	0.6	**1950**	4	-2.5	-0.6									
1951	25	54.3	2.2	**1951**	11	12.0	1.1	**1951**	2	-1.5	-0.8									
1952	46	79.2	1.7	**1952**	27	22.0	0.8	**1952**	4	-3.7	-0.9									
1953	31	79.9	2.6	**1953**	8	9.4	1.2	**1953**	0	0.0										
1954	36	71.5	2.0	**1954**	15	7.1	0.5	**1954**	5	-6.2	-1.2									
1955	24	65.5	2.7	**1955**	6	9.4	1.6	**1955**	0	0.0										
1956	32	61.3	1.9	**1956**	15	7.2	0.5	**1956**	2	-3.1	-1.6									
1957	31	70.5	2.3	**1957**	16	24.7	1.5	**1957**	0	0.0										
1958	39	62.8	1.6	**1958**	22	8.8	0.4	**1958**	7	-12.9	-1.8									
1959	44	85.1	1.9	**1959**	23	16.1	0.7	**1959**	5	-7.0	-1.4									
1960	41	75.3	1.8	**1960**	20	12.8	0.6	**1960**	4	-3.4	-0.9									
1961	35	64.7	1.8	**1961**	15	3.6	0.2	**1961**	5	-4.3	-0.9									
1962	27	71.5	2.6	**1962**	9	10.9	1.2	**1962**	0	0.0										
1963	26	64.3	2.5	**1963**	9	9.7	1.1	**1963**	1	-2.1	-2.1									
1964	16	44.4	2.8	**1964**	4	7.2	1.8	**1964**	0	0.0										
1965	28	56.1	2.0	**1965**	15	14.9	1.0	**1965**	2	-0.8	-0.4									
1966	27	65.7	2.4	**1966**	8	6.3	0.8	**1966**	3	-2.5	-0.8									
1967	28	59.6	2.1	**1967**	14	17.0	1.2	**1967**	1	-0.2	-0.2									
1968	32	69.6	2.2	**1968**	14	15.3	1.1	**1968**	1	-1.4	-1.4									
1969	56	80.1	1.4	**1969**	31	2.9	0.1	**1969**	13	-19.8	-1.5									
1970	36	61.9	1.7	**1970**	23	22.1	1.0	**1970**	3	-4.9	-1.6									
1971	48	76.6	1.6	**1971**	33	30.5	0.9	**1971**	3	-3.2	-1.1									
1972	37	55.9	1.5	**1972**	23	11.5	0.5	**1972**	7	-10.3	-1.5									
1973	35	71.3	2.0	**1973**	16	12.2	0.8	**1973**	3	-3.6	-1.2									
1974	41	72.9	1.8	**1974**	25	22.5	0.9	**1974**	5	-5.5	-1.1									
1975	41	57.2	1.4	**1975**	25	8.3	0.3	**1975**	6	-10.5	-1.8									
1976	59	69.2	1.2	**1976**	36	-0.7	-0.0	**1976**	14	-25.0	-1.8									
1977	39	82.2	2.1	**1977**	20	20.9	1.0	**1977**	3	-2.0	-0.7									
1978	28	50.1	1.8	**1978**	15	10.9	0.7	**1978**	2	-3.1	-1.6									
1979	34	79.6	2.3	**1979**	16	23.2	1.5	**1979**	0	0.0										
1980	46	84.2	1.8	**1980**	30	32.9	1.1	**1980**	3	-3.2	-1.1									
1981	35	87.4	2.5	**1981**	11	11.8	1.1	**1981**	0	0.0										
1982	47	85.5	1.8	**1982**	24	16.0	0.7	**1982**	8	-6.9	-0.9									
1983	51	92.8	1.8	**1983**	26	17.3	0.7	**1983**	7	-4.3	-0.6									
1984	38	86.7	2.3	**1984**	16	18.1	1.1	**1984**	2	-1.0	-0.5									
1985	43	69.3	1.6	**1985**	24	11.8	0.5	**1985**	6	-8.5	-1.4									
1986	35	86.4	2.5	**1986**	13	19.3	1.5	**1986**	0	0.0										
1987	48	85.3	1.8	**1987**	26	18.0	0.7	**1987**	6	-3.7	-0.6									
1988	24	51.6	2.2	**1988**	13	14.2	1.1	**1988**	2	-1.3	-0.7									
1989	35	81.7	2.3	**1989**	14	14.7	1.1	**1989**	2	-1.1	-0.6									
1990	24	36.9	1.5	**1990**	14	8.5	0.6	**1990**	4	-3.0	-0.8									
1991	19	47.4	2.5	**1991**	7	12.5	1.8	**1991**	0	0.0										
1992	30	66.4	2.2	**1992**	12	13.3	1.1	**1992**	0	0.0										
1993	44	78.8	1.8	**1993**	27	23.8	0.9	**1993**	5	-3.3	-0.7									
1994	44	90.2	2.1	**1994**	22	19.4	0.9	**1994**	5	-3.4	-0.7									
1995	34	82.0	2.4	**1995**	13	15.0	1.2	**1995**	1	-0.3	-0.3	20 years	37.4	2.0	20 years	18.2	0.9	20 years	4.5	-0.9
1996	40	108.7	2.7	**1996**	11	16.6	1.5	**1996**	0	0.0		19 years	37.6	2.0	19 years	18.4	0.9	19 years	4.6	-0.9
1997	54	64.8	1.2	**1997**	31	-9.3	-0.3	**1997**	15	-26.7	-1.8	18 years	37.4	2.0	18 years	18.8	0.8	18 years	4.9	-0.9
1998	38	86.7	2.3	**1998**	16	18.9	1.2	**1998**	0	0.0		17 years	36.5	2.0	17 years	18.1	0.9	17 years	4.3	-0.9
1999	44	81.8	1.9	**1999**	24	18.4	0.8	**1999**	8	-7.5	-0.9	16 years	36.4	2.0	16 years	18.3	0.9	16 years	4.6	-0.9
2000	29	55.5	1.9	**2000**	17	17.8	1.0	**2000**	3	-2.3	-0.8	15 years	35.9	2.0	15 years	17.9	0.9	15 years	4.3	-0.9
2001	46	84.3	1.8	**2001**	26	24.2	0.9	**2001**	5	-4.0	-0.8	14 years	36.4	2.0	14 years	17.9	0.9	14 years	4.4	-0.9
2002	34	61.2	1.8	**2002**	19	12.0	0.6	**2002**	7	-3.0	-0.4	13 years	35.6	2.1	13 years	17.3	0.8	13 years	4.4	-0.9
2003	20	54.6	2.7	**2003**	4	5.3	1.3	**2003**	0	0.0		12 years	35.8	2.1	12 years	17.2	0.9	12 years	4.2	-0.9
2004	28	69.2	2.5	**2004**	7	2.2	0.3	**2004**	3	-2.8	-0.9	11 years	37.2	2.0	11 years	18.4	0.8	11 years	4.5	-0.9
2005	30	47.9	1.6	**2005**	19	15.3	0.8	**2005**	4	-2.7	-0.7	10 years	38.1	2.0	10 years	19.5	0.9	10 years	4.7	-0.9
2006	62	107.6	1.7	**2006**	32	14.0	0.4	**2006**	9	-14.8	-1.6	9 years	39.0	2.0	9 years	19.6	0.9	9 years	4.8	-1.0
2007	57	78.7	1.4	**2007**	33	2.6	0.1	**2007**	15	-16.2	-1.1	8 years	36.1	2.0	8 years	18.0	0.9	8 years	4.3	-0.9
2008	41	74.9	1.8	**2008**	24	21.9	0.9	**2008**	5	-3.6	-0.7	7 years	33.1	2.1	7 years	15.9	1.1	7 years	2.7	-0.8
2009	25	57.3	2.3	**2009**	11	12.9	1.2	**2009**	1	-0.5	-0.5	6 years	31.8	2.2	6 years	14.5	1.1	6 years	2.3	-0.8
2010	41	98.0	2.4	**2010**	17	24.3	1.4	**2010**	1	-0.4	-0.4	5 years	33.2	2.2	5 years	15.2	1.1	5 years	2.6	-0.9
2011	23	53.5	2.3	**2011**	9	9.1	1.0	**2011**	1	-1.8	-1.8	4 years	31.3	2.1	4 years	14.8	1.0	4 years	3.0	-1.1
2012	45	92.4	2.1	**2012**	22	18.9	0.9	**2012**	3	-3.0	-1.0	3 years	34.0	2.1	3 years	16.7	1.0	3 years	3.7	-0.8
2013	21	56.0	2.7	**2013**	7	11.9	1.7	**2013**	0	0.0		2 years	28.5	2.1	2 years	14.0	1.0	2 years	4.0	-0.5
2014	36	51.7	1.4	**2014**	21	7.5	0.4	**2014**	8	-4.3	-0.5	1 years	36.0	1.4	1 years	21.0	0.4	1 years	8.0	-0.5
2015	49	93.0	1.9	**2015**	23	10.1	0.4	**2015**	9	-7.6	-0.8	0 years	49.0	1.9	0 years	23.0	0.4	0 years	9.0	-0.8
2016	44	89.5	2.0	**2016**	24	24.6	1.0	**2016**	3	-2.3	-0.8	1 years	44.0	2.0	1 years	24.0	1.0	1 years	3.0	-0.8
2017	44	78.0	1.8	**2017**	25	18.3	0.7	**2017**	6	-5.7	-1.0	2 years	44.0	1.9	2 years	24.5	0.9	2 years	4.5	-0.9
2018	39	77.2	2.0	**2018**	21	21.0	1.0	**2018**	3	-3.7	-1.2	3 years	42.3	1.9	3 years	23.3	0.9	3 years	4.0	-1.0
2019	39	60.9	1.6	**2019**	25	16.0	0.6	**2019**	6	-7.3	-1.2	4 years	41.5	1.8	4 years	23.8	0.8	4 years	4.5	-1.0
2020	28	57.4	2.1	**2020**	13	11.5	0.9	**2020**	1	-0.2	-0.2	5 years	38.8	1.9	5 years	21.6	0.9	5 years	3.8	-0.9
2021	27	66.0	2.4	**2021**	9	8.8	1.0	**2021**	2	-1.6	-0.8	6 years	36.8	2.0	6 years	19.5	0.9	6 years	3.5	-0.9
2022	45	83.1	1.8	**2022**	24	18.4	0.8	**2022**	6	-9.0	-1.5	7 years	38.0	2.0	7 years	20.1	0.9	7 years	3.9	-1.0

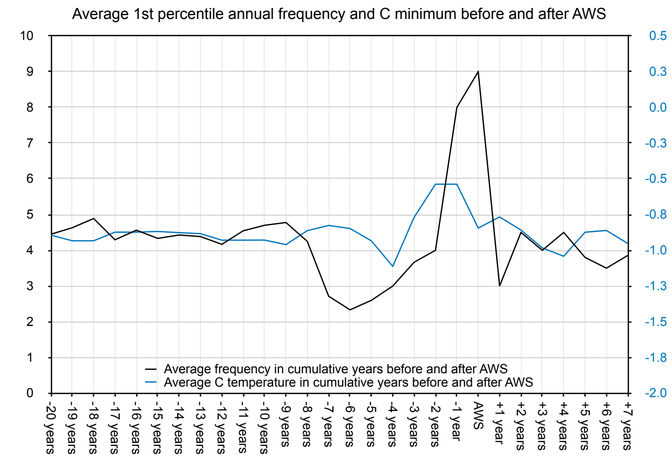
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	31.8	68.2	2.2	**Pre**	14.5	14.1	1.1	**Pre**	2.3	-1.7	-0.8
Post	36.8	71.5	2.0	**Post**	19.5	16.7	0.9	**Post**	3.5	-3.5	-0.9

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		





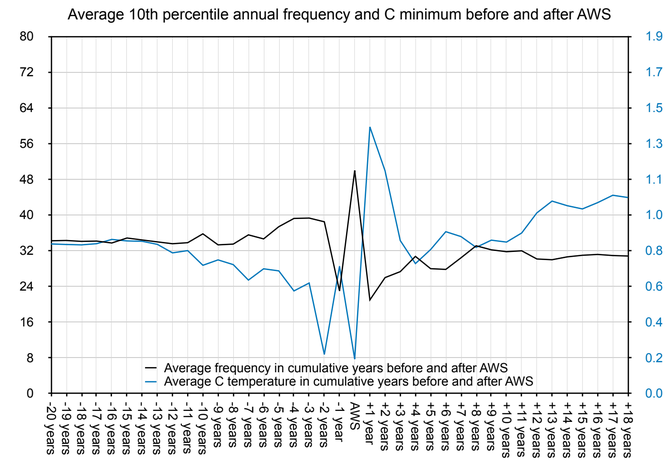


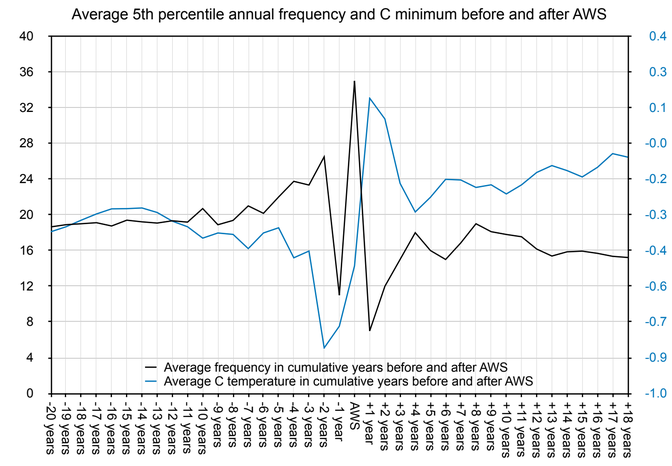
10th 2.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	23	32.3	1.4	**1910**	10	2.4	0.2	**1910**	0	0.0										
1911	64	12.1	0.2	**1911**	46	-28.4	-0.6	**1911**	10	-27.9	-2.8									
1912	25	42.3	1.7	**1912**	7	3.7	0.5	**1912**	0	0.0										
1913	52	39.1	0.8	**1913**	27	-12.8	-0.5	**1913**	6	-15.2	-2.5									
1914	38	37.5	1.0	**1914**	23	5.3	0.2	**1914**	1	-2.2	-2.2									
1915	37	54.7	1.5	**1915**	11	4.6	0.4	**1915**	0	0.0										
1916	8	14.9	1.9	**1916**	1	0.7	0.7	**1916**	0	0.0										
1917	40	36.1	0.9	**1917**	25	3.6	0.1	**1917**	0	0.0										
1918	36	5.7	0.2	**1918**	21	-27.7	-1.3	**1918**	9	-26.7	-3.0									
1919	55	14.9	0.3	**1919**	31	-34.3	-1.1	**1919**	15	-34.0	-2.3									
1920	12	22.8	1.9	**1920**	2	2.1	1.1	**1920**	0	0.0										
1921	11	12.4	1.1	**1921**	4	-1.9	-0.5	**1921**	0	0.0										
1922	52	39.9	0.8	**1922**	34	2.6	0.1	**1922**	2	-3.6	-1.8									
1923	38	53.0	1.4	**1923**	19	9.6	0.5	**1923**	0	0.0										
1924	37	35.4	1.0	**1924**	20	-1.8	-0.1	**1924**	2	-3.4	-1.7									
1925	49	46.1	0.9	**1925**	25	-2.4	-0.1	**1925**	4	-8.8	-2.2									
1926	30	42.8	1.4	**1926**	12	7.0	0.6	**1926**	0	0.0										
1927	53	29.4	0.6	**1927**	33	-15.8	-0.5	**1927**	7	-13.4	-1.9									
1928	36	48.0	1.3	**1928**	14	-0.1	-0.0	**1928**	0	0.0										
1929	54	30.5	0.6	**1929**	31	-25.8	-0.8	**1929**	10	-22.4	-2.2									
1930	21	26.4	1.3	**1930**	8	-3.1	-0.4	**1930**	1	-4.9	-4.9									
1931	39	29.3	0.8	**1931**	25	-1.1	-0.0	**1931**	2	-4.0	-2.0									
1932	48	34.6	0.7	**1932**	30	-4.6	-0.2	**1932**	2	-4.0	-2.0									
1933	21	33.8	1.6	**1933**	7	5.0	0.7	**1933**	0	0.0										
1934	38	51.5	1.4	**1934**	13	2.9	0.2	**1934**	1	-1.7	-1.7									
1935	50	53.5	1.1	**1935**	23	-3.0	-0.1	**1935**	4	-9.5	-2.4									
1936	27	36.0	1.3	**1936**	13	4.8	0.4	**1936**	0	0.0										
1937	45	34.1	0.8	**1937**	26	-5.1	-0.2	**1937**	3	-7.1	-2.4									
1938	18	22.9	1.3	**1938**	5	-2.2	-0.4	**1938**	1	-1.6	-1.6									
1939	35	66.5	1.9	**1939**	8	2.8	0.4	**1939**	0	0.0										
1940	45	14.6	0.3	**1940**	27	-26.6	-1.0	**1940**	11	-21.9	-2.0									
1941	55	44.8	0.8	**1941**	30	-10.1	-0.3	**1941**	7	-15.7	-2.2									
1942	10	21.7	2.2	**1942**	2	2.2	1.1	**1942**	0	0.0										
1943	43	24.5	0.6	**1943**	27	-9.1	-0.3	**1943**	4	-9.1	-2.3									
1944	28	32.7	1.2	**1944**	11	-0.5	-0.0	**1944**	0	0.0										
1945	21	26.5	1.3	**1945**	9	0.6	0.1	**1945**	0	0.0										
1946	60	7.9	0.1	**1946**	39	-34.9	-0.9	**1946**	17	-37.4	-2.2									
1947	29	38.1	1.3	**1947**	9	-0.9	-0.1	**1947**	0	0.0										
1948	40	62.9	1.6	**1948**	11	-0.3	-0.0	**1948**	1	-1.9	-1.9									
1949	52	45.5	0.9	**1949**	26	-7.6	-0.3	**1949**	4	-11.9	-3.0									
1950	23	40.9	1.8	**1950**	7	5.3	0.8	**1950**	0	0.0										
1951	45	37.2	0.8	**1951**	21	-11.3	-0.5	**1951**	6	-18.5	-3.1									
1952	39	20.3	0.5	**1952**	22	-17.0	-0.8	**1952**	6	-19.1	-3.2									
1953	58	23.8	0.4	**1953**	40	-15.5	-0.4	**1953**	4	-7.6	-1.9									
1954	26	26.5	1.0	**1954**	11	-1.4	-0.1	**1954**	1	-1.8	-1.8									
1955	28	8.3	0.3	**1955**	20	-10.0	-0.5	**1955**	4	-8.0	-2.0									
1956	57	43.7	0.8	**1956**	33	-8.4	-0.3	**1956**	3	-5.5	-1.8									
1957	48	13.4	0.3	**1957**	31	-23.9	-0.8	**1957**	8	-16.0	-2.0									
1958	37	32.9	0.9	**1958**	20	-2.0	-0.1	**1958**	2	-5.9	-3.0									
1959	29	36.1	1.2	**1959**	13	-2.4	-0.2	**1959**	2	-4.2	-2.1									
1960	57	49.9	0.9	**1960**	32	-4.8	-0.2	**1960**	4	-6.7	-1.7									
1961	59	16.6	0.3	**1961**	30	-40.8	-1.4	**1961**	15	-41.6	-2.8									
1962	53	65.2	1.2	**1962**	20	-3.8	-0.2	**1962**	4	-7.8	-2.0									
1963	47	-5.7	-0.1	**1963**	30	-38.2	-1.3	**1963**	15	-35.6	-2.4									
1964	49	17.9	0.4	**1964**	30	-19.0	-0.6	**1964**	9	-21.1	-2.3									
1965	35	-14.8	-0.4	**1965**	27	-32.1	-1.2	**1965**	12	-31.6	-2.6									
1966	45	11.1	0.2	**1966**	25	-29.3	-1.2	**1966**	8	-24.8	-3.1									
1967	42	29.8	0.7	**1967**	22	-11.0	-0.5	**1967**	4	-9.1	-2.3									
1968	39	22.9	0.6	**1968**	23	-9.2	-0.4	**1968**	5	-15.1	-3.0									
1969	29	44.6	1.5	**1969**	8	3.0	0.4	**1969**	0	0.0										
1970	59	4.5	0.1	**1970**	45	-23.0	-0.5	**1970**	11	-30.3	-2.8									
1971	42	19.0	0.5	**1971**	25	-16.9	-0.7	**1971**	5	-13.8	-2.8									
1972	36	15.0	0.4	**1972**	24	-7.4	-0.3	**1972**	3	-7.6	-2.5									
1973	7	12.8	1.8	**1973**	1	1.1	1.1	**1973**	0	0.0										
1974	42	33.2	0.8	**1974**	20	-9.8	-0.5	**1974**	7	-13.3	-1.9									
1975	30	30.2	1.0	**1975**	9	-7.8	-0.9	**1975**	4	-9.9	-2.5									
1976	55	-3.8	-0.1	**1976**	36	-40.6	-1.1	**1976**	17	-42.1	-2.5									
1977	59	9.3	0.2	**1977**	38	-36.6	-1.0	**1977**	13	-33.8	-2.6									
1978	30	32.6	1.1	**1978**	14	-2.5	-0.2	**1978**	2	-3.3	-1.7									
1979	41	13.1	0.3	**1979**	26	-15.2	-0.6	**1979**	5	-11.3	-2.3									
1980	30	30.5	1.0	**1980**	15	-2.2	-0.1	**1980**	2	-3.4	-1.7									
1981	28	28.5	1.0	**1981**	15	3.7	0.2	**1981**	0	0.0										
1982	48	-29.0	-0.6	**1982**	41	-44.9	-1.1	**1982**	18	-45.2	-2.5									
1983	22	18.1	0.8	**1983**	13	0.1	0.0	**1983**	1	-2.3	-2.3									
1984	33	28.0	0.8	**1984**	14	-10.3	-0.7	**1984**	4	-10.7	-2.7	20 years	34.3	0.8	20 years	18.7	-0.4	20 years	3.0	-2.4
1985	38	31.6	0.8	**1985**	17	-13.8	-0.8	**1985**	3	-11.4	-3.8	19 years	34.3	0.8	19 years	18.9	-0.3	19 years	2.9	-2.4
1986	33	22.6	0.7	**1986**	17	-12.5	-0.7	**1986**	3	-8.5	-2.8	18 years	34.1	0.8	18 years	19.0	-0.3	18 years	2.9	-2.3
1987	41	17.8	0.4	**1987**	25	-15.4	-0.6	**1987**	8	-19.7	-2.5	17 years	34.2	0.8	17 years	19.1	-0.3	17 years	2.9	-2.2
1988	17	16.0	0.9	**1988**	9	-2.6	-0.3	**1988**	1	-2.4	-2.4	16 years	33.8	0.8	16 years	18.8	-0.3	16 years	2.6	-2.2
1989	41	34.4	0.8	**1989**	22	-6.9	-0.3	**1989**	1	-1.6	-1.6	15 years	34.9	0.8	15 years	19.4	-0.3	15 years	2.7	-2.2
1990	40	40.9	1.0	**1990**	21	-0.9	-0.0	**1990**	2	-4.1	-2.1	14 years	34.4	0.8	14 years	19.2	-0.3	14 years	2.9	-2.2
1991	39	52.2	1.3	**1991**	16	1.9	0.1	**1991**	0	0.0		13 years	34.0	0.8	13 years	19.1	-0.3	13 years	2.9	-2.3
1992	31	19.1	0.6	**1992**	21	-1.8	-0.1	**1992**	2	-4.3	-2.2	12 years	33.6	0.7	12 years	19.3	-0.3	12 years	3.2	-2.3
1993	14	21.6	1.5	**1993**	4	0.4	0.1	**1993**	0	0.0		11 years	33.8	0.8	11 years	19.2	-0.3	11 years	3.3	-2.3
1994	58	24.6	0.4	**1994**	37	-21.2	-0.6	**1994**	5	-11.7	-2.3	10 years	35.8	0.7	10 years	20.7	-0.4	10 years	3.6	-2.3
1995	32	29.2	0.9	**1995**	15	-4.9	-0.3	**1995**	3	-7.4	-2.5	9 years	33.3	0.7	9 years	18.9	-0.4	9 years	3.4	-2.3
1996	19	24.0	1.3	**1996**	8	0.1	0.0	**1996**	0	0.0		8 years	33.5	0.7	8 years	19.4	-0.4	8 years	3.5	-2.2
1997	41	10.0	0.2	**1997**	26	-20.8	-0.8	**1997**	5	-11.7	-2.3	7 years	35.6	0.6	7 years	21.0	-0.4	7 years	4.0	-2.2
1998	21	15.1	0.7	**1998**	11	-5.2	-0.5	**1998**	0	0.0		6 years	34.7	0.7	6 years	20.2	-0.4	6 years	3.8	-2.2
1999	30	32.4	1.1	**1999**	15	1.8	0.1	**1999**	0	0.0		5 years	37.4	0.7	5 years	22.0	-0.4	5 years	4.6	-2.2
2000	39	16.4	0.4	**2000**	25	-13.7	-0.5	**2000**	5	-11.9	-2.4	4 years	39.3	0.5	4 years	23.8	-0.5	4 years	5.8	-2.2
2001	41	55.3	1.3	**2001**	17	5.4	0.3	**2001**	0	0.0		3 years	39.3	0.6	3 years	23.3	-0.4	3 years	6.0	-2.1
2002	54	-14.1	-0.3	**2002**	42	-38.1	-0.9	**2002**	15	-36.1	-2.4	2 years	38.5	0.2	2 years	26.5	-0.8	2 years	9.0	-2.1
2003	23	15.6	0.7	**2003**	11	-8.1	-0.7	**2003**	3	-5.5	-1.8	1 years	23.0	0.7	1 years	11.0	-0.7	1 years	3.0	-1.8
2004	50	9.2	0.2	**2004**	35	-17.5	-0.5	**2004**	6	-14.2	-2.4	0 years	50.0	0.2	0 years	35.0	-0.5	0 years	6.0	-2.4
2005	21	29.8	1.4	**2005**	7	1.1	0.2	**2005**	0	0.0		1 years	21.0	1.4	1 years	7.0	0.2	1 years	0.0	
2006	31	29.5	1.0	**2006**	17	-0.1	-0.0	**2006**	1	-2.1	-2.1	2 years	26.0	1.2	2 years	12.0	0.1	2 years	0.5	-2.1
2007	30	2.2	0.1	**2007**	21	-14.3	-0.7	**2007**	5	-10.6	-2.1	3 years	27.3	0.8	3 years	15.0	-0.2	3 years	2.0	-2.1
2008	41	13.3	0.3	**2008**	27	-16.9	-0.6	**2008**	8	-16.8	-2.1	4 years	30.8	0.7	4 years	18.0	-0.3	4 years	3.5	-2.1
2009	17	18.1	1.1	**2009**	8	0.0	0.0	**2009**	0	0.0		5 years	28.0	0.8	5 years	16.0	-0.2	5 years	2.8	-2.1
2010	27	36.1	1.3	**2010**	10	1.9	0.2	**2010**	0	0.0		6 years	27.8	0.9	6 years	15.0	-0.2	6 years	2.3	-2.1
2011	46	31.3	0.7	**2011**	28	-5.0	-0.2	**2011**	3	-8.8	-2.9	7 years	30.4	0.8	7 years	16.9	-0.2	7 years	2.4	-2.3
2012	52	19.5	0.4	**2012**	34	-13.5	-0.4	**2012**	6	-16.7	-2.8	8 years	33.1	0.8	8 years	19.0	-0.2	8 years	2.9	-2.4
2013	25	28.1	1.1	**2013**	11	-1.1	-0.1	**2013**	0	0.0		9 years	32.2	0.8	9 years	18.1	-0.2	9 years	2.6	-2.4
2014	28	20.0	0.7	**2014**	15	-8.1	-0.5	**2014**	2	-3.7	-1.9	10 years	31.8	0.8	10 years	17.8	-0.2	10 years	2.5	-2.3
2015	34	45.5	1.3	**2015**	15	2.6	0.2	**2015**	0	0.0		11 years	32.0	0.9	11 years	17.5	-0.2	11 years	2.3	-2.3
2016	10	21.4	2.1	**2016**	1	0.4	0.4	**2016**	0	0.0		12 years	30.2	1.0	12 years	16.2	-0.1	12 years	2.1	-2.3
2017	28	49.7	1.8	**2017**	6	1.3	0.2	**2017**	0	0.0		13 years	30.0	1.0	13 years	15.4	-0.1	13 years	1.9	-2.3
2018	39	26.6	0.7	**2018**	22	-8.4	-0.4	**2018**	4	-8.9	-2.2	14 years	30.6	1.0	14 years	15.9	-0.1	14 years	2.1	-2.3
2019	36	26.7	0.7	**2019**	17	-8.5	-0.5	**2019**	5	-12.1	-2.4	15 years	31.0	1.0	15 years	15.9	-0.2	15 years	2.3	-2.3
2020	34	51.6	1.5	**2020**	12	5.4	0.5	**2020**	0	0.0		16 years	31.2	1.0	16 years	15.7	-0.1	16 years	2.1	-2.3
2021	27	45.5	1.7	**2021**	10	8.0	0.8	**2021**	0	0.0		17 years	30.9	1.1	17 years	15.4	-0.1	17 years	2.0	-2.3
2022	29	24.3	0.8	**2022**	13	-4.0	-0.3	**2022**	1	-2.9	-2.9	18 years	30.8	1.0	18 years	15.2	-0.1	18 years	1.9	-2.4

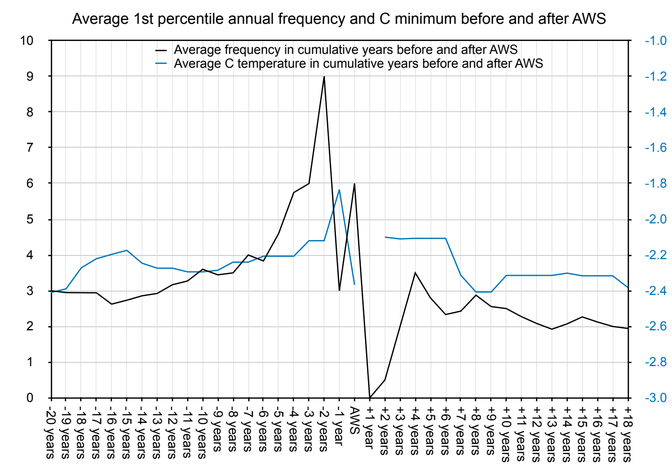
Original AWS probe type unknown

6 years				**6 years**				**6 years**			
Pre	34.7	20.1	0.7	**Pre**	20.2	-9.7	-0.4	**Pre**	3.8	-8.9	-2.2
Post	27.8	21.5	0.9	**Post**	15.0	-4.7	-0.2	**Post**	2.3	-4.9	-2.1

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		



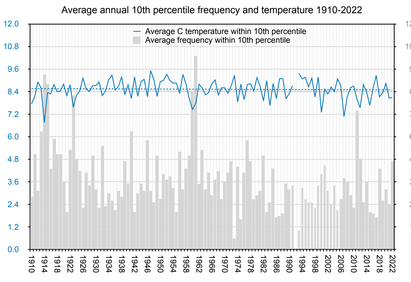


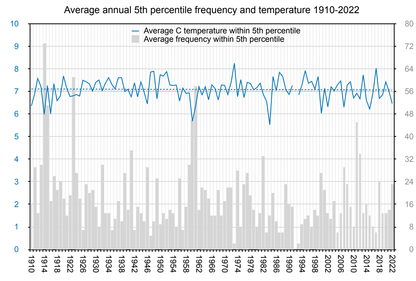


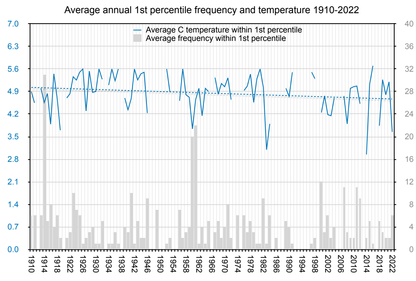
10th 10.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile
1910	28	216.8	7.7
1911	51	413.6	8.1
1912	31	276.1	8.9
1913	63	542.4	8.6
1914	93	628.5	6.8
1915	88	735.3	8.4
1916	43	356.2	8.3
1917	59	518.2	8.8
1918	51	428.2	8.4
1919	51	430.3	8.4
1920	36	316.8	8.8
1921	20	163.8	8.2
1922	53	464.5	8.8
1923	82	621.5	7.6
1924	48	394.4	8.2
1925	42	354.0	8.4
1926	22	200.7	9.1
1927	41	349.8	8.5
1928	34	286.0	8.4
1929	50	435.5	8.7
1930	32	279.3	8.7
1931	22	196.1	8.9
1932	55	450.5	8.2
1933	23	194.5	8.5
1934	30	271.2	9.0
1935	26	241.2	9.3
1936	21	178.3	8.5
1937	31	269.1	8.7
1938	28	257.1	9.2
1939	47	387.4	8.2
1940	35	306.9	8.8
1941	63	506.4	8.0
1942	20	183.6	9.2
1943	30	244.7	8.2
1944	35	312.5	8.9
1945	31	280.7	9.1
1946	58	472.0	8.1
1947	31	295.0	9.5
1948	25	225.9	9.0
1949	50	407.4	8.1
1950	27	241.1	8.9
1951	40	360.1	9.0
1952	37	345.1	9.3
1953	39	350.3	9.0
1954	33	292.3	8.9
1955	20	177.1	8.9
1956	52	432.2	8.3
1957	32	298.2	9.3
1958	43	378.2	8.8
1959	50	400.4	8.0
1960	84	626.5	7.5
1961	103	802.4	7.8
1962	35	307.9	8.8
1963	53	456.1	8.6
1964	32	263.5	8.2
1965	41	342.5	8.4
1966	29	255.9	8.8
1967	37	333.9	9.0
1968	42	345.3	8.2
1969	27	232.5	8.6
1970	36	309.8	8.6
1971	41	340.8	8.3
1972	47	409.4	8.7
1973	6	55.6	9.3
1974	44	345.7	7.9
1975	16	140.8	8.8
1976	41	327.1	8.0
1977	58	509.5	8.8
1978	47	414.4	8.8
1979	27	227.9	8.4
1980	29	265.3	9.1
1981	31	268.6	8.7
1982	50	395.6	7.9
1983	20	179.7	9.0
1984	25	191.7	7.7
1985	43	379.9	8.8
1986	17	136.6	8.0
1987	18	163.7	9.1
1988	19	172.8	9.1
1989	35	281.2	8.0
1990	32	265.6	8.3
1991	34	296.6	8.7
1992	0	0.0	
1993	10	93.7	9.4
1994	33	299.6	9.1
1995	27	247.3	9.2
1996	25	216.5	8.7
1997	25	228.1	9.1
1998	22	178.6	8.1
1999	34	311.8	9.2
2000	40	292.3	7.3
2001	45	384.1	8.5
2002	31	256.6	8.3
2003	24	207.5	8.6
2004	34	285.6	8.4
2005	21	190.7	9.1
2006	27	235.1	8.7
2007	38	268.8	7.1
2008	36	292.9	8.1
2009	29	249.8	8.6
2010	22	191.3	8.7
2011	74	593.1	8.0
2012	48	362.2	7.5
2013	25	219.5	8.8
2014	36	302.1	8.4
2015	20	153.4	7.7
2016	19	163.1	8.6
2017	17	157.5	9.3
2018	43	349.6	8.1
2019	26	216.6	8.3
2020	32	283.0	8.8
2021	24	193.4	8.1
2022	47	380.4	8.1
50/50	No AWS / small screen unknown		
1910-1965	42.9	360.1	8.6
1966-2022	31.3	264.0	8.5

5th 8.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile
1910	16	101.7	6.4
1911	29	199.4	6.9
1912	13	98.5	7.6
1913	30	216.6	7.2
1914	73	436.9	6.0
1915	51	370.5	7.3
1916	17	102.2	6.0
1917	26	191.0	7.3
1918	21	138.5	6.6
1919	24	163.2	6.8
1920	18	138.4	7.7
1921	12	85.7	7.1
1922	19	128.8	6.8
1923	61	415.5	6.8
1924	27	185.4	6.9
1925	18	122.4	6.8
1926	7	52.5	7.5
1927	23	170.9	7.4
1928	20	146.9	7.3
1929	21	147.4	7.0
1930	15	111.1	7.4
1931	8	60.1	7.5
1932	30	211.2	7.0
1933	13	95.8	7.4
1934	13	99.0	7.6
1935	7	51.2	7.3
1936	11	78.3	7.1
1937	17	129.3	7.6
1938	10	76.2	7.6
1939	27	189.1	7.0
1940	14	99.4	7.1
1941	35	236.7	6.8
1942	7	51.7	7.4
1943	15	101.5	6.8
1944	13	96.5	7.4
1945	10	69.8	7.0
1946	29	187.0	6.4
1947	5	39.3	7.9
1948	10	79.0	7.9
1949	25	166.9	6.7
1950	9	69.7	7.7
1951	13	99.9	7.7
1952	11	86.7	7.9
1953	14	102.1	7.3
1954	13	94.5	7.3
1955	8	58.3	7.3
1956	25	164.5	6.6
1957	7	50.1	7.2
1958	15	103.8	6.9
1959	30	208.2	6.9
1960	46	261.6	5.7
1961	58	369.5	6.4
1962	14	101.1	7.2
1963	22	150.8	6.9
1964	21	151.6	7.2
1965	18	119.4	6.6
1966	12	87.6	7.3
1967	12	85.7	7.1
1968	21	139.2	6.6
1969	12	87.5	7.3
1970	17	123.6	7.3
1971	22	151.0	6.9
1972	22	163.0	7.4
1973	2	16.5	8.3
1974	28	189.7	6.8
1975	8	60.2	7.5
1976	23	154.9	6.7
1977	27	200.0	7.4
1978	19	139.7	7.4
1979	14	99.1	7.1
1980	8	57.4	7.2
1981	13	95.8	7.4
1982	33	226.6	6.9
1983	6	39.4	6.6
1984	12	66.3	5.5
1985	20	153.3	7.7
1986	10	70.4	7.0
1987	6	47.1	7.9
1988	6	46.0	7.7
1989	23	162.9	7.1
1990	16	109.9	6.9
1991	15	109.1	7.3
1992	0	0.0	
1993	2	13.7	6.9
1994	9	65.7	7.3
1995	11	87.2	7.9
1996	12	88.4	7.4
1997	8	59.6	7.5
1998	14	99.5	7.1
1999	12	92.0	7.7
2000	27	162.9	6.0
2001	21	150.0	7.1
2002	13	82.2	6.3
2003	11	79.3	7.2
2004	17	119.5	7.0
2005	6	43.8	7.3
2006	13	97.1	7.5
2007	29	182.9	6.3
2008	23	167.4	7.3
2009	15	111.5	7.4
2010	8	53.7	6.7
2011	45	311.5	6.9
2012	34	227.0	6.7
2013	13	100.6	7.7
2014	16	105.5	6.6
2015	12	74.7	6.2
2016	8	55.4	6.9
2017	6	48.2	8.0
2018	24	160.7	6.7
2019	13	89.1	6.9
2020	13	96.6	7.4
2021	14	97.9	7.0
2022	23	148.7	6.5
50/50	No AWS / small screen unknown		
1910-1965	20.8	143.5	7.1
1966-2022	15.4	108.0	7.1

1st -1.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1910	6	29.4	4.9
1911	6	27.3	4.6
1912	0	0.0	
1913	6	30.0	5.0
1914	31	141.3	4.6
1915	5	24.2	4.8
1916	8	31.1	3.9
1917	4	21.8	5.5
1918	6	28.3	4.7
1919	2	7.4	3.7
1920	0	0.0	
1921	2	9.4	4.7
1922	3	14.5	4.8
1923	10	53.6	5.4
1924	7	36.8	5.3
1925	6	33.0	5.5
1926	1	5.6	5.6
1927	2	8.6	4.3
1928	3	16.6	5.5
1929	4	19.5	4.9
1930	1	4.9	4.9
1931	1	5.6	5.6
1932	5	26.4	5.3
1933	0	0.0	
1934	1	5.1	5.1
1935	1	5.6	5.6
1936	3	15.7	5.2
1937	1	5.6	5.6
1938	0	0.0	
1939	4	18.8	4.7
1940	3	13.0	4.3
1941	10	46.8	4.7
1942	1	5.6	5.6
1943	5	26.3	5.3
1944	2	10.9	5.5
1945	2	11.0	5.5
1946	9	38.1	4.2
1947	0	0.0	
1948	0	0.0	
1949	7	33.0	4.7
1950	0	0.0	
1951	0	0.0	
1952	1	5.6	5.6
1953	2	9.8	4.9
1954	0	0.0	
1955	0	0.0	
1956	7	32.3	4.6
1957	2	11.2	5.6
1958	3	14.4	4.8
1959	4	18.9	4.7
1960	20	74.9	3.7
1961	22	102.4	4.7
1962	1	5.0	5.0
1963	4	16.6	4.2
1964	1	5.0	5.0
1965	5	24.5	4.9
1966	0	0.0	
1967	3	16.0	5.3
1968	5	24.1	4.8
1969	2	10.3	5.2
1970	4	20.2	5.1
1971	8	42.6	5.3
1972	2	9.3	4.7
1973	0	0.0	
1974	6	23.4	3.9
1975	0	0.0	
1976	6	29.6	4.9
1977	3	15.2	5.1
1978	5	27.2	5.4
1979	3	13.7	4.6
1980	1	5.3	5.3
1981	1	5.6	5.6
1982	9	45.3	5.0
1983	1	3.1	3.1
1984	6	23.4	3.9
1985	0	0.0	
1986	2	10.7	5.4
1987	0	0.0	
1988	0	0.0	
1989	5	25.0	5.0
1990	4	19.0	4.8
1991	1	5.5	5.5
1992	0	0.0	
1993	0	0.0	
1994	0	0.0	
1995	0	0.0	
1996	0	0.0	
1997	1	5.5	5.5
1998	2	10.6	5.3
1999	0	0.0	
2000	12	51.0	4.3
2001	3	14.3	4.8
2002	6	25.1	4.2
2003	2	8.3	4.2
2004	4	18.8	4.7
2005	0	0.0	
2006	0	0.0	
2007	11	52.4	4.8
2008	3	11.7	3.9
2009	2	10.0	5.0
2010	2	10.1	5.1
2011	11	55.8	5.1
2012	9	40.7	4.5
2013	0	0.0	
2014	2	5.9	3.0
2015	5	25.7	5.1
2016	1	5.7	5.7
2017	0	0.0	
2018	5	19.2	3.8
2019	3	15.8	5.3
2020	2	9.6	4.8
2021	2	10.4	5.2
2022	6	21.9	3.7
50/50	No AWS / small screen unknown		
1910-1965	4.3	20.2	4.9
1966-2022	3.0	14.1	4.8





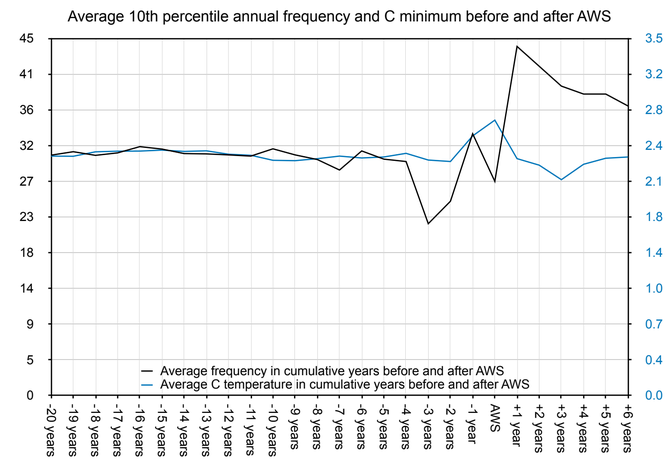


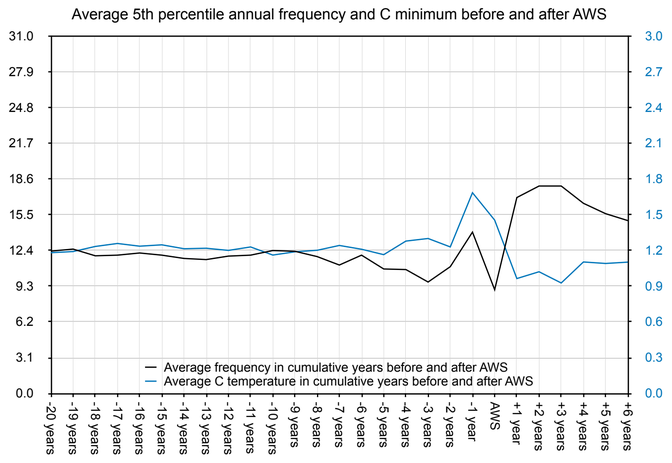
10th 3.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	22	56.2	2.6	**1910**	11	18.9	1.7	**1910**	1	0.0	0.0									
1911	35	80.5	2.3	**1911**	19	25.6	1.3	**1911**	3	-1.9	-0.6									
1912	33	85.0	2.6	**1912**	15	25.0	1.7	**1912**	1	0.0	0.0									
1913	46	116.5	2.5	**1913**	20	28.9	1.4	**1913**	2	-0.6	-0.3									
1914	30	86.3	2.9	**1914**	7	9.2	1.3	**1914**	1	0.0	0.0									
1915	20	60.0	3.0	**1915**	4	4.5	1.1	**1915**	0	0.0										
1916	33	106.7	3.2	**1916**	4	7.2	1.8	**1916**	0	0.0										
1917	33	80.7	2.4	**1917**	17	24.6	1.4	**1917**	2	-0.6	-0.3									
1918	38	102.3	2.7	**1918**	13	18.3	1.4	**1918**	3	-1.2	-0.4									
1919	31	68.3	2.2	**1919**	15	14.9	1.0	**1919**	5	-1.7	-0.3									
1920	29	67.3	2.3	**1920**	15	20.6	1.4	**1920**	3	0.0	0.0									
1921	33	85.6	2.6	**1921**	12	14.9	1.2	**1921**	3	-2.8	-0.9									
1922	55	150.6	2.7	**1922**	20	29.5	1.5	**1922**	2	-4.4	-2.2									
1923	31	82.7	2.7	**1923**	10	12.7	1.3	**1923**	1	-0.6	-0.6									
1924	55	117.9	2.1	**1924**	27	23.0	0.9	**1924**	7	-2.3	-0.3									
1925	66	139.2	2.1	**1925**	35	36.3	1.0	**1925**	7	-5.6	-0.8									
1926	51	137.3	2.7	**1926**	21	36.7	1.7	**1926**	1	-0.6	-0.6									
1927	79	110.1	1.4	**1927**	53	24.1	0.5	**1927**	20	-22.4	-1.1									
1928	57	77.9	1.4	**1928**	44	35.0	0.8	**1928**	14	-8.4	-0.6									
1929	75	139.8	1.9	**1929**	40	20.0	0.5	**1929**	15	-18.0	-1.2									
1930	52	115.7	2.2	**1930**	27	30.8	1.1	**1930**	6	-3.4	-0.6									
1931	79	166.5	2.1	**1931**	45	54.0	1.2	**1931**	7	-2.3	-0.3									
1932	45	97.3	2.2	**1932**	23	22.8	1.0	**1932**	7	-2.8	-0.4									
1933	81	135.5	1.7	**1933**	51	34.7	0.7	**1933**	17	-21.1	-1.2									
1934	72	100.1	1.4	**1934**	54	40.8	0.8	**1934**	20	-15.6	-0.8									
1935	56	104.4	1.9	**1935**	34	28.2	0.8	**1935**	9	-9.5	-1.1									
1936	68	71.9	1.1	**1936**	50	12.9	0.3	**1936**	22	-29.2	-1.3									
1937	62	100.3	1.6	**1937**	41	29.5	0.7	**1937**	13	-11.2	-0.9									
1938	69	81.4	1.2	**1938**	42	-8.9	-0.2	**1938**	24	-34.6	-1.4									
1939	36	87.1	2.4	**1939**	13	15.9	1.2	**1939**	3	-1.8	-0.6									
1940	55	103.9	1.9	**1940**	31	27.1	0.9	**1940**	6	-5.7	-1.0									
1941	50	98.6	2.0	**1941**	29	27.6	1.0	**1941**	6	-3.3	-0.6									
1942	36	87.4	2.4	**1942**	20	28.5	1.4	**1942**	4	-0.9	-0.2									
1943	57	139.4	2.4	**1943**	26	31.3	1.2	**1943**	6	-2.8	-0.5									
1944	50	108.3	2.2	**1944**	26	26.7	1.0	**1944**	8	-5.0	-0.6									
1945	32	54.4	1.7	**1945**	20	15.5	0.8	**1945**	7	-4.7	-0.7									
1946	62	136.3	2.2	**1946**	30	30.5	1.0	**1946**	6	-3.1	-0.5									
1947	44	91.8	2.1	**1947**	24	30.0	1.3	**1947**	5	-2.8	-0.6									
1948	61	135.3	2.2	**1948**	37	50.3	1.4	**1948**	4	-3.4	-0.9									
1949	56	115.0	2.1	**1949**	32	35.5	1.1	**1949**	4	-3.3	-0.8									
1950	24	59.9	2.5	**1950**	10	16.2	1.6	**1950**	0	0.0										
1951	46	103.1	2.2	**1951**	21	25.1	1.2	**1951**	4	-1.5	-0.4									
1952	51	76.7	1.5	**1952**	34	24.3	0.7	**1952**	11	-7.0	-0.6									
1953	54	113.5	2.1	**1953**	27	26.5	1.0	**1953**	7	-3.6	-0.5									
1954	46	102.2	2.2	**1954**	22	26.9	1.2	**1954**	4	-1.1	-0.3									
1955	41	84.4	2.1	**1955**	19	11.8	0.6	**1955**	6	-4.0	-0.7									
1956	53	121.7	2.3	**1956**	26	26.6	1.0	**1956**	6	-2.5	-0.4									
1957	52	80.9	1.6	**1957**	35	27.8	0.8	**1957**	6	-8.2	-1.4									
1958	48	62.9	1.3	**1958**	34	13.6	0.4	**1958**	13	-15.6	-1.2									
1959	41	99.9	2.4	**1959**	17	19.7	1.2	**1959**	2	-3.3	-1.7									
1960	49	93.4	1.9	**1960**	26	17.3	0.7	**1960**	9	-5.1	-0.6									
1961	41	71.9	1.8	**1961**	24	10.4	0.4	**1961**	11	-10.2	-0.9									
1962	56	148.6	2.7	**1962**	20	23.5	1.2	**1962**	5	-3.1	-0.6									
1963	42	65.2	1.6	**1963**	27	15.6	0.6	**1963**	8	-8.0	-1.0									
1964	50	107.4	2.1	**1964**	23	18.5	0.8	**1964**	8	-5.9	-0.7									
1965	62	107.9	1.7	**1965**	35	15.5	0.4	**1965**	15	-9.2	-0.6									
1966	34	65.8	1.9	**1966**	20	21.1	1.1	**1966**	2	-1.4	-0.7									
1967	27	70.4	2.6	**1967**	10	15.1	1.5	**1967**	0	0.0										
1968	38	97.6	2.6	**1968**	11	13.7	1.2	**1968**	2	-1.7	-0.9									
1969	42	120.4	2.9	**1969**	10	16.2	1.6	**1969**	0	0.0										
1970	47	117.5	2.5	**1970**	17	16.2	1.0	**1970**	3	-0.8	-0.3									
1971	37	74.4	2.0	**1971**	20	19.0	1.0	**1971**	5	-1.0	-0.2									
1972	29	75.3	2.6	**1972**	9	11.4	1.3	**1972**	0	0.0										
1973	21	59.6	2.8	**1973**	5	7.7	1.5	**1973**	0	0.0										
1974	39	91.8	2.4	**1974**	15	17.0	1.1	**1974**	2	-0.8	-0.4									
1975	24	55.8	2.3	**1975**	10	12.1	1.2	**1975**	2	-1.8	-0.9									
1976	40	92.3	2.3	**1976**	16	15.9	1.0	**1976**	3	-2.5	-0.8									
1977	39	82.2	2.1	**1977**	17	17.2	1.0	**1977**	3	-2.9	-1.0									
1978	38	84.1	2.2	**1978**	15	12.4	0.8	**1978**	2	-0.9	-0.5									
1979	32	80.0	2.5	**1979**	10	9.9	1.0	**1979**	2	-0.3	-0.2									
1980	27	66.0	2.4	**1980**	10	12.7	1.3	**1980**	0	0.0										
1981	22	61.1	2.8	**1981**	7	12.5	1.8	**1981**	0	0.0										
1982	42	97.2	2.3	**1982**	18	20.2	1.1	**1982**	2	-1.1	-0.6									
1983	35	59.5	1.7	**1983**	21	17.0	0.8	**1983**	3	-4.1	-1.4									
1984	35	81.3	2.3	**1984**	16	21.3	1.3	**1984**	1	-1.3	-1.3									
1985	27	68.0	2.5	**1985**	10	12.3	1.2	**1985**	0	0.0										
1986	30	64.5	2.2	**1986**	12	8.8	0.7	**1986**	3	-2.3	-0.8									
1987	28	66.7	2.4	**1987**	11	16.1	1.5	**1987**	0	0.0										
1988	25	64.3	2.6	**1988**	6	6.6	1.1	**1988**	1	-0.3	-0.3									
1989	39	74.3	1.9	**1989**	22	20.3	0.9	**1989**	4	-3.4	-0.9									
1990	30	75.8	2.5	**1990**	12	19.4	1.6	**1990**	0	0.0										
1991	24	67.0	2.8	**1991**	6	9.3	1.6	**1991**	0	0.0										
1992	29	74.9	2.6	**1992**	9	12.7	1.4	**1992**	0	0.0										
1993	22	52.5	2.4	**1993**	9	11.8	1.3	**1993**	1	0.0	0.0									
1994	35	57.5	1.6	**1994**	21	14.7	0.7	**1994**	5	-6.1	-1.2									
1995	26	41.7	1.6	**1995**	16	12.4	0.8	**1995**	4	-1.6	-0.4									
1996	22	52.4	2.4	**1996**	9	9.0	1.0	**1996**	1	-0.2	-0.2	20 years	30.3	2.3	20 years	12.4	1.2	20 years	1.8	-0.6
1997	39	60.9	1.6	**1997**	23	9.7	0.4	**1997**	7	-5.5	-0.8	19 years	30.7	2.3	19 years	12.5	1.2	19 years	1.8	-0.6
1998	25	57.1	2.3	**1998**	11	8.9	0.8	**1998**	2	-0.1	-0.1	18 years	30.3	2.4	18 years	11.9	1.2	18 years	1.5	-0.6
1999	18	42.8	2.4	**1999**	9	14.6	1.6	**1999**	0	0.0		17 years	30.6	2.4	17 years	12.0	1.3	17 years	1.5	-0.6
2000	36	81.3	2.3	**2000**	15	16.0	1.1	**2000**	3	-1.0	-0.3	16 years	31.4	2.4	16 years	12.2	1.2	16 years	1.6	-0.6
2001	39	100.7	2.6	**2001**	16	27.3	1.7	**2001**	1	0.0	0.0	15 years	31.1	2.4	15 years	12.0	1.2	15 years	1.5	-0.6
2002	31	71.9	2.3	**2002**	13	15.1	1.2	**2002**	1	-0.7	-0.7	14 years	30.5	2.4	14 years	11.7	1.2	14 years	1.5	-0.7
2003	32	89.5	2.8	**2003**	8	11.5	1.4	**2003**	0	0.0		13 years	30.5	2.4	13 years	11.6	1.2	13 years	1.5	-0.7
2004	32	79.4	2.5	**2004**	11	9.7	0.9	**2004**	1	-2.3	-2.3	12 years	30.3	2.4	12 years	11.9	1.2	12 years	1.7	-0.7
2005	21	59.8	2.8	**2005**	8	15.3	1.9	**2005**	0	0.0		11 years	30.2	2.4	11 years	12.0	1.2	11 years	1.7	-0.5
2006	38	88.9	2.3	**2006**	13	11.9	0.9	**2006**	2	-1.5	-0.8	10 years	31.1	2.3	10 years	12.4	1.2	10 years	1.9	-0.5
2007	35	75.1	2.1	**2007**	16	17.4	1.1	**2007**	3	-1.4	-0.5	9 years	30.3	2.3	9 years	12.3	1.2	9 years	1.9	-0.5
2008	39	83.7	2.1	**2008**	17	15.6	0.9	**2008**	4	-2.0	-0.5	8 years	29.8	2.3	8 years	11.9	1.2	8 years	1.8	-0.5
2009	14	34.4	2.5	**2009**	6	8.6	1.4	**2009**	0	0.0		7 years	28.4	2.3	7 years	11.1	1.2	7 years	1.4	-0.4
2010	36	82.1	2.3	**2010**	18	25.9	1.4	**2010**	1	0.0	0.0	6 years	30.8	2.3	6 years	12.0	1.2	6 years	1.7	-0.4
2011	31	68.1	2.2	**2011**	11	7.8	0.7	**2011**	4	-3.8	-1.0	5 years	29.8	2.3	5 years	10.8	1.2	5 years	1.8	-0.6
2012	53	136.3	2.6	**2012**	14	17.0	1.2	**2012**	2	-0.9	-0.5	4 years	29.5	2.4	4 years	10.8	1.3	4 years	1.3	-0.4
2013	16	37.4	2.3	**2013**	7	10.1	1.4	**2013**	0	0.0		3 years	21.7	2.3	3 years	9.7	1.3	3 years	1.0	-0.4
2014	16	32.7	2.0	**2014**	8	6.2	0.8	**2014**	3	-1.1	-0.4	2 years	24.5	2.3	2 years	11.0	1.2	2 years	1.5	-0.4
2015	33	84.0	2.5	**2015**	14	23.6	1.7	**2015**	0	0.0		1 years	33.0	2.5	1 years	14.0	1.7	1 years	0.0	
2016	27	72.9	2.7	**2016**	9	13.1	1.5	**2016**	0	0.0		0 years	27.0	2.7	0 years	9.0	1.5	0 years	0.0	
2017	44	102.2	2.3	**2017**	17	16.4	1.0	**2017**	4	-1.4	-0.4	1 years	44.0	2.3	1 years	17.0	1.0	1 years	4.0	-0.4
2018	39	85.6	2.2	**2018**	19	20.5	1.1	**2018**	1	-0.1	-0.1	2 years	41.5	2.3	2 years	18.0	1.0	2 years	2.5	-0.2
2019	34	62.3	1.8	**2019**	18	13.3	0.7	**2019**	6	-3.9	-0.7	3 years	39.0	2.1	3 years	18.0	0.9	3 years	3.7	-0.4
2020	35	95.2	2.7	**2020**	12	19.6	1.6	**2020**	0	0.0		4 years	38.0	2.3	4 years	16.5	1.1	4 years	2.8	-0.4
2021	38	97.4	2.6	**2021**	12	12.5	1.0	**2021**	1	-1.3	-1.3	5 years	38.0	2.3	5 years	15.6	1.1	5 years	2.4	-0.6
2022	29	69.6	2.4	**2022**	12	13.9	1.2	**2022**	1	-1.9	-1.9	6 years	36.5	2.3	6 years	15.0	1.1	6 years	2.2	-0.9

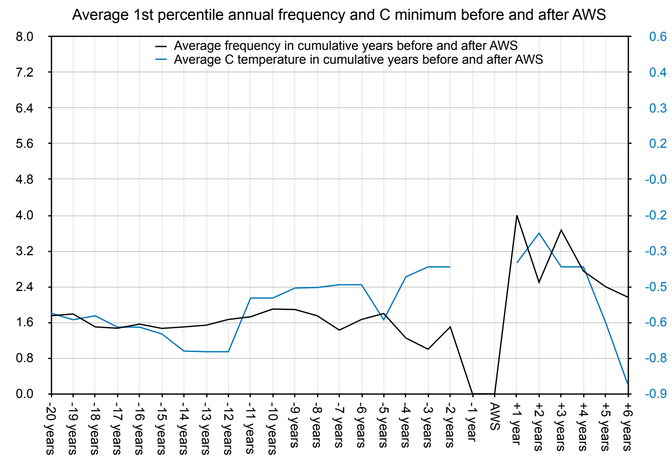
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	30.8	73.4	2.3	**Pre**	12.0	15.1	1.2	**Pre**	1.7	-1.0	-0.4
Post	36.5	85.4	2.3	**Post**	15.0	16.0	1.1	**Post**	2.2	-1.4	-0.9

		AWS introduction
		Probe replacement
		Small screen introduction





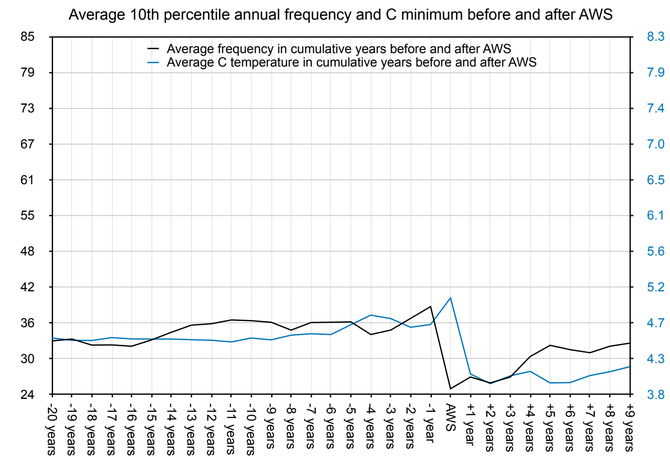


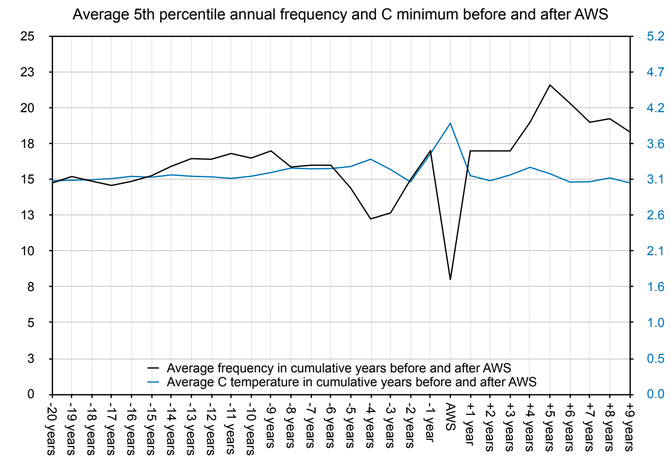
10th 6.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.5	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 1.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1952	51	207.8	4.1	**1952**	27	71.0	2.6	**1952**	9	8.0	0.9									
1953	70	260.6	3.7	**1953**	43	113.7	2.6	**1953**	12	11.2	0.9									
1954	29	128.8	4.4	**1954**	13	40.6	3.1	**1954**	1	0.2	0.2									
1955	49	188.1	3.8	**1955**	27	67.7	2.5	**1955**	9	9.4	1.0									
1956	73	291.1	4.0	**1956**	37	95.3	2.6	**1956**	12	10.6	0.9									
1957	57	220.5	3.9	**1957**	32	82.4	2.6	**1957**	11	10.8	1.0									
1958	38	155.8	4.1	**1958**	23	73.6	3.2	**1958**	4	6.3	1.6									
1959	22	98.6	4.5	**1959**	12	40.1	3.3	**1959**	1	0.2	0.2									
1960	63	241.2	3.8	**1960**	33	71.1	2.2	**1960**	16	18.6	1.2									
1961	63	225.0	3.6	**1961**	43	115.7	2.7	**1961**	10	8.5	0.9									
1962	66	296.0	4.5	**1962**	26	80.2	3.1	**1962**	6	8.8	1.5									
1963	42	163.0	3.9	**1963**	24	64.0	2.7	**1963**	5	4.1	0.8									
1964	62	228.1	3.7	**1964**	38	95.4	2.5	**1964**	10	3.0	0.3									
1965	39	151.3	3.9	**1965**	20	47.8	2.4	**1965**	7	9.6	1.4									
1966	53	215.7	4.1	**1966**	26	67.8	2.6	**1966**	6	-2.1	-0.4									
1967	33	130.9	4.0	**1967**	21	63.9	3.0	**1967**	3	5.1	1.7									
1968	59	215.2	3.6	**1968**	39	106.4	2.7	**1968**	11	7.9	0.7									
1969	20	94.3	4.7	**1969**	8	26.5	3.3	**1969**	2	3.0	1.5									
1970	58	205.1	3.5	**1970**	36	78.1	2.2	**1970**	12	3.5	0.3									
1971	40	169.8	4.2	**1971**	22	72.6	3.3	**1971**	3	2.3	0.8									
1972	41	157.6	3.8	**1972**	26	75.0	2.9	**1972**	4	4.2	1.1									
1973	15	78.4	5.2	**1973**	3	10.5	3.5	**1973**	0	0.0										
1974	44	180.4	4.1	**1974**	27	85.5	3.2	**1974**	1	0.6	0.6									
1975	35	165.4	4.7	**1975**	17	64.1	3.8	**1975**	0	0.0										
1976	27	127.1	4.7	**1976**	11	35.6	3.2	**1976**	2	2.8	1.4									
1977	39	145.6	3.7	**1977**	22	50.9	2.3	**1977**	6	4.9	0.8									
1978	40	169.5	4.2	**1978**	21	62.0	3.0	**1978**	4	2.3	0.6									
1979	34	169.9	5.0	**1979**	8	25.2	3.2	**1979**	0	0.0										
1980	26	111.2	4.3	**1980**	16	55.5	3.5	**1980**	0	0.0										
1981	44	192.3	4.4	**1981**	21	64.1	3.1	**1981**	5	5.8	1.2									
1982	22	93.6	4.3	**1982**	10	30.2	3.0	**1982**	2	2.6	1.3									
1983	16	81.7	5.1	**1983**	3	9.0	3.0	**1983**	0	0.0										
1984	26	131.6	5.1	**1984**	10	38.1	3.8	**1984**	0	0.0										
1985	34	154.1	4.5	**1985**	15	48.3	3.2	**1985**	2	2.4	1.2									
1986	32	149.0	4.7	**1986**	15	50.3	3.4	**1986**	2	1.3	0.7									
1987	21	96.8	4.6	**1987**	10	36.6	3.7	**1987**	0	0.0										
1988	13	67.0	5.2	**1988**	5	20.4	4.1	**1988**	0	0.0										
1989	41	198.6	4.8	**1989**	15	51.2	3.4	**1989**	0	0.0										
1990	35	138.2	3.9	**1990**	18	42.9	2.4	**1990**	9	10.1	1.1									
1991	40	164.9	4.1	**1991**	23	70.2	3.1	**1991**	4	3.8	1.0									
1992	41	197.3	4.8	**1992**	15	52.9	3.5	**1992**	1	1.0	1.0									
1993	27	137.1	5.1	**1993**	6	17.6	2.9	**1993**	1	0.4	0.4	20 years	33.2	4.5	20 years	14.8	3.1	20 years	2.1	1.0
1994	52	234.8	4.5	**1994**	21	62.5	3.0	**1994**	5	6.4	1.3	19 years	33.5	4.5	19 years	15.2	3.1	19 years	2.2	1.1
1995	32	124.0	3.9	**1995**	20	56.7	2.8	**1995**	3	1.3	0.4	18 years	32.4	4.5	18 years	14.9	3.1	18 years	2.0	1.1
1996	36	172.0	4.8	**1996**	10	26.1	2.6	**1996**	2	3.0	1.5	17 years	32.5	4.5	17 years	14.6	3.1	17 years	1.9	1.1
1997	16	72.4	4.5	**1997**	9	30.2	3.4	**1997**	1	1.4	1.4	16 years	32.3	4.5	16 years	14.9	3.2	16 years	1.9	1.1
1998	15	67.4	4.5	**1998**	6	16.1	2.7	**1998**	1	0.4	0.4	15 years	33.3	4.5	15 years	15.3	3.2	15 years	2.0	1.1
1999	19	87.6	4.6	**1999**	9	31.0	3.4	**1999**	0	0.0		14 years	34.6	4.5	14 years	15.9	3.2	14 years	2.1	1.1
2000	33	150.7	4.6	**2000**	17	55.7	3.3	**2000**	2	3.5	1.8	13 years	35.8	4.5	13 years	16.5	3.2	13 years	2.2	1.1
2001	29	136.8	4.7	**2001**	12	40.8	3.4	**2001**	0	0.0		12 years	36.1	4.5	12 years	16.4	3.2	12 years	2.3	1.1
2002	38	151.0	4.0	**2002**	20	56.5	2.8	**2002**	5	5.8	1.2	11 years	36.7	4.5	11 years	16.8	3.1	11 years	2.5	1.1
2003	39	183.9	4.7	**2003**	12	32.2	2.7	**2003**	2	0.9	0.5	10 years	36.6	4.5	10 years	16.5	3.2	10 years	2.2	1.0
2004	47	188.9	4.0	**2004**	26	70.5	2.7	**2004**	5	7.5	1.5	9 years	36.3	4.5	9 years	17.0	3.2	9 years	2.2	1.1
2005	26	115.1	4.4	**2005**	15	50.3	3.4	**2005**	1	0.9	0.9	8 years	35.0	4.5	8 years	15.9	3.3	8 years	1.9	1.1
2006	36	166.4	4.6	**2006**	16	52.1	3.3	**2006**	2	2.5	1.3	7 years	36.3	4.6	7 years	16.0	3.3	7 years	2.0	1.1
2007	36	141.7	3.9	**2007**	24	75.1	3.1	**2007**	2	1.3	0.7	6 years	36.3	4.6	6 years	16.0	3.3	6 years	2.0	1.1
2008	45	188.9	4.2	**2008**	23	66.4	2.9	**2008**	6	7.8	1.3	5 years	36.4	4.7	5 years	14.4	3.3	5 years	2.0	1.2
2009	32	157.8	4.9	**2009**	11	42.5	3.9	**2009**	0	0.0		4 years	34.3	4.8	4 years	12.3	3.4	4 years	1.0	1.2
2010	31	154.2	5.0	**2010**	8	29.0	3.6	**2010**	1	1.3	1.3	3 years	35.0	4.8	3 years	12.7	3.3	3 years	1.3	1.2
2011	35	161.4	4.6	**2011**	13	34.8	2.7	**2011**	3	3.1	1.0	2 years	37.0	4.6	2 years	15.0	3.1	2 years	1.5	1.0
2012	39	182.6	4.7	**2012**	17	59.4	3.5	**2012**	0	0.0		1 years	39.0	4.7	1 years	17.0	3.5	1 years	0.0	
2013	25	125.4	5.0	**2013**	8	31.5	3.9	**2013**	0	0.0		0 years	25.0	5.0	0 years	8.0	3.9	0 years	0.0	
2014	27	109.6	4.1	**2014**	17	54.0	3.2	**2014**	1	1.2	1.2	1 years	27.0	4.1	1 years	17.0	3.2	1 years	1.0	1.2
2015	25	95.4	3.8	**2015**	17	51.5	3.0	**2015**	5	7.8	1.6	2 years	26.0	3.9	2 years	17.0	3.1	2 years	3.0	1.4
2016	29	122.8	4.2	**2016**	17	57.0	3.4	**2016**	2	3.3	1.7	3 years	27.0	4.0	3 years	17.0	3.2	3 years	2.7	1.5
2017	41	174.7	4.3	**2017**	25	90.8	3.6	**2017**	1	1.0	1.0	4 years	30.5	4.1	4 years	19.0	3.3	4 years	2.3	1.4
2018	40	134.7	3.4	**2018**	32	90.6	2.8	**2018**	6	6.7	1.1	5 years	32.4	3.9	5 years	21.6	3.2	5 years	3.0	1.3
2019	28	111.1	4.0	**2019**	14	34.7	2.5	**2019**	5	6.4	1.3	6 years	31.7	4.0	6 years	20.3	3.1	6 years	3.3	1.3
2020	28	128.0	4.6	**2020**	11	34.3	3.1	**2020**	1	1.1	1.1	7 years	31.1	4.0	7 years	19.0	3.1	7 years	3.0	1.3
2021	40	177.2	4.4	**2021**	21	74.1	3.5	**2021**	0	0.0		8 years	32.3	4.1	8 years	19.3	3.1	8 years	2.6	1.3
2022	37	172.1	4.7	**2022**	11	27.6	2.5	**2022**	5	6.3	1.3	9 years	32.8	4.2	9 years	18.3	3.1	9 years	2.9	1.3

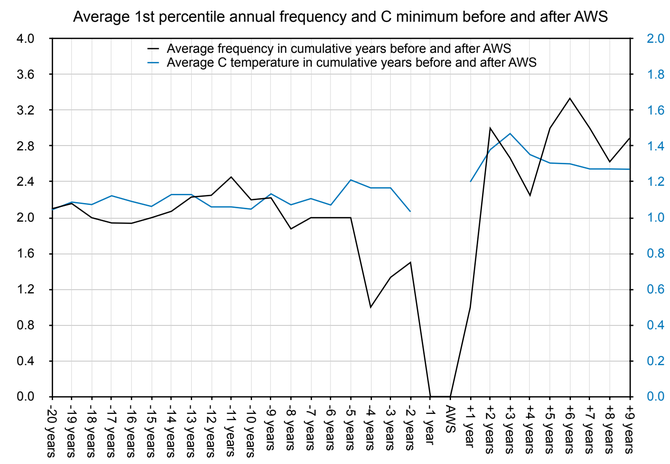
Original AWS probe WIKA TR40

6 years				**6 years**				**6 years**												
Pre	36.3	164.4	4.6	**Pre**	16.0	51.2	3.3	**Pre**	2.0	2.3	1.1									
Post	31.7	124.7	4.0	**Post**	20.3	63.1	3.1	**Post**	3.3	4.4	1.3									

		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										

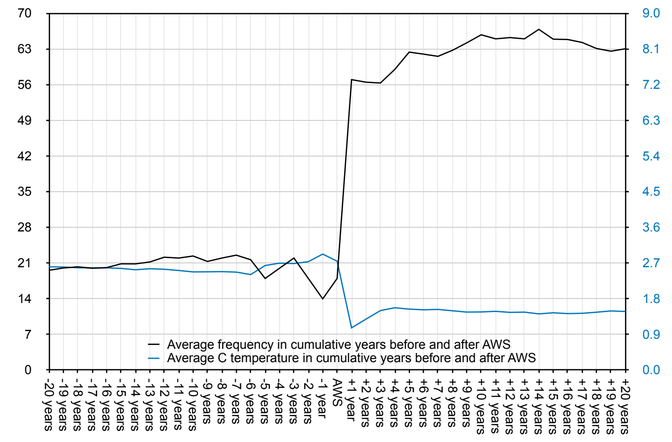




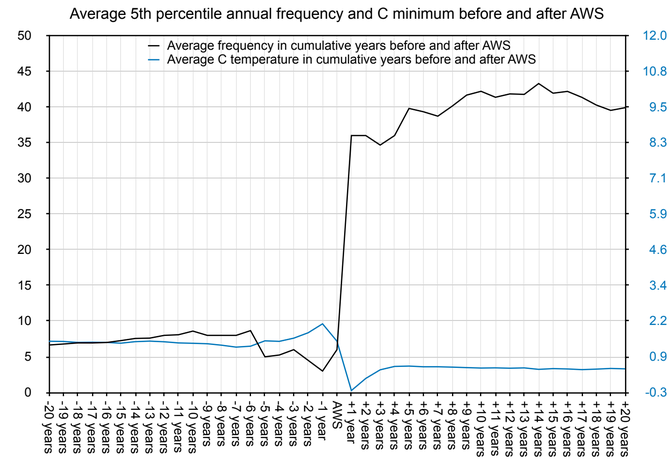


10th 3.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.2	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1951	36	94.1	2.6	**1951**	14	15.9	1.1	**1951**	0	0.0										
1952	39	108.2	2.8	**1952**	12	16.6	1.4	**1952**	0	0.0										
1953	25	71.3	2.9	**1953**	6	8.5	1.4	**1953**	0	0.0										
1954	34	98.6	2.9	**1954**	12	21.8	1.8	**1954**	0	0.0										
1955	25	60.4	2.4	**1955**	11	14.5	1.3	**1955**	1	-0.3	-0.3									
1956	48	117.7	2.5	**1956**	19	24.3	1.3	**1956**	0	0.0										
1957	23	66.9	2.9	**1957**	5	5.8	1.2	**1957**	0	0.0										
1958	18	55.3	3.1	**1958**	3	4.0	1.3	**1958**	0	0.0										
1959	13	38.8	3.0	**1959**	3	5.4	1.8	**1959**	0	0.0										
1960	35	101.0	2.9	**1960**	11	18.5	1.7	**1960**	1	-1.0	-1.0									
1961	18	52.4	2.9	**1961**	5	7.8	1.6	**1961**	0	0.0										
1962	20	59.1	3.0	**1962**	4	7.4	1.9	**1962**	0	0.0										
1963	2	7.3	3.7	**1963**	0	0.0		**1963**	0	0.0										
1964	22	52.1	2.4	**1964**	9	7.8	0.9	**1964**	1	-0.6	-0.6									
1965	13	40.4	3.1	**1965**	3	5.8	1.9	**1965**	0	0.0										
1966	36	104.0	2.9	**1966**	9	13.8	1.5	**1966**	0	0.0										
1967	14	34.2	2.4	**1967**	7	9.6	1.4	**1967**	0	0.0										
1968	36	74.0	2.1	**1968**	20	25.1	1.3	**1968**	0	0.0										
1969	39	92.2	2.4	**1969**	18	22.1	1.2	**1969**	1	-0.6	-0.6									
1970	19	50.0	2.6	**1970**	8	13.7	1.7	**1970**	0	0.0										
1971	30	79.6	2.7	**1971**	13	23.8	1.8	**1971**	0	0.0										
1972	24	68.4	2.9	**1972**	4	6.0	1.5	**1972**	0	0.0										
1973	12	32.9	2.7	**1973**	3	4.3	1.4	**1973**	0	0.0										
1974	9	27.1	3.0	**1974**	1	2.2	2.2	**1974**	0	0.0										
1975	15	41.1	2.7	**1975**	5	9.2	1.8	**1975**	0	0.0										
1976	11	29.8	2.7	**1976**	4	6.4	1.6	**1976**	0	0.0		20 years	19.6	2.6	20 years	6.7	1.5	20 years	0.4	-1.0
1977	16	47.4	3.0	**1977**	4	8.2	2.1	**1977**	0	0.0		19 years	20.1	2.6	19 years	6.8	1.5	19 years	0.4	-1.0
1978	25	64.9	2.6	**1978**	7	9.3	1.3	**1978**	0	0.0		18 years	20.3	2.6	18 years	6.9	1.4	18 years	0.4	-1.0
1979	18	46.8	2.6	**1979**	6	9.3	1.6	**1979**	0	0.0		17 years	20.0	2.6	17 years	6.9	1.4	17 years	0.5	-1.0
1980	9	25.0	2.8	**1980**	3	5.4	1.8	**1980**	0	0.0		16 years	20.1	2.6	16 years	7.0	1.4	16 years	0.5	-1.0
1981	21	64.3	3.1	**1981**	3	2.0	0.7	**1981**	1	-0.5	-0.5	15 years	20.9	2.6	15 years	7.3	1.4	15 years	0.5	-1.0
1982	16	35.0	2.2	**1982**	7	8.5	1.2	**1982**	0	0.0		14 years	20.9	2.5	14 years	7.6	1.5	14 years	0.5	-1.3
1983	10	27.2	2.7	**1983**	3	5.2	1.7	**1983**	0	0.0		13 years	21.2	2.6	13 years	7.6	1.5	13 years	0.5	-1.3
1984	24	69.2	2.9	**1984**	7	13.2	1.9	**1984**	0	0.0		12 years	22.2	2.5	12 years	8.0	1.4	12 years	0.6	-1.3
1985	18	51.8	2.9	**1985**	3	4.6	1.5	**1985**	0	0.0		11 years	22.0	2.5	11 years	8.1	1.4	11 years	0.6	-1.3
1986	32	78.6	2.5	**1986**	14	21.5	1.5	**1986**	0	0.0		10 years	22.4	2.5	10 years	8.6	1.4	10 years	0.7	-1.3
1987	16	39.1	2.4	**1987**	8	14.3	1.8	**1987**	0	0.0		9 years	21.3	2.5	9 years	8.0	1.4	9 years	0.8	-1.3
1988	18	46.3	2.6	**1988**	8	14.3	1.8	**1988**	0	0.0		8 years	22.0	2.5	8 years	8.0	1.3	8 years	0.9	-1.3
1989	28	79.7	2.8	**1989**	4	4.3	1.1	**1989**	1	-0.4	-0.4	7 years	22.6	2.5	7 years	8.0	1.3	7 years	1.0	-1.3
1990	40	50.9	1.3	**1990**	27	10.0	0.4	**1990**	6	-12.6	-2.1	6 years	21.7	2.4	6 years	8.7	1.3	6 years	1.0	-2.1
1991	10	24.0	2.4	**1991**	4	6.2	1.6	**1991**	0	0.0		5 years	18.0	2.6	5 years	5.0	1.5	5 years	0.0	
1992	14	38.2	2.7	**1992**	3	3.4	1.1	**1992**	0	0.0		4 years	20.0	2.7	4 years	5.3	1.5	4 years	0.0	
1993	30	77.9	2.6	**1993**	9	10.8	1.2	**1993**	0	0.0		3 years	22.0	2.7	3 years	6.0	1.6	3 years	0.0	
1994	22	56.0	2.5	**1994**	6	8.7	1.5	**1994**	0	0.0		2 years	18.0	2.7	2 years	4.5	1.8	2 years	0.0	
1995	14	41.0	2.9	**1995**	3	6.2	2.1	**1995**	0	0.0		1 years	14.0	2.9	1 years	3.0	2.1	1 years	0.0	
1996	18	49.5	2.8	**1996**	6	8.8	1.5	**1996**	0	0.0		0 years	18.0	2.8	0 years	6.0	1.5	0 years	0.0	
1997	57	60.9	1.1	**1997**	36	-8.4	-0.2	**1997**	21	-25.5	-1.2	1 years	57.0	1.1	1 years	36.0	-0.2	1 years	21.0	-1.2
1998	56	84.3	1.5	**1998**	36	21.7	0.6	**1998**	9	-7.7	-0.9	2 years	56.5	1.3	2 years	36.0	0.2	2 years	15.0	-1.0
1999	56	108.4	1.9	**1999**	32	34.4	1.1	**1999**	2	-1.6	-0.8	3 years	56.3	1.5	3 years	34.7	0.5	3 years	10.7	-1.0
2000	67	120.1	1.8	**2000**	40	37.9	0.9	**2000**	6	-3.5	-0.6	4 years	59.0	1.6	4 years	36.0	0.6	4 years	9.5	-0.9
2001	76	106.6	1.4	**2001**	55	36.2	0.7	**2001**	12	-13.4	-1.1	5 years	62.4	1.5	5 years	39.8	0.6	5 years	10.0	-0.9
2002	60	86.1	1.4	**2002**	37	17.2	0.5	**2002**	10	-11.8	-1.2	6 years	62.0	1.5	6 years	39.3	0.6	6 years	10.0	-1.0
2003	59	94.0	1.6	**2003**	35	20.7	0.6	**2003**	9	-6.9	-0.8	7 years	61.6	1.5	7 years	38.7	0.6	7 years	9.9	-0.9
2004	71	89.5	1.3	**2004**	50	24.2	0.5	**2004**	14	-12.8	-0.9	8 years	62.8	1.5	8 years	40.1	0.6	8 years	10.4	-0.9
2005	76	91.1	1.2	**2005**	54	22.9	0.4	**2005**	17	-22.0	-1.3	9 years	64.2	1.5	9 years	41.7	0.6	9 years	11.1	-1.0
2006	80	120.2	1.5	**2006**	47	19.2	0.4	**2006**	16	-21.0	-1.3	10 years	65.8	1.5	10 years	42.2	0.5	10 years	11.6	-1.0
2007	57	93.3	1.6	**2007**	33	20.2	0.6	**2007**	6	-5.9	-1.0	11 years	65.0	1.5	11 years	41.4	0.5	11 years	11.1	-1.0
2008	68	80.0	1.2	**2008**	47	18.9	0.4	**2008**	14	-10.9	-0.8	12 years	65.3	1.5	12 years	41.8	0.5	12 years	11.3	-1.0
2009	62	95.1	1.5	**2009**	41	28.1	0.7	**2009**	7	-5.2	-0.7	13 years	65.0	1.5	13 years	41.8	0.5	13 years	11.0	-1.0
2010	91	77.5	0.9	**2010**	63	-10.3	-0.2	**2010**	31	-50.9	-1.6	14 years	66.9	1.4	14 years	43.3	0.5	14 years	12.4	-1.0
2011	38	69.4	1.8	**2011**	23	20.3	0.9	**2011**	3	-2.6	-0.9	15 years	64.9	1.4	15 years	41.9	0.5	15 years	11.8	-1.0
2012	64	71.9	1.1	**2012**	46	15.3	0.3	**2012**	13	-20.1	-1.5	16 years	64.9	1.4	16 years	42.2	0.5	16 years	11.9	-1.0
2013	55	85.0	1.5	**2013**	28	3.3	0.1	**2013**	9	-14.9	-1.7	17 years	64.3	1.4	17 years	41.4	0.5	17 years	11.7	-1.1
2014	43	83.4	1.9	**2014**	22	17.5	0.8	**2014**	3	-1.4	-0.5	18 years	63.1	1.5	18 years	40.3	0.5	18 years	11.2	-1.0
2015	53	109.9	2.1	**2015**	26	24.8	1.0	**2015**	6	-3.7	-0.6	19 years	62.6	1.5	19 years	39.5	0.5	19 years	10.9	-1.0
2016	72	88.1	1.2	**2016**	47	12.0	0.3	**2016**	17	-16.8	-1.0	20 years	63.1	1.5	20 years	39.9	0.5	20 years	11.3	-1.0
2017	58	108.3	1.9	**2017**	29	19.1	0.7	**2017**	8	-5.1	-0.6									
2018	51	91.6	1.8	**2018**	27	20.3	0.8	**2018**	4	-4.6	-1.2									
2019	65	107.6	1.7	**2019**	35	19.4	0.6	**2019**	8	-5.2	-0.7									
2020	65	117.3	1.8	**2020**	40	41.5	1.0	**2020**	5	-3.3	-0.7									
2021	53	99.9	1.9	**2021**	32	31.4	1.0	**2021**	5	-2.9	-0.6									
2022	68	122.1	1.8	**2022**	38	30.3	0.8	**2022**	9	-5.7	-0.6									
Original AWS probe Rosemount																				
10 years	AWS and small screen both 1996			**10 years**	AWS and small screen both 1996			**10 years**	AWS and small screen both 1996											
Pre AWS	22.4	53.2	2.5	**Pre AWS**	8.6	10.0	1.4	**Pre AWS**	0.7	-1.3	-1.3									
Post AWS	65.8	96.1	1.5	**Post AWS**	42.2	22.6	0.5	**Post AWS**	11.6	-12.6	-1.0									
Pre small	22.4	53.2	2.5	**Pre small**	8.6	10.0	1.4	**Pre small**	0.7	-1.3	-1.3									
Post small	65.8	96.1	1.5	**Post small**	42.2	22.6	0.5	**Post small**	11.6	-12.6	-1.0									
5 years				**5 years**				**5 years**												
Pre AWS	18.0	47.4	2.6	**Pre AWS**	5.0	7.1	1.5	**Pre AWS**	0.0	0.0										
Post AWS	62.4	96.1	1.5	**Post AWS**	39.8	24.4	0.6	**Post AWS**	10.0	-10.3	-0.9									
Pre small	18.0	47.4	2.6	**Pre small**	5.0	7.1	1.5	**Pre small**	0.0	0.0										
Post small	62.4	96.1	1.5	**Post small**	39.8	24.4	0.6	**Post small**	10.0	-10.3	-0.9									
		AWS introduction																		
		Small screen introduction																		

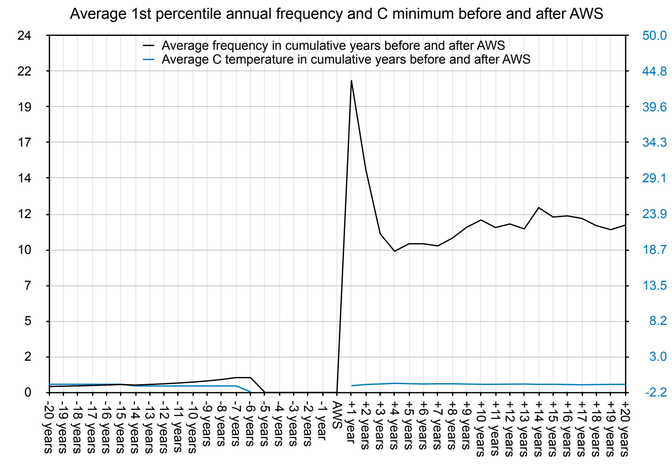
Average 10th percentile annual frequency and C minimum before and after AWS



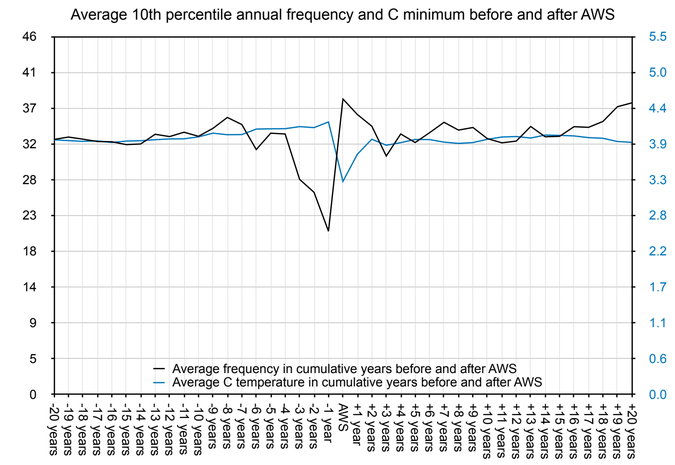
Average 5th percentile annual frequency and C minimum before and after AWS

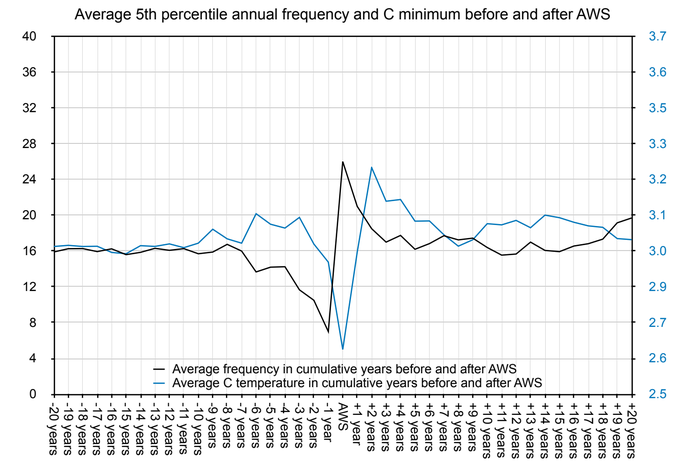


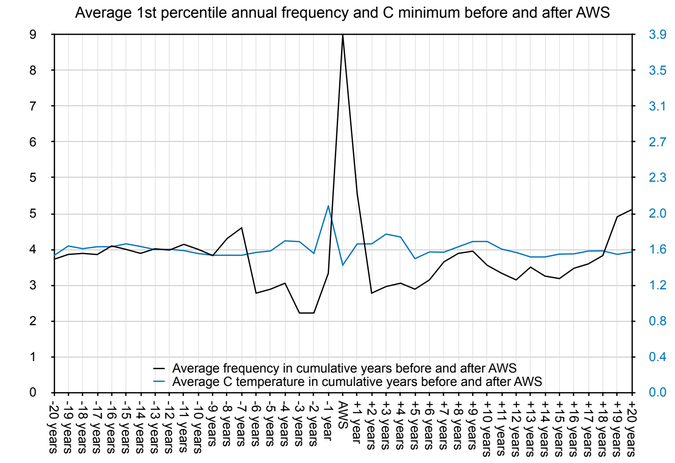
Average 1st percentile annual frequency and C minimum before and after AWS



10th 5.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.2	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1957	42	151.8	3.6	1957	25	71.6	2.9	1957	6	8.8	1.5									
1958	39	152.1	3.9	1958	18	54.3	3.0	1958	4	5.6	1.4									
1959	22	87.7	4.0	1959	10	29.5	3.0	1959	3	3.9	1.3									
1960	50	186.2	3.7	1960	25	70.0	2.8	1960	10	16.6	1.7									
1961	46	181.4	3.9	1961	21	59.0	2.8	1961	5	7.8	1.6									
1962	32	127.1	4.0	1962	18	61.0	3.4	1962	2	4.2	2.1									
1963	21	90.1	4.3	1963	7	25.8	3.7	1963	0	0.0										
1964	26	92.8	3.6	1964	16	45.0	2.8	1964	4	5.4	1.4									
1965	27	115.0	4.3	1965	12	42.7	3.6	1965	0	0.0										
1966	48	190.1	4.0	1966	26	85.3	3.3	1966	3	4.8	1.6									
1967	29	119.4	4.1	1967	11	33.4	3.0	1967	2	4.3	2.2									
1968	55	218.8	4.0	1968	27	83.5	3.1	1968	5	8.1	1.6									
1969	47	165.7	3.5	1969	24	56.0	2.3	1969	9	6.5	0.7									
1970	15	62.9	4.2	1970	5	16.2	3.2	1970	1	1.9	1.9									
1971	48	191.9	4.0	1971	25	80.9	3.2	1971	3	5.6	1.9									
1972	26	101.0	3.9	1972	12	34.6	2.9	1972	2	3.5	1.8									
1973	31	124.4	4.0	1973	12	34.8	2.9	1973	4	6.0	1.5									
1974	28	118.5	4.2	1974	7	18.9	2.7	1974	1	1.6	1.6									
1975	39	160.5	4.1	1975	17	55.6	3.3	1975	2	4.1	2.1									
1976	21	81.5	3.9	1976	9	26.5	2.9	1976	2	4.1	2.1									
1977	27	111.8	4.1	1977	9	26.3	2.9	1977	1	-0.3	-0.3	20 years	32.8	3.9	20 years	15.9	3.0	20 years	3.4	1.5
1978	38	156.0	4.1	1978	16	49.1	3.1	1978	3	6.2	2.1	19 years	33.1	3.9	19 years	16.3	3.0	19 years	3.5	1.6
1979	38	143.8	3.8	1979	22	65.6	3.0	1979	4	5.0	1.3	18 years	32.8	3.9	18 years	16.3	3.0	18 years	3.5	1.6
1980	33	141.1	4.3	1980	11	36.6	3.3	1980	0	0.0		17 years	32.5	3.9	17 years	15.9	3.0	17 years	3.5	1.6
1981	38	135.0	3.6	1981	26	79.1	3.0	1981	5	5.7	1.1	16 years	32.5	3.9	16 years	16.3	3.0	16 years	3.7	1.6
1982	31	118.6	3.8	1982	12	31.1	2.6	1982	5	10.0	2.0	15 years	32.1	3.9	15 years	15.6	3.0	15 years	3.6	1.6
1983	16	59.1	3.7	1983	10	30.3	3.0	1983	2	4.0	2.0	14 years	32.2	3.9	14 years	15.9	3.0	14 years	3.5	1.6
1984	37	139.8	3.8	1984	19	55.0	2.9	1984	4	6.1	1.5	13 years	33.5	3.9	13 years	16.3	3.0	13 years	3.6	1.6
1985	27	105.4	3.9	1985	14	44.0	3.1	1985	2	3.4	1.7	12 years	33.2	3.9	12 years	16.1	3.0	12 years	3.6	1.6
1986	39	141.9	3.6	1986	22	62.5	2.8	1986	5	9.2	1.8	11 years	33.7	3.9	11 years	16.3	3.0	11 years	3.7	1.5
1987	24	82.7	3.4	1987	14	36.2	2.6	1987	5	8.3	1.7	10 years	33.2	4.0	10 years	15.7	3.0	10 years	3.6	1.5
1988	23	96.8	4.2	1988	9	29.8	3.3	1988	0	0.0		9 years	34.2	4.0	9 years	15.9	3.1	9 years	3.4	1.5
1989	42	167.1	4.0	1989	22	68.7	3.1	1989	2	3.0	1.5	8 years	35.6	4.0	8 years	16.8	3.0	8 years	3.9	1.5
1990	54	188.5	3.5	1990	30	72.4	2.4	1990	14	18.3	1.3	7 years	34.7	4.0	7 years	16.0	3.0	7 years	4.1	1.5
1991	21	85.2	4.1	1991	11	36.1	3.3	1991	2	2.9	1.5	6 years	31.5	4.1	6 years	13.7	3.1	6 years	2.5	1.5
1992	34	138.7	4.1	1992	14	43.7	3.1	1992	2	2.2	1.1	5 years	33.6	4.1	5 years	14.2	3.1	5 years	2.6	1.5
1993	51	203.6	4.0	1993	22	64.9	3.0	1993	5	8.4	1.7	4 years	33.5	4.1	4 years	14.3	3.1	4 years	2.8	1.7
1994	31	128.6	4.1	1994	14	45.8	3.3	1994	2	3.8	1.9	3 years	27.7	4.1	3 years	11.7	3.1	3 years	2.0	1.6
1995	31	124.5	4.0	1995	14	42.9	3.1	1995	1	1.0	1.0	2 years	26.0	4.1	2 years	10.5	3.0	2 years	2.0	1.5
1996	21	88.0	4.2	1996	7	20.6	2.9	1996	3	6.1	2.0	1 years	21.0	4.2	1 years	7.0	2.9	1 years	3.0	2.0
1997	38	124.5	3.3	1997	26	68.9	2.7	1997	9	12.5	1.4	0 years	38.0	3.3	0 years	26.0	2.7	0 years	9.0	1.4
1998	36	133.0	3.7	1998	21	62.5	3.0	1998	5	8.1	1.6	1 years	36.0	3.7	1 years	21.0	3.0	1 years	5.0	1.6
1999	33	137.1	4.2	1999	16	56.7	3.5	1999	0	0.0		2 years	34.5	3.9	2 years	18.5	3.3	2 years	2.5	1.6
2000	23	83.9	3.6	2000	14	40.9	2.9	2000	3	5.5	1.8	3 years	30.7	3.8	3 years	17.0	3.1	3 years	2.7	1.7
2001	42	167.7	4.0	2001	20	63.4	3.2	2001	3	4.9	1.6	4 years	33.5	3.9	4 years	17.8	3.2	4 years	2.8	1.7
2002	28	115.2	4.1	2002	10	27.9	2.8	2002	2	1.5	0.8	5 years	32.4	3.9	5 years	16.2	3.1	5 years	2.6	1.5
2003	40	156.5	3.9	2003	20	61.7	3.1	2003	4	7.3	1.8	6 years	33.7	3.9	6 years	16.8	3.1	6 years	2.8	1.5
2004	43	156.7	3.6	2004	23	63.4	2.8	2004	6	9.1	1.5	7 years	35.0	3.9	7 years	17.7	3.0	7 years	3.3	1.5
2005	27	100.6	3.7	2005	14	38.2	2.7	2005	5	9.7	1.9	8 years	34.0	3.9	8 years	17.3	3.0	8 years	3.5	1.6
2006	37	147.0	4.0	2006	19	60.6	3.2	2006	4	8.2	2.1	9 years	34.3	3.9	9 years	17.4	3.0	9 years	3.6	1.6
2007	20	87.6	4.4	2007	7	24.9	3.6	2007	0	0.0		10 years	32.9	3.9	10 years	16.4	3.1	10 years	3.2	1.6
2008	27	116.2	4.3	2008	7	21.2	3.0	2008	1	0.9	0.9	11 years	32.4	4.0	11 years	15.5	3.1	11 years	3.0	1.6
2009	35	141.8	4.1	2009	17	55.2	3.2	2009	1	1.2	1.2	12 years	32.6	4.0	12 years	15.7	3.1	12 years	2.8	1.5
2010	57	208.9	3.7	2010	33	91.2	2.8	2010	7	6.9	1.0	13 years	34.5	3.9	13 years	17.0	3.1	13 years	3.2	1.5
2011	16	73.4	4.6	2011	4	14.6	3.7	2011	0	0.0		14 years	33.1	4.0	14 years	16.1	3.1	14 years	2.9	1.5
2012	34	133.1	3.9	2012	14	41.6	3.0	2012	2	3.7	1.9	15 years	33.2	4.0	15 years	15.9	3.1	15 years	2.9	1.5
2013	53	203.7	3.8	2013	26	74.0	2.8	2013	7	10.8	1.5	16 years	34.4	4.0	16 years	16.6	3.1	16 years	3.1	1.5
2014	33	116.6	3.5	2014	21	60.3	2.9	2014	5	9.7	1.9	17 years	34.4	3.9	17 years	16.8	3.1	17 years	3.2	1.5
2015	48	181.0	3.8	2015	26	77.4	3.0	2015	7	11.0	1.6	18 years	35.1	3.9	18 years	17.3	3.1	18 years	3.4	1.5
2016	71	212.8	3.0	2016	52	121.8	2.3	2016	22	20.7	0.9	19 years	37.0	3.9	19 years	19.2	3.0	19 years	4.4	1.5
2017	47	170.2	3.6	2017	30	88.5	3.0	2017	8	15.5	1.9	20 years	37.5	3.9	20 years	19.7	3.0	20 years	4.6	1.5
2018	40	150.7	3.8	2018	21	61.6	2.9	2018	4	5.7	1.4									
2019	60	208.7	3.5	2019	38	102.6	2.7	2019	8	8.9	1.1									
2020	34	133.7	3.9	2020	18	58.2	3.2	2020	1	1.6	1.6									
2021	51	165.3	3.2	2021	38	106.7	2.8	2021	11	18.4	1.7									
2022	56	205.0	3.7	2022	31	88.5	2.9	2022	5	6.6	1.3									
Original AWS probe Rosemount																				
10 years				10 years				10 years												
Pre AWS	33.2	130.4	4.0	Pre AWS	15.7	46.1	3.0	Pre AWS	3.6	5.4	1.5									
Post AWS	32.9	128.5	3.9	Post AWS	16.4	50.0	3.1	Post AWS	3.2	5.4	1.6									
Pre small	35.4	140.8	4.0	Pre small	16.1	48.6	3.0	Pre small	3.0	4.2	1.6									
Post small	30.6	119.2	3.9	Post small	14.8	44.4	3.0	Post small	2.8	4.4	1.5									
5 years				5 years				5 years												
Pre AWS	33.6	136.7	4.1	Pre AWS	14.2	43.6	3.1	Pre AWS	2.6	4.3	1.5									
Post AWS	32.4	127.4	3.9	Post AWS	16.2	50.3	3.1	Post AWS	2.6	4.0	1.5									
Pre small	29.6	119.7	4.1	Pre small	12.2	37.1	3.0	Pre small	2.2	3.7	1.7									
Post small	31.4	126.8	4.0	Post small	13.4	40.8	3.0	Post small	2.0	3.0	1.3									
		AWS introduction																		
		Small screen introduction																		







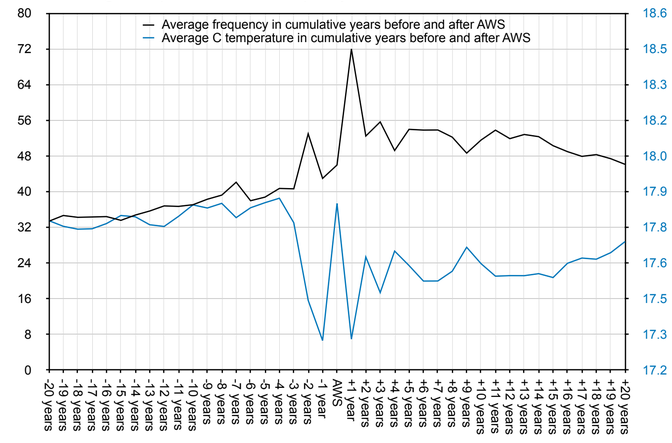
10th 19.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 18.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 15.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	13	237.8	18.3	**1910**	6	105.3	17.6	**1910**	0	0.0										
1911	40	720.3	18.0	**1911**	16	271.3	17.0	**1911**	1	15.7	15.7									
1912	22	397.8	18.1	**1912**	11	191.7	17.4	**1912**	0	0.0										
1913	52	935.3	18.0	**1913**	25	427.1	17.1	**1913**	2	31.4	15.7									
1914	35	616.5	17.6	**1914**	20	334.1	16.7	**1914**	2	30.7	15.4									
1915	8	149.5	18.7	**1915**	0	0.0		**1915**	0	0.0										
1916	4	74.2	18.6	**1916**	1	17.3	17.3	**1916**	0	0.0										
1917	13	232.0	17.8	**1917**	7	120.8	17.3	**1917**	1	15.8	15.8									
1918	25	462.9	18.5	**1918**	6	105.6	17.6	**1918**	0	0.0										
1919	57	1030.2	18.1	**1919**	24	412.0	17.2	**1919**	2	30.8	15.4									
1920	0	0.0		**1920**	0	0.0		**1920**	0	0.0										
1921	15	269.1	17.9	**1921**	7	119.0	17.0	**1921**	0	0.0										
1922	45	795.4	17.7	**1922**	22	365.7	16.6	**1922**	5	74.8	15.0									
1923	54	952.4	17.6	**1923**	34	579.5	17.0	**1923**	4	62.6	15.7									
1924	17	314.4	18.5	**1924**	5	88.5	17.7	**1924**	0	0.0										
1925	46	822.9	17.9	**1925**	20	336.7	16.8	**1925**	2	29.9	15.0									
1926	25	456.3	18.3	**1926**	8	138.9	17.4	**1926**	0	0.0										
1927	23	414.0	18.0	**1927**	11	188.7	17.2	**1927**	0	0.0										
1928	34	577.9	17.0	**1928**	24	392.2	16.3	**1928**	8	121.0	15.1									
1929	52	928.5	17.9	**1929**	25	421.6	16.9	**1929**	3	46.8	15.6									
1930	23	419.5	18.2	**1930**	7	119.1	17.0	**1930**	0	0.0										
1931	18	322.2	17.9	**1931**	7	116.8	16.7	**1931**	1	15.6	15.6									
1932	37	662.4	17.9	**1932**	12	195.9	16.3	**1932**	4	59.3	14.8									
1933	28	500.9	17.9	**1933**	15	257.7	17.2	**1933**	1	15.7	15.7									
1934	18	333.6	18.5	**1934**	2	35.7	17.9	**1934**	0	0.0										
1935	28	492.4	17.6	**1935**	15	250.1	16.7	**1935**	5	76.6	15.3									
1936	4	71.3	17.8	**1936**	2	34.6	17.3	**1936**	0	0.0										
1937	31	560.5	18.1	**1937**	12	206.8	17.2	**1937**	1	15.6	15.6									
1938	9	153.6	17.1	**1938**	7	115.5	16.5	**1938**	1	14.7	14.7									
1939	15	276.1	18.4	**1939**	3	51.7	17.2	**1939**	0	0.0										
1940	19	345.2	18.2	**1940**	4	67.3	16.8	**1940**	1	15.6	15.6									
1941	16	287.2	18.0	**1941**	10	175.0	17.5	**1941**	0	0.0										
1942	40	662.0	16.6	**1942**	27	419.8	15.5	**1942**	13	178.9	13.8									
1943	41	722.5	17.6	**1943**	23	383.9	16.7	**1943**	5	76.1	15.2									
1944	55	993.1	18.1	**1944**	24	411.8	17.2	**1944**	1	14.9	14.9									
1945	38	665.0	17.5	**1945**	20	326.5	16.3	**1945**	7	103.1	14.7									
1946	29	523.5	18.1	**1946**	12	204.1	17.0	**1946**	1	15.6	15.6									
1947	20	369.7	18.5	**1947**	5	87.2	17.4	**1947**	0	0.0										
1948	32	563.2	17.6	**1948**	17	282.8	16.6	**1948**	4	61.0	15.3									
1949	79	1370.2	17.3	**1949**	39	621.9	15.9	**1949**	15	217.2	14.5									
1950	40	716.0	17.9	**1950**	16	267.5	16.7	**1950**	5	76.9	15.4									
1951	27	478.9	17.7	**1951**	13	217.4	16.7	**1951**	3	45.4	15.1									
1952	47	849.7	18.1	**1952**	20	344.6	17.2	**1952**	1	15.3	15.3									
1953	46	817.9	17.8	**1953**	19	314.4	16.5	**1953**	6	90.7	15.1									
1954	48	861.3	17.9	**1954**	21	353.8	16.8	**1954**	4	60.3	15.1									
1955	7	127.6	18.2	**1955**	3	52.0	17.3	**1955**	0	0.0										
1956	29	522.3	18.0	**1956**	12	200.4	16.7	**1956**	2	31.3	15.7									
1957	26	463.0	17.8	**1957**	12	198.4	16.5	**1957**	2	28.0	14.0									
1958	18	324.8	18.0	**1958**	8	137.4	17.2	**1958**	0	0.0										
1959	47	837.4	17.8	**1959**	26	443.9	17.1	**1959**	2	30.5	15.3									
1960	65	1144.9	17.6	**1960**	38	641.2	16.9	**1960**	3	44.1	14.7									
1961	68	1214.7	17.9	**1961**	30	505.0	16.8	**1961**	4	61.3	15.3									
1962	24	428.1	17.8	**1962**	11	186.5	17.0	**1962**	0	0.0										
1963	63	1074.1	17.0	**1963**	39	623.4	16.0	**1963**	13	186.3	14.3									
1964	47	832.6	17.7	**1964**	20	326.2	16.3	**1964**	7	104.3	14.9									
1965	57	939.3	16.5	**1965**	41	639.4	15.6	**1965**	21	298.6	14.2									
1966	41	716.0	17.5	**1966**	29	493.3	17.0	**1966**	2	28.9	14.5									
1967	73	1239.9	17.0	**1967**	54	885.0	16.4	**1967**	15	221.9	14.8									
1968	37	655.0	17.7	**1968**	21	353.8	16.8	**1968**	1	15.1	15.1									
1969	41	755.2	18.4	**1969**	10	174.0	17.4	**1969**	0	0.0										
1970	43	769.8	17.9	**1970**	15	245.6	16.4	**1970**	4	58.3	14.6									
1971	52	895.0	17.2	**1971**	34	557.8	16.4	**1971**	11	166.7	15.2									
1972	39	700.3	18.0	**1972**	20	344.0	17.2	**1972**	1	15.6	15.6									
1973	14	253.6	18.1	**1973**	6	103.4	17.2	**1973**	0	0.0										
1974	48	828.1	17.3	**1974**	29	471.4	16.3	**1974**	7	102.8	14.7									
1975	25	440.8	17.6	**1975**	11	179.0	16.3	**1975**	5	74.0	14.8									
1976	76	1351.8	17.8	**1976**	31	511.6	16.5	**1976**	9	133.4	14.8									
1977	63	1093.5	17.4	**1977**	38	624.4	16.4	**1977**	14	211.5	15.1									
1978	19	331.4	17.4	**1978**	9	144.9	16.1	**1978**	4	60.2	15.1									
1979	30	542.3	18.1	**1979**	13	224.9	17.3	**1979**	0	0.0										
1980	18	321.7	17.9	**1980**	9	154.7	17.2	**1980**	1	15.2	15.2									
1981	9	163.9	18.2	**1981**	4	70.6	17.7	**1981**	0	0.0		20 years	33.4	17.8	20 years	17.2	16.8	20 years	3.4	14.9
1982	42	754.6	18.0	**1982**	16	267.9	16.7	**1982**	3	46.2	15.4	19 years	34.7	17.8	19 years	17.9	16.8	19 years	3.6	14.9
1983	33	585.0	17.7	**1983**	17	284.9	16.8	**1983**	4	57.4	14.4	18 years	34.3	17.8	18 years	18.0	16.8	18 years	3.6	14.9
1984	33	575.1	17.4	**1984**	20	329.6	16.5	**1984**	6	89.4	14.9	17 years	34.4	17.8	17 years	18.1	16.8	17 years	3.6	14.9
1985	47	813.2	17.3	**1985**	31	513.7	16.6	**1985**	6	86.9	14.5	16 years	34.4	17.8	16 years	17.9	16.8	16 years	3.4	14.9
1986	17	303.9	17.9	**1986**	10	173.2	17.3	**1986**	0	0.0		15 years	33.6	17.8	15 years	17.1	16.8	15 years	3.3	14.9
1987	23	418.8	18.2	**1987**	9	157.6	17.5	**1987**	0	0.0		14 years	34.8	17.8	14 years	17.6	16.8	14 years	3.5	14.9
1988	22	392.7	17.9	**1988**	11	188.5	17.1	**1988**	0	0.0		13 years	35.7	17.8	13 years	18.2	16.7	13 years	3.8	14.9
1989	38	658.5	17.3	**1989**	24	398.8	16.6	**1989**	6	88.6	14.8	12 years	36.8	17.8	12 years	18.8	16.7	12 years	4.1	14.9
1990	33	572.7	17.4	**1990**	18	292.6	16.3	**1990**	6	87.4	14.6	11 years	36.7	17.8	11 years	18.4	16.7	11 years	3.9	15.0
1991	26	466.9	18.0	**1991**	12	203.1	16.9	**1991**	2	30.1	15.1	10 years	37.1	17.8	10 years	18.4	16.7	10 years	3.7	15.0
1992	31	548.4	17.7	**1992**	18	306.0	17.0	**1992**	4	62.1	15.5	9 years	38.3	17.8	9 years	19.1	16.7	9 years	3.9	15.0
1993	19	346.7	18.2	**1993**	6	102.8	17.1	**1993**	0	0.0		8 years	39.3	17.9	8 years	19.3	16.7	8 years	3.9	14.9
1994	67	1176.9	17.6	**1994**	43	726.5	16.9	**1994**	8	122.3	15.3	7 years	42.1	17.8	7 years	21.1	16.6	7 years	4.4	14.9
1995	34	603.1	17.7	**1995**	14	228.2	16.3	**1995**	5	73.5	14.7	6 years	38.0	17.8	6 years	17.5	16.5	6 years	3.8	14.8
1996	31	551.4	17.8	**1996**	13	213.0	16.4	**1996**	4	59.0	14.8	5 years	38.8	17.9	5 years	18.2	16.6	5 years	3.6	14.9
1997	41	744.7	18.2	**1997**	15	254.1	16.9	**1997**	1	15.0	15.0	4 years	40.8	17.9	4 years	19.5	16.6	4 years	3.5	14.9
1998	16	294.2	18.4	**1998**	3	50.0	16.7	**1998**	0	0.0		3 years	40.7	17.8	3 years	21.0	16.6	3 years	4.3	14.8
1999	63	1110.8	17.6	**1999**	37	623.1	16.8	**1999**	5	74.5	14.9	2 years	53.0	17.5	2 years	30.0	16.5	2 years	6.5	14.8
2000	43	744.6	17.3	**2000**	23	371.4	16.1	**2000**	8	118.2	14.8	1 years	43.0	17.3	1 years	23.0	16.1	1 years	8.0	14.8
2001	46	821.3	17.9	**2001**	19	315.9	16.6	**2001**	3	46.5	15.5	0 years	46.0	17.9	0 years	19.0	16.6	0 years	3.0	15.5
2002	72	1247.2	17.3	**2002**	48	798.0	16.6	**2002**	9	133.5	14.8	1 years	72.0	17.3	1 years	48.0	16.6	1 years	9.0	14.8
2003	33	592.9	18.0	**2003**	12	199.8	16.7	**2003**	3	44.2	14.7	2 years	52.5	17.6	2 years	30.0	16.6	2 years	6.0	14.8
2004	62	1067.9	17.2	**2004**	36	583.2	16.2	**2004**	13	191.5	14.7	3 years	55.7	17.5	3 years	32.0	16.5	3 years	8.3	14.8
2005	30	544.7	18.2	**2005**	11	187.6	17.1	**2005**	0	0.0		4 years	49.3	17.7	4 years	26.8	16.6	4 years	6.3	14.8
2006	73	1269.0	17.4	**2006**	41	668.9	16.3	**2006**	11	162.7	14.8	5 years	54.0	17.6	5 years	29.6	16.6	5 years	7.2	14.8
2007	53	914.0	17.2	**2007**	30	483.1	16.1	**2007**	12	173.6	14.5	6 years	53.8	17.5	6 years	29.7	16.5	6 years	8.0	14.7
2008	54	947.8	17.6	**2008**	31	517.8	16.7	**2008**	5	72.8	14.6	7 years	53.9	17.6	7 years	29.9	16.5	7 years	7.6	14.7
2009	41	732.1	17.9	**2009**	19	319.4	16.8	**2009**	3	45.2	15.1	8 years	52.3	17.6	8 years	28.5	16.6	8 years	7.0	14.7
2010	20	368.7	18.4	**2010**	6	104.7	17.5	**2010**	0	0.0		9 years	48.7	17.7	9 years	26.0	16.7	9 years	6.2	14.7
2011	78	1329.0	17.0	**2011**	56	919.4	16.4	**2011**	15	216.0	14.4	10 years	51.6	17.6	10 years	29.0	16.6	10 years	7.1	14.7
2012	76	1298.0	17.1	**2012**	56	924.8	16.5	**2012**	11	163.1	14.8	11 years	53.8	17.6	11 years	31.5	16.6	11 years	7.5	14.7
2013	31	545.4	17.6	**2013**	19	322.0	16.9	**2013**	1	15.8	15.8	12 years	51.9	17.6	12 years	30.4	16.6	12 years	6.9	14.8
2014	64	1124.4	17.6	**2014**	34	566.2	16.7	**2014**	8	120.3	15.0	13 years	52.8	17.6	13 years	30.7	16.6	13 years	7.0	14.8
2015	46	813.4	17.7	**2015**	26	438.6	16.9	**2015**	2	30.4	15.2	14 years	52.4	17.6	14 years	30.4	16.7	14 years	6.6	14.9
2016	22	381.7	17.4	**2016**	12	193.9	16.2	**2016**	4	57.2	14.3	15 years	50.3	17.6	15 years	29.1	16.6	15 years	6.5	14.8
2017	29	535.3	18.5	**2017**	7	119.7	17.1	**2017**	1	15.4	15.4	16 years	49.0	17.6	16 years	27.8	16.7	16 years	6.1	14.9
2018	31	557.0	18.0	**2018**	15	257.7	17.2	**2018**	1	15.3	15.3	17 years	47.9	17.6	17 years	27.0	16.7	17 years	5.8	14.9
2019	55	965.8	17.6	**2019**	30	496.6	16.6	**2019**	9	134.4	14.9	18 years	48.3	17.6	18 years	27.2	16.7	18 years	6.0	14.9
2020	31	561.8	18.1	**2020**	11	188.6	17.1	**2020**	0	0.0		19 years	47.4	17.7	19 years	26.3	16.7	19 years	5.7	14.9
2021	22	407.7	18.5	**2021**	7	124.3	17.8	**2021**	0	0.0		20 years	46.2	17.7	20 years	25.4	16.8	20 years	5.4	14.9
2022	44	760.0	17.3	**2022**	28	461.4	16.5	**2022**	8	120.7	15.1									

Original AWS probe Rosemount

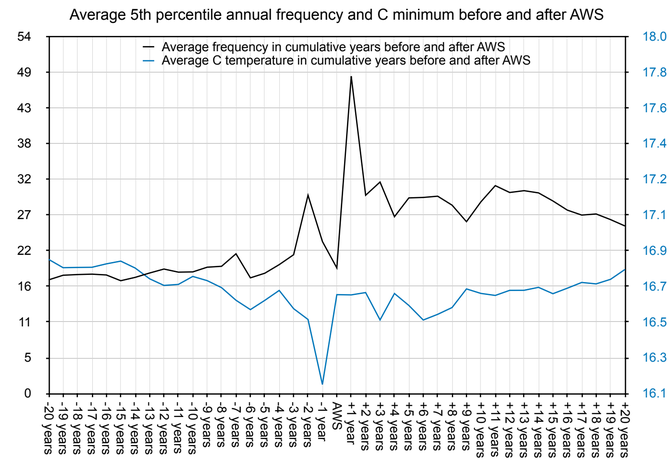
6 years				**6 years**				**6 years**			
Pre	38.0	674.8	17.8	**Pre**	17.5	290.0	16.5	**Pre**	3.8	56.7	14.8
Post	53.8	939.3	17.5	**Post**	29.7	486.8	16.5	**Post**	8.0	117.6	14.7

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	

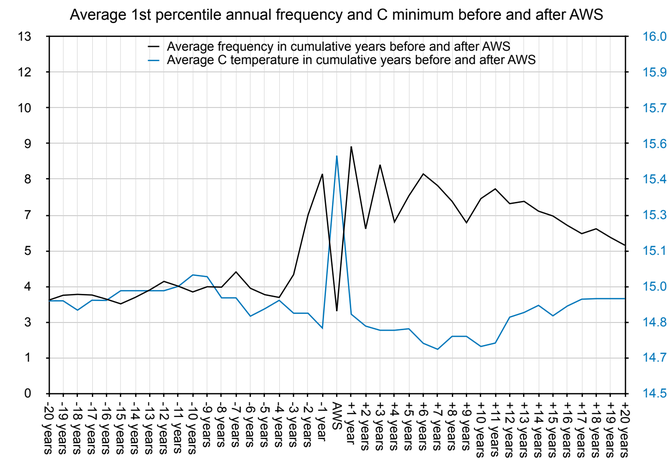
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS



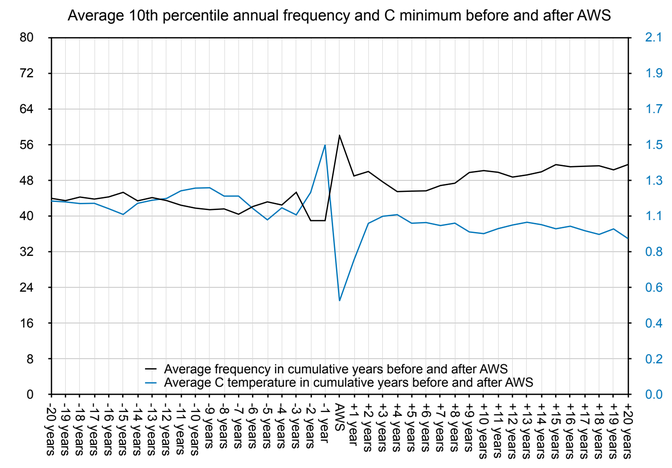
10th 2.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	25	48.5	1.9	**1910**	5	3.3	0.7	**1910**	0	0.0										
1911	33	51.2	1.6	**1911**	10	-0.1	-0.0	**1911**	2	-3.9	-2.0									
1912	41	61.7	1.5	**1912**	16	7.1	0.4	**1912**	1	-1.1	-1.1									
1913	30	46.3	1.5	**1913**	10	3.1	0.3	**1913**	0	0.0										
1914	48	80.1	1.7	**1914**	15	5.4	0.4	**1914**	1	-1.1	-1.1									
1915	14	32.3	2.3	**1915**	1	0.6	0.6	**1915**	0	0.0										
1916	31	58.8	1.9	**1916**	8	4.5	0.6	**1916**	1	-1.1	-1.1									
1917	19	41.4	2.2	**1917**	2	2.2	1.1	**1917**	0	0.0										
1918	28	27.3	1.0	**1918**	14	-4.4	-0.3	**1918**	5	-9.5	-1.9									
1919	54	44.2	0.8	**1919**	28	-13.3	-0.5	**1919**	8	-13.8	-1.7									
1920	36	59.9	1.7	**1920**	15	9.1	0.6	**1920**	0	0.0										
1921	27	33.3	1.2	**1921**	11	-5.1	-0.5	**1921**	4	-5.0	-1.3									
1922	44	59.8	1.4	**1922**	21	7.3	0.3	**1922**	3	-5.5	-1.8									
1923	10	20.1	2.0	**1923**	3	2.8	0.9	**1923**	0	0.0										
1924	39	64.4	1.7	**1924**	16	6.7	0.4	**1924**	0	0.0										
1925	33	54.4	1.6	**1925**	14	10.6	0.8	**1925**	0	0.0										
1926	31	57.8	1.9	**1926**	8	4.4	0.6	**1926**	0	0.0										
1927	49	65.4	1.3	**1927**	23	5.1	0.2	**1927**	3	-3.6	-1.2									
1928	44	57.0	1.3	**1928**	22	5.0	0.2	**1928**	3	-3.9	-1.3									
1929	46	35.0	0.8	**1929**	22	-15.7	-0.7	**1929**	10	-21.1	-2.1									
1930	27	53.1	2.0	**1930**	5	2.3	0.5	**1930**	0	0.0										
1931	22	47.6	2.2	**1931**	3	2.3	0.8	**1931**	0	0.0										
1932	35	51.3	1.5	**1932**	14	1.1	0.1	**1932**	2	-2.8	-1.4									
1933	40	57.2	1.4	**1933**	18	7.8	0.4	**1933**	0	0.0										
1934	31	51.3	1.7	**1934**	12	7.9	0.7	**1934**	0	0.0										
1935	23	43.5	1.9	**1935**	4	1.1	0.3	**1935**	0	0.0										
1936	23	42.4	1.8	**1936**	4	-0.5	-0.1	**1936**	1	-1.1	-1.1									
1937	33	44.8	1.4	**1937**	14	2.8	0.2	**1937**	3	-3.9	-1.3									
1938	30	38.3	1.3	**1938**	15	5.1	0.3	**1938**	2	-2.2	-1.1									
1939	31	41.8	1.3	**1939**	13	0.5	0.0	**1939**	1	-1.1	-1.1									
1940	46	76.5	1.7	**1940**	17	8.9	0.5	**1940**	0	0.0										
1941	43	64.5	1.5	**1941**	20	12.4	0.6	**1941**	1	-1.1	-1.1									
1942	14	24.4	1.7	**1942**	5	4.0	0.8	**1942**	0	0.0										
1943	37	63.0	1.7	**1943**	14	10.8	0.8	**1943**	0	0.0										
1944	50	62.3	1.2	**1944**	24	5.9	0.2	**1944**	4	-5.6	-1.4									
1945	36	51.2	1.4	**1945**	14	-1.8	-0.1	**1945**	2	-2.6	-1.3									
1946	30	40.5	1.4	**1946**	15	5.2	0.3	**1946**	2	-2.2	-1.1									
1947	23	45.6	2.0	**1947**	6	4.5	0.8	**1947**	0	0.0										
1948	29	42.5	1.5	**1948**	10	0.9	0.1	**1948**	1	-1.3	-1.3									
1949	55	78.7	1.4	**1949**	23	6.5	0.3	**1949**	4	-5.4	-1.4									
1950	25	45.5	1.8	**1950**	7	5.7	0.8	**1950**	0	0.0										
1951	20	37.3	1.9	**1951**	6	4.7	0.8	**1951**	0	0.0										
1952	35	32.6	0.9	**1952**	22	6.1	0.3	**1952**	3	-3.9	-1.3									
1953	38	61.5	1.6	**1953**	15	7.0	0.5	**1953**	2	-1.9	-1.0									
1954	33	50.7	1.5	**1954**	11	4.2	0.4	**1954**	0	0.0										
1955	18	36.1	2.0	**1955**	3	1.9	0.6	**1955**	0	0.0										
1956	21	30.5	1.5	**1956**	8	0.9	0.1	**1956**	1	-1.7	-1.7									
1957	40	57.2	1.4	**1957**	13	-0.4	-0.0	**1957**	1	-1.7	-1.7									
1958	35	34.2	1.0	**1958**	15	-9.1	-0.6	**1958**	5	-9.3	-1.9									
1959	29	46.1	1.6	**1959**	11	5.7	0.5	**1959**	0	0.0										
1960	28	39.1	1.4	**1960**	14	6.8	0.5	**1960**	0	0.0										
1961	40	43.2	1.1	**1961**	16	-8.2	-0.5	**1961**	7	-11.5	-1.6									
1962	22	25.2	1.1	**1962**	9	-3.8	-0.4	**1962**	3	-4.1	-1.4									
1963	24	28.7	1.2	**1963**	13	2.4	0.2	**1963**	0	0.0										
1964	28	50.4	1.8	**1964**	6	2.1	0.4	**1964**	1	-1.1	-1.1									
1965	36	39.8	1.1	**1965**	16	-4.2	-0.3	**1965**	5	-8.5	-1.7									
1966	53	60.1	1.1	**1966**	26	-2.1	-0.1	**1966**	4	-7.2	-1.8									
1967	25	43.2	1.7	**1967**	9	7.3	0.8	**1967**	0	0.0										
1968	31	47.0	1.5	**1968**	10	-0.4	-0.0	**1968**	2	-3.4	-1.7									
1969	40	64.4	1.6	**1969**	12	9.8	0.8	**1969**	0	0.0										
1970	35	55.2	1.6	**1970**	12	6.5	0.5	**1970**	0	0.0										
1971	49	62.2	1.3	**1971**	23	4.8	0.2	**1971**	3	-4.3	-1.4									
1972	40	43.1	1.1	**1972**	19	-6.9	-0.4	**1972**	6	-10.3	-1.7									
1973	27	45.1	1.7	**1973**	9	6.3	0.7	**1973**	0	0.0										
1974	34	27.4	0.8	**1974**	19	-7.7	-0.4	**1974**	8	-10.2	-1.3									
1975	29	44.1	1.5	**1975**	11	4.2	0.4	**1975**	1	-1.8	-1.8									
1976	74	55.9	0.8	**1976**	46	-0.6	-0.0	**1976**	10	-17.3	-1.7									
1977	54	66.8	1.2	**1977**	25	0.4	0.0	**1977**	4	-4.5	-1.1	20 years	44.0	1.1	20 years	21.5	0.1	20 years	4.3	-1.8
1978	29	37.9	1.3	**1978**	14	5.8	0.4	**1978**	0	0.0		19 years	43.5	1.1	19 years	21.3	0.1	19 years	4.3	-1.8
1979	52	57.2	1.1	**1979**	27	4.2	0.2	**1979**	4	-6.1	-1.5	18 years	44.3	1.1	18 years	21.7	0.1	18 years	4.6	-1.8
1980	36	58.8	1.6	**1980**	14	6.2	0.4	**1980**	0	0.0		17 years	43.8	1.1	17 years	21.4	0.1	17 years	4.6	-1.8
1981	29	46.4	1.6	**1981**	10	8.5	0.9	**1981**	0	0.0		16 years	44.3	1.1	16 years	21.8	0.1	16 years	4.9	-1.8
1982	72	10.5	0.1	**1982**	47	-44.3	-0.9	**1982**	18	-48.1	-2.7	15 years	45.3	1.1	15 years	22.6	0.0	15 years	5.2	-1.8
1983	34	30.2	0.9	**1983**	20	0.5	0.0	**1983**	5	-6.1	-1.2	14 years	43.4	1.1	14 years	20.9	0.1	14 years	4.3	-1.8
1984	52	53.0	1.0	**1984**	25	-4.6	-0.2	**1984**	6	-11.3	-1.9	13 years	44.2	1.1	13 years	20.9	0.1	13 years	4.2	-1.8
1985	55	36.3	0.7	**1985**	29	-13.8	-0.5	**1985**	9	-22.7	-2.5	12 years	43.5	1.2	12 years	20.6	0.1	12 years	4.1	-1.8
1986	49	50.9	1.0	**1986**	25	-2.7	-0.1	**1986**	6	-12.0	-2.0	11 years	42.5	1.2	11 years	19.8	0.2	11 years	3.6	-1.7
1987	45	53.8	1.2	**1987**	21	2.8	0.1	**1987**	3	-4.8	-1.6	10 years	41.8	1.2	10 years	19.3	0.2	10 years	3.4	-1.7
1988	40	64.4	1.6	**1988**	16	12.4	0.8	**1988**	0	0.0		9 years	41.4	1.2	9 years	19.1	0.2	9 years	3.4	-1.7
1989	50	58.3	1.2	**1989**	23	1.2	0.1	**1989**	5	-8.8	-1.8	8 years	41.6	1.2	8 years	19.5	0.1	8 years	3.9	-1.7
1990	30	48.3	1.6	**1990**	10	5.4	0.5	**1990**	0	0.0		7 years	40.4	1.2	7 years	19.0	0.1	7 years	3.7	-1.7
1991	37	52.7	1.4	**1991**	12	-0.8	-0.1	**1991**	3	-5.4	-1.8	6 years	42.2	1.1	6 years	20.5	0.1	6 years	4.3	-1.7
1992	46	34.3	0.7	**1992**	26	-5.3	-0.2	**1992**	7	-12.5	-1.8	5 years	43.2	1.0	5 years	22.2	0.1	5 years	4.6	-1.7
1993	34	41.6	1.2	**1993**	16	8.6	0.5	**1993**	1	-1.3	-1.3	4 years	42.5	1.1	4 years	21.3	0.2	4 years	4.0	-1.6
1994	58	46.0	0.8	**1994**	34	-5.0	-0.1	**1994**	7	-13.5	-1.9	3 years	45.3	1.1	3 years	23.0	0.0	3 years	5.0	-1.7
1995	39	35.5	0.9	**1995**	22	0.5	0.0	**1995**	6	-8.2	-1.4	2 years	39.0	1.2	2 years	17.5	0.1	2 years	4.0	-1.6
1996	39	57.3	1.5	**1996**	13	3.3	0.3	**1996**	2	-3.8	-1.9	1 years	39.0	1.5	1 years	13.0	0.3	1 years	2.0	-1.9
1997	58	32.0	0.6	**1997**	37	-11.5	-0.3	**1997**	10	-20.4	-2.0	0 years	58.0	0.6	0 years	37.0	-0.3	0 years	10.0	-2.0
1998	49	38.8	0.8	**1998**	28	-4.1	-0.1	**1998**	7	-14.0	-2.0	1 years	49.0	0.8	1 years	28.0	-0.1	1 years	7.0	-2.0
1999	51	62.4	1.2	**1999**	25	10.6	0.4	**1999**	1	-1.7	-1.7	2 years	50.0	1.0	2 years	26.5	0.1	2 years	4.0	-1.9
2000	43	48.7	1.1	**2000**	23	2.2	0.1	**2000**	3	-4.0	-1.3	3 years	47.7	1.0	3 years	25.3	0.1	3 years	3.7	-1.7
2001	39	42.4	1.1	**2001**	19	-0.6	-0.0	**2001**	6	-8.8	-1.5	4 years	45.5	1.1	4 years	23.8	0.1	4 years	4.3	-1.6
2002	46	37.1	0.8	**2002**	30	3.6	0.1	**2002**	5	-8.1	-1.6	5 years	45.6	1.0	5 years	25.0	0.1	5 years	4.4	-1.6
2003	46	47.5	1.0	**2003**	29	9.5	0.3	**2003**	3	-5.0	-1.7	6 years	45.7	1.0	6 years	25.7	0.1	6 years	4.2	-1.6
2004	54	48.0	0.9	**2004**	28	-5.9	-0.2	**2004**	9	-16.3	-1.8	7 years	46.9	1.0	7 years	26.0	0.1	7 years	4.9	-1.7
2005	51	56.5	1.1	**2005**	25	0.5	0.0	**2005**	4	-6.7	-1.7	8 years	47.4	1.0	8 years	25.9	0.1	8 years	4.8	-1.7
2006	69	37.5	0.5	**2006**	43	-18.9	-0.4	**2006**	14	-25.2	-1.8	9 years	49.8	1.0	9 years	27.8	0.0	9 years	5.8	-1.7
2007	54	46.3	0.9	**2007**	28	-7.2	-0.3	**2007**	7	-14.4	-2.1	10 years	50.2	0.9	10 years	27.8	-0.0	10 years	5.9	-1.7
2008	46	58.5	1.3	**2008**	22	5.6	0.3	**2008**	2	-2.4	-1.2	11 years	49.8	1.0	11 years	27.3	0.0	11 years	5.5	-1.7
2009	37	45.6	1.2	**2009**	16	-1.1	-0.1	**2009**	3	-4.9	-1.6	12 years	48.8	1.0	12 years	26.3	0.0	12 years	5.3	-1.7
2010	55	66.4	1.2	**2010**	28	7.5	0.3	**2010**	2	-3.5	-1.8	13 years	49.2	1.0	13 years	26.5	0.0	13 years	5.1	-1.7
2011	59	48.1	0.8	**2011**	36	-0.4	-0.0	**2011**	7	-11.3	-1.6	14 years	49.9	1.0	14 years	27.1	0.0	14 years	5.2	-1.7
2012	74	47.2	0.6	**2012**	38	-29.3	-0.8	**2012**	19	-33.2	-1.7	15 years	51.5	1.0	15 years	27.9	-0.0	15 years	6.1	-1.7
2013	44	53.6	1.2	**2013**	20	6.9	0.3	**2013**	4	-5.8	-1.5	16 years	51.1	1.0	16 years	27.4	-0.0	16 years	6.0	-1.7
2014	53	28.8	0.5	**2014**	32	-15.5	-0.5	**2014**	12	-28.1	-2.3	17 years	51.2	1.0	17 years	27.6	-0.0	17 years	6.4	-1.7
2015	53	30.2	0.6	**2015**	35	-9.4	-0.3	**2015**	11	-17.4	-1.6	18 years	51.3	0.9	18 years	28.1	-0.0	18 years	6.6	-1.7
2016	34	52.9	1.6	**2016**	13	6.9	0.5	**2016**	0	0.0		19 years	50.4	1.0	19 years	27.3	-0.0	19 years	6.3	-1.7
2017	74	-11.5	-0.2	**2017**	55	-51.2	-0.9	**2017**	25	-56.4	-2.3	20 years	51.6	0.9	20 years	28.7	-0.1	20 years	7.2	-1.7
2018	61	13.0	0.2	**2018**	41	-30.3	-0.7	**2018**	15	-36.1	-2.4									
2019	56	52.7	0.9	**2019**	31	-1.9	-0.1	**2019**	5	-7.7	-1.5									
2020	62	34.2	0.6	**2020**	37	-19.9	-0.5	**2020**	15	-26.5	-1.8									
2021	48	41.4	0.9	**2021**	25	-7.1	-0.3	**2021**	11	-15.4	-1.4									
2022	45	14.5	0.3	**2022**	30	-17.0	-0.6	**2022**	10	-20.2	-2.0									

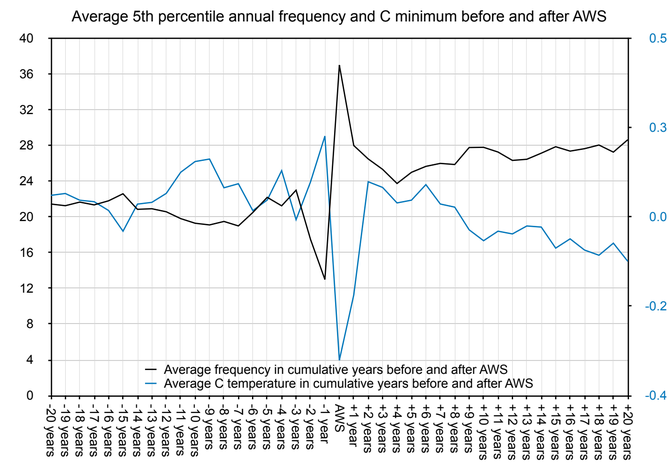
Original AWS probe Rosemount

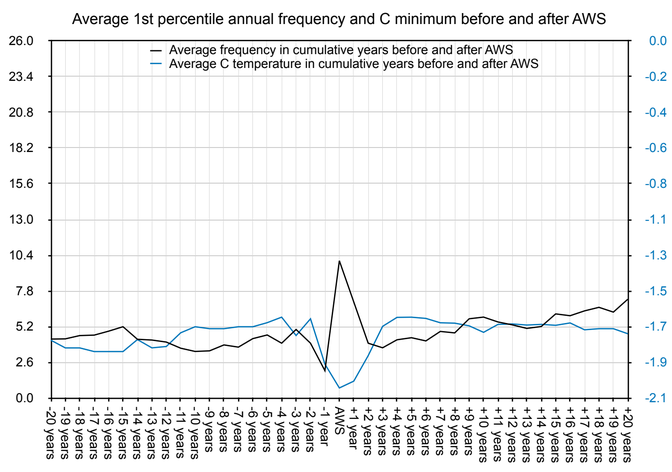
10 years	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997		
Pre AWS	41.8	49.2	1.2	**Pre AWS**	19.3	2.3	0.2	**Pre AWS**	3.4	-5.8	-1.7
Post AWS	50.2	46.5	0.9	**Post AWS**	27.8	-1.0	-0.0	**Post AWS**	5.9	-10.4	-1.7
Pre small	41.8	49.2	1.2	**Pre small**	19.3	2.3	0.2	**Pre small**	3.4	-5.8	-1.7
Post small	50.2	46.5	0.9	**Post small**	27.8	-1.0	-0.0	**Post small**	5.9	-10.4	-1.7
5 years				**5 years**				**5 years**			
Pre AWS	43.2	42.9	1.0	**Pre AWS**	22.2	0.4	0.1	**Pre AWS**	4.6	-7.9	-1.7
Post AWS	45.6	45.9	1.0	**Post AWS**	25.0	2.3	0.1	**Post AWS**	4.4	-7.3	-1.6
Pre small	43.2	42.9	1.0	**Pre small**	22.2	0.4	0.1	**Pre small**	4.6	-7.9	-1.7
Post small	45.6	45.9	1.0	**Post small**	25.0	2.3	0.1	**Post small**	4.4	-7.3	-1.6

AWS introduction

Small screen introduction







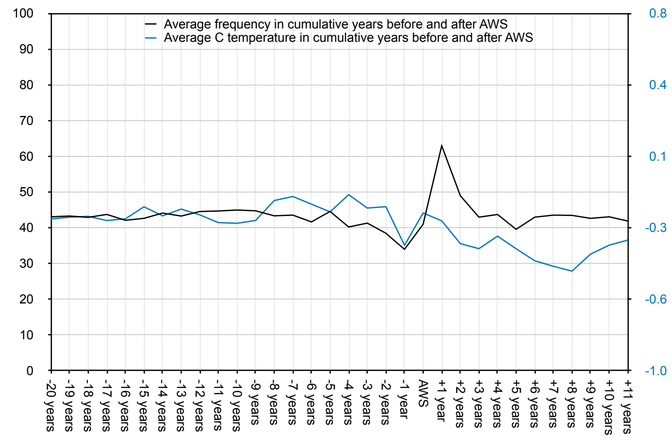
10th 1.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1921	28	12.2	0.4	**1921**	14	-7.5	-0.5	**1921**	1	-3.3	-3.3									
1922	46	-0.4	-0.0	**1922**	23	-29.5	-1.3	**1922**	7	-17.2	-2.5									
1923	39	15.5	0.4	**1923**	15	-16.8	-1.1	**1923**	4	-10.0	-2.5									
1924	56	-3.3	-0.1	**1924**	33	-32.8	-1.0	**1924**	7	-16.9	-2.4									
1925	68	9.4	0.1	**1925**	34	-32.6	-1.0	**1925**	6	-17.0	-2.8									
1926	37	18.4	0.5	**1926**	16	-10.5	-0.7	**1926**	2	-4.4	-2.2									
1927	69	-97.4	-1.4	**1927**	52	-117.8	-2.3	**1927**	27	-96.3	-3.6									
1928	43	13.1	0.3	**1928**	15	-17.3	-1.2	**1928**	5	-12.2	-2.4									
1929	50	-40.5	-0.8	**1929**	33	-60.2	-1.8	**1929**	15	-49.6	-3.3									
1930	22	17.5	0.8	**1930**	6	-1.7	-0.3	**1930**	0	0.0										
1931	38	38.6	1.0	**1931**	4	0.0	0.0	**1931**	0	0.0										
1932	40	22.8	0.6	**1932**	11	-14.2	-1.3	**1932**	3	-11.1	-3.7									
1933	27	5.3	0.2	**1933**	12	-11.5	-1.0	**1933**	0	0.0										
1934	26	10.3	0.4	**1934**	10	-9.1	-0.9	**1934**	0	0.0										
1935	42	11.8	0.3	**1935**	18	-18.4	-1.0	**1935**	3	-8.3	-2.8									
1936	31	3.5	0.1	**1936**	14	-13.2	-0.9	**1936**	2	-5.7	-2.9									
1937	34	22.1	0.7	**1937**	10	-11.1	-1.1	**1937**	0	0.0										
1938	29	15.7	0.5	**1938**	12	-5.8	-0.5	**1938**	0	0.0										
1939	32	1.9	0.1	**1939**	19	-13.7	-0.7	**1939**	1	-3.2	-3.2									
1940	59	-35.6	-0.6	**1940**	31	-67.9	-2.2	**1940**	13	-54.3	-4.2									
1941	35	14.8	0.4	**1941**	12	-10.6	-0.9	**1941**	1	-2.2	-2.2									
1942	10	5.6	0.6	**1942**	4	-1.1	-0.3	**1942**	0	0.0										
1943	47	16.5	0.4	**1943**	24	-10.3	-0.4	**1943**	0	0.0										
1944	31	14.1	0.5	**1944**	13	-6.3	-0.5	**1944**	0	0.0										
1945	24	15.9	0.7	**1945**	6	-4.0	-0.7	**1945**	0	0.0										
1946	51	-9.6	-0.2	**1946**	34	-29.4	-0.9	**1946**	3	-7.2	-2.4									
1947	38	11.6	0.3	**1947**	18	-11.2	-0.6	**1947**	1	-2.6	-2.6									
1948	55	1.5	0.0	**1948**	32	-27.9	-0.9	**1948**	6	-15.1	-2.5									
1949	39	-5.3	-0.1	**1949**	26	-23.4	-0.9	**1949**	2	-4.4	-2.2									
1950	7	4.0	0.6	**1950**	3	-0.6	-0.2	**1950**	0	0.0										
1951	32	16.8	0.5	**1951**	14	-4.7	-0.3	**1951**	0	0.0										
1952	39	5.4	0.1	**1952**	19	-16.9	-0.9	**1952**	2	-5.6	-2.8									
1953	57	14.9	0.3	**1953**	27	-23.0	-0.9	**1953**	2	-5.0	-2.5									
1954	37	23.2	0.6	**1954**	13	-3.4	-0.3	**1954**	0	0.0										
1955	28	11.9	0.4	**1955**	10	-11.0	-1.1	**1955**	2	-5.0	-2.5									
1956	34	19.6	0.6	**1956**	13	-8.1	-0.6	**1956**	0	0.0										
1957	41	14.8	0.4	**1957**	13	-18.2	-1.4	**1957**	4	-11.7	-2.9									
1958	35	1.0	0.0	**1958**	19	-16.2	-0.9	**1958**	3	-7.2	-2.4									
1959	30	19.1	0.6	**1959**	10	-5.0	-0.5	**1959**	0	0.0										
1960	40	16.3	0.4	**1960**	17	-9.8	-0.6	**1960**	1	-3.3	-3.3									
1961	28	3.7	0.1	**1961**	14	-14.5	-1.0	**1961**	2	-5.0	-2.5									
1962	33	16.3	0.5	**1962**	9	-10.1	-1.1	**1962**	2	-6.1	-3.1									
1963	29	14.3	0.5	**1963**	10	-10.9	-1.1	**1963**	1	-2.6	-2.6									
1964	36	4.1	0.1	**1964**	15	-15.5	-1.0	**1964**	2	-4.4	-2.2									
1965	45	-11.8	-0.3	**1965**	31	-28.8	-0.9	**1965**	6	-15.9	-2.7									
1966	35	-5.6	-0.2	**1966**	21	-21.9	-1.0	**1966**	3	-8.9	-3.0									
1967	37	14.4	0.4	**1967**	13	-10.2	-0.8	**1967**	1	-2.8	-2.8									
1968	24	2.2	0.1	**1968**	11	-10.8	-1.0	**1968**	2	-5.4	-2.7									
1969	34	21.3	0.6	**1969**	12	-4.0	-0.3	**1969**	0	0.0										
1970	55	-27.1	-0.5	**1970**	32	-49.0	-1.5	**1970**	11	-35.4	-3.2									
1971	43	-28.0	-0.7	**1971**	28	-45.8	-1.6	**1971**	11	-30.4	-2.8									
1972	37	6.1	0.2	**1972**	21	-10.1	-0.5	**1972**	1	-2.6	-2.6									
1973	8	5.9	0.7	**1973**	1	-0.5	-0.5	**1973**	0	0.0										
1974	44	14.7	0.3	**1974**	17	-15.3	-0.9	**1974**	1	-3.3	-3.3									
1975	26	25.6	1.0	**1975**	1	-0.5	-0.5	**1975**	0	0.0										
1976	51	26.1	0.5	**1976**	17	-11.4	-0.7	**1976**	0	0.0										
1977	41	8.6	0.2	**1977**	17	-11.6	-0.7	**1977**	0	0.0										
1978	30	8.5	0.3	**1978**	10	-9.7	-1.0	**1978**	0	0.0										
1979	38	8.1	0.2	**1979**	19	-11.3	-0.6	**1979**	0	0.0										
1980	24	18.5	0.8	**1980**	6	-2.1	-0.4	**1980**	0	0.0										
1981	17	13.8	0.8	**1981**	2	-3.4	-1.7	**1981**	1	-2.3	-2.3									
1982	50	8.2	0.2	**1982**	22	-21.4	-1.0	**1982**	2	-5.0	-2.5									
1983	26	3.5	0.1	**1983**	12	-10.0	-0.8	**1983**	1	-3.0	-3.0									
1984	23	5.5	0.2	**1984**	10	-10.2	-1.0	**1984**	2	-4.7	-2.4									
1985	28	-2.7	-0.1	**1985**	14	-14.7	-1.1	**1985**	2	-5.6	-2.8									
1986	27	-3.4	-0.1	**1986**	16	-17.0	-1.1	**1986**	1	-2.9	-2.9									
1987	48	-9.0	-0.2	**1987**	22	-32.4	-1.5	**1987**	5	-16.8	-3.4									
1988	35	0.4	0.0	**1988**	14	-17.4	-1.2	**1988**	2	-6.6	-3.3									
1989	42	-2.6	-0.1	**1989**	18	-24.4	-1.4	**1989**	4	-12.1	-3.0									
1990	26	6.8	0.3	**1990**	7	-8.8	-1.3	**1990**	2	-6.0	-3.0									
1991	39	-16.0	-0.4	**1991**	20	-31.1	-1.6	**1991**	8	-21.6	-2.7	20 years	43.1	-0.2	20 years	22.6	-1.4	20 years	6.3	-2.8
1992	50	-15.0	-0.3	**1992**	26	-39.6	-1.5	**1992**	8	-24.2	-3.0	19 years	43.3	-0.2	19 years	22.7	-1.4	19 years	6.2	-2.8
1993	29	4.0	0.1	**1993**	16	-9.4	-0.6	**1993**	1	-2.2	-2.2	18 years	42.9	-0.2	18 years	22.5	-1.3	18 years	6.1	-2.8
1994	70	-26.5	-0.4	**1994**	35	-58.3	-1.7	**1994**	13	-36.4	-2.8	17 years	43.8	-0.2	17 years	22.9	-1.4	17 years	6.4	-2.9
1995	34	-38.9	-1.1	**1995**	24	-47.7	-2.0	**1995**	11	-35.6	-3.2	16 years	42.1	-0.2	16 years	22.1	-1.4	16 years	6.0	-2.9
1996	22	10.2	0.5	**1996**	6	-6.8	-1.1	**1996**	0	0.0		15 years	42.7	-0.2	15 years	22.0	-1.3	15 years	5.7	-2.8
1997	55	-36.4	-0.7	**1997**	31	-59.4	-1.9	**1997**	15	-43.2	-2.9	14 years	44.1	-0.2	14 years	23.1	-1.3	14 years	6.1	-2.8
1998	28	4.6	0.2	**1998**	11	-14.6	-1.3	**1998**	3	-7.4	-2.5	13 years	43.3	-0.2	13 years	22.5	-1.3	13 years	5.4	-2.8
1999	43	9.2	0.2	**1999**	17	-16.5	-1.0	**1999**	1	-2.4	-2.4	12 years	44.6	-0.2	12 years	23.5	-1.3	12 years	5.6	-2.9
2000	42	-9.2	-0.2	**2000**	26	-24.5	-0.9	**2000**	5	-13.5	-2.7	11 years	44.7	-0.3	11 years	24.1	-1.3	11 years	6.0	-2.9
2001	47	-18.1	-0.4	**2001**	27	-36.0	-1.3	**2001**	7	-18.3	-2.6	10 years	45.0	-0.3	10 years	23.9	-1.4	10 years	6.1	-2.9
2002	56	-58.6	-1.0	**2002**	37	-81.9	-2.2	**2002**	16	-57.6	-3.6	9 years	44.8	-0.2	9 years	23.6	-1.4	9 years	6.0	-3.0
2003	42	-11.9	-0.3	**2003**	23	-29.7	-1.3	**2003**	5	-13.4	-2.7	8 years	43.4	-0.1	8 years	21.9	-1.3	8 years	4.8	-2.9
2004	55	6.0	0.1	**2004**	24	-23.6	-1.0	**2004**	3	-7.4	-2.5	7 years	43.6	-0.1	7 years	21.7	-1.3	7 years	4.7	-2.9
2005	27	0.9	0.0	**2005**	10	-17.7	-1.8	**2005**	3	-8.7	-2.9	6 years	41.7	-0.2	6 years	21.3	-1.3	6 years	5.0	-3.0
2006	62	-33.8	-0.5	**2006**	39	-56.2	-1.4	**2006**	11	-33.0	-3.0	5 years	44.6	-0.2	5 years	23.6	-1.2	5 years	5.4	-3.0
2007	37	3.3	0.1	**2007**	16	-18.6	-1.2	**2007**	3	-10.4	-3.5	4 years	40.3	-0.1	4 years	19.8	-1.2	4 years	4.0	-3.0
2008	47	-9.1	-0.2	**2008**	22	-29.3	-1.3	**2008**	6	-16.0	-2.7	3 years	41.3	-0.2	3 years	21.0	-1.2	3 years	4.3	-2.8
2009	43	0.9	0.0	**2009**	20	-19.3	-1.0	**2009**	3	-7.5	-2.5	2 years	38.5	-0.2	2 years	20.5	-1.1	2 years	3.5	-2.9
2010	34	-12.5	-0.4	**2010**	21	-26.1	-1.2	**2010**	4	-13.2	-3.3	1 years	34.0	-0.4	1 years	21.0	-1.2	1 years	4.0	-3.3
2011	41	-8.4	-0.2	**2011**	23	-26.8	-1.2	**2011**	5	-14.6	-2.9	0 years	41.0	-0.2	0 years	23.0	-1.2	0 years	5.0	-2.9
2012	63	-15.4	-0.2	**2012**	30	-45.6	-1.5	**2012**	7	-22.3	-3.2	1 years	63.0	-0.2	1 years	30.0	-1.5	1 years	7.0	-3.2
2013	35	-16.6	-0.5	**2013**	21	-27.5	-1.3	**2013**	5	-12.1	-2.4	2 years	49.0	-0.4	2 years	25.5	-1.4	2 years	6.0	-2.8
2014	31	-13.5	-0.4	**2014**	19	-21.4	-1.1	**2014**	3	-7.8	-2.6	3 years	43.0	-0.4	3 years	23.3	-1.3	3 years	5.0	-2.7
2015	46	-6.1	-0.1	**2015**	23	-32.0	-1.4	**2015**	7	-20.3	-2.9	4 years	43.8	-0.3	4 years	23.3	-1.3	4 years	5.5	-2.8
2016	23	-14.7	-0.6	**2016**	16	-21.5	-1.3	**2016**	3	-9.1	-3.0	5 years	39.6	-0.4	5 years	21.8	-1.3	5 years	5.0	-2.8
2017	60	-44.9	-0.7	**2017**	36	-66.5	-1.8	**2017**	13	-42.7	-3.3	6 years	43.0	-0.4	6 years	24.2	-1.4	6 years	6.3	-2.9
2018	47	-30.1	-0.6	**2018**	27	-47.6	-1.8	**2018**	8	-28.8	-3.6	7 years	43.6	-0.5	7 years	24.6	-1.5	7 years	6.6	-3.0
2019	43	-28.7	-0.7	**2019**	29	-44.0	-1.5	**2019**	5	-17.3	-3.5	8 years	43.5	-0.5	8 years	25.1	-1.5	8 years	6.4	-3.1
2020	36	9.9	0.3	**2020**	15	-15.0	-1.0	**2020**	2	-6.3	-3.2	9 years	42.7	-0.4	9 years	24.0	-1.4	9 years	5.9	-3.1
2021	47	1.7	0.0	**2021**	19	-25.9	-1.4	**2021**	5	-15.5	-3.1	10 years	43.1	-0.4	10 years	23.5	-1.4	10 years	5.8	-3.1
2022	30	-2.6	-0.1	**2022**	15	-15.5	-1.0	**2022**	2	-5.9	-3.0	11 years	41.9	-0.3	11 years	22.7	-1.4	11 years	5.5	-3.1

Original AWS probe Rosemount

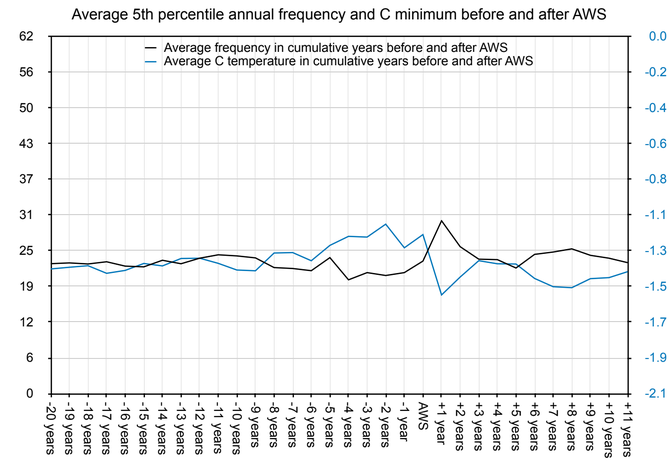
6 years				**6 years**				**6 years**			
Pre	41.7	-8.4	-0.2	**Pre**	21.3	-27.9	-1.3	**Pre**	5.0	-14.8	-3.0
Post	43.0	-18.5	-0.4	**Post**	24.2	-35.8	-1.4	**Post**	6.3	-19.1	-2.9

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	

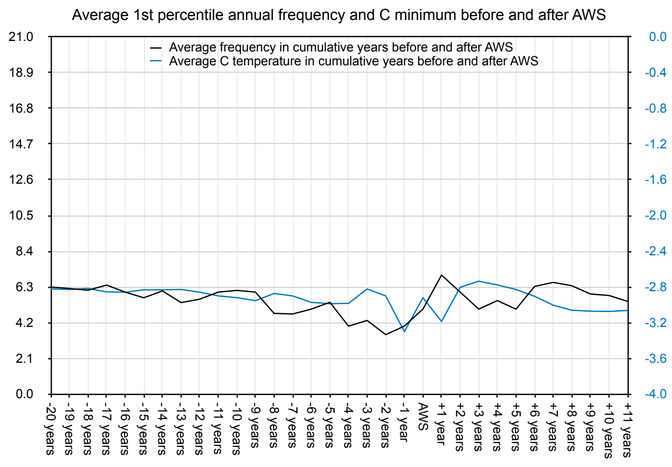
Average 10th percentile annual frequency and C minimum before and after AWS



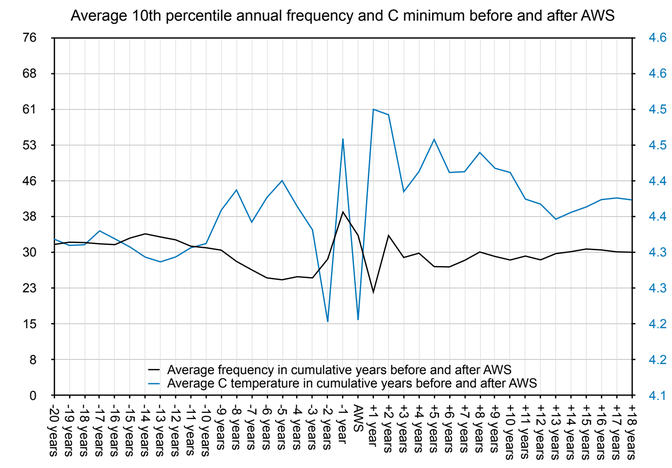
Average 5th percentile annual frequency and C minimum before and after AWS

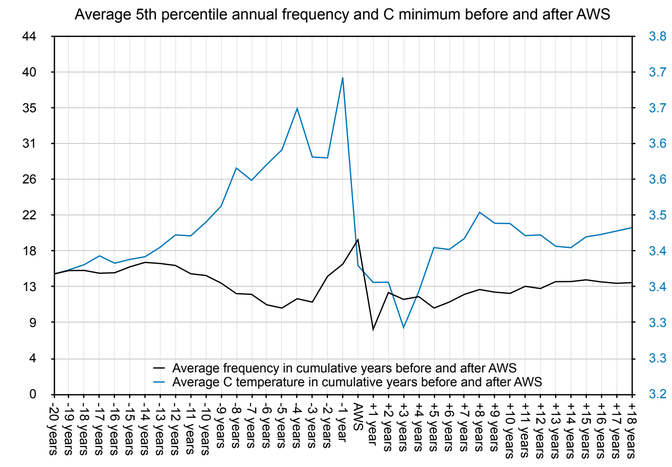


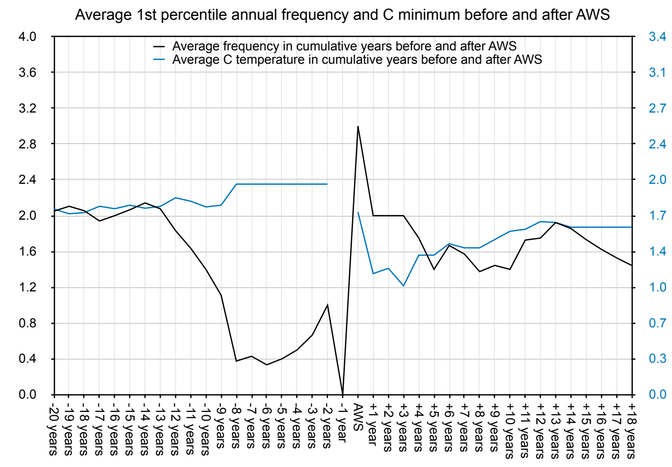
Average 1st percentile annual frequency and C minimum before and after AWS



10th 5.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	25	106.7	4.3	**1910**	13	43.4	3.3	**1910**	4	8.4	2.1									
1911	53	209.2	3.9	**1911**	32	102.7	3.2	**1911**	7	11.2	1.6									
1912	40	166.4	4.2	**1912**	22	74.3	3.4	**1912**	3	4.6	1.5									
1913	42	157.0	3.7	**1913**	25	71.4	2.9	**1913**	7	10.6	1.5									
1914	51	206.5	4.0	**1914**	28	90.8	3.2	**1914**	4	7.1	1.8									
1915	63	268.0	4.3	**1915**	30	97.5	3.3	**1915**	7	12.9	1.8									
1916	54	232.7	4.3	**1916**	29	103.8	3.6	**1916**	1	1.9	1.9									
1917	56	225.1	4.0	**1917**	28	80.2	2.9	**1917**	10	15.5	1.6									
1918	48	205.6	4.3	**1918**	24	84.0	3.5	**1918**	3	6.2	2.1									
1919	53	201.8	3.8	**1919**	32	95.5	3.0	**1919**	9	12.8	1.4									
1920	40	176.2	4.4	**1920**	18	64.1	3.6	**1920**	1	1.8	1.8									
1921	44	175.6	4.0	**1921**	24	71.9	3.0	**1921**	5	4.2	0.8									
1922	41	174.2	4.2	**1922**	21	71.6	3.4	**1922**	5	9.6	1.9									
1923	42	185.0	4.4	**1923**	23	83.5	3.6	**1923**	1	2.2	2.2									
1924	52	211.7	4.1	**1924**	27	84.6	3.1	**1924**	6	7.9	1.3									
1925	53	193.6	3.7	**1925**	32	85.9	2.7	**1925**	15	25.5	1.7									
1926	34	151.1	4.4	**1926**	14	49.2	3.5	**1926**	1	1.4	1.4									
1927	56	218.8	3.9	**1927**	34	106.4	3.1	**1927**	7	10.5	1.5									
1928	44	194.9	4.4	**1928**	18	59.4	3.3	**1928**	4	7.8	2.0									
1929	61	228.6	3.7	**1929**	38	109.7	2.9	**1929**	10	8.1	0.8									
1930	34	146.2	4.3	**1930**	13	37.2	2.9	**1930**	3	3.7	1.2									
1931	49	182.8	3.7	**1931**	37	122.2	3.3	**1931**	5	8.4	1.7									
1932	44	189.8	4.3	**1932**	21	68.2	3.2	**1932**	6	11.3	1.9									
1933	41	160.3	3.9	**1933**	24	74.0	3.1	**1933**	6	6.6	1.1									
1934	32	133.7	4.2	**1934**	16	50.0	3.1	**1934**	4	5.8	1.5									
1935	39	163.2	4.2	**1935**	23	78.9	3.4	**1935**	3	5.0	1.7									
1936	55	234.7	4.3	**1936**	31	108.7	3.5	**1936**	5	7.8	1.6									
1937	44	190.1	4.3	**1937**	23	79.7	3.5	**1937**	3	5.8	1.9									
1938	44	180.8	4.1	**1938**	22	66.5	3.0	**1938**	6	7.8	1.3									
1939	42	177.3	4.2	**1939**	21	69.2	3.3	**1939**	3	4.6	1.5									
1940	52	226.2	4.4	**1940**	21	68.5	3.3	**1940**	6	12.4	2.1									
1941	63	272.8	4.3	**1941**	32	109.3	3.4	**1941**	6	10.6	1.8									
1942	31	146.8	4.7	**1942**	14	55.8	4.0	**1942**	0	0.0										
1943	57	220.5	3.9	**1943**	37	113.6	3.1	**1943**	10	13.5	1.4									
1944	62	234.8	3.8	**1944**	45	144.4	3.2	**1944**	10	18.4	1.8									
1945	48	187.2	3.9	**1945**	29	90.3	3.1	**1945**	9	11.5	1.3									
1946	35	162.2	4.6	**1946**	17	65.9	3.9	**1946**	0	0.0										
1947	57	243.9	4.3	**1947**	35	126.1	3.6	**1947**	5	10.0	2.0									
1948	52	205.4	4.0	**1948**	35	113.8	3.3	**1948**	9	13.8	1.5									
1949	56	216.0	3.9	**1949**	36	107.6	3.0	**1949**	11	6.1	0.6									
1950	38	169.9	4.5	**1950**	22	85.7	3.9	**1950**	0	0.0										
1951	50	205.3	4.1	**1951**	26	76.9	3.0	**1951**	11	17.3	1.6									
1952	51	231.7	4.5	**1952**	21	72.1	3.4	**1952**	4	7.2	1.8									
1953	60	263.1	4.4	**1953**	28	93.5	3.3	**1953**	5	7.8	1.6									
1954	53	223.7	4.2	**1954**	31	108.3	3.5	**1954**	5	9.4	1.9									
1955	48	209.5	4.4	**1955**	28	103.5	3.7	**1955**	2	3.4	1.7									
1956	52	213.5	4.1	**1956**	30	95.1	3.2	**1956**	7	10.5	1.5									
1957	54	238.8	4.4	**1957**	31	115.4	3.7	**1957**	3	6.6	2.2									
1958	0	0.0		**1958**	0	0.0		**1958**	0	0.0										
1959	42	177.4	4.2	**1959**	26	90.8	3.5	**1959**	3	3.4	1.1									
1960	42	184.3	4.4	**1960**	22	79.2	3.6	**1960**	3	6.1	2.0									
1961	42	171.0	4.1	**1961**	23	70.2	3.1	**1961**	6	5.6	0.9									
1962	47	206.3	4.4	**1962**	28	104.7	3.7	**1962**	1	1.7	1.7									
1963	47	202.5	4.3	**1963**	24	80.9	3.4	**1963**	5	10.0	2.0									
1964	45	179.5	4.0	**1964**	31	106.7	3.4	**1964**	6	10.3	1.7									
1965	51	229.3	4.5	**1965**	22	75.6	3.4	**1965**	3	4.5	1.5									
1966	54	236.3	4.4	**1966**	28	98.5	3.5	**1966**	4	5.5	1.4									
1967	33	141.9	4.3	**1967**	18	60.9	3.4	**1967**	4	5.6	1.4									
1968	69	279.8	4.1	**1968**	44	145.8	3.3	**1968**	9	17.7	2.0									
1969	38	154.8	4.1	**1969**	22	71.8	3.3	**1969**	5	8.3	1.7									
1970	43	175.0	4.1	**1970**	25	77.2	3.1	**1970**	8	14.0	1.8									
1971	38	165.2	4.3	**1971**	20	68.9	3.4	**1971**	1	2.2	2.2									
1972	40	178.4	4.5	**1972**	21	78.7	3.7	**1972**	1	1.7	1.7									
1973	26	103.9	4.0	**1973**	13	38.7	3.0	**1973**	3	2.7	0.9									
1974	17	80.8	4.8	**1974**	4	11.7	2.9	**1974**	1	1.0	1.0									
1975	25	112.5	4.5	**1975**	8	27.4	3.4	**1975**	0	0.0										
1976	40	170.3	4.3	**1976**	19	66.0	3.5	**1976**	1	2.0	2.0									
1977	45	207.1	4.6	**1977**	14	49.0	3.5	**1977**	1	2.0	2.0									
1978	43	178.3	4.1	**1978**	22	70.9	3.2	**1978**	3	4.0	1.3									
1979	34	144.9	4.3	**1979**	16	53.3	3.3	**1979**	1	1.5	1.5									
1980	30	134.0	4.5	**1980**	11	38.9	3.5	**1980**	1	2.0	2.0									
1981	25	111.0	4.4	**1981**	12	43.4	3.6	**1981**	0	0.0										
1982	38	157.4	4.1	**1982**	18	58.3	3.2	**1982**	3	5.7	1.9									
1983	30	122.6	4.1	**1983**	12	32.7	2.7	**1983**	3	2.6	0.9									
1984	23	103.2	4.5	**1984**	7	22.8	3.3	**1984**	1	2.3	2.3	20 years	32.1	4.3	20 years	14.8	3.4	20 years	2.1	1.8
1985	34	146.0	4.3	**1985**	15	48.8	3.3	**1985**	3	4.8	1.6	19 years	32.6	4.3	19 years	15.2	3.4	19 years	2.1	1.7
1986	37	147.3	4.0	**1986**	21	66.5	3.2	**1986**	4	4.5	1.1	18 years	32.5	4.3	18 years	15.2	3.4	18 years	2.1	1.7
1987	35	157.8	4.5	**1987**	14	50.8	3.6	**1987**	1	2.0	2.0	17 years	32.2	4.3	17 years	14.9	3.4	17 years	1.9	1.8
1988	11	49.4	4.5	**1988**	4	13.3	3.3	**1988**	1	1.5	1.5	16 years	32.1	4.3	16 years	14.9	3.4	16 years	2.0	1.8
1989	21	94.6	4.5	**1989**	8	26.9	3.4	**1989**	1	2.0	2.0	15 years	33.5	4.3	15 years	15.7	3.4	15 years	2.1	1.8
1990	43	188.3	4.4	**1990**	18	58.0	3.2	**1990**	3	5.0	1.7	14 years	34.4	4.3	14 years	16.2	3.4	14 years	2.1	1.8
1991	41	172.4	4.2	**1991**	19	60.8	3.2	**1991**	5	6.9	1.4	13 years	33.7	4.3	13 years	16.1	3.4	13 years	2.1	1.8
1992	48	199.3	4.2	**1992**	27	94.1	3.5	**1992**	4	8.0	2.0	12 years	33.1	4.3	12 years	15.8	3.5	12 years	1.8	1.9
1993	35	148.7	4.2	**1993**	17	55.0	3.2	**1993**	4	8.0	2.0	11 years	31.7	4.3	11 years	14.8	3.5	11 years	1.6	1.8
1994	36	140.1	3.9	**1994**	23	74.7	3.2	**1994**	4	7.0	1.8	10 years	31.4	4.3	10 years	14.6	3.5	10 years	1.4	1.8
1995	50	206.7	4.1	**1995**	24	72.1	3.0	**1995**	7	11.2	1.6	9 years	30.9	4.4	9 years	13.7	3.5	9 years	1.1	1.8
1996	41	192.8	4.7	**1996**	13	48.4	3.7	**1996**	0	0.0		8 years	28.5	4.4	8 years	12.4	3.6	8 years	0.4	2.0
1997	37	153.0	4.1	**1997**	20	68.0	3.4	**1997**	1	0.0		7 years	26.7	4.3	7 years	12.3	3.6	7 years	0.4	2.0
1998	27	115.0	4.3	**1998**	13	45.0	3.5	**1998**	0	0.0		6 years	25.0	4.4	6 years	11.0	3.6	6 years	0.3	2.0
1999	22	100.0	4.5	**1999**	6	20.0	3.3	**1999**	0	0.0		5 years	24.6	4.4	5 years	10.6	3.6	5 years	0.4	2.0
2000	26	116.0	4.5	**2000**	13	51.0	3.9	**2000**	0	0.0		4 years	25.3	4.4	4 years	11.8	3.7	4 years	0.5	2.0
2001	17	78.0	4.6	**2001**	5	18.0	3.6	**2001**	0	0.0		3 years	25.0	4.3	3 years	11.3	3.6	3 years	0.7	2.0
2002	19	75.0	3.9	**2002**	13	45.0	3.5	**2002**	2	4.0	2.0	2 years	29.0	4.2	2 years	14.5	3.6	2 years	1.0	2.0
2003	39	173.9	4.5	**2003**	16	59.7	3.7	**2003**	0	0.0		1 years	39.0	4.5	1 years	16.0	3.7	1 years	0.0	
2004	34	143.0	4.2	**2004**	19	64.9	3.4	**2004**	3	5.2	1.7	0 years	34.0	4.2	0 years	19.0	3.4	0 years	3.0	1.7
2005	22	99.0	4.5	**2005**	8	27.1	3.4	**2005**	2	2.3	1.2	1 years	22.0	4.5	1 years	8.0	3.4	1 years	2.0	1.2
2006	46	206.3	4.5	**2006**	17	57.6	3.4	**2006**	2	2.5	1.3	2 years	34.0	4.5	2 years	12.5	3.4	2 years	2.0	1.2
2007	20	83.4	4.2	**2007**	10	31.6	3.2	**2007**	2	1.4	0.7	3 years	29.3	4.4	3 years	11.7	3.3	3 years	2.0	1.0
2008	33	148.4	4.5	**2008**	13	46.2	3.6	**2008**	1	2.2	2.2	4 years	30.3	4.4	4 years	12.0	3.4	4 years	1.8	1.3
2009	16	74.2	4.6	**2009**	5	18.7	3.7	**2009**	0	0.0		5 years	27.4	4.5	5 years	10.6	3.4	5 years	1.4	1.3
2010	27	112.9	4.2	**2010**	15	51.4	3.4	**2010**	3	5.6	1.9	6 years	27.3	4.4	6 years	11.3	3.4	6 years	1.7	1.4
2011	37	163.5	4.4	**2011**	18	64.3	3.6	**2011**	1	1.2	1.2	7 years	28.7	4.4	7 years	12.3	3.5	7 years	1.6	1.4
2012	43	199.0	4.6	**2012**	17	64.8	3.8	**2012**	0	0.0		8 years	30.5	4.4	8 years	12.9	3.5	8 years	1.4	1.4
2013	22	93.3	4.2	**2013**	10	33.4	3.3	**2013**	2	3.9	2.0	9 years	29.6	4.4	9 years	12.6	3.5	9 years	1.4	1.5
2014	22	95.9	4.4	**2014**	11	38.3	3.5	**2014**	1	2.1	2.1	10 years	28.8	4.4	10 years	12.4	3.5	10 years	1.4	1.6
2015	38	152.1	4.0	**2015**	22	71.8	3.3	**2015**	5	8.6	1.7	11 years	29.6	4.4	11 years	13.3	3.5	11 years	1.7	1.6
2016	20	85.8	4.3	**2016**	10	34.8	3.5	**2016**	2	4.6	2.3	12 years	28.8	4.4	12 years	13.0	3.5	12 years	1.8	1.6
2017	46	188.3	4.1	**2017**	24	77.3	3.2	**2017**	4	6.2	1.6	13 years	30.2	4.3	13 years	13.8	3.4	13 years	1.9	1.6
2018	36	161.3	4.5	**2018**	14	47.8	3.4	**2018**	1	1.1	1.1	14 years	30.6	4.4	14 years	13.9	3.4	14 years	1.9	1.6
2019	39	174.3	4.5	**2019**	17	63.2	3.7	**2019**	0	0.0		15 years	31.1	4.4	15 years	14.1	3.5	15 years	1.7	1.6
2020	28	126.8	4.5	**2020**	10	35.3	3.5	**2020**	0	0.0		16 years	30.9	4.4	16 years	13.8	3.5	16 years	1.6	1.6
2021	24	105.9	4.4	**2021**	11	39.2	3.6	**2021**	0	0.0		17 years	30.5	4.4	17 years	13.6	3.5	17 years	1.5	1.6
2022	29	125.5	4.3	**2022**	15	53.6	3.6	**2022**	0	0.0		18 years	30.4	4.4	18 years	13.7	3.5	18 years	1.4	1.6
Original AWS type unknown				**10 years**	Original AWS type unknown			**10 years**	Original AWS type unknown											
6 years				**6 years**				**6 years**												
Pre	25.0	109.7	4.4	**Pre**	11.0	39.8	3.6	**Pre**	0.3	0.7	2.0									
Post	27.3	120.7	4.4	**Post**	11.3	38.8	3.4	**Post**	1.7	2.3	1.4									
		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										





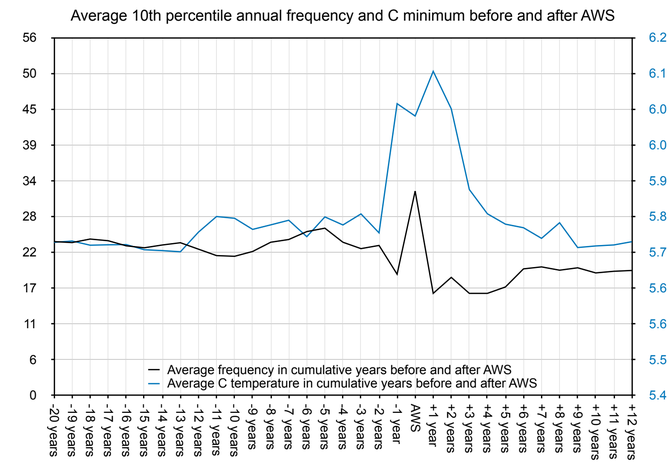


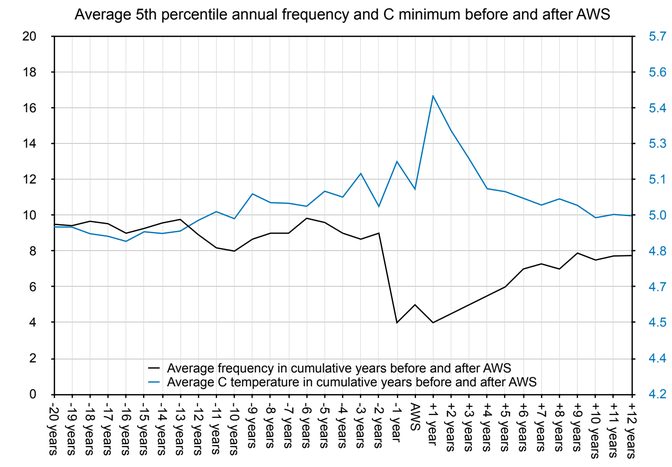
10th 6.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	45	222.1	4.9	**1910**	32	142.8	4.5	**1910**	7	20.9	3.0									
1911	53	268.6	5.1	**1911**	28	114.5	4.1	**1911**	8	21.5	2.7									
1912	50	265.0	5.3	**1912**	28	130.2	4.7	**1912**	2	6.1	3.1									
1913	63	314.5	5.0	**1913**	41	175.7	4.3	**1913**	9	23.0	2.6									
1914	54	251.3	4.7	**1914**	35	133.4	3.8	**1914**	12	29.0	2.4									
1915	42	219.7	5.2	**1915**	22	92.7	4.2	**1915**	6	17.3	2.9									
1916	57	283.0	5.0	**1916**	35	147.0	4.2	**1916**	8	22.9	2.9									
1917	61	305.1	5.0	**1917**	37	157.1	4.2	**1917**	10	26.1	2.6									
1918	52	265.6	5.1	**1918**	31	137.2	4.4	**1918**	6	17.1	2.9									
1919	52	267.7	5.1	**1919**	28	117.8	4.2	**1919**	7	21.1	3.0									
1920	53	281.7	5.3	**1920**	27	121.7	4.5	**1920**	4	12.1	3.0									
1921	30	177.5	5.9	**1921**	12	62.4	5.2	**1921**	0	0.0										
1922	59	299.1	5.1	**1922**	34	141.0	4.1	**1922**	9	21.7	2.4									
1923	57	294.5	5.2	**1923**	35	151.9	4.3	**1923**	8	16.7	2.1									
1924	79	404.9	5.1	**1924**	51	226.9	4.4	**1924**	12	34.8	2.9									
1925	63	331.3	5.3	**1925**	32	134.4	4.2	**1925**	10	26.6	2.7									
1926	59	317.0	5.4	**1926**	28	115.9	4.1	**1926**	10	26.6	2.7									
1927	54	272.9	5.1	**1927**	37	163.4	4.4	**1927**	7	19.4	2.8									
1928	59	317.5	5.4	**1928**	35	162.9	4.7	**1928**	4	12.1	3.0									
1929	61	297.1	4.9	**1929**	39	159.1	4.1	**1929**	9	22.5	2.5									
1930	42	221.5	5.3	**1930**	20	82.7	4.1	**1930**	4	11.7	2.9									
1931	55	271.2	4.9	**1931**	32	129.6	4.1	**1931**	9	20.7	2.3									
1932	52	265.2	5.1	**1932**	33	150.5	4.6	**1932**	4	9.7	2.4									
1933	48	232.9	4.9	**1933**	27	102.5	3.8	**1933**	9	17.4	1.9									
1934	41	209.9	5.1	**1934**	24	104.6	4.4	**1934**	3	7.5	2.5									
1935	55	276.1	5.0	**1935**	39	176.4	4.5	**1935**	4	8.7	2.2									
1936	61	299.9	4.9	**1936**	34	135.3	4.0	**1936**	8	14.2	1.8									
1937	52	268.7	5.2	**1937**	28	118.5	4.2	**1937**	6	17.1	2.9									
1938	48	251.7	5.2	**1938**	31	143.7	4.6	**1938**	3	9.3	3.1									
1939	49	252.4	5.2	**1939**	30	129.5	4.3	**1939**	5	11.8	2.4									
1940	54	279.4	5.2	**1940**	30	126.0	4.2	**1940**	9	25.5	2.8									
1941	54	268.5	5.0	**1941**	32	130.0	4.1	**1941**	8	17.1	2.1									
1942	65	318.6	4.9	**1942**	43	181.7	4.2	**1942**	10	23.2	2.3									
1943	67	335.5	5.0	**1943**	45	197.3	4.4	**1943**	9	22.7	2.5									
1944	41	202.3	4.9	**1944**	22	83.2	3.8	**1944**	9	23.0	2.6									
1945	40	215.7	5.4	**1945**	18	78.1	4.3	**1945**	2	4.6	2.3									
1946	48	236.9	4.9	**1946**	34	149.3	4.4	**1946**	7	16.6	2.4									
1947	46	236.4	5.1	**1947**	24	100.2	4.2	**1947**	4	11.0	2.8									
1948	62	326.6	5.3	**1948**	30	126.2	4.2	**1948**	7	17.0	2.4									
1949	52	247.5	4.8	**1949**	40	172.1	4.3	**1949**	9	23.6	2.6									
1950	59	303.9	5.2	**1950**	30	125.8	4.2	**1950**	7	15.1	2.2									
1951	52	262.6	5.1	**1951**	31	131.9	4.3	**1951**	8	22.0	2.8									
1952	76	384.0	5.1	**1952**	46	196.1	4.3	**1952**	10	26.0	2.6									
1953	56	306.0	5.5	**1953**	25	109.7	4.4	**1953**	5	14.4	2.9									
1954	67	352.5	5.3	**1954**	36	155.6	4.3	**1954**	8	20.0	2.5									
1955	57	288.6	5.1	**1955**	40	179.6	4.5	**1955**	7	18.4	2.6									
1956	85	420.3	4.9	**1956**	55	228.1	4.1	**1956**	13	27.1	2.1									
1957	50	262.8	5.3	**1957**	31	143.3	4.6	**1957**	6	18.8	3.1									
1958	55	284.8	5.2	**1958**	35	156.8	4.5	**1958**	5	12.2	2.4									
1959	44	235.1	5.3	**1959**	28	132.1	4.7	**1959**	3	9.4	3.1									
1960	67	336.4	5.0	**1960**	43	184.8	4.3	**1960**	12	33.8	2.8									
1961	44	223.8	5.1	**1961**	26	108.6	4.2	**1961**	9	25.9	2.9									
1962	39	200.4	5.1	**1962**	26	116.9	4.5	**1962**	4	8.9	2.2									
1963	34	189.9	5.6	**1963**	14	65.0	4.6	**1963**	2	6.1	3.1									
1964	50	279.7	5.6	**1964**	23	108.6	4.7	**1964**	3	9.0	3.0									
1965	37	205.5	5.6	**1965**	18	85.1	4.7	**1965**	2	6.5	3.3									
1966	46	223.4	4.9	**1966**	29	118.0	4.1	**1966**	7	18.8	2.7									
1967	35	195.6	5.6	**1967**	19	91.7	4.8	**1967**	0	0.0										
1968	62	327.7	5.3	**1968**	39	182.3	4.7	**1968**	3	8.0	2.7									
1969	28	151.6	5.4	**1969**	13	59.6	4.6	**1969**	1	3.2	3.2									
1970	37	198.6	5.4	**1970**	17	74.4	4.4	**1970**	2	5.6	2.8									
1971	30	162.3	5.4	**1971**	16	73.7	4.6	**1971**	2	5.5	2.8									
1972	33	185.0	5.6	**1972**	14	66.7	4.8	**1972**	1	2.9	2.9									
1973	35	201.6	5.8	**1973**	17	87.0	5.1	**1973**	0	0.0										
1974	24	128.7	5.4	**1974**	11	48.2	4.4	**1974**	1	2.2	2.2									
1975	29	174.0	6.0	**1975**	9	44.8	5.0	**1975**	0	0.0										
1976	23	135.8	5.9	**1976**	6	28.5	4.8	**1976**	0	0.0										
1977	30	170.2	5.7	**1977**	12	57.0	4.8	**1977**	0	0.0										
1978	23	130.9	5.7	**1978**	9	44.3	4.9	**1978**	0	0.0										
1979	18	109.4	6.1	**1979**	5	26.7	5.3	**1979**	0	0.0										
1980	26	146.9	5.7	**1980**	13	66.3	5.1	**1980**	0	0.0										
1981	23	134.2	5.8	**1981**	10	50.9	5.1	**1981**	0	0.0										
1982	36	194.4	5.4	**1982**	19	88.7	4.7	**1982**	3	8.6	2.9									
1983	13	74.3	5.7	**1983**	3	12.6	4.2	**1983**	1	2.6	2.6									
1984	22	128.1	5.8	**1984**	7	34.2	4.9	**1984**	0	0.0										
1985	22	130.3	5.9	**1985**	7	36.9	5.3	**1985**	0	0.0										
1986	29	158.2	5.5	**1986**	17	83.2	4.9	**1986**	0	0.0										
1987	33	190.9	5.8	**1987**	11	54.0	4.9	**1987**	0	0.0										
1988	26	145.1	5.6	**1988**	12	57.8	4.8	**1988**	1	2.7	2.7									
1989	22	133.9	6.1	**1989**	3	15.4	5.1	**1989**	0	0.0										
1990	27	153.5	5.7	**1990**	11	54.0	4.9	**1990**	0	0.0		20 years	24.1	5.7	20 years	9.5	4.9	20 years	0.5	2.7
1991	14	82.8	5.9	**1991**	5	27.0	5.4	**1991**	0	0.0		19 years	23.9	5.7	19 years	9.4	4.9	19 years	0.5	2.7
1992	29	165.9	5.7	**1992**	12	60.7	5.1	**1992**	0	0.0		18 years	24.5	5.7	18 years	9.7	4.9	18 years	0.5	2.7
1993	37	212.0	5.7	**1993**	18	93.6	5.2	**1993**	0	0.0		17 years	24.2	5.7	17 years	9.5	4.9	17 years	0.5	2.7
1994	28	165.5	5.9	**1994**	5	21.2	4.2	**1994**	1	2.9	2.9	16 years	23.4	5.7	16 years	9.0	4.8	16 years	0.6	2.7
1995	17	97.8	5.8	**1995**	5	24.9	5.0	**1995**	0	0.0		15 years	23.1	5.7	15 years	9.3	4.9	15 years	0.5	2.7
1996	19	109.4	5.8	**1996**	7	33.2	4.7	**1996**	0	0.0		14 years	23.6	5.7	14 years	9.6	4.9	14 years	0.6	2.7
1997	36	187.0	5.2	**1997**	20	86.9	4.3	**1997**	2	4.2	2.1	13 years	23.9	5.7	13 years	9.8	4.9	13 years	0.6	2.7
1998	34	183.0	5.4	**1998**	17	77.0	4.5	**1998**	3	7.9	2.6	12 years	22.9	5.8	12 years	8.9	4.9	12 years	0.5	2.8
1999	23	134.3	5.8	**1999**	10	52.6	5.3	**1999**	0	0.0		11 years	21.9	5.8	11 years	8.2	5.0	11 years	0.3	2.9
2000	15	90.3	6.0	**2000**	2	8.0	4.0	**2000**	0	0.0		10 years	21.8	5.8	10 years	8.0	4.9	10 years	0.3	2.9
2001	11	62.6	5.7	**2001**	6	32.0	5.3	**2001**	0	0.0		9 years	22.6	5.8	9 years	8.7	5.0	9 years	0.3	2.9
2002	21	119.9	5.7	**2002**	9	45.2	5.0	**2002**	0	0.0		8 years	24.0	5.8	8 years	9.0	5.0	8 years	0.4	2.9
2003	17	102.2	6.0	**2003**	4	20.3	5.1	**2003**	0	0.0		7 years	24.4	5.8	7 years	9.0	5.0	7 years	0.4	2.9
2004	23	127.3	5.5	**2004**	11	51.4	4.7	**2004**	1	2.3	2.3	6 years	25.7	5.8	6 years	9.8	5.0	6 years	0.5	2.9
2005	35	205.5	5.9	**2005**	12	61.8	5.2	**2005**	0	0.0		5 years	26.2	5.8	5 years	9.6	5.1	5 years	0.4	3.2
2006	27	154.1	5.7	**2006**	10	47.3	4.7	**2006**	1	3.1	3.1	4 years	24.0	5.8	4 years	9.0	5.0	4 years	0.5	3.2
2007	22	129.6	5.9	**2007**	8	43.2	5.4	**2007**	0	0.0		3 years	23.0	5.8	3 years	8.7	5.1	3 years	0.3	3.3
2008	28	153.3	5.5	**2008**	14	67.2	4.8	**2008**	1	3.3	3.3	2 years	23.5	5.8	2 years	9.0	5.0	2 years	0.5	3.3
2009	19	115.0	6.1	**2009**	4	20.7	5.2	**2009**	0	0.0		1 years	19.0	6.1	1 years	4.0	5.2	1 years	0.0	
2010	32	192.8	6.0	**2010**	5	25.3	5.1	**2010**	0	0.0		0 years	32.0	6.0	0 years	5.0	5.1	0 years	0.0	
2011	16	98.0	6.1	**2011**	4	21.8	5.5	**2011**	0	0.0		1 years	16.0	6.1	1 years	4.0	5.5	1 years	0.0	
2012	21	125.1	6.0	**2012**	5	25.8	5.2	**2012**	0	0.0		2 years	18.5	6.0	2 years	4.5	5.3	2 years	0.0	
2013	11	60.5	5.5	**2013**	6	29.7	5.0	**2013**	0	0.0		3 years	16.0	5.9	3 years	5.0	5.2	3 years	0.0	
2014	16	90.3	5.6	**2014**	7	32.8	4.7	**2014**	1	3.3	3.3	4 years	16.0	5.8	4 years	5.5	5.1	4 years	0.3	3.3
2015	21	119.5	5.7	**2015**	8	40.0	5.0	**2015**	0	0.0		5 years	17.0	5.8	5 years	6.0	5.0	5 years	0.2	3.3
2016	34	195.0	5.7	**2016**	12	58.6	4.9	**2016**	0	0.0		6 years	19.8	5.8	6 years	7.0	5.0	6 years	0.2	3.3
2017	22	123.4	5.6	**2017**	9	43.4	4.8	**2017**	0	0.0		7 years	20.1	5.8	7 years	7.3	5.0	7 years	0.1	3.3
2018	16	96.5	6.0	**2018**	5	26.0	5.2	**2018**	0	0.0		8 years	19.6	5.8	8 years	7.0	5.0	8 years	0.1	3.3
2019	23	121.6	5.3	**2019**	15	71.6	4.8	**2019**	1	3.3	3.3	9 years	20.0	5.7	9 years	7.9	5.0	9 years	0.2	3.3
2020	12	69.2	5.8	**2020**	4	17.9	4.5	**2020**	0	0.0		10 years	19.2	5.7	10 years	7.5	4.9	10 years	0.2	3.3
2021	22	126.7	5.8	**2021**	10	50.9	5.1	**2021**	0	0.0		11 years	19.5	5.7	11 years	7.7	5.0	11 years	0.2	3.3
2022	21	122.3	5.8	**2022**	8	39.1	4.9	**2022**	0	0.0		12 years	19.6	5.7	12 years	7.8	4.9	12 years	0.2	3.3

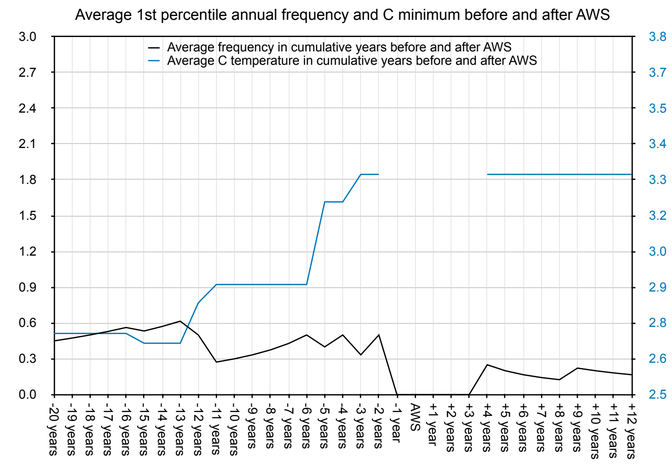
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	25.7	147.5	5.8	**Pre**	9.8	48.6	5.0	**Pre**	0.5	1.5	2.9
Post	19.8	114.7	5.8	**Post**	7.0	34.8	5.0	**Post**	0.2	0.6	3.3

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	





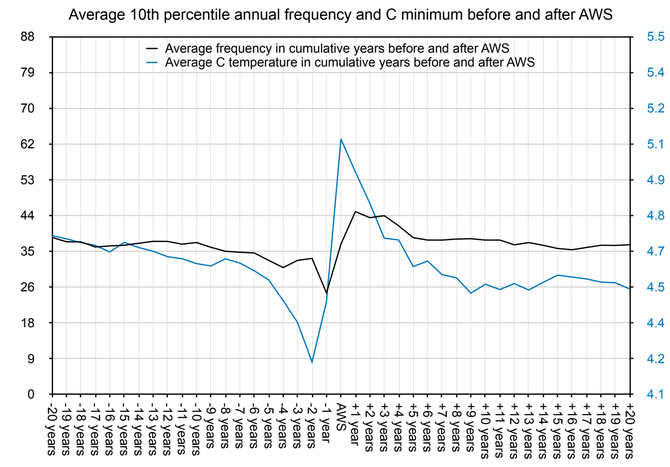


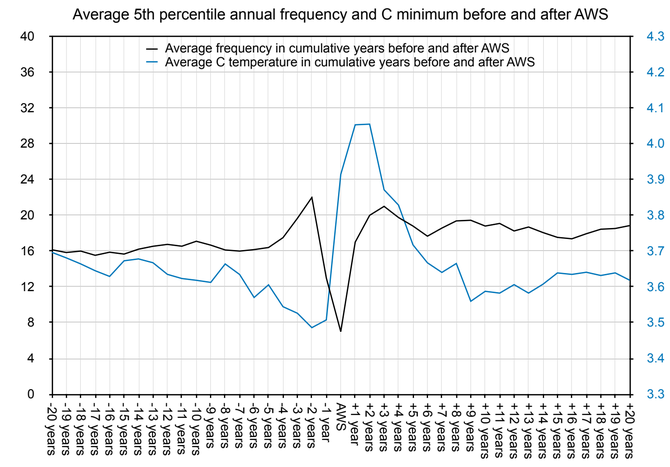
10th 6.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1914	28	134.4	4.8	**1914**	11	40.7	3.7	**1914**	1	2.2	2.2									
1915	32	154.5	4.8	**1915**	11	42.3	3.8	**1915**	1	1.8	1.8									
1916	33	142.3	4.3	**1916**	19	67.4	3.5	**1916**	3	5.6	1.9									
1917	41	174.0	4.2	**1917**	25	87.2	3.5	**1917**	5	7.6	1.5									
1918	22	101.0	4.6	**1918**	12	45.5	3.8	**1918**	1	0.6	0.6									
1919	29	123.2	4.2	**1919**	16	54.8	3.4	**1919**	4	7.5	1.9									
1920	36	146.1	4.1	**1920**	27	97.1	3.6	**1920**	5	8.9	1.8									
1921	29	137.3	4.7	**1921**	14	54.4	3.9	**1921**	3	7.5	2.5									
1922	48	217.0	4.5	**1922**	26	97.1	3.7	**1922**	4	8.7	2.2									
1923	43	192.8	4.5	**1923**	22	79.5	3.6	**1923**	5	9.9	2.0									
1924	42	183.0	4.4	**1924**	25	89.9	3.6	**1924**	6	14.5	2.4									
1925	42	193.3	4.6	**1925**	21	79.8	3.8	**1925**	1	1.8	1.8									
1926	37	168.7	4.6	**1926**	19	69.8	3.7	**1926**	4	9.1	2.3									
1927	1	5.8	5.8	**1927**	0	0.0		**1927**	0	0.0										
1928	0	0.0		**1928**	0	0.0		**1928**	0	0.0										
1929	0	0.0		**1929**	0	0.0		**1929**	0	0.0										
1930	23	101.1	4.4	**1930**	11	39.3	3.6	**1930**	2	2.8	1.4									
1931	51	214.5	4.2	**1931**	23	68.5	3.0	**1931**	9	15.6	1.7									
1932	42	173.5	4.1	**1932**	27	93.7	3.5	**1932**	7	16.8	2.4									
1933	43	174.2	4.1	**1933**	29	98.2	3.4	**1933**	8	11.8	1.5									
1934	40	167.4	4.2	**1934**	23	74.6	3.2	**1934**	8	14.5	1.8									
1935	48	196.9	4.1	**1935**	30	102.7	3.4	**1935**	7	10.0	1.4									
1936	35	146.0	4.2	**1936**	21	73.0	3.5	**1936**	4	5.1	1.3									
1937	38	180.4	4.7	**1937**	18	71.3	4.0	**1937**	2	4.5	2.3									
1938	31	143.4	4.6	**1938**	14	53.6	3.8	**1938**	4	11.2	2.8									
1939	30	131.1	4.4	**1939**	16	57.5	3.6	**1939**	5	12.8	2.6									
1940	40	177.6	4.4	**1940**	19	66.6	3.5	**1940**	5	11.7	2.3									
1941	24	114.1	4.8	**1941**	11	43.1	3.9	**1941**	2	5.0	2.5									
1942	26	112.5	4.3	**1942**	16	60.1	3.8	**1942**	3	5.0	1.7									
1943	36	161.0	4.5	**1943**	18	64.4	3.6	**1943**	5	11.0	2.2									
1944	26	129.7	5.0	**1944**	10	41.3	4.1	**1944**	0	0.0										
1945	25	111.4	4.5	**1945**	10	31.6	3.2	**1945**	4	9.5	2.4									
1946	14	62.1	4.4	**1946**	8	30.9	3.9	**1946**	0	0.0										
1947	27	124.4	4.6	**1947**	13	50.8	3.9	**1947**	2	5.0	2.5									
1948	35	149.4	4.3	**1948**	21	74.6	3.6	**1948**	3	6.7	2.2									
1949	33	150.2	4.6	**1949**	19	74.0	3.9	**1949**	2	5.0	2.5									
1950	47	198.2	4.2	**1950**	23	69.4	3.0	**1950**	9	11.6	1.3									
1951	43	183.3	4.3	**1951**	24	82.3	3.4	**1951**	7	15.0	2.1									
1952	39	153.8	3.9	**1952**	23	70.8	3.1	**1952**	8	11.8	1.5									
1953	27	128.5	4.8	**1953**	10	37.5	3.8	**1953**	1	2.2	2.2									
1954	32	141.6	4.4	**1954**	13	43.0	3.3	**1954**	4	7.2	1.8									
1955	8	32.7	4.1	**1955**	6	22.1	3.7	**1955**	2	5.6	2.8									
1956	39	163.1	4.2	**1956**	21	65.3	3.1	**1956**	8	17.3	2.2									
1957	25	101.2	4.0	**1957**	14	42.6	3.0	**1957**	6	10.1	1.7									
1958	58	225.7	3.9	**1958**	41	137.1	3.3	**1958**	12	18.9	1.6									
1959	39	167.0	4.3	**1959**	23	82.2	3.6	**1959**	6	12.8	2.1									
1960	50	199.1	4.0	**1960**	34	114.3	3.4	**1960**	12	25.6	2.1									
1961	27	112.2	4.2	**1961**	17	59.8	3.5	**1961**	6	15.1	2.5									
1962	21	90.6	4.3	**1962**	10	32.6	3.3	**1962**	2	3.3	1.7									
1963	32	142.4	4.5	**1963**	14	47.0	3.4	**1963**	5	11.6	2.3									
1964	8	40.2	5.0	**1964**	2	7.8	3.9	**1964**	0	0.0										
1965	30	137.4	4.6	**1965**	14	50.2	3.6	**1965**	3	7.8	2.6									
1966	16	68.9	4.3	**1966**	12	47.1	3.9	**1966**	0	0.0										
1967	37	179.6	4.9	**1967**	9	31.2	3.5	**1967**	1	0.8	0.8									
1968	38	168.6	4.4	**1968**	22	81.7	3.7	**1968**	4	10.0	2.5									
1969	22	98.7	4.5	**1969**	11	39.8	3.6	**1969**	3	7.2	2.4									
1970	31	140.1	4.5	**1970**	19	75.5	4.0	**1970**	1	2.8	2.8									
1971	38	182.8	4.8	**1971**	18	75.2	4.2	**1971**	1	2.8	2.8									
1972	21	108.5	5.2	**1972**	5	20.4	4.1	**1972**	0	0.0										
1973	36	177.3	4.9	**1973**	13	51.5	4.0	**1973**	1	2.6	2.6									
1974	28	135.5	4.8	**1974**	12	45.2	3.8	**1974**	3	6.9	2.3									
1975	0	0.0		**1975**	0	0.0		**1975**	0	0.0										
1976	1	5.5	5.5	**1976**	0	0.0		**1976**	0	0.0										
1977	60	263.4	4.4	**1977**	31	102.1	3.3	**1977**	9	12.7	1.4									
1978	37	183.9	5.0	**1978**	12	46.0	3.8	**1978**	3	8.1	2.7									
1979	59	292.2	5.0	**1979**	22	87.8	4.0	**1979**	1	2.0	2.0	20 years	38.7	4.7	20 years	16.2	3.7	20 years	2.6	1.9
1980	38	189.3	5.0	**1980**	13	51.8	4.0	**1980**	1	2.5	2.5	19 years	37.6	4.7	19 years	15.8	3.7	19 years	2.7	1.9
1981	59	287.8	4.9	**1981**	24	95.7	4.0	**1981**	0	0.0		18 years	37.6	4.7	18 years	16.0	3.7	18 years	2.8	1.9
1982	32	163.0	5.1	**1982**	10	39.0	3.9	**1982**	0	0.0		17 years	36.3	4.7	17 years	15.5	3.6	17 years	2.9	1.9
1983	34	139.2	4.1	**1983**	19	56.5	3.0	**1983**	8	15.1	1.9	16 years	36.6	4.7	16 years	15.9	3.6	16 years	3.1	1.9
1984	30	149.4	5.0	**1984**	8	28.8	3.6	**1984**	1	1.4	1.4	15 years	36.7	4.7	15 years	15.7	3.7	15 years	2.8	1.9
1985	31	150.8	4.9	**1985**	12	45.8	3.8	**1985**	0	0.0		14 years	37.2	4.7	14 years	16.2	3.7	14 years	2.9	1.9
1986	38	186.8	4.9	**1986**	14	56.8	4.1	**1986**	1	2.5	2.5	13 years	37.7	4.7	13 years	16.5	3.7	13 years	3.2	1.9
1987	45	212.7	4.7	**1987**	19	71.5	3.8	**1987**	3	7.3	2.4	12 years	37.7	4.6	12 years	16.8	3.6	12 years	3.3	1.8
1988	33	159.1	4.8	**1988**	11	40.4	3.7	**1988**	1	1.2	1.2	11 years	37.0	4.6	11 years	16.5	3.6	11 years	3.4	1.8
1989	48	225.5	4.7	**1989**	21	77.1	3.7	**1989**	5	9.4	1.9	10 years	37.4	4.6	10 years	17.1	3.6	10 years	3.6	1.8
1990	44	192.6	4.4	**1990**	21	67.2	3.2	**1990**	5	8.0	1.6	9 years	36.2	4.6	9 years	16.7	3.6	9 years	3.4	1.8
1991	37	175.7	4.7	**1991**	17	65.8	3.9	**1991**	1	1.8	1.8	8 years	35.3	4.6	8 years	16.1	3.7	8 years	3.3	1.9
1992	36	172.6	4.8	**1992**	15	60.3	4.0	**1992**	1	0.7	0.7	7 years	35.0	4.6	7 years	16.0	3.6	7 years	3.6	1.9
1993	44	209.7	4.8	**1993**	15	50.9	3.4	**1993**	2	3.5	1.8	6 years	34.8	4.6	6 years	16.2	3.6	6 years	4.0	2.1
1994	40	194.8	4.9	**1994**	12	46.2	3.9	**1994**	1	1.5	1.5	5 years	33.0	4.5	5 years	16.4	3.6	5 years	4.4	2.1
1995	26	122.9	4.7	**1995**	11	39.6	3.6	**1995**	4	9.9	2.5	4 years	31.3	4.5	4 years	17.5	3.5	4 years	5.3	2.3
1996	32	150.1	4.7	**1996**	15	54.1	3.6	**1996**	4	8.6	2.2	3 years	33.0	4.4	3 years	19.7	3.5	3 years	5.7	2.2
1997	42	167.6	4.0	**1997**	31	107.4	3.5	**1997**	10	24.5	2.5	2 years	33.5	4.2	2 years	22.0	3.5	2 years	6.5	2.3
1998	25	111.6	4.5	**1998**	13	45.6	3.5	**1998**	3	6.2	2.1	1 years	25.0	4.5	1 years	13.0	3.5	1 years	3.0	2.1
1999	37	188.7	5.1	**1999**	7	27.4	3.9	**1999**	0	0.0		0 years	37.0	5.1	0 years	7.0	3.9	0 years	0.0	
2000	45	223.7	5.0	**2000**	17	68.9	4.1	**2000**	1	2.6	2.6	1 years	45.0	5.0	1 years	17.0	4.1	1 years	1.0	2.6
2001	42	198.5	4.7	**2001**	23	93.3	4.1	**2001**	2	5.5	2.8	2 years	43.5	4.8	2 years	20.0	4.1	2 years	1.5	2.7
2002	45	199.7	4.4	**2002**	23	80.6	3.5	**2002**	5	11.0	2.2	3 years	44.0	4.7	3 years	21.0	3.9	3 years	2.7	2.5
2003	34	159.3	4.7	**2003**	16	59.2	3.7	**2003**	2	3.9	2.0	4 years	41.5	4.7	4 years	19.8	3.8	4 years	2.5	2.4
2004	27	113.0	4.2	**2004**	15	49.1	3.3	**2004**	4	7.3	1.8	5 years	38.6	4.6	5 years	18.8	3.7	5 years	2.8	2.3
2005	35	165.5	4.7	**2005**	12	41.0	3.4	**2005**	4	9.1	2.3	6 years	38.0	4.6	6 years	17.7	3.7	6 years	3.0	2.3
2006	38	161.6	4.3	**2006**	24	83.5	3.5	**2006**	8	16.7	2.1	7 years	38.0	4.6	7 years	18.6	3.6	7 years	3.7	2.2
2007	40	178.7	4.5	**2007**	25	96.0	3.8	**2007**	3	6.0	2.0	8 years	38.3	4.6	8 years	19.4	3.7	8 years	3.6	2.2
2008	39	156.7	4.0	**2008**	20	54.3	2.7	**2008**	11	19.1	1.7	9 years	38.3	4.5	9 years	19.4	3.6	9 years	4.4	2.2
2009	35	169.6	4.8	**2009**	13	49.9	3.8	**2009**	1	2.4	2.4	10 years	38.0	4.5	10 years	18.8	3.6	10 years	4.1	2.2
2010	38	163.5	4.3	**2010**	22	77.7	3.5	**2010**	3	6.6	2.2	11 years	38.0	4.5	11 years	19.1	3.6	11 years	4.0	2.2
2011	24	115.0	4.8	**2011**	9	34.8	3.9	**2011**	0	0.0		12 years	36.8	4.5	12 years	18.3	3.6	12 years	3.7	2.2
2012	44	185.1	4.2	**2012**	24	79.2	3.3	**2012**	7	12.3	1.8	13 years	37.4	4.5	13 years	18.7	3.6	13 years	3.9	2.1
2013	28	138.0	4.9	**2013**	10	39.3	3.9	**2013**	1	2.1	2.1	14 years	36.7	4.5	14 years	18.1	3.6	14 years	3.7	2.1
2014	25	124.1	5.0	**2014**	10	40.8	4.1	**2014**	0	0.0		15 years	35.9	4.6	15 years	17.5	3.6	15 years	3.5	2.1
2015	31	137.9	4.4	**2015**	15	53.6	3.6	**2015**	3	7.0	2.3	16 years	35.6	4.6	16 years	17.4	3.6	16 years	3.4	2.2
2016	45	199.5	4.4	**2016**	27	100.9	3.7	**2016**	5	10.8	2.2	17 years	36.2	4.6	17 years	17.9	3.6	17 years	3.5	2.2
2017	46	199.1	4.3	**2017**	27	93.9	3.5	**2017**	6	12.0	2.0	18 years	36.7	4.5	18 years	18.4	3.6	18 years	3.7	2.1
2018	36	161.7	4.5	**2018**	20	75.4	3.8	**2018**	3	5.3	1.8	19 years	36.7	4.5	19 years	18.5	3.6	19 years	3.6	2.1
2019	40	161.7	4.0	**2019**	25	80.8	3.2	**2019**	9	19.4	2.2	20 years	36.9	4.5	20 years	18.9	3.6	20 years	3.9	2.1
2020	28	141.7	5.1	**2020**	10	42.1	4.2	**2020**	0	0.0										
2021	29	124.1	4.3	**2021**	16	51.9	3.2	**2021**	5	11.2	2.2									
2022	23	100.0	4.3	**2022**	9	24.0	2.7	**2022**	4	5.7	1.4									

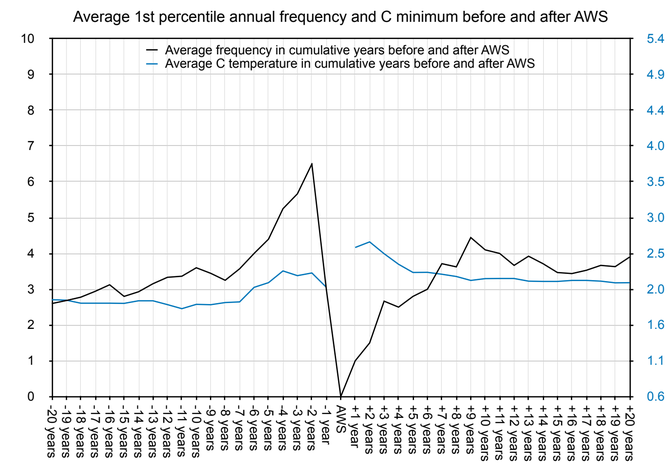
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	34.8	159.5	4.6	**Pre**	16.2	57.3	3.6	**Pre**	4.0	9.0	2.1
Post	38.0	176.6	4.6	**Post**	17.7	65.4	3.7	**Post**	3.0	6.6	2.3

		AWS introduction
		Probe replacement
		Small screen introduction





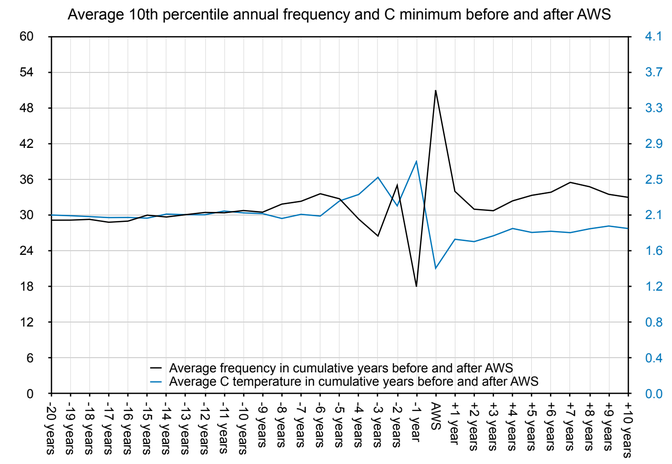


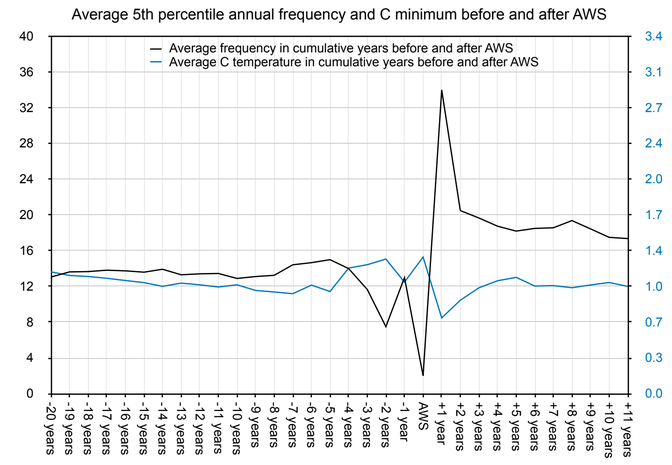
10th 3.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1947	35	77.1	2.2	**1947**	15	20.0	1.3	**1947**	1	-0.4	-0.4									
1948	54	94.5	1.8	**1948**	29	26.2	0.9	**1948**	6	-2.2	-0.4									
1949	43	84.3	2.0	**1949**	20	19.4	1.0	**1949**	5	-2.2	-0.4									
1950	58	79.0	1.4	**1950**	36	16.0	0.4	**1950**	14	-12.8	-0.9									
1951	41	92.2	2.2	**1951**	16	23.4	1.5	**1951**	0	0.0										
1952	59	102.9	1.7	**1952**	36	36.2	1.0	**1952**	6	-3.5	-0.6									
1953	41	87.2	2.1	**1953**	19	24.4	1.3	**1953**	1	-0.2	-0.2									
1954	41	82.4	2.0	**1954**	20	20.1	1.0	**1954**	3	-2.0	-0.7									
1955	22	46.7	2.1	**1955**	10	15.0	1.5	**1955**	0	0.0										
1956	49	72.0	1.5	**1956**	29	13.8	0.5	**1956**	9	-10.5	-1.2									
1957	48	73.2	1.5	**1957**	29	19.3	0.7	**1957**	7	-2.9	-0.4									
1958	40	84.2	2.1	**1958**	16	17.1	1.1	**1958**	4	-2.9	-0.7									
1959	40	73.5	1.8	**1959**	22	22.2	1.0	**1959**	3	-0.5	-0.2									
1960	66	101.1	1.5	**1960**	40	29.5	0.7	**1960**	12	-5.0	-0.4									
1961	45	56.3	1.3	**1961**	28	5.1	0.2	**1961**	10	-15.7	-1.6									
1962	28	56.5	2.0	**1962**	11	8.0	0.7	**1962**	3	-2.0	-0.7									
1963	37	69.2	1.9	**1963**	20	20.6	1.0	**1963**	4	-3.9	-1.0									
1964	32	63.2	2.0	**1964**	16	15.9	1.0	**1964**	4	-2.6	-0.7									
1965	29	58.6	2.0	**1965**	17	21.9	1.3	**1965**	2	-0.2	-0.1									
1966	32	51.9	1.6	**1966**	18	15.9	0.9	**1966**	5	-2.6	-0.5									
1967	67	83.5	1.2	**1967**	48	29.4	0.6	**1967**	11	-13.1	-1.2									
1968	70	84.5	1.2	**1968**	44	11.6	0.3	**1968**	19	-16.7	-0.9									
1969	43	59.2	1.4	**1969**	27	13.6	0.5	**1969**	10	-9.3	-0.9									
1970	67	100.9	1.5	**1970**	37	13.4	0.4	**1970**	16	-15.1	-0.9									
1971	52	91.7	1.8	**1971**	30	26.9	0.9	**1971**	9	-4.3	-0.5									
1972	39	79.7	2.0	**1972**	18	19.7	1.1	**1972**	2	-0.1	-0.1									
1973	42	83.5	2.0	**1973**	18	14.8	0.8	**1973**	5	-0.8	-0.2									
1974	48	97.6	2.0	**1974**	19	14.8	0.8	**1974**	5	-5.3	-1.1									
1975	40	77.7	1.9	**1975**	19	19.5	1.0	**1975**	2	-2.6	-1.3									
1976	46	61.7	1.3	**1976**	27	6.7	0.2	**1976**	11	-16.2	-1.5									
1977	36	78.0	2.2	**1977**	17	20.3	1.2	**1977**	2	-0.4	-0.2									
1978	24	54.1	2.3	**1978**	8	10.9	1.4	**1978**	0	0.0										
1979	45	103.3	2.3	**1979**	15	20.7	1.4	**1979**	0	0.0										
1980	19	44.6	2.3	**1980**	8	14.0	1.8	**1980**	0	0.0										
1981	43	94.3	2.2	**1981**	14	13.5	1.0	**1981**	4	-1.7	-0.4									
1982	46	71.2	1.5	**1982**	29	25.4	0.9	**1982**	8	-1.1	-0.1									
1983	28	37.0	1.3	**1983**	17	4.9	0.3	**1983**	4	-4.6	-1.2									
1984	34	74.3	2.2	**1984**	13	14.7	1.1	**1984**	2	-1.0	-0.5									
1985	22	40.5	1.8	**1985**	11	10.0	0.9	**1985**	2	-0.8	-0.4									
1986	32	71.8	2.2	**1986**	14	22.1	1.6	**1986**	0	0.0										
1987	48	81.6	1.7	**1987**	32	34.5	1.1	**1987**	3	-2.0	-0.7									
1988	33	57.2	1.7	**1988**	19	16.7	0.9	**1988**	3	-3.9	-1.3									
1989	42	83.5	2.0	**1989**	20	22.3	1.1	**1989**	1	-0.5	-0.5									
1990	26	53.4	2.1	**1990**	14	18.4	1.3	**1990**	1	-0.1	-0.1									
1991	14	38.2	2.7	**1991**	2	3.6	1.8	**1991**	0	0.0		20 years	28.4	2.1	20 years	13.1	1.2	20 years	2.0	-0.5
1992	29	63.6	2.2	**1992**	13	17.0	1.3	**1992**	1	-0.1	-0.1	19 years	29.2	2.1	19 years	13.6	1.1	19 years	2.1	-0.5
1993	27	59.8	2.2	**1993**	11	15.4	1.4	**1993**	1	-1.0	-1.0	18 years	29.2	2.0	18 years	13.7	1.1	18 years	2.1	-0.5
1994	37	82.1	2.2	**1994**	15	21.6	1.4	**1994**	0	0.0		17 years	29.3	2.0	17 years	13.8	1.1	17 years	2.2	-0.4
1995	26	52.0	2.0	**1995**	16	22.0	1.4	**1995**	2	-1.0	-0.5	16 years	28.8	2.0	16 years	13.8	1.1	16 years	2.3	-0.4
1996	15	32.0	2.1	**1996**	9	14.0	1.6	**1996**	1	0.0	0.0	15 years	29.0	2.0	15 years	13.6	1.1	15 years	2.3	-0.4
1997	34	47.9	1.4	**1997**	22	13.7	0.6	**1997**	7	-6.5	-0.9	14 years	30.0	2.0	14 years	13.9	1.0	14 years	2.4	-0.5
1998	25	53.6	2.1	**1998**	12	14.9	1.2	**1998**	1	0.0	0.0	13 years	29.7	2.1	13 years	13.3	1.1	13 years	2.1	-0.4
1999	26	53.7	2.1	**1999**	13	16.5	1.3	**1999**	1	-0.2	-0.2	12 years	30.1	2.1	12 years	13.4	1.0	12 years	2.2	-0.5
2000	31	50.4	1.6	**2000**	19	15.3	0.8	**2000**	4	-2.3	-0.6	11 years	30.5	2.1	11 years	13.5	1.0	11 years	2.3	-0.5
2001	27	61.8	2.3	**2001**	11	16.7	1.5	**2001**	0	0.0		10 years	30.4	2.1	10 years	12.9	1.0	10 years	2.1	-0.5
2002	33	70.8	2.1	**2002**	12	13.2	1.1	**2002**	1	-1.0	-1.0	9 years	30.8	2.1	9 years	13.1	1.0	9 years	2.3	-0.5
2003	21	51.6	2.5	**2003**	5	5.4	1.1	**2003**	0	0.0		8 years	30.5	2.1	8 years	13.3	1.0	8 years	2.5	-0.4
2004	29	50.1	1.7	**2004**	13	6.0	0.5	**2004**	5	-5.4	-1.1	7 years	31.9	2.0	7 years	14.4	1.0	7 years	2.9	-0.4
2005	26	56.1	2.2	**2005**	13	17.4	1.3	**2005**	0	0.0		6 years	32.3	2.1	6 years	14.7	1.0	6 years	2.5	-0.2
2006	37	49.8	1.3	**2006**	19	1.5	0.1	**2006**	11	-7.5	-0.7	5 years	33.6	2.0	5 years	15.0	1.0	5 years	3.0	-0.2
2007	43	85.6	2.0	**2007**	21	23.1	1.1	**2007**	2	-0.5	-0.3	4 years	32.8	2.2	4 years	14.0	1.2	4 years	1.0	-0.1
2008	35	66.3	1.9	**2008**	20	22.4	1.1	**2008**	1	0.0	0.0	3 years	29.3	2.3	3 years	11.7	1.2	3 years	0.7	0.0
2009	18	50.6	2.8	**2009**	2	3.0	1.5	**2009**	0	0.0		2 years	26.5	2.5	2 years	7.5	1.3	2 years	0.5	0.0
2010	35	75.5	2.2	**2010**	13	13.8	1.1	**2010**	1	0.0	0.0	1 years	35.0	2.2	1 years	13.0	1.1	1 years	1.0	0.0
2011	18	48.0	2.7	**2011**	2	2.6	1.3	**2011**	0	0.0		0 years	18.0	2.7	0 years	2.0	1.3	0 years	0.0	
2012	51	73.5	1.4	**2012**	34	24.5	0.7	**2012**	11	-4.7	-0.4	1 years	51.0	1.4	1 years	34.0	0.7	1 years	11.0	-0.4
2013	17	35.8	2.1	**2013**	7	7.4	1.1	**2013**	0	0.0		2 years	34.0	1.8	2 years	20.5	0.9	2 years	5.5	-0.4
2014	25	42.3	1.7	**2014**	18	22.4	1.2	**2014**	3	-0.2	-0.1	3 years	31.0	1.7	3 years	19.7	1.0	3 years	4.7	-0.2
2015	30	60.4	2.0	**2015**	16	20.4	1.3	**2015**	2	-0.2	-0.1	4 years	30.8	1.8	4 years	18.8	1.1	4 years	4.0	-0.2
2016	39	87.1	2.2	**2016**	16	19.8	1.2	**2016**	2	-1.1	-0.6	5 years	32.4	1.9	5 years	18.2	1.1	5 years	3.6	-0.3
2017	38	61.7	1.6	**2017**	20	12.2	0.6	**2017**	7	-4.6	-0.7	6 years	33.3	1.9	6 years	18.5	1.0	6 years	4.2	-0.4
2018	37	72.0	1.9	**2018**	19	20.0	1.1	**2018**	3	-0.5	-0.2	7 years	33.9	1.9	7 years	18.6	1.0	7 years	4.0	-0.3
2019	47	81.8	1.7	**2019**	25	21.7	0.9	**2019**	5	-3.5	-0.7	8 years	35.5	1.8	8 years	19.4	1.0	8 years	4.1	-0.4
2020	29	65.1	2.2	**2020**	11	13.7	1.2	**2020**	1	0.0	0.0	9 years	34.8	1.9	9 years	18.4	1.0	9 years	3.8	-0.3
2021	22	48.7	2.2	**2021**	9	11.4	1.3	**2021**	0	0.0		10 years	33.5	1.9	10 years	17.5	1.1	10 years	3.4	-0.3
2022	28	45.2	1.6	**2022**	16	10.4	0.7	**2022**	4	-4.3	-1.1	11 years	33.0	1.9	11 years	17.4	1.0	11 years	3.5	-0.4

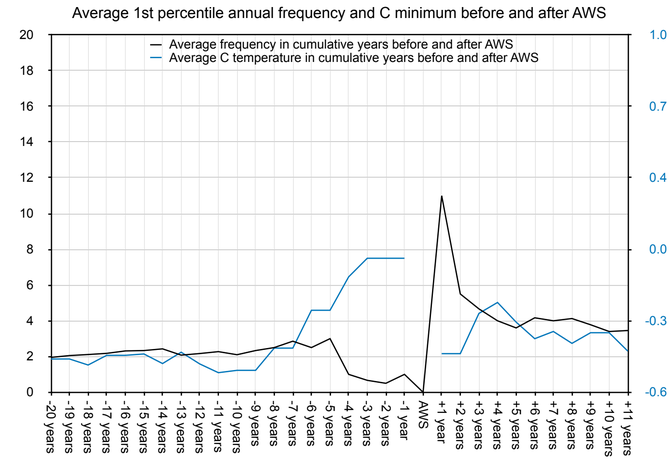
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	32.3	64.0	2.1	**Pre**	14.7	13.5	1.0	**Pre**	2.5	-1.3	-0.2
Post	33.3	60.1	1.9	**Post**	18.5	17.8	1.0	**Post**	4.2	-1.8	-0.4

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	







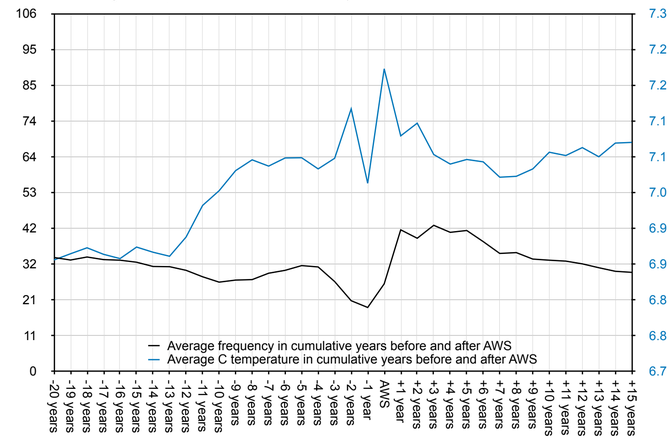
10th 7.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 7.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	41	292.4	7.1	1910	24	159.8	6.7	1910	2	7.8	3.9									
1911	80	531.8	6.6	1911	60	375.8	6.3	1911	17	81.2	4.8									
1912	29	206.8	7.1	1912	20	136.6	6.8	1912	3	16.2	5.4									
1913	41	289.1	7.1	1913	32	218.9	6.8	1913	5	28.0	5.6									
1914	33	223.8	6.8	1914	28	184.8	6.6	1914	6	30.6	5.1									
1915	38	271.8	7.2	1915	27	186.0	6.9	1915	2	11.2	5.6									
1916	24	173.6	7.2	1916	12	80.0	6.7	1916	3	16.2	5.4									
1917	54	382.3	7.1	1917	39	265.3	6.8	1917	2	10.6	5.3									
1918	41	286.4	7.0	1918	26	169.4	6.5	1918	3	15.0	5.0									
1919	36	251.1	7.0	1919	24	157.8	6.6	1919	3	13.7	4.6									
1920	31	223.9	7.2	1920	17	116.3	6.8	1920	1	4.7	4.7									
1921	32	220.8	6.9	1921	20	127.7	6.4	1921	3	14.4	4.8									
1922	22	155.0	7.0	1922	12	77.0	6.4	1922	3	14.7	4.9									
1923	24	176.0	7.3	1923	14	98.3	7.0	1923	0	0.0										
1924	29	200.6	6.9	1924	21	138.9	6.6	1924	2	10.6	5.3									
1925	43	296.9	6.9	1925	29	190.2	6.6	1925	3	16.8	5.6									
1926	29	201.3	6.9	1926	16	101.5	6.3	1926	4	20.9	5.2									
1927	66	457.1	6.9	1927	46	303.4	6.6	1927	3	14.8	4.9									
1928	32	227.9	7.1	1928	14	90.5	6.5	1928	3	16.8	5.6									
1929	66	433.7	6.6	1929	48	295.3	6.2	1929	14	71.0	5.1									
1930	31	214.9	6.9	1930	17	107.1	6.3	1930	5	24.2	4.8									
1931	37	260.8	7.0	1931	27	182.9	6.8	1931	1	5.0	5.0									
1932	39	259.7	6.7	1932	25	151.3	6.1	1932	9	41.5	4.6									
1933	40	276.6	6.9	1933	29	191.5	6.6	1933	3	15.1	5.0									
1934	33	231.5	7.0	1934	22	147.4	6.7	1934	1	5.6	5.6									
1935	43	295.4	6.9	1935	30	194.4	6.5	1935	5	25.7	5.1									
1936	63	431.8	6.9	1936	44	285.0	6.5	1936	8	41.5	5.2									
1937	43	293.0	6.8	1937	29	184.7	6.4	1937	7	34.7	5.0									
1938	48	320.7	6.7	1938	35	219.9	6.3	1938	8	39.0	4.9									
1939	56	383.7	6.9	1939	38	243.3	6.4	1939	8	39.5	4.9									
1940	28	197.2	7.0	1940	16	104.0	6.5	1940	3	15.6	5.2									
1941	41	291.3	7.1	1941	23	152.1	6.6	1941	4	20.4	5.1									
1942	22	156.8	7.1	1942	14	94.4	6.7	1942	1	5.6	5.6									
1943	91	575.9	6.3	1943	69	404.3	5.9	1943	29	134.7	4.6									
1944	60	376.9	6.3	1944	45	259.9	5.8	1944	22	109.2	5.0									
1945	52	348.7	6.7	1945	41	262.9	6.4	1945	6	30.1	5.0									
1946	60	410.5	6.8	1946	41	262.3	6.4	1946	10	52.1	5.2									
1947	36	252.7	7.0	1947	26	174.7	6.7	1947	3	16.8	5.6									
1948	35	240.0	6.9	1948	24	154.2	6.4	1948	6	32.4	5.4									
1949	63	428.6	6.8	1949	50	327.2	6.5	1949	11	57.7	5.2									
1950	12	79.5	6.6	1950	7	40.5	5.8	1950	3	11.7	3.9									
1951	22	150.6	6.8	1951	14	88.2	6.3	1951	3	14.4	4.8									
1952	23	159.8	6.9	1952	15	97.4	6.5	1952	3	16.8	5.6									
1953	27	200.9	7.4	1953	10	68.3	6.8	1953	1	5.6	5.6									
1954	22	163.0	7.4	1954	11	77.2	7.0	1954	0	0.0										
1955	40	260.9	6.5	1955	34	214.1	6.3	1955	9	45.7	5.1									
1956	57	389.2	6.8	1956	43	280.0	6.5	1956	8	41.2	5.2									
1957	54	378.0	7.0	1957	30	190.8	6.4	1957	9	48.6	5.4									
1958	36	245.5	6.8	1958	23	144.1	6.3	1958	9	48.0	5.3									
1959	48	340.3	7.1	1959	27	176.5	6.5	1959	5	23.9	4.8									
1960	36	253.5	7.0	1960	24	159.9	6.7	1960	5	27.4	5.5									
1961	30	199.9	6.7	1961	18	106.3	5.9	1961	8	38.5	4.8									
1962	40	260.8	6.5	1962	29	175.6	6.1	1962	11	52.8	4.8									
1963	31	221.1	7.1	1963	15	98.1	6.5	1963	2	11.2	5.6									
1964	35	240.7	6.9	1964	23	147.4	6.4	1964	5	24.5	4.9									
1965	32	228.1	7.1	1965	15	95.8	6.4	1965	2	10.3	5.2									
1966	45	313.3	7.0	1966	30	196.9	6.6	1966	5	26.2	5.2									
1967	36	252.7	7.0	1967	19	121.1	6.4	1967	3	14.3	4.8									
1968	42	297.7	7.1	1968	22	145.3	6.6	1968	4	22.2	5.6									
1969	30	204.8	6.8	1969	15	91.3	6.1	1969	4	17.7	4.4									
1970	46	319.0	6.9	1970	30	194.1	6.5	1970	6	33.0	5.5									
1971	45	320.8	7.1	1971	33	227.7	6.9	1971	2	11.2	5.6									
1972	21	152.3	7.3	1972	11	75.2	6.8	1972	1	5.6	5.6									
1973	12	81.7	6.8	1973	8	51.7	6.5	1973	1	5.0	5.0									
1974	20	140.9	7.0	1974	9	57.7	6.4	1974	1	5.6	5.6									
1975	18	128.3	7.1	1975	9	60.8	6.8	1975	0	0.0										
1976	22	158.5	7.2	1976	10	68.0	6.8	1976	0	0.0										
1977	35	241.2	6.9	1977	23	150.7	6.6	1977	1	5.5	5.5									
1978	32	208.6	6.5	1978	25	154.7	6.2	1978	4	18.7	4.7									
1979	26	189.1	7.3	1979	11	75.3	6.8	1979	0	0.0										
1980	14	102.2	7.3	1980	6	41.7	7.0	1980	0	0.0										
1981	36	232.6	6.5	1981	28	171.9	6.1	1981	8	40.0	5.0									
1982	38	252.3	6.6	1982	23	139.2	6.1	1982	5	22.2	4.4									
1983	28	186.9	6.7	1983	20	126.3	6.3	1983	3	14.8	4.9									
1984	40	276.6	6.9	1984	26	169.7	6.5	1984	2	10.2	5.1									
1985	38	253.9	6.7	1985	29	185.2	6.4	1985	5	25.9	5.2									
1986	36	247.3	6.9	1986	22	141.6	6.4	1986	3	11.1	3.7									
1987	48	321.1	6.7	1987	35	222.6	6.4	1987	8	42.1	5.3	20 years	33.8	6.9	20 years	21.4	6.5	20 years	3.3	5.0
1988	17	114.2	6.7	1988	12	75.9	6.3	1988	3	15.5	5.2	19 years	33.1	6.9	19 years	20.6	6.5	19 years	3.0	5.0
1989	47	333.4	7.1	1989	25	165.9	6.6	1989	2	10.5	5.3	18 years	33.9	6.9	18 years	21.1	6.5	18 years	3.0	5.0
1990	36	252.4	7.0	1990	19	123.4	6.5	1990	2	8.6	4.3	17 years	33.2	6.9	17 years	20.9	6.5	17 years	3.1	5.0
1991	42	277.2	6.6	1991	31	193.3	6.2	1991	8	38.6	4.8	16 years	33.0	6.9	16 years	21.0	6.5	16 years	3.1	5.1
1992	50	351.5	7.0	1992	31	206.3	6.7	1992	3	16.2	5.4	15 years	32.4	6.9	15 years	20.3	6.5	15 years	2.8	5.1
1993	32	223.6	7.0	1993	15	95.4	6.4	1993	3	16.0	5.3	14 years	31.1	6.9	14 years	19.6	6.5	14 years	2.8	5.1
1994	44	286.3	6.5	1994	36	225.9	6.3	1994	5	21.8	4.4	13 years	31.1	6.9	13 years	19.9	6.5	13 years	2.8	5.0
1995	51	323.5	6.3	1995	42	255.4	6.1	1995	11	54.9	5.0	12 years	30.0	6.9	12 years	18.6	6.5	12 years	2.6	5.1
1996	44	296.2	6.7	1996	33	213.4	6.5	1996	5	25.7	5.1	11 years	28.1	7.0	11 years	16.5	6.5	11 years	1.8	5.1
1997	21	140.7	6.7	1997	18	117.8	6.5	1997	2	10.0	5.0	10 years	26.5	7.0	10 years	14.8	6.5	10 years	1.5	5.1
1998	26	179.2	6.9	1998	14	87.8	6.3	1998	3	16.2	5.4	9 years	27.1	7.0	9 years	14.4	6.5	9 years	1.4	5.1
1999	14	99.8	7.1	1999	7	47.1	6.7	1999	0	0.0		8 years	27.3	7.1	8 years	14.5	6.6	8 years	1.3	5.1
2000	24	167.1	7.0	2000	12	77.0	6.4	2000	2	10.0	5.0	7 years	29.1	7.0	7 years	15.6	6.5	7 years	1.4	5.1
2001	23	162.3	7.1	2001	12	78.8	6.6	2001	1	4.4	4.4	6 years	30.0	7.1	6 years	16.2	6.6	6 years	1.3	5.1
2002	33	235.4	7.1	2002	15	99.8	6.7	2002	0	0.0		5 years	31.4	7.1	5 years	17.0	6.6	5 years	1.4	5.3
2003	44	307.4	7.0	2003	28	186.8	6.7	2003	1	5.2	5.2	4 years	31.0	7.0	4 years	17.5	6.5	4 years	1.8	5.3
2004	38	261.9	6.9	2004	25	162.4	6.5	2004	3	16.6	5.5	3 years	26.7	7.1	3 years	14.0	6.5	3 years	2.0	5.3
2005	23	167.1	7.3	2005	9	59.9	6.7	2005	1	5.2	5.2	2 years	21.0	7.1	2 years	8.5	6.5	2 years	1.5	5.2
2006	19	133.3	7.0	2006	8	50.2	6.3	2006	2	10.2	5.1	1 years	19.0	7.0	1 years	8.0	6.3	1 years	2.0	5.1
2007	26	187.4	7.2	2007	13	86.9	6.7	2007	0	0.0		0 years	26.0	7.2	0 years	13.0	6.7	0 years	0.0	
2008	42	298.0	7.1	2008	28	189.0	6.8	2008	0	0.0		1 years	42.0	7.1	1 years	28.0	6.8	1 years	0.0	
2009	37	264.1	7.1	2009	16	104.8	6.6	2009	1	5.5	5.5	2 years	39.5	7.1	2 years	22.0	6.7	2 years	0.5	5.5
2010	51	354.9	7.0	2010	27	174.4	6.5	2010	1	4.3	4.3	3 years	43.3	7.1	3 years	23.7	6.6	3 years	0.7	4.9
2011	35	245.0	7.0	2011	20	131.5	6.6	2011	3	15.3	5.1	4 years	41.3	7.0	4 years	22.8	6.6	4 years	1.3	5.0
2012	44	311.8	7.1	2012	23	152.9	6.6	2012	1	5.1	5.1	5 years	41.8	7.1	5 years	22.8	6.6	5 years	1.2	5.0
2013	22	154.7	7.0	2013	13	85.9	6.6	2013	1	5.3	5.3	6 years	38.5	7.1	6 years	21.2	6.6	6 years	1.2	5.1
2014	14	96.2	6.9	2014	9	58.4	6.5	2014	1	5.1	5.1	7 years	35.0	7.0	7 years	19.4	6.6	7 years	1.1	5.1
2015	37	260.4	7.0	2015	23	152.4	6.6	2015	1	5.6	5.6	8 years	35.3	7.0	8 years	19.9	6.6	8 years	1.1	5.1
2016	18	128.5	7.1	2016	9	60.2	6.7	2016	0	0.0		9 years	33.3	7.0	9 years	18.7	6.6	9 years	1.0	5.1
2017	30	219.6	7.3	2017	10	66.1	6.6	2017	0	0.0		10 years	33.0	7.1	10 years	17.8	6.6	10 years	0.9	5.1
2018	30	210.2	7.0	2018	16	102.8	6.4	2018	4	21.4	5.4	11 years	32.7	7.1	11 years	17.6	6.6	11 years	1.2	5.2
2019	23	166.1	7.2	2019	9	59.7	6.6	2019	0	0.0		12 years	31.9	7.1	12 years	16.9	6.6	12 years	1.1	5.2
2020	17	116.9	6.9	2020	8	47.8	6.0	2020	2	8.6	4.3	13 years	30.8	7.1	13 years	16.2	6.5	13 years	1.2	5.1
2021	16	118.1	7.4	2021	6	40.3	6.7	2021	0	0.0		14 years	29.7	7.1	14 years	15.5	6.6	14 years	1.1	5.1
2022	25	177.5	7.1	2022	14	93.6	6.7	2022	1	5.5	5.5	15 years	29.4	7.1	15 years	15.4	6.6	15 years	1.1	5.1

Original AWS probe Temp Control

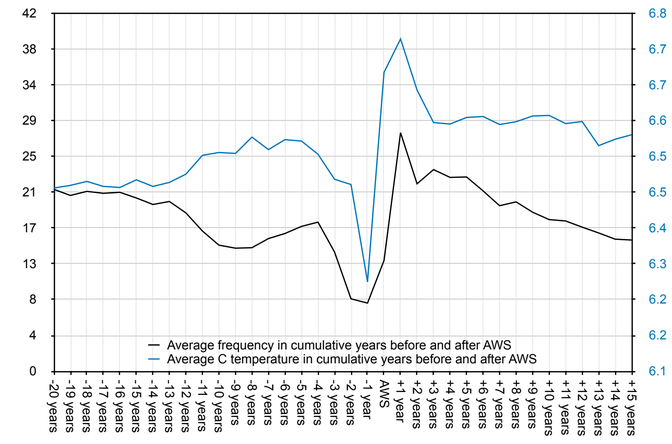
6 years				**6 years**				**6 years**			
Pre	30.0	211.2	7.1	**Pre**	16.2	106.3	6.6	**Pre**	1.3	6.9	5.1
Post	38.5	271.4	7.1	**Post**	21.2	139.8	6.6	**Post**	1.2	5.9	5.1

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	

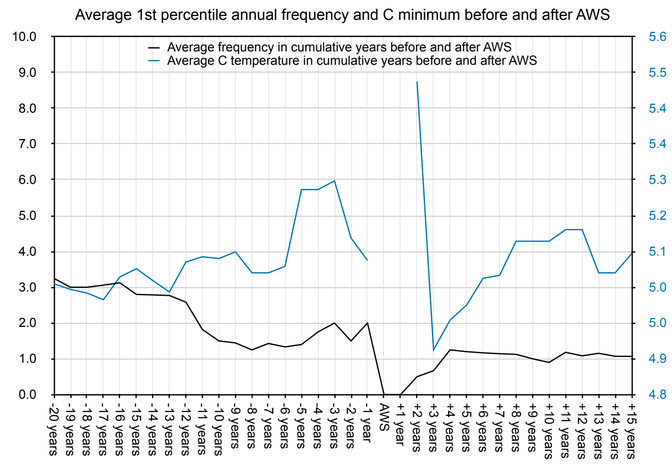
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS

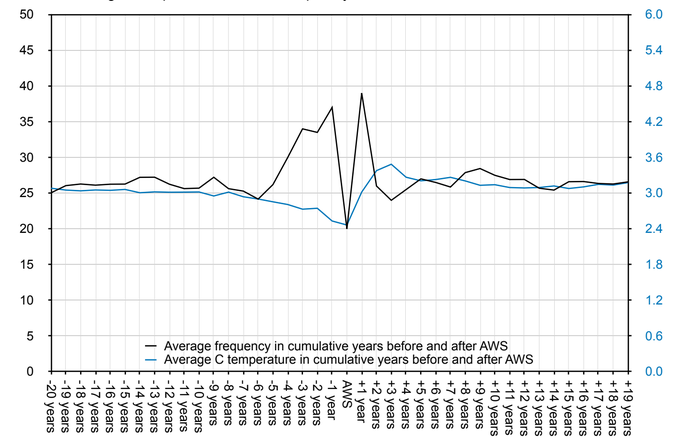


10th 4.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.9	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	34	61.4	1.8	**1910**	25	25.7	1.0	**1910**	5	-2.2	-0.4									
1911	60	116.0	1.9	**1911**	38	31.2	0.8	**1911**	11	-20.0	-1.8									
1912	44	128.8	2.9	**1912**	19	27.9	1.5	**1912**	2	-1.8	-0.9									
1913	48	131.8	2.7	**1913**	23	29.6	1.3	**1913**	5	-4.2	-0.8									
1914	43	86.2	2.0	**1914**	26	18.2	0.7	**1914**	10	-9.1	-0.9									
1915	51	139.1	2.7	**1915**	24	28.9	1.2	**1915**	5	-3.5	-0.7									
1916	34	96.5	2.8	**1916**	15	14.5	1.0	**1916**	4	-3.1	-0.8									
1917	57	111.4	2.0	**1917**	40	40.1	1.0	**1917**	10	-12.0	-1.2									
1918	72	124.9	1.7	**1918**	43	10.7	0.2	**1918**	21	-34.2	-1.6									
1919	64	113.6	1.8	**1919**	44	35.7	0.8	**1919**	13	-25.2	-1.9									
1920	27	66.1	2.4	**1920**	16	20.4	1.3	**1920**	3	-1.4	-0.5									
1921	14	35.9	2.6	**1921**	7	7.9	1.1	**1921**	2	-1.7	-0.9									
1922	54	128.3	2.4	**1922**	27	30.3	1.1	**1922**	10	-4.0	-0.4									
1923	66	171.9	2.6	**1923**	40	70.0	1.8	**1923**	2	-0.8	-0.4									
1924	51	119.7	2.3	**1924**	32	44.2	1.4	**1924**	9	-4.7	-0.5									
1925	76	154.6	2.0	**1925**	50	49.3	1.0	**1925**	13	-11.3	-0.9									
1926	46	107.3	2.3	**1926**	30	43.7	1.5	**1926**	4	-1.2	-0.3									
1927	69	105.9	1.5	**1927**	51	34.0	0.7	**1927**	22	-24.0	-1.1									
1928	54	121.3	2.2	**1928**	33	34.3	1.0	**1928**	10	-8.4	-0.8									
1929	81	139.9	1.7	**1929**	50	19.3	0.4	**1929**	22	-31.3	-1.4									
1930	44	86.8	2.0	**1930**	27	18.9	0.7	**1930**	7	-8.5	-1.2									
1931	48	123.7	2.6	**1931**	27	41.0	1.5	**1931**	4	-2.5	-0.6									
1932	56	101.2	1.8	**1932**	34	11.2	0.3	**1932**	14	-13.9	-1.0									
1933	39	94.1	2.4	**1933**	26	37.7	1.5	**1933**	4	-2.1	-0.5									
1934	48	126.7	2.6	**1934**	25	31.5	1.3	**1934**	2	-3.9	-2.0									
1935	61	124.0	2.0	**1935**	41	48.3	1.2	**1935**	10	-8.4	-0.8									
1936	34	88.1	2.6	**1936**	17	20.6	1.2	**1936**	3	0.0	0.0									
1937	38	113.4	3.0	**1937**	19	37.6	2.0	**1937**	0	0.0										
1938	29	86.4	3.0	**1938**	12	20.0	1.7	**1938**	3	-0.3	-0.1									
1939	51	142.0	2.8	**1939**	30	59.3	2.0	**1939**	0	0.0										
1940	39	83.7	2.1	**1940**	20	12.5	0.6	**1940**	7	-9.4	-1.3									
1941	43	84.4	2.0	**1941**	27	23.9	0.9	**1941**	12	-8.9	-0.7									
1942	31	110.3	3.6	**1942**	6	8.5	1.4	**1942**	1	-1.0	-1.0									
1943	55	93.5	1.7	**1943**	35	13.6	0.4	**1943**	14	-19.6	-1.4									
1944	43	115.3	2.7	**1944**	19	21.9	1.2	**1944**	4	-2.4	-0.6									
1945	21	67.9	3.2	**1945**	7	8.9	1.3	**1945**	2	-0.5	-0.3									
1946	58	108.1	1.9	**1946**	40	37.2	0.9	**1946**	13	-10.6	-0.8									
1947	47	110.7	2.4	**1947**	31	42.8	1.4	**1947**	5	-1.7	-0.3									
1948	41	116.3	2.8	**1948**	23	46.8	2.0	**1948**	0	0.0										
1949	54	120.9	2.2	**1949**	31	33.4	1.1	**1949**	8	-1.0	-0.1									
1950	15	41.6	2.8	**1950**	8	15.1	1.9	**1950**	1	0.0	0.0									
1951	52	107.3	2.1	**1951**	35	39.6	1.1	**1951**	9	-9.5	-1.1									
1952	35	91.2	2.6	**1952**	18	24.7	1.4	**1952**	3	-4.5	-1.5									
1953	55	91.7	1.7	**1953**	40	35.6	0.9	**1953**	12	-9.5	-0.8									
1954	11	28.6	2.6	**1954**	5	5.0	1.0	**1954**	1	-0.1	-0.1									
1955	31	92.9	3.0	**1955**	12	17.6	1.5	**1955**	1	-0.3	-0.3									
1956	43	128.6	3.0	**1956**	17	26.3	1.5	**1956**	2	0.0	0.0									
1957	38	101.6	2.7	**1957**	18	22.5	1.3	**1957**	2	-0.4	-0.2									
1958	29	83.6	2.9	**1958**	13	19.0	1.5	**1958**	2	-1.4	-0.7									
1959	34	92.6	2.7	**1959**	15	19.1	1.3	**1959**	2	-0.7	-0.4									
1960	65	151.2	2.3	**1960**	37	39.5	1.1	**1960**	8	-3.0	-0.4									
1961	57	136.3	2.4	**1961**	33	46.6	1.4	**1961**	7	-6.8	-1.0									
1962	44	133.7	3.0	**1962**	19	25.5	1.3	**1962**	3	-0.6	-0.2									
1963	37	72.0	1.9	**1963**	21	6.9	0.3	**1963**	9	-12.1	-1.3									
1964	37	103.8	2.8	**1964**	19	32.9	1.7	**1964**	1	-2.1	-2.1									
1965	38	93.4	2.5	**1965**	18	13.7	0.8	**1965**	3	-7.8	-2.6									
1966	32	88.9	2.8	**1966**	15	16.0	1.1	**1966**	6	-3.6	-0.6									
1967	39	116.0	3.0	**1967**	20	42.5	2.1	**1967**	1	-0.4	-0.4									
1968	44	125.8	2.9	**1968**	19	23.7	1.2	**1968**	4	-2.0	-0.5									
1969	17	58.7	3.5	**1969**	6	13.4	2.2	**1969**	0	0.0										
1970	55	132.4	2.4	**1970**	32	41.5	1.3	**1970**	6	-6.7	-1.1									
1971	38	93.3	2.5	**1971**	20	22.4	1.1	**1971**	5	-3.2	-0.6									
1972	34	69.1	2.0	**1972**	21	16.8	0.8	**1972**	7	-4.1	-0.6									
1973	9	33.9	3.8	**1973**	1	2.4	2.4	**1973**	0	0.0										
1974	46	118.2	2.6	**1974**	23	29.0	1.3	**1974**	7	-2.0	-0.3									
1975	22	79.1	3.6	**1975**	4	9.2	2.3	**1975**	0	0.0										
1976	37	118.4	3.2	**1976**	15	26.6	1.8	**1976**	1	0.0	0.0									
1977	37	99.9	2.7	**1977**	17	22.5	1.3	**1977**	3	-1.8	-0.6									
1978	25	85.1	3.4	**1978**	10	22.5	2.3	**1978**	0	0.0										
1979	29	79.6	2.7	**1979**	15	22.1	1.5	**1979**	1	0.0	0.0									
1980	29	94.5	3.3	**1980**	8	9.3	1.2	**1980**	1	0.0	0.0									
1981	28	88.9	3.2	**1981**	11	19.9	1.8	**1981**	1	-0.5	-0.5									
1982	41	76.5	1.9	**1982**	25	14.2	0.6	**1982**	11	-6.5	-0.6									
1983	6	22.0	3.7	**1983**	1	2.5	2.5	**1983**	0	0.0		20 years	25.1	3.1	20 years	10.5	1.7	20 years	1.0	-0.5
1984	22	72.2	3.3	**1984**	7	8.2	1.2	**1984**	2	-0.5	-0.3	19 years	26.1	3.1	19 years	10.9	1.7	19 years	1.0	-0.5
1985	29	80.9	2.8	**1985**	10	6.8	0.7	**1985**	2	-3.4	-1.7	18 years	26.3	3.0	18 years	11.2	1.7	18 years	0.9	-0.5
1986	24	75.7	3.2	**1986**	10	19.1	1.9	**1986**	1	-0.5	-0.5	17 years	26.1	3.1	17 years	11.2	1.7	17 years	0.9	-0.4
1987	26	73.4	2.8	**1987**	12	22.5	1.9	**1987**	0	0.0		16 years	26.3	3.0	16 years	11.3	1.7	16 years	0.9	-0.4
1988	13	49.9	3.8	**1988**	2	3.9	2.0	**1988**	0	0.0		15 years	26.3	3.1	15 years	11.3	1.7	15 years	0.9	-0.4
1989	27	76.1	2.8	**1989**	13	22.5	1.7	**1989**	0	0.0		14 years	27.2	3.0	14 years	11.9	1.7	14 years	1.0	-0.4
1990	39	120.5	3.1	**1990**	15	25.5	1.7	**1990**	1	0.0	0.0	13 years	27.2	3.0	13 years	11.8	1.7	13 years	1.1	-0.4
1991	33	99.0	3.0	**1991**	16	30.3	1.9	**1991**	1	-0.6	-0.6	12 years	26.3	3.0	12 years	11.6	1.7	12 years	1.1	-0.4
1992	25	74.7	3.0	**1992**	10	15.3	1.5	**1992**	1	-0.1	-0.1	11 years	25.6	3.0	11 years	11.2	1.7	11 years	1.1	-0.4
1993	12	43.5	3.6	**1993**	3	7.7	2.6	**1993**	0	0.0		10 years	25.7	3.0	10 years	11.3	1.7	10 years	1.1	-0.5
1994	40	97.4	2.4	**1994**	24	35.3	1.5	**1994**	3	-1.8	-0.6	9 years	27.2	3.0	9 years	12.2	1.6	9 years	1.2	-0.5
1995	28	99.8	3.6	**1995**	4	5.8	1.5	**1995**	1	-0.3	-0.3	8 years	25.6	3.0	8 years	10.8	1.6	8 years	1.0	-0.4
1996	32	101.3	3.2	**1996**	13	22.3	1.7	**1996**	0	0.0		7 years	25.3	2.9	7 years	11.7	1.7	7 years	1.0	-0.5
1997	14	43.9	3.1	**1997**	4	5.3	1.3	**1997**	0	0.0		6 years	24.2	2.9	6 years	11.5	1.6	6 years	1.2	-0.5
1998	11	33.4	3.0	**1998**	6	12.9	2.2	**1998**	0	0.0		5 years	26.2	2.9	5 years	13.0	1.7	5 years	1.4	-0.5
1999	18	54.8	3.0	**1999**	8	12.8	1.6	**1999**	1	-0.3	-0.3	4 years	30.0	2.8	4 years	14.8	1.6	4 years	1.8	-0.5
2000	35	94.5	2.7	**2000**	17	28.3	1.7	**2000**	1	-0.3	-0.3	3 years	34.0	2.7	3 years	17.0	1.6	3 years	2.0	-0.5
2001	30	88.8	3.0	**2001**	14	25.8	1.8	**2001**	2	-1.4	-0.7	2 years	33.5	2.7	2 years	17.0	1.6	2 years	2.5	-0.6
2002	37	93.7	2.5	**2002**	20	26.0	1.3	**2002**	3	-1.6	-0.5	1 years	37.0	2.5	1 years	20.0	1.3	1 years	3.0	-0.5
2003	20	49.3	2.5	**2003**	11	13.7	1.2	**2003**	2	-0.6	-0.3	0 years	20.0	2.5	0 years	11.0	1.2	0 years	2.0	-0.3
2004	39	117.7	3.0	**2004**	15	21.9	1.5	**2004**	1	-0.2	-0.2	1 years	39.0	3.0	1 years	15.0	1.5	1 years	1.0	-0.2
2005	13	48.6	3.7	**2005**	3	6.3	2.1	**2005**	0	0.0		2 years	26.0	3.4	2 years	9.0	1.8	2 years	0.5	-0.2
2006	20	74.0	3.7	**2006**	4	8.7	2.2	**2006**	0	0.0		3 years	24.0	3.5	3 years	7.3	1.9	3 years	0.3	-0.2
2007	30	78.4	2.6	**2007**	16	23.8	1.5	**2007**	2	-1.0	-0.5	4 years	25.5	3.3	4 years	9.5	1.8	4 years	0.8	-0.4
2008	33	97.9	3.0	**2008**	16	28.4	1.8	**2008**	1	0.0	0.0	5 years	27.0	3.2	5 years	10.8	1.8	5 years	0.8	-0.2
2009	24	80.0	3.3	**2009**	6	8.5	1.4	**2009**	0	0.0		6 years	26.5	3.2	6 years	10.0	1.7	6 years	0.7	-0.2
2010	22	76.8	3.5	**2010**	7	12.7	1.8	**2010**	0	0.0		7 years	25.9	3.3	7 years	9.6	1.7	7 years	0.6	-0.2
2011	42	116.8	2.8	**2011**	21	34.2	1.6	**2011**	1	-0.5	-0.5	8 years	27.9	3.2	8 years	11.0	1.7	8 years	0.6	-0.3
2012	33	84.0	2.5	**2012**	15	18.7	1.2	**2012**	3	-2.2	-0.7	9 years	28.4	3.1	9 years	11.4	1.7	9 years	0.9	-0.4
2013	19	61.4	3.2	**2013**	7	14.7	2.1	**2013**	0	0.0		10 years	27.5	3.1	10 years	11.0	1.7	10 years	0.8	-0.4
2014	21	55.0	2.6	**2014**	12	15.4	1.3	**2014**	3	-1.9	-0.6	11 years	26.9	3.1	11 years	11.1	1.7	11 years	1.0	-0.4
2015	27	81.3	3.0	**2015**	13	23.1	1.8	**2015**	1	0.0	0.0	12 years	26.9	3.1	12 years	11.3	1.7	12 years	1.0	-0.4
2016	11	35.0	3.2	**2016**	5	10.7	2.1	**2016**	0	0.0		13 years	25.7	3.1	13 years	10.8	1.7	13 years	0.9	-0.4
2017	22	76.1	3.5	**2017**	7	15.2	2.2	**2017**	0	0.0		14 years	25.4	3.1	14 years	10.5	1.8	14 years	0.9	-0.4
2018	43	106.7	2.5	**2018**	24	30.2	1.3	**2018**	4	-5.8	-1.5	15 years	26.6	3.1	15 years	11.4	1.7	15 years	1.1	-0.5
2019	27	94.8	3.5	**2019**	7	13.7	2.0	**2019**	0	0.0		16 years	26.6	3.1	16 years	11.1	1.7	16 years	1.0	-0.5
2020	22	84.3	3.8	**2020**	4	10.3	2.6	**2020**	0	0.0		17 years	26.4	3.1	17 years	10.7	1.8	17 years	0.9	-0.5
2021	25	73.0	2.9	**2021**	13	23.9	1.8	**2021**	0	0.0		18 years	26.3	3.1	18 years	10.8	1.8	18 years	0.9	-0.5
2022	32	125.6	3.9	**2022**	4	11.1	2.8	**2022**	0	0.0		19 years	26.6	3.2	19 years	10.5	1.8	19 years	0.8	-0.5

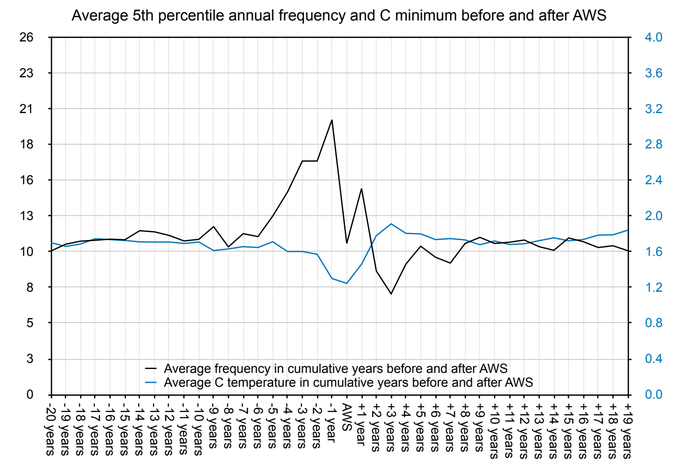
Original AWS probe Rosemount

10 years	AWS and small screen both in 2003			**10 years**	AWS and small screen both in 2003			**10 years**	AWS and small screen both in 2003		
Pre AWS	25.7	75.1	3.0	**Pre AWS**	11.3	18.2	1.7	**Pre AWS**	1.1	-0.6	-0.5
Post AWS	27.5	83.6	3.1	**Post AWS**	11.0	17.8	1.7	**Post AWS**	0.8	-0.4	-0.4
Pre small	25.7	75.1	3.0	**Pre small**	11.3	18.2	1.7	**Pre small**	1.1	-0.6	-0.5
Post small	27.5	83.6	3.1	**Post small**	11.0	17.8	1.7	**Post small**	0.8	-0.4	-0.4
5 years				**5 years**				**5 years**			
Pre AWS	26.2	73.0	2.9	**Pre AWS**	13.0	21.2	1.7	**Pre AWS**	1.4	-0.7	-0.5
Post AWS	27.0	83.3	3.2	**Post AWS**	10.8	17.8	1.8	**Post AWS**	0.8	-0.2	-0.2
Pre small	26.2	73.0	2.9	**Pre small**	13.0	21.2	1.7	**Pre small**	1.4	-0.7	-0.5
Post small	27.0	83.3	3.2	**Post small**	10.8	17.8	1.8	**Post small**	0.8	-0.2	-0.2
		AWS introduction									
		Small screen introduction									

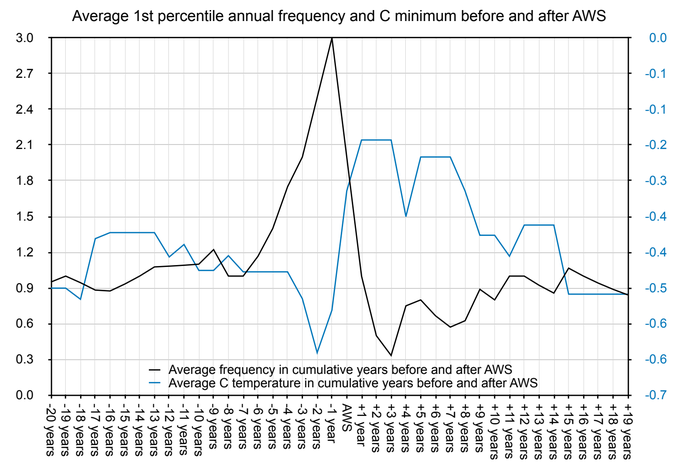
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS



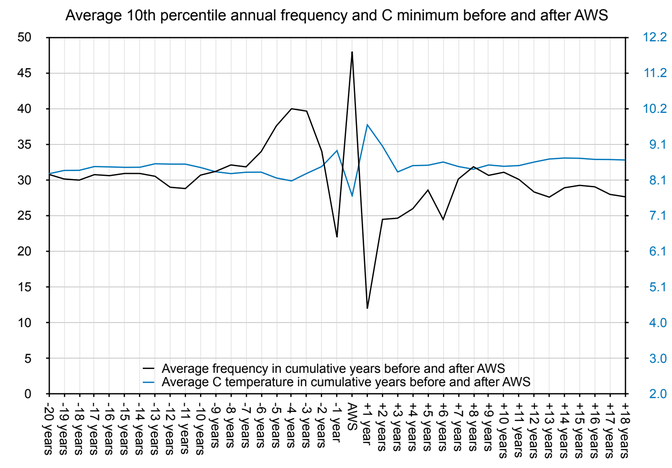
10th 11.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 8.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 4.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	25	173.9	7.0	**1910**	17	99.8	5.9	**1910**	5	18.3	3.7									
1911	53	410.5	7.7	**1911**	25	136.6	5.5	**1911**	9	32.0	3.6									
1912	25	208.4	8.3	**1912**	11	70.5	6.4	**1912**	1	4.3	4.3									
1913	47	378.8	8.1	**1913**	22	142.7	6.5	**1913**	2	5.5	2.8									
1914	53	450.4	8.5	**1914**	23	157.8	6.9	**1914**	3	12.2	4.1									
1915	42	375.8	8.9	**1915**	13	81.4	6.3	**1915**	2	7.0	3.5									
1916	22	179.3	8.2	**1916**	9	50.4	5.6	**1916**	4	13.4	3.4									
1917	30	245.2	8.2	**1917**	14	84.9	6.1	**1917**	3	6.6	2.2									
1918	62	468.9	7.6	**1918**	39	240.2	6.2	**1918**	6	20.9	3.5									
1919	49	366.6	7.5	**1919**	28	165.2	5.9	**1919**	7	26.9	3.8									
1920	21	186.1	8.9	**1920**	7	48.8	7.0	**1920**	1	4.4	4.4									
1921	20	120.5	6.0	**1921**	17	89.3	5.3	**1921**	6	18.3	3.1									
1922	56	371.4	6.6	**1922**	34	161.3	4.7	**1922**	15	35.5	2.4									
1923	72	558.1	7.8	**1923**	43	269.5	6.3	**1923**	8	28.9	3.6									
1924	31	250.4	8.1	**1924**	14	87.7	6.3	**1924**	3	12.7	4.2									
1925	54	415.6	7.7	**1925**	29	170.4	5.9	**1925**	7	22.2	3.2									
1926	34	290.5	8.5	**1926**	10	52.2	5.2	**1926**	5	15.0	3.0									
1927	11	100.0	9.1	**1927**	4	29.9	7.5	**1927**	0	0.0										
1928	53	335.6	6.3	**1928**	38	189.5	5.0	**1928**	14	40.6	2.9									
1929	73	541.4	7.4	**1929**	39	214.5	5.5	**1929**	15	52.1	3.5									
1930	46	307.4	6.7	**1930**	35	197.3	5.6	**1930**	13	49.8	3.8									
1931	21	162.6	7.7	**1931**	13	82.7	6.4	**1931**	1	4.4	4.4									
1932	54	373.3	6.9	**1932**	37	213.3	5.8	**1932**	9	24.7	2.7									
1933	23	170.8	7.4	**1933**	11	52.7	4.8	**1933**	8	30.8	3.9									
1934	27	232.2	8.6	**1934**	13	97.9	7.5	**1934**	0	0.0										
1935	35	312.3	8.9	**1935**	9	53.0	5.9	**1935**	3	7.8	2.6									
1936	19	147.8	7.8	**1936**	10	61.8	6.2	**1936**	1	2.2	2.2									
1937	49	387.6	7.9	**1937**	24	139.3	5.8	**1937**	6	16.6	2.8									
1938	18	159.4	8.9	**1938**	5	33.7	6.7	**1938**	0	0.0										
1939	57	334.5	5.9	**1939**	48	247.4	5.2	**1939**	19	58.6	3.1									
1940	42	357.8	8.5	**1940**	15	92.0	6.1	**1940**	4	13.2	3.3									
1941	57	387.3	6.8	**1941**	36	184.4	5.1	**1941**	15	42.1	2.8									
1942	20	168.7	8.4	**1942**	9	62.7	7.0	**1942**	0	0.0										
1943	29	198.6	6.8	**1943**	21	122.0	5.8	**1943**	5	16.5	3.3									
1944	29	237.3	8.2	**1944**	18	133.2	7.4	**1944**	0	0.0										
1945	38	292.8	7.7	**1945**	23	142.1	6.2	**1945**	4	11.0	2.8									
1946	71	553.3	7.8	**1946**	34	191.4	5.6	**1946**	11	25.3	2.3									
1947	33	300.7	9.1	**1947**	11	83.9	7.6	**1947**	0	0.0										
1948	34	277.9	8.2	**1948**	15	94.0	6.3	**1948**	2	6.1	3.1									
1949	56	366.8	6.6	**1949**	40	207.6	5.2	**1949**	17	44.3	2.6									
1950	39	294.0	7.5	**1950**	24	146.8	6.1	**1950**	5	17.6	3.5									
1951	68	484.4	7.1	**1951**	46	263.7	5.7	**1951**	14	49.3	3.5									
1952	43	349.5	8.1	**1952**	19	119.4	6.3	**1952**	5	16.7	3.3									
1953	72	515.8	7.2	**1953**	51	310.9	6.1	**1953**	11	35.5	3.2									
1954	50	421.7	8.4	**1954**	22	146.6	6.7	**1954**	4	14.9	3.7									
1955	17	166.8	9.8	**1955**	1	7.2	7.2	**1955**	0	0.0										
1956	50	347.7	7.0	**1956**	29	148.2	5.1	**1956**	15	56.0	3.7									
1957	33	269.3	8.2	**1957**	15	95.6	6.4	**1957**	2	7.8	3.9									
1958	8	74.0	9.3	**1958**	3	23.4	7.8	**1958**	0	0.0										
1959	45	336.5	7.5	**1959**	30	189.9	6.3	**1959**	7	26.0	3.7									
1960	42	329.4	7.8	**1960**	18	96.6	5.4	**1960**	6	19.8	3.3									
1961	64	459.3	7.2	**1961**	47	292.1	6.2	**1961**	8	30.8	3.9									
1962	23	153.4	6.7	**1962**	13	55.0	4.2	**1962**	9	27.8	3.1									
1963	0	0.0		**1963**	0	0.0		**1963**	0	0.0										
1964	55	361.9	6.6	**1964**	44	255.0	5.8	**1964**	15	53.5	3.6									
1965	55	373.0	6.8	**1965**	35	177.0	5.1	**1965**	13	23.7	1.8									
1966	23	186.6	8.1	**1966**	11	74.2	6.7	**1966**	0	0.0										
1967	52	413.1	7.9	**1967**	30	201.1	6.7	**1967**	1	3.3	3.3									
1968	38	335.2	8.8	**1968**	11	70.2	6.4	**1968**	0	0.0										
1969	25	232.9	9.3	**1969**	7	52.9	7.6	**1969**	0	0.0										
1970	22	199.8	9.1	**1970**	6	41.9	7.0	**1970**	0	0.0										
1971	21	159.1	7.6	**1971**	11	57.7	5.2	**1971**	4	12.2	3.1									
1972	56	467.9	8.4	**1972**	27	179.0	6.6	**1972**	1	4.4	4.4									
1973	11	104.9	9.5	**1973**	2	15.6	7.8	**1973**	0	0.0										
1974	63	455.9	7.2	**1974**	41	241.8	5.9	**1974**	9	22.3	2.5									
1975	26	210.6	8.1	**1975**	12	70.8	5.9	**1975**	4	14.7	3.7									
1976	66	494.9	7.5	**1976**	37	203.9	5.5	**1976**	12	41.4	3.5									
1977	44	371.4	8.4	**1977**	11	41.6	3.8	**1977**	9	27.7	3.1									
1978	28	214.6	7.7	**1978**	14	71.9	5.1	**1978**	7	23.4	3.3									
1979	41	346.1	8.4	**1979**	13	73.4	5.6	**1979**	4	8.7	2.2									
1980	36	297.9	8.3	**1980**	15	87.0	5.8	**1980**	4	14.8	3.7									
1981	39	337.0	8.6	**1981**	18	119.8	6.7	**1981**	3	9.6	3.2									
1982	52	365.1	7.0	**1982**	33	178.2	5.4	**1982**	9	22.4	2.5									
1983	31	260.2	8.4	**1983**	11	66.2	6.0	**1983**	3	7.6	2.5									
1984	43	279.3	6.5	**1984**	26	107.6	4.1	**1984**	11	7.5	0.7	20 years	30.8	8.3	20 years	13.3	6.2	20 years	2.6	3.0
1985	33	275.0	8.3	**1985**	16	108.1	6.8	**1985**	1	4.0	4.0	19 years	30.2	8.4	19 years	12.6	6.3	19 years	2.2	3.2
1986	17	111.7	6.6	**1986**	12	59.8	5.0	**1986**	4	9.0	2.3	18 years	30.0	8.4	18 years	12.4	6.2	18 years	2.2	3.2
1987	33	285.9	8.7	**1987**	11	75.9	6.9	**1987**	0	0.0		17 years	30.8	8.5	17 years	12.5	6.3	17 years	2.1	3.3
1988	26	225.8	8.7	**1988**	9	59.2	6.6	**1988**	0	0.0		16 years	30.6	8.5	16 years	12.6	6.3	16 years	2.3	3.3
1989	31	261.9	8.4	**1989**	13	80.8	6.2	**1989**	1	3.5	3.5	15 years	30.9	8.5	15 years	12.8	6.3	15 years	2.4	3.3
1990	36	259.2	7.2	**1990**	23	131.3	5.7	**1990**	5	10.7	2.1	14 years	30.9	8.5	14 years	12.8	6.3	14 years	2.5	3.2
1991	49	425.9	8.7	**1991**	19	131.5	6.9	**1991**	1	4.2	4.2	13 years	30.5	8.6	13 years	12.0	6.3	13 years	2.3	3.4
1992	31	266.3	8.6	**1992**	13	88.2	6.8	**1992**	0	0.0		12 years	29.0	8.6	12 years	11.4	6.3	12 years	2.4	3.2
1993	10	95.4	9.5	**1993**	0	0.0		**1993**	0	0.0		11 years	28.8	8.6	11 years	11.3	6.2	11 years	2.6	3.2
1994	26	248.9	9.6	**1994**	3	21.4	7.1	**1994**	0	0.0		10 years	30.7	8.5	10 years	12.4	6.2	10 years	2.9	3.2
1995	24	210.8	8.8	**1995**	8	51.5	6.4	**1995**	1	3.5	3.5	9 years	31.2	8.4	9 years	13.4	6.1	9 years	3.2	3.2
1996	34	273.1	8.0	**1996**	16	91.5	5.7	**1996**	4	14.7	3.7	8 years	32.1	8.3	8 years	14.1	6.1	8 years	3.5	3.2
1997	19	158.2	8.3	**1997**	8	47.0	5.9	**1997**	3	9.4	3.1	7 years	31.9	8.3	7 years	13.9	6.1	7 years	3.4	3.1
1998	16	146.9	9.2	**1998**	6	43.0	7.2	**1998**	0	0.0		6 years	34.0	8.3	6 years	14.8	6.2	6 years	3.5	3.0
1999	28	238.5	8.5	**1999**	13	92.2	7.1	**1999**	0	0.0		5 years	37.6	8.2	5 years	16.6	6.0	5 years	4.2	3.0
2000	41	305.8	7.5	**2000**	20	97.3	4.9	**2000**	10	35.6	3.6	4 years	40.0	8.1	4 years	17.5	5.7	4 years	5.3	3.0
2001	51	403.5	7.9	**2001**	27	169.9	6.3	**2001**	4	11.9	3.0	3 years	39.7	8.3	3 years	16.7	5.9	3 years	3.7	2.8
2002	46	370.6	8.1	**2002**	16	73.1	4.6	**2002**	7	18.2	2.6	2 years	34.0	8.5	2 years	11.5	5.8	2 years	3.5	2.6
2003	22	197.2	9.0	**2003**	7	48.7	7.0	**2003**	0	0.0		1 years	22.0	9.0	1 years	7.0	7.0	1 years	0.0	
2004	48	368.3	7.7	**2004**	25	142.9	5.7	**2004**	5	15.7	3.1	0 years	48.0	7.7	0 years	25.0	5.7	0 years	5.0	3.1
2005	12	116.4	9.7	**2005**	2	15.6	7.8	**2005**	0	0.0		1 years	12.0	9.7	1 years	2.0	7.8	1 years	0.0	
2006	37	313.8	8.5	**2006**	12	72.7	6.1	**2006**	3	9.9	3.3	2 years	24.5	9.1	2 years	7.0	6.9	2 years	1.5	3.3
2007	25	172.0	6.9	**2007**	19	113.6	6.0	**2007**	5	16.9	3.4	3 years	24.7	8.4	3 years	11.0	6.6	3 years	2.7	3.3
2008	30	272.3	9.1	**2008**	7	42.7	6.1	**2008**	1	2.5	2.5	4 years	26.0	8.5	4 years	10.0	6.5	4 years	2.3	3.1
2009	39	334.9	8.6	**2009**	14	92.5	6.6	**2009**	2	4.6	2.3	5 years	28.6	8.5	5 years	10.8	6.5	5 years	2.2	2.9
2010	4	36.4	9.1	**2010**	2	15.7	7.9	**2010**	0	0.0		6 years	24.5	8.6	6 years	9.3	6.7	6 years	1.8	2.9
2011	64	495.1	7.7	**2011**	36	226.4	6.3	**2011**	3	9.6	3.2	7 years	30.1	8.5	7 years	13.1	6.7	7 years	2.0	2.9
2012	44	346.9	7.9	**2012**	25	153.8	6.2	**2012**	4	13.1	3.3	8 years	31.9	8.4	8 years	14.6	6.6	8 years	2.3	3.0
2013	21	200.2	9.5	**2013**	5	35.7	7.1	**2013**	0	0.0		9 years	30.7	8.6	9 years	13.6	6.7	9 years	2.0	3.0
2014	35	286.0	8.2	**2014**	18	119.3	6.6	**2014**	0	0.0		10 years	31.1	8.5	10 years	14.0	6.7	10 years	1.8	3.0
2015	20	174.8	8.7	**2015**	6	37.2	6.2	**2015**	1	2.7	2.7	11 years	30.1	8.5	11 years	13.3	6.6	11 years	1.7	3.0
2016	9	87.7	9.7	**2016**	0	0.0		**2016**	0	0.0		12 years	28.3	8.6	12 years	12.2	6.6	12 years	1.6	3.0
2017	19	185.6	9.8	**2017**	2	15.7	7.9	**2017**	0	0.0		13 years	27.6	8.7	13 years	11.4	6.7	13 years	1.5	3.0
2018	46	419.5	9.1	**2018**	10	62.2	6.2	**2018**	1	4.4	4.4	14 years	28.9	8.8	14 years	11.3	6.7	14 years	1.4	3.1
2019	34	293.6	8.6	**2019**	15	102.6	6.8	**2019**	1	3.8	3.8	15 years	29.3	8.7	15 years	11.5	6.7	15 years	1.4	3.2
2020	26	214.0	8.2	**2020**	14	95.8	6.8	**2020**	0	0.0		16 years	29.1	8.7	16 years	11.7	6.7	16 years	1.3	3.2
2021	11	95.2	8.7	**2021**	4	25.3	6.3	**2021**	0	0.0		17 years	28.0	8.7	17 years	11.2	6.7	17 years	1.2	3.2
2022	22	186.1	8.5	**2022**	9	56.5	6.3	**2022**	1	3.8	3.8	18 years	27.7	8.7	18 years	11.1	6.7	18 years	1.2	3.3

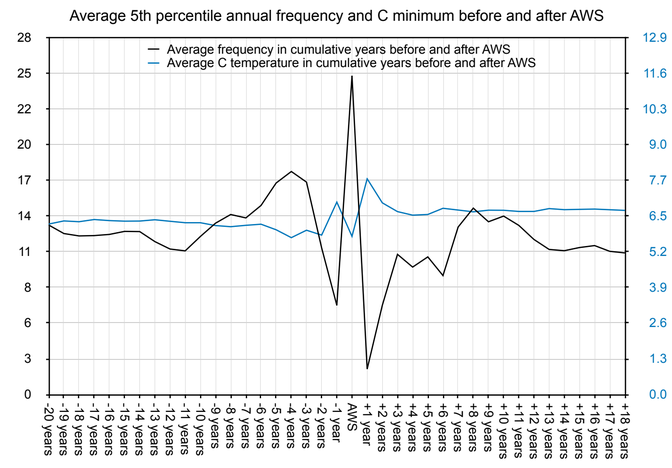
Original AWS probe Rosemount

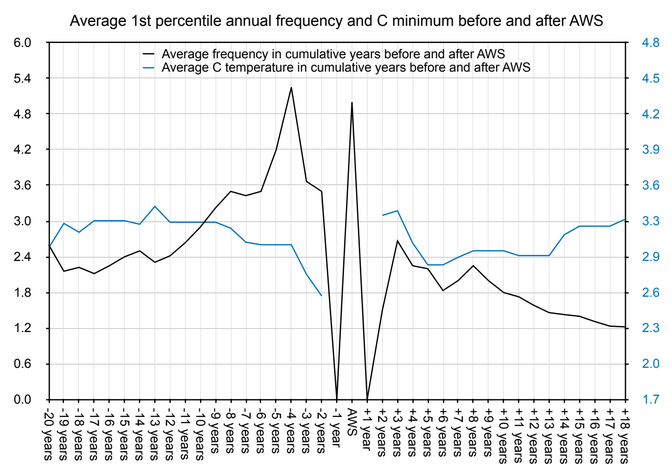
10 years	AWS and small screen both in 2004			**10 years**	AWS and small screen both in 2004			**10 years**	AWS and small screen both in 2004		
Pre AWS	30.7	255.4	8.5	**Pre AWS**	12.4	73.6	6.2	**Pre AWS**	2.9	9.3	3.2
Post AWS	31.1	257.4	8.5	**Post AWS**	14.0	88.8	6.7	**Post AWS**	1.8	5.7	3.0
Pre small	30.7	255.4	8.5	**Pre small**	12.4	73.6	6.2	**Pre small**	2.9	9.3	3.2
Post small	31.1	257.4	8.5	**Post small**	14.0	88.8	6.7	**Post small**	1.8	5.7	3.0
5 years				**5 years**				**5 years**			
Pre AWS	37.6	303.1	8.2	**Pre AWS**	16.6	96.2	6.0	**Pre AWS**	4.2	13.1	3.0
Post AWS	28.6	241.9	8.5	**Post AWS**	10.8	67.4	6.5	**Post AWS**	2.2	6.8	2.9
Pre small	37.6	303.1	8.2	**Pre small**	16.6	96.2	6.0	**Pre small**	4.2	13.1	3.0
Post small	28.6	241.9	8.5	**Post small**	10.8	67.4	6.5	**Post small**	2.2	6.8	2.9

AWS introduction

Small screen introduction





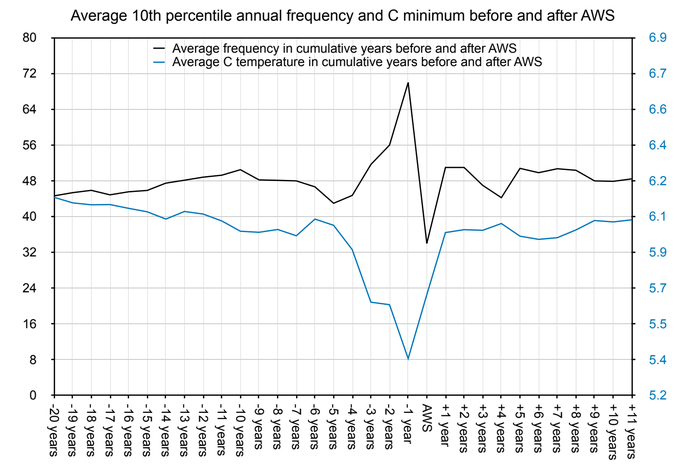


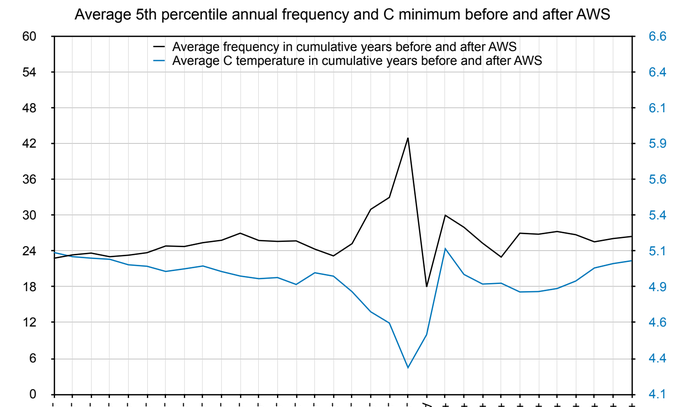
10th 7.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 6.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 4.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	23	159.0	6.9	**1910**	7	41.6	5.9	**1910**	0	0.0										
1911	30	197.0	6.6	**1911**	14	80.1	5.7	**1911**	1	4.3	4.3									
1912	20	122.2	6.1	**1912**	8	34.3	4.3	**1912**	4	10.7	2.7									
1913	22	130.0	5.9	**1913**	12	57.7	4.8	**1913**	4	14.0	3.5									
1914	29	184.0	6.3	**1914**	15	83.2	5.5	**1914**	1	3.9	3.9									
1915	4	24.5	6.1	**1915**	3	16.7	5.6	**1915**	0	0.0										
1916	22	127.5	5.8	**1916**	13	62.2	4.8	**1916**	4	13.7	3.4									
1917	23	148.8	6.5	**1917**	12	68.3	5.7	**1917**	0	0.0										
1918	12	80.2	6.7	**1918**	6	36.3	6.1	**1918**	0	0.0										
1919	22	140.1	6.4	**1919**	10	56.9	5.7	**1919**	0	0.0										
1920	16	98.0	6.1	**1920**	8	39.1	4.9	**1920**	1	2.8	2.8									
1921	16	112.9	7.1	**1921**	2	12.4	6.2	**1921**	0	0.0										
1922	29	193.6	6.7	**1922**	6	26.4	4.4	**1922**	1	1.1	1.1									
1923	9	58.7	6.5	**1923**	2	8.9	4.5	**1923**	1	3.9	3.9									
1924	19	133.2	7.0	**1924**	3	18.0	6.0	**1924**	0	0.0										
1925	23	151.0	6.6	**1925**	9	51.7	5.7	**1925**	0	0.0										
1926	13	89.6	6.9	**1926**	4	22.9	5.7	**1926**	0	0.0										
1927	15	107.3	7.2	**1927**	3	18.4	6.1	**1927**	0	0.0										
1928	13	83.4	6.4	**1928**	4	19.1	4.8	**1928**	2	7.8	3.9									
1929	23	163.2	7.1	**1929**	4	23.0	5.8	**1929**	1	4.2	4.2									
1930	13	86.7	6.7	**1930**	4	22.0	5.5	**1930**	0	0.0										
1931	22	132.7	6.0	**1931**	14	74.3	5.3	**1931**	2	8.1	4.1									
1932	16	99.7	6.2	**1932**	8	42.6	5.3	**1932**	1	3.9	3.9									
1933	18	122.2	6.8	**1933**	5	28.3	5.7	**1933**	0	0.0										
1934	39	249.0	6.4	**1934**	18	98.9	5.5	**1934**	0	0.0										
1935	19	130.5	6.9	**1935**	7	41.6	5.9	**1935**	0	0.0										
1936	14	91.7	6.6	**1936**	6	32.4	5.4	**1936**	0	0.0										
1937	22	143.0	6.5	**1937**	8	42.4	5.3	**1937**	1	4.0	4.0									
1938	15	101.1	6.7	**1938**	5	29.0	5.8	**1938**	0	0.0										
1939	13	79.8	6.1	**1939**	7	35.7	5.1	**1939**	1	3.9	3.9									
1940	11	76.7	7.0	**1940**	2	12.1	6.1	**1940**	0	0.0										
1941	10	73.1	7.3	**1941**	0	0.0		**1941**	0	0.0										
1942	6	42.7	7.1	**1942**	1	6.1	6.1	**1942**	0	0.0										
1943	47	312.0	6.6	**1943**	15	80.9	5.4	**1943**	2	8.2	4.1									
1944	32	205.5	6.4	**1944**	17	93.4	5.5	**1944**	1	3.3	3.3									
1945	25	169.3	6.8	**1945**	8	45.3	5.7	**1945**	1	3.9	3.9									
1946	8	46.9	5.9	**1946**	5	24.0	4.8	**1946**	3	11.9	4.0									
1947	12	81.8	6.8	**1947**	4	22.3	5.6	**1947**	0	0.0										
1948	38	254.5	6.7	**1948**	11	58.2	5.3	**1948**	2	6.9	3.5									
1949	28	190.4	6.8	**1949**	8	43.5	5.4	**1949**	1	3.9	3.9									
1950	47	291.7	6.2	**1950**	21	104.4	5.0	**1950**	5	17.3	3.5									
1951	54	326.7	6.1	**1951**	25	120.9	4.8	**1951**	5	13.0	2.6									
1952	65	406.3	6.3	**1952**	35	192.7	5.5	**1952**	2	7.8	3.9									
1953	49	299.2	6.1	**1953**	24	122.5	5.1	**1953**	5	17.4	3.5									
1954	53	330.7	6.2	**1954**	24	117.9	4.9	**1954**	8	28.4	3.6									
1955	52	320.9	6.2	**1955**	25	125.2	5.0	**1955**	5	13.4	2.7									
1956	76	440.6	5.8	**1956**	44	213.2	4.8	**1956**	9	26.5	2.9									
1957	59	362.1	6.1	**1957**	30	153.5	5.1	**1957**	5	16.4	3.3									
1958	48	290.5	6.1	**1958**	28	148.0	5.3	**1958**	4	13.7	3.4									
1959	26	173.5	6.7	**1959**	9	49.2	5.5	**1959**	1	3.9	3.9									
1960	59	362.9	6.2	**1960**	30	152.3	5.1	**1960**	8	31.4	3.9									
1961	47	290.9	6.2	**1961**	21	104.4	5.0	**1961**	7	24.8	3.5									
1962	59	390.1	6.6	**1962**	20	106.7	5.3	**1962**	4	14.3	3.6									
1963	26	182.7	7.0	**1963**	7	41.5	5.9	**1963**	0	0.0										
1964	42	269.2	6.4	**1964**	13	61.8	4.8	**1964**	4	12.1	3.0									
1965	33	224.7	6.8	**1965**	11	61.5	5.6	**1965**	2	7.8	3.9									
1966	66	383.9	5.8	**1966**	46	240.9	5.2	**1966**	9	29.8	3.3									
1967	49	307.9	6.3	**1967**	24	132.9	5.5	**1967**	2	8.2	4.1									
1968	75	427.7	5.7	**1968**	46	217.9	4.7	**1968**	18	65.4	3.6									
1969	68	400.3	5.9	**1969**	37	178.3	4.8	**1969**	8	24.9	3.1									
1970	42	279.3	6.7	**1970**	17	96.7	5.7	**1970**	1	3.4	3.4									
1971	50	305.7	6.1	**1971**	25	123.7	4.9	**1971**	7	25.9	3.7									
1972	36	219.1	6.1	**1972**	18	91.7	5.1	**1972**	4	14.4	3.6									
1973	46	277.7	6.0	**1973**	23	111.2	4.8	**1973**	8	25.2	3.2									
1974	50	318.5	6.4	**1974**	22	116.7	5.3	**1974**	2	6.9	3.5									
1975	42	274.9	6.5	**1975**	15	80.9	5.4	**1975**	2	8.3	4.2									
1976	28	187.0	6.7	**1976**	10	56.5	5.7	**1976**	0	0.0										
1977	31	190.6	6.1	**1977**	17	88.7	5.2	**1977**	4	15.4	3.9									
1978	41	268.8	6.6	**1978**	14	76.9	5.5	**1978**	2	7.6	3.8									
1979	66	392.4	5.9	**1979**	36	177.0	4.9	**1979**	10	27.8	2.8									
1980	60	347.9	5.8	**1980**	34	162.7	4.8	**1980**	11	38.0	3.5									
1981	42	263.8	6.3	**1981**	21	114.9	5.5	**1981**	1	4.2	4.2									
1982	34	213.3	6.3	**1982**	17	91.9	5.4	**1982**	3	10.9	3.6									
1983	31	199.4	6.4	**1983**	13	69.3	5.3	**1983**	2	7.0	3.5									
1984	45	262.3	5.8	**1984**	27	134.8	5.0	**1984**	7	24.8	3.5									
1985	41	250.7	6.1	**1985**	22	112.5	5.1	**1985**	4	16.0	4.0									
1986	57	356.2	6.2	**1986**	31	167.5	5.4	**1986**	4	14.5	3.6									
1987	39	240.4	6.2	**1987**	23	124.2	5.4	**1987**	3	11.4	3.8									
1988	33	214.4	6.5	**1988**	14	77.1	5.5	**1988**	0	0.0										
1989	56	333.5	6.0	**1989**	34	175.9	5.2	**1989**	8	29.7	3.7									
1990	47	253.3	5.4	**1990**	32	147.0	4.6	**1990**	12	38.0	3.2									
1991	31	206.1	6.6	**1991**	12	67.7	5.6	**1991**	1	3.4	3.4	20 years	44.7	6.1	20 years	22.8	5.1	20 years	6.1	3.5
1992	36	226.1	6.3	**1992**	18	94.5	5.3	**1992**	2	7.2	3.6	19 years	45.4	6.1	19 years	23.4	5.1	19 years	6.4	3.6
1993	63	383.5	6.1	**1993**	34	176.3	5.2	**1993**	8	31.9	4.0	18 years	45.9	6.1	18 years	23.7	5.1	18 years	6.6	3.6
1994	34	217.4	6.4	**1994**	19	107.5	5.7	**1994**	3	12.5	4.2	17 years	44.9	6.1	17 years	23.1	5.0	17 years	6.5	3.5
1995	41	259.8	6.3	**1995**	17	87.7	5.2	**1995**	3	9.1	3.0	16 years	45.6	6.1	16 years	23.3	5.0	16 years	6.8	3.5
1996	23	150.8	6.6	**1996**	8	44.0	5.5	**1996**	0	0.0		15 years	45.9	6.1	15 years	23.7	5.0	15 years	7.0	3.5
1997	39	217.2	5.6	**1997**	26	122.8	4.7	**1997**	10	36.5	3.7	14 years	47.5	6.0	14 years	24.9	5.0	14 years	7.5	3.5
1998	40	248.9	6.2	**1998**	17	80.5	4.7	**1998**	4	10.9	2.7	13 years	48.2	6.1	13 years	24.8	5.0	13 years	7.3	3.5
1999	44	282.6	6.4	**1999**	21	113.9	5.4	**1999**	4	15.6	3.9	12 years	48.8	6.1	12 years	25.4	5.0	12 years	7.6	3.6
2000	37	241.2	6.5	**2000**	14	73.8	5.3	**2000**	2	7.1	3.6	11 years	49.3	6.0	11 years	25.8	5.0	11 years	7.9	3.5
2001	71	427.8	6.0	**2001**	38	193.5	5.1	**2001**	11	42.4	3.9	10 years	50.5	6.0	10 years	27.0	4.9	10 years	8.5	3.5
2002	49	287.6	5.9	**2002**	27	130.8	4.8	**2002**	7	25.3	3.6	9 years	48.2	6.0	9 years	25.8	4.9	9 years	8.2	3.5
2003	49	303.7	6.2	**2003**	25	131.3	5.3	**2003**	5	18.5	3.7	8 years	48.1	6.0	8 years	25.6	4.9	8 years	8.4	3.5
2004	56	307.1	5.5	**2004**	34	148.8	4.4	**2004**	14	41.7	3.0	7 years	48.0	6.0	7 years	25.7	4.9	7 years	8.9	3.5
2005	65	402.1	6.2	**2005**	30	152.0	5.1	**2005**	7	23.8	3.4	6 years	46.7	6.0	6 years	24.3	4.9	6 years	8.0	3.5
2006	36	233.0	6.5	**2006**	15	80.4	5.4	**2006**	3	10.5	3.5	5 years	43.0	6.0	5 years	23.2	4.9	5 years	8.2	3.6
2007	24	159.4	6.6	**2007**	8	41.9	5.2	**2007**	2	8.0	4.0	4 years	44.8	5.9	4 years	25.3	4.8	4 years	9.5	3.6
2008	43	243.7	5.7	**2008**	27	130.5	4.8	**2008**	12	46.0	3.8	3 years	51.7	5.6	3 years	31.0	4.7	3 years	12.0	3.4
2009	42	247.3	5.9	**2009**	23	112.9	4.9	**2009**	7	24.8	3.5	2 years	56.0	5.6	2 years	33.0	4.6	2 years	12.0	3.2
2010	70	376.3	5.4	**2010**	43	184.3	4.3	**2010**	17	49.7	2.9	1 years	70.0	5.4	1 years	43.0	4.3	1 years	17.0	2.9
2011	34	193.1	5.7	**2011**	18	81.3	4.5	**2011**	8	28.8	3.6	0 years	34.0	5.7	0 years	18.0	4.5	0 years	8.0	3.6
2012	51	304.7	6.0	**2012**	30	153.5	5.1	**2012**	6	18.9	3.2	1 years	51.0	6.0	1 years	30.0	5.1	1 years	6.0	3.2
2013	51	306.1	6.0	**2013**	26	123.7	4.8	**2013**	10	34.1	3.4	2 years	51.0	6.0	2 years	28.0	4.9	2 years	8.0	3.3
2014	39	233.2	6.0	**2014**	20	94.7	4.7	**2014**	8	28.3	3.5	3 years	47.0	6.0	3 years	25.3	4.9	3 years	8.0	3.4
2015	36	220.1	6.1	**2015**	16	78.3	4.9	**2015**	3	8.7	2.9	4 years	44.3	6.0	4 years	23.0	4.9	4 years	6.8	3.2
2016	77	440.2	5.7	**2016**	43	196.5	4.6	**2016**	16	52.7	3.3	5 years	50.8	6.0	5 years	27.0	4.8	5 years	8.6	3.3
2017	45	264.0	5.9	**2017**	26	125.6	4.8	**2017**	9	29.8	3.3	6 years	49.8	5.9	6 years	26.8	4.8	6 years	8.7	3.3
2018	56	335.9	6.0	**2018**	30	149.0	5.0	**2018**	7	22.1	3.2	7 years	50.7	6.0	7 years	27.3	4.8	7 years	8.4	3.3
2019	48	299.7	6.2	**2019**	23	120.9	5.3	**2019**	4	11.7	2.9	8 years	50.4	6.0	8 years	26.8	4.9	8 years	7.9	3.2
2020	29	185.3	6.4	**2020**	16	91.4	5.7	**2020**	1	3.7	3.7	9 years	48.0	6.0	9 years	25.6	5.0	9 years	7.1	3.3
2021	47	280.4	6.0	**2021**	31	163.9	5.3	**2021**	4	14.8	3.7	10 years	47.9	6.0	10 years	26.1	5.0	10 years	6.8	3.3
2022	54	331.3	6.1	**2022**	30	157.0	5.2	**2022**	5	18.0	3.6	11 years	48.5	6.0	11 years	26.5	5.0	11 years	6.6	3.3

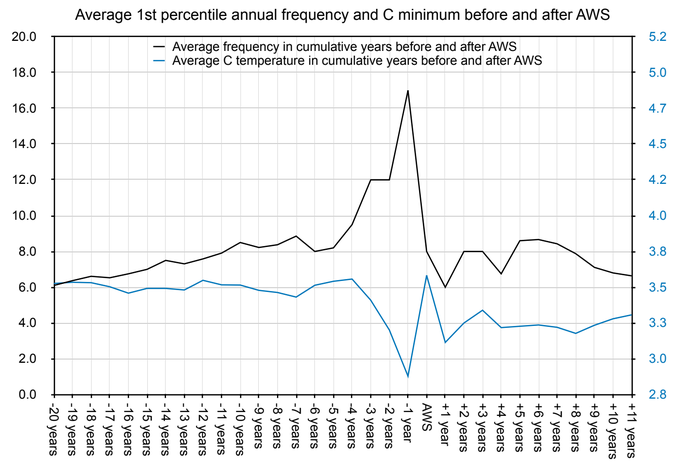
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	46.7	277.0	6.0	**Pre**	24.3	117.0	4.9	**Pre**	8.0	27.1	3.5
Post	49.8	294.7	5.9	**Post**	26.8	128.7	4.8	**Post**	8.7	28.8	3.3

		AWS introduction
		Probe replacement
		Small screen introduction





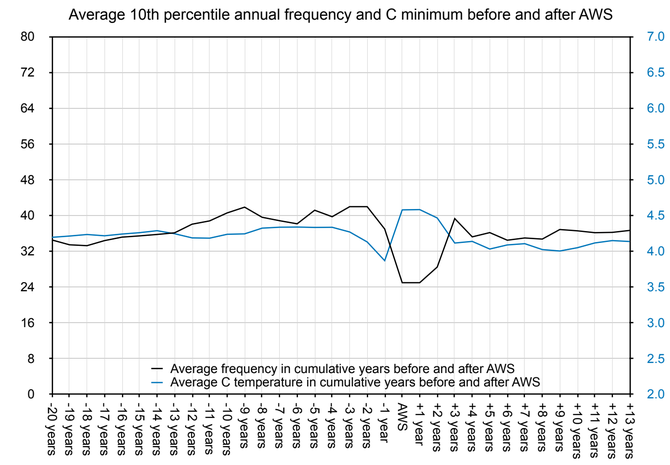


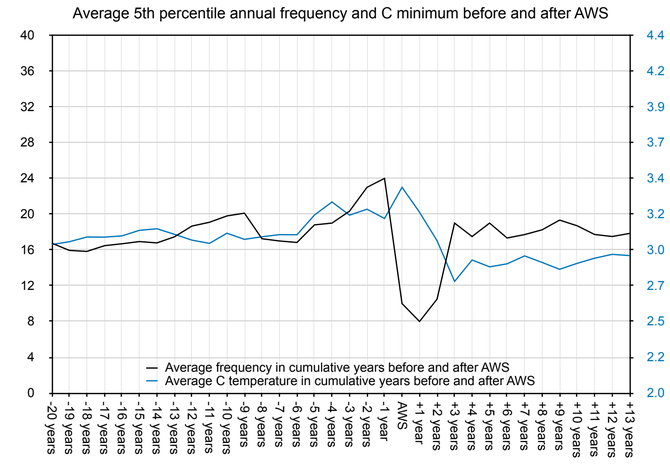
10th 6.1	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1957	35	117.9	3.4	**1957**	24	60.7	2.5	**1957**	10	16.4	1.6									
1958	34	150.5	4.4	**1958**	14	43.1	3.1	**1958**	2	4.0	2.0									
1959	31	134.6	4.3	**1959**	15	50.0	3.3	**1959**	0	0.0										
1960	52	200.9	3.9	**1960**	28	72.9	2.6	**1960**	7	4.3	0.6									
1961	53	190.8	3.6	**1961**	35	99.0	2.8	**1961**	6	4.3	0.7									
1962	29	143.6	5.0	**1962**	7	24.9	3.6	**1962**	1	1.8	1.8									
1963	27	106.6	3.9	**1963**	14	37.3	2.7	**1963**	4	6.6	1.7									
1964	27	109.8	4.1	**1964**	14	42.5	3.0	**1964**	2	3.1	1.6									
1965	34	143.9	4.2	**1965**	16	47.1	2.9	**1965**	3	4.8	1.6									
1966	47	204.3	4.3	**1966**	20	63.1	3.2	**1966**	5	7.5	1.5									
1967	60	223.1	3.7	**1967**	37	105.5	2.9	**1967**	5	1.8	0.4									
1968	42	161.4	3.8	**1968**	25	72.5	2.9	**1968**	5	3.3	0.7									
1969	54	212.2	3.9	**1969**	28	73.5	2.6	**1969**	9	9.0	1.0									
1970	42	180.4	4.3	**1970**	17	49.2	2.9	**1970**	2	2.2	1.1									
1971	49	216.7	4.4	**1971**	21	64.3	3.1	**1971**	3	4.6	1.5									
1972	34	147.3	4.3	**1972**	16	51.5	3.2	**1972**	1	1.9	1.9									
1973	22	105.5	4.8	**1973**	8	28.0	3.5	**1973**	0	0.0										
1974	42	144.4	3.4	**1974**	27	66.1	2.4	**1974**	7	2.8	0.4									
1975	45	195.0	4.3	**1975**	21	68.9	3.3	**1975**	2	3.8	1.9									
1976	52	223.6	4.3	**1976**	25	77.1	3.1	**1976**	6	7.4	1.2									
1977	42	176.7	4.2	**1977**	21	68.1	3.2	**1977**	3	4.7	1.6									
1978	42	168.9	4.0	**1978**	21	61.4	2.9	**1978**	3	3.9	1.3									
1979	34	146.8	4.3	**1979**	16	49.7	3.1	**1979**	3	4.2	1.4									
1980	22	102.6	4.7	**1980**	7	23.5	3.4	**1980**	2	3.1	1.6									
1981	40	153.4	3.8	**1981**	23	63.7	2.8	**1981**	7	4.8	0.7									
1982	46	172.8	3.8	**1982**	30	88.0	2.9	**1982**	6	8.9	1.5									
1983	46	171.6	3.7	**1983**	22	44.1	2.0	**1983**	12	10.5	0.9									
1984	48	180.1	3.8	**1984**	27	74.4	2.8	**1984**	5	7.1	1.4									
1985	35	152.0	4.3	**1985**	18	61.7	3.4	**1985**	1	0.9	0.9									
1986	38	167.7	4.4	**1986**	15	47.0	3.1	**1986**	1	2.1	2.1									
1987	40	176.1	4.4	**1987**	14	42.0	3.0	**1987**	2	2.7	1.4									
1988	24	97.2	4.1	**1988**	12	33.5	2.8	**1988**	3	4.3	1.4									
1989	55	212.2	3.9	**1989**	32	84.5	2.6	**1989**	9	6.4	0.7	20 years	34.6	4.2	20 years	16.8	3.0	20 years	3.5	1.4
1990	37	141.6	3.8	**1990**	18	44.0	2.4	**1990**	8	8.6	1.1	19 years	33.5	4.2	19 years	15.9	3.0	19 years	3.2	1.4
1991	14	63.6	4.5	**1991**	5	15.3	3.1	**1991**	2	3.6	1.8	18 years	33.3	4.2	18 years	15.8	3.0	18 years	2.9	1.5
1992	22	84.1	3.8	**1992**	13	37.9	2.9	**1992**	4	6.9	1.7	17 years	34.4	4.2	17 years	16.5	3.0	17 years	3.0	1.4
1993	31	122.7	4.0	**1993**	13	32.4	2.5	**1993**	5	5.7	1.1	16 years	35.2	4.2	16 years	16.7	3.1	16 years	2.9	1.4
1994	31	120.1	3.9	**1994**	19	55.9	2.9	**1994**	4	6.9	1.7	15 years	35.5	4.3	15 years	16.9	3.1	15 years	2.8	1.4
1995	31	150.0	4.8	**1995**	8	28.7	3.6	**1995**	0	0.0		14 years	35.8	4.3	14 years	16.8	3.1	14 years	2.7	1.4
1996	13	64.3	4.9	**1996**	3	10.6	3.5	**1996**	0	0.0		13 years	36.2	4.2	13 years	17.5	3.1	13 years	2.9	1.4
1997	30	127.0	4.2	**1997**	14	45.7	3.3	**1997**	1	2.1	2.1	12 years	38.1	4.2	12 years	18.7	3.0	12 years	3.2	1.4
1998	21	76.5	3.6	**1998**	12	27.9	2.3	**1998**	4	4.1	1.0	11 years	38.8	4.2	11 years	19.1	3.0	11 years	3.4	1.3
1999	29	121.3	4.2	**1999**	17	58.5	3.4	**1999**	1	1.0	1.0	10 years	40.6	4.2	10 years	19.8	3.1	10 years	3.3	1.4
2000	60	216.4	3.6	**2000**	43	124.4	2.9	**2000**	8	9.1	1.1	9 years	41.9	4.2	9 years	20.1	3.0	9 years	3.6	1.4
2001	45	190.5	4.2	**2001**	19	56.0	2.9	**2001**	3	4.5	1.5	8 years	39.6	4.3	8 years	17.3	3.0	8 years	3.0	1.5
2002	43	186.0	4.3	**2002**	18	55.2	3.1	**2002**	3	1.7	0.6	7 years	38.9	4.3	7 years	17.0	3.1	7 years	3.0	1.4
2003	23	100.4	4.4	**2003**	7	16.8	2.4	**2003**	3	4.9	1.6	6 years	38.2	4.3	6 years	16.8	3.1	6 years	3.0	1.6
2004	47	203.4	4.3	**2004**	18	51.2	2.8	**2004**	5	8.6	1.7	5 years	41.2	4.3	5 years	18.8	3.2	5 years	3.0	1.6
2005	33	149.6	4.5	**2005**	15	53.2	3.5	**2005**	0	0.0		4 years	39.8	4.3	4 years	19.0	3.3	4 years	2.5	1.6
2006	42	191.1	4.6	**2006**	15	46.7	3.1	**2006**	3	4.9	1.6	3 years	42.0	4.3	3 years	20.3	3.2	3 years	3.3	1.6
2007	47	206.5	4.4	**2007**	22	72.5	3.3	**2007**	2	2.6	1.3	2 years	42.0	4.1	2 years	23.0	3.2	2 years	3.5	1.6
2008	37	143.2	3.9	**2008**	24	76.1	3.2	**2008**	5	9.0	1.8	1 years	37.0	3.9	1 years	24.0	3.2	1 years	5.0	1.8
2009	25	114.5	4.6	**2009**	10	33.8	3.4	**2009**	0	0.0		0 years	25.0	4.6	0 years	10.0	3.4	0 years	0.0	
2010	25	114.6	4.6	**2010**	8	25.7	3.2	**2010**	0	0.0		1 years	25.0	4.6	1 years	8.0	3.2	1 years	0.0	
2011	32	139.2	4.4	**2011**	13	36.8	2.8	**2011**	4	6.2	1.6	2 years	28.5	4.5	2 years	10.5	3.0	2 years	2.0	1.6
2012	61	208.4	3.4	**2012**	36	79.3	2.2	**2012**	18	18.8	1.0	3 years	39.3	4.1	3 years	19.0	2.7	3 years	7.3	1.3
2013	23	96.8	4.2	**2013**	13	43.2	3.3	**2013**	1	2.1	2.1	4 years	35.3	4.1	4 years	17.5	2.9	4 years	5.8	1.6
2014	40	144.2	3.6	**2014**	25	66.6	2.7	**2014**	6	6.4	1.1	5 years	36.2	4.0	5 years	19.0	2.8	5 years	5.8	1.4
2015	26	113.8	4.4	**2015**	9	26.7	3.0	**2015**	1	1.6	1.6	6 years	34.5	4.1	6 years	17.3	2.9	6 years	5.0	1.5
2016	38	160.1	4.2	**2016**	20	64.8	3.2	**2016**	2	2.6	1.3	7 years	35.0	4.1	7 years	17.7	2.9	7 years	4.6	1.4
2017	33	113.8	3.4	**2017**	22	56.5	2.6	**2017**	8	4.7	0.6	8 years	34.8	4.0	8 years	18.3	2.9	8 years	5.0	1.3
2018	54	207.7	3.8	**2018**	28	68.9	2.5	**2018**	9	7.5	0.8	9 years	36.9	4.0	9 years	19.3	2.8	9 years	5.4	1.3
2019	34	151.7	4.5	**2019**	13	42.0	3.2	**2019**	2	3.3	1.7	10 years	36.6	4.1	10 years	18.7	2.9	10 years	5.1	1.3
2020	32	153.2	4.8	**2020**	8	26.0	3.3	**2020**	2	3.4	1.7	11 years	36.2	4.1	11 years	17.7	2.9	11 years	4.8	1.3
2021	37	167.0	4.5	**2021**	15	48.2	3.2	**2021**	3	4.5	1.5	12 years	36.3	4.2	12 years	17.5	2.9	12 years	4.7	1.4
2022	42	167.2	4.0	**2022**	22	62.1	2.8	**2022**	5	2.8	0.6	13 years	36.7	4.1	13 years	17.8	2.9	13 years	4.7	1.3

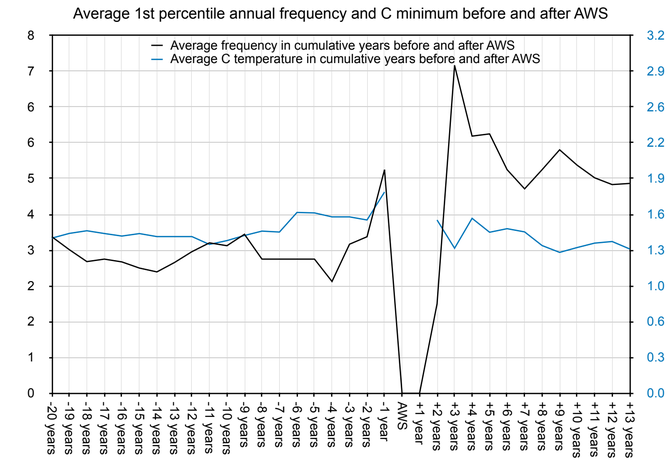
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	38.2	165.7	4.3	**Pre**	16.8	52.8	3.1	**Pre**	3.0	5.0	1.6
Post	34.5	136.2	4.1	**Post**	17.3	46.4	2.9	**Post**	5.0	5.9	1.5

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		







10th 0.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -1.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -3.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1955	53	-69.6	-1.3	**1955**	23	-54.3	-2.4	**1955**	4	-15.3	-3.8									
1956	37	-56.2	-1.5	**1956**	20	-48.0	-2.4	**1956**	4	-13.8	-3.5									
1957	62	-100.1	-1.6	**1957**	36	-85.9	-2.4	**1957**	8	-26.7	-3.3									
1958	49	-73.1	-1.5	**1958**	24	-61.7	-2.6	**1958**	7	-26.7	-3.8									
1959	43	-73.6	-1.7	**1959**	25	-63.5	-2.5	**1959**	7	-27.5	-3.9									
1960	40	-58.6	-1.5	**1960**	22	-48.2	-2.2	**1960**	3	-11.1	-3.7									
1961	40	-52.8	-1.3	**1961**	18	-40.4	-2.2	**1961**	3	-11.5	-3.8									
1962	30	-38.3	-1.3	**1962**	14	-28.0	-2.0	**1962**	1	-3.2	-3.2									
1963	52	-90.5	-1.7	**1963**	29	-78.0	-2.7	**1963**	11	-38.3	-3.5									
1964	32	-32.3	-1.0	**1964**	11	-23.0	-2.1	**1964**	1	-3.3	-3.3									
1965	55	-84.7	-1.5	**1965**	28	-69.8	-2.5	**1965**	8	-27.6	-3.5									
1966	55	-70.4	-1.3	**1966**	21	-51.4	-2.4	**1966**	6	-21.3	-3.6									
1967	54	-61.5	-1.1	**1967**	20	-42.4	-2.1	**1967**	2	-6.2	-3.1									
1968	47	-59.9	-1.3	**1968**	21	-48.3	-2.3	**1968**	4	-13.9	-3.5									
1969	55	-70.9	-1.3	**1969**	24	-55.6	-2.3	**1969**	6	-22.7	-3.8									
1970	40	-41.0	-1.0	**1970**	12	-24.8	-2.1	**1970**	2	-7.1	-3.6									
1971	42	-41.0	-1.0	**1971**	12	-25.3	-2.1	**1971**	1	-4.4	-4.4									
1972	41	-78.9	-1.9	**1972**	23	-68.1	-3.0	**1972**	7	-35.2	-5.0									
1973	40	-75.8	-1.9	**1973**	25	-67.0	-2.7	**1973**	12	-42.0	-3.5									
1974	27	-29.7	-1.1	**1974**	11	-24.3	-2.2	**1974**	2	-7.0	-3.5									
1975	29	-28.1	-1.0	**1975**	8	-17.3	-2.2	**1975**	1	-3.8	-3.8									
1976	38	-52.4	-1.4	**1976**	22	-46.9	-2.1	**1976**	2	-7.3	-3.7									
1977	43	-54.3	-1.3	**1977**	17	-39.4	-2.3	**1977**	3	-10.8	-3.6									
1978	42	-60.6	-1.4	**1978**	19	-48.0	-2.5	**1978**	5	-19.2	-3.8									
1979	46	-73.0	-1.6	**1979**	26	-62.1	-2.4	**1979**	7	-25.0	-3.6									
1980	21	-16.2	-0.8	**1980**	4	-7.3	-1.8	**1980**	0	0.0										
1981	36	-44.8	-1.2	**1981**	14	-32.1	-2.3	**1981**	3	-10.8	-3.6									
1982	37	-51.8	-1.4	**1982**	17	-41.1	-2.4	**1982**	6	-21.3	-3.6									
1983	46	-74.0	-1.6	**1983**	23	-61.9	-2.7	**1983**	8	-31.6	-4.0									
1984	25	-24.3	-1.0	**1984**	6	-14.0	-2.3	**1984**	2	-6.3	-3.2	20 years	35.2	-1.3	20 years	15.5	-2.2	20 years	3.0	-3.6
1985	30	-37.6	-1.3	**1985**	13	-26.1	-2.0	**1985**	1	-3.7	-3.7	19 years	35.7	-1.3	19 years	16.0	-2.2	19 years	3.0	-3.6
1986	29	-38.1	-1.3	**1986**	15	-29.8	-2.0	**1986**	2	-7.7	-3.9	18 years	36.0	-1.3	18 years	16.2	-2.2	18 years	3.1	-3.6
1987	34	-43.1	-1.3	**1987**	18	-35.6	-2.0	**1987**	1	-4.2	-4.2	17 years	36.4	-1.3	17 years	16.2	-2.2	17 years	3.2	-3.6
1988	22	-25.7	-1.2	**1988**	8	-18.4	-2.3	**1988**	2	-6.5	-3.3	16 years	36.6	-1.3	16 years	16.1	-2.2	16 years	3.3	-3.6
1989	56	-80.4	-1.4	**1989**	29	-67.7	-2.3	**1989**	7	-26.6	-3.8	15 years	37.5	-1.3	15 years	16.7	-2.2	15 years	3.4	-3.6
1990	43	-63.9	-1.5	**1990**	20	-47.2	-2.4	**1990**	5	-16.9	-3.4	14 years	36.2	-1.3	14 years	15.8	-2.2	14 years	3.1	-3.6
1991	33	-51.6	-1.6	**1991**	19	-43.8	-2.3	**1991**	5	-18.3	-3.7	13 years	35.7	-1.3	13 years	15.5	-2.2	13 years	3.0	-3.6
1992	37	-64.6	-1.7	**1992**	22	-56.3	-2.6	**1992**	7	-28.6	-4.1	12 years	35.9	-1.2	12 years	15.2	-2.1	12 years	2.8	-3.6
1993	37	-46.0	-1.2	**1993**	15	-33.5	-2.2	**1993**	3	-9.4	-3.1	11 years	35.8	-1.2	11 years	14.5	-2.1	11 years	2.5	-3.5
1994	44	-66.7	-1.5	**1994**	21	-55.7	-2.7	**1994**	8	-30.2	-3.8	10 years	35.7	-1.2	10 years	14.5	-2.1	10 years	2.4	-3.6
1995	54	-71.7	-1.3	**1995**	22	-55.3	-2.5	**1995**	5	-20.5	-4.1	9 years	34.8	-1.2	9 years	13.8	-2.0	9 years	1.8	-3.6
1996	31	-33.9	-1.1	**1996**	12	-23.2	-1.9	**1996**	1	-3.4	-3.4	8 years	32.4	-1.1	8 years	12.8	-2.0	8 years	1.4	-3.5
1997	41	-47.0	-1.1	**1997**	18	-35.3	-2.0	**1997**	1	-3.2	-3.2	7 years	32.6	-1.1	7 years	12.9	-2.0	7 years	1.4	-3.5
1998	50	-59.1	-1.2	**1998**	20	-39.1	-2.0	**1998**	2	-7.1	-3.6	6 years	31.2	-1.1	6 years	12.0	-2.0	6 years	1.5	-3.6
1999	41	-53.2	-1.3	**1999**	17	-40.3	-2.4	**1999**	5	-17.2	-3.4	5 years	27.4	-1.1	5 years	10.4	-2.0	5 years	1.4	-3.6
2000	34	-45.8	-1.3	**2000**	15	-33.9	-2.3	**2000**	2	-7.5	-3.8	4 years	24.0	-1.1	4 years	8.8	-1.9	4 years	0.5	-3.8
2001	23	-18.6	-0.8	**2001**	5	-8.3	-1.7	**2001**	0	0.0		3 years	20.7	-1.0	3 years	6.7	-1.8	3 years	0.0	
2002	21	-17.0	-0.8	**2002**	5	-8.4	-1.7	**2002**	0	0.0		2 years	19.5	-1.1	2 years	7.5	-1.8	2 years	0.0	
2003	18	-24.6	-1.4	**2003**	10	-20.1	-2.0	**2003**	0	0.0		1 years	18.0	-1.4	1 years	10.0	-2.0	1 years	0.0	
2004	28	-38.5	-1.4	**2004**	15	-31.8	-2.1	**2004**	3	-9.3	-3.1	0 years	28.0	-1.4	0 years	15.0	-2.1	0 years	3.0	-3.1
2005	22	-24.9	-1.1	**2005**	11	-18.8	-1.7	**2005**	0	0.0		1 years	22.0	-1.1	1 years	11.0	-1.7	1 years	0.0	
2006	45	-76.1	-1.7	**2006**	26	-66.1	-2.5	**2006**	5	-16.7	-3.3	2 years	33.5	-1.4	2 years	18.5	-2.1	2 years	2.5	-3.3
2007	54	-72.8	-1.3	**2007**	22	-52.4	-2.4	**2007**	4	-14.4	-3.6	3 years	40.3	-1.4	3 years	19.7	-2.2	3 years	3.0	-3.5
2008	56	-101.5	-1.8	**2008**	33	-84.4	-2.6	**2008**	12	-45.6	-3.8	4 years	44.3	-1.5	4 years	23.0	-2.3	4 years	5.3	-3.6
2009	31	-33.8	-1.1	**2009**	11	-22.9	-2.1	**2009**	2	-6.5	-3.3	5 years	41.6	-1.4	5 years	20.6	-2.3	5 years	4.6	-3.5
2010	58	-92.2	-1.6	**2010**	33	-77.9	-2.4	**2010**	6	-21.1	-3.5	6 years	44.3	-1.4	6 years	22.7	-2.3	6 years	4.8	-3.5
2011	44	-64.9	-1.5	**2011**	25	-53.8	-2.2	**2011**	4	-15.8	-4.0	7 years	44.3	-1.4	7 years	23.0	-2.3	7 years	4.7	-3.6
2012	36	-51.5	-1.4	**2012**	17	-42.0	-2.5	**2012**	5	-18.3	-3.7	8 years	43.3	-1.4	8 years	22.3	-2.3	8 years	4.8	-3.6
2013	41	-60.4	-1.5	**2013**	22	-50.1	-2.3	**2013**	6	-20.9	-3.5	9 years	43.0	-1.4	9 years	22.2	-2.3	9 years	4.9	-3.6
2014	35	-34.7	-1.0	**2014**	13	-23.2	-1.8	**2014**	0	0.0		10 years	42.2	-1.4	10 years	21.3	-2.2	10 years	4.4	-3.6
2015	44	-56.7	-1.3	**2015**	17	-42.4	-2.5	**2015**	5	-16.6	-3.3	11 years	42.4	-1.4	11 years	20.9	-2.3	11 years	4.5	-3.5
2016	28	-33.1	-1.2	**2016**	13	-26.5	-2.0	**2016**	1	-3.1	-3.1	12 years	41.2	-1.4	12 years	20.3	-2.2	12 years	4.2	-3.5
2017	48	-68.4	-1.4	**2017**	24	-58.2	-2.4	**2017**	5	-17.7	-3.5	13 years	41.7	-1.4	13 years	20.5	-2.3	13 years	4.2	-3.5
2018	32	-28.7	-0.9	**2018**	12	-20.8	-1.7	**2018**	0	0.0		14 years	41.0	-1.3	14 years	19.9	-2.2	14 years	3.9	-3.5
2019	35	-49.2	-1.4	**2019**	17	-39.1	-2.3	**2019**	2	-8.9	-4.5	15 years	40.6	-1.3	15 years	19.7	-2.2	15 years	3.8	-3.6
2020	44	-71.0	-1.6	**2020**	26	-60.8	-2.3	**2020**	4	-13.9	-3.5	16 years	40.8	-1.4	16 years	20.1	-2.2	16 years	3.8	-3.6
2021	30	-41.0	-1.4	**2021**	14	-32.6	-2.3	**2021**	4	-13.9	-3.5	17 years	40.2	-1.4	17 years	19.8	-2.2	17 years	3.8	-3.6
2022	31	-41.0	-1.3	**2022**	14	-33.1	-2.4	**2022**	3	-11.0	-3.7	18 years	39.7	-1.4	18 years	19.4	-2.2	18 years	3.8	-3.6

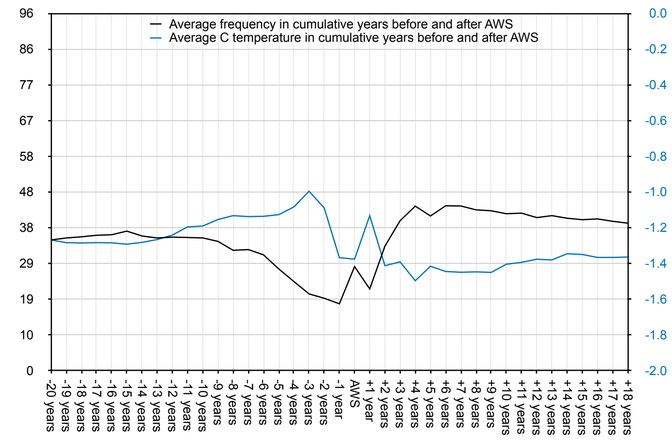
Original AWS probe Rosemount

10 years	Grove doesn't have a small screen			**10 years**	Grove doesn't have a small screen			**10 years**	Grove doesn't have a small screen		
Pre AWS	35.7	-43.8	-1.2	**Pre AWS**	14.5	-32.0	-2.1	**Pre AWS**	2.4	-8.9	-3.6
Post AWS	42.2	-61.3	-1.4	**Post AWS**	21.3	-49.2	-2.2	**Post AWS**	4.4	-15.9	-3.6
Pre small	35.7	-43.8	-1.2	**Pre small**	14.5	-32.0	-2.1	**Pre small**	2.4	-8.9	-3.6
Post small	42.2	-61.3	-1.4	**Post small**	21.3	-49.2	-2.2	**Post small**	4.4	-15.9	-3.6
5 years				**5 years**				**5 years**			
Pre AWS	27.4	-31.8	-1.1	**Pre AWS**	10.4	-22.2	-2.0	**Pre AWS**	1.4	-4.9	-3.6
Post AWS	41.6	-61.8	-1.4	**Post AWS**	20.6	-48.9	-2.3	**Post AWS**	4.6	-16.6	-3.5
Pre small	27.4	-31.8	-1.1	**Pre small**	10.4	-22.2	-2.0	**Pre small**	1.4	-4.9	-3.6
Post small	41.6	-61.8	-1.4	**Post small**	20.6	-48.9	-2.3	**Post small**	4.6	-16.6	-3.5

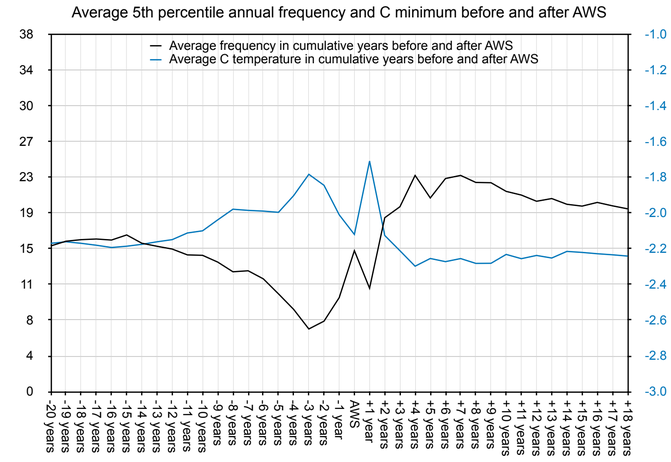
AWS introduction

Small screen introduction

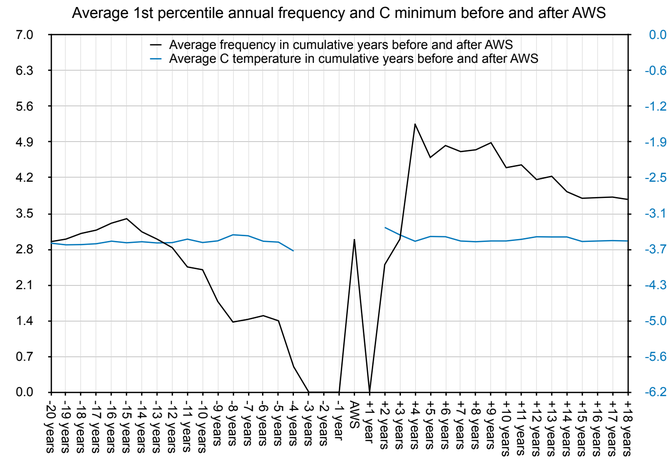
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS

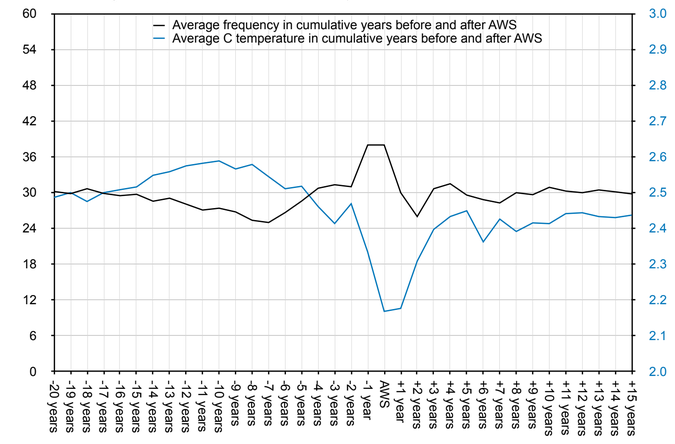


10th 3.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1948	55	79.4	1.4	**1948**	35	20.9	0.6	**1948**	4	-8.3	-2.1
1949	58	97.6	1.7	**1949**	30	16.5	0.6	**1949**	7	-7.1	-1.0
1950	15	25.5	1.7	**1950**	10	10.7	1.1	**1950**	0	0.0	
1951	42	65.9	1.6	**1951**	23	11.5	0.5	**1951**	6	-5.8	-1.0
1952	51	76.5	1.5	**1952**	26	3.9	0.2	**1952**	7	-13.6	-1.9
1953	54	84.9	1.6	**1953**	32	18.2	0.6	**1953**	7	-6.1	-0.9
1954	27	47.6	1.8	**1954**	15	14.2	0.9	**1954**	1	-0.8	-0.8
1955	49	64.8	1.3	**1955**	36	27.9	0.8	**1955**	6	-7.2	-1.2
1956	55	90.4	1.6	**1956**	29	14.2	0.5	**1956**	7	-7.6	-1.1
1957	52	96.4	1.9	**1957**	20	1.4	0.1	**1957**	8	-9.3	-1.2
1958	34	49.8	1.5	**1958**	16	-3.0	-0.2	**1958**	6	-11.6	-1.9
1959	34	65.6	1.9	**1959**	15	7.7	0.5	**1959**	2	-2.2	-1.1
1960	45	81.4	1.8	**1960**	23	17.5	0.8	**1960**	5	-6.2	-1.2
1961	33	41.6	1.3	**1961**	18	-6.1	-0.3	**1961**	7	-10.3	-1.5
1962	41	86.9	2.1	**1962**	16	14.3	0.9	**1962**	1	-1.2	-1.2
1963	41	59.5	1.5	**1963**	24	8.6	0.4	**1963**	4	-4.1	-1.0
1964	41	74.2	1.8	**1964**	21	15.7	0.7	**1964**	5	-3.2	-0.6
1965	45	52.4	1.2	**1965**	29	4.7	0.2	**1965**	11	-14.6	-1.3
1966	50	87.0	1.7	**1966**	23	8.8	0.4	**1966**	4	-5.1	-1.3
1967	41	70.9	1.7	**1967**	22	17.1	0.8	**1967**	3	-2.6	-0.9
1968	41	73.8	1.8	**1968**	21	18.0	0.9	**1968**	3	-3.6	-1.2
1969	33	75.2	2.3	**1969**	9	8.9	1.0	**1969**	0	0.0	
1970	58	81.6	1.4	**1970**	30	6.5	0.2	**1970**	10	-13.3	-1.3
1971	41	65.4	1.6	**1971**	23	9.9	0.4	**1971**	5	-8.6	-1.7
1972	30	61.9	2.1	**1972**	11	3.7	0.3	**1972**	3	-3.1	-1.0
1973	16	36.5	2.3	**1973**	5	7.0	1.4	**1973**	0	0.0	
1974	38	66.2	1.7	**1974**	21	18.9	0.9	**1974**	3	-4.1	-1.4
1975	25	58.2	2.3	**1975**	10	14.4	1.4	**1975**	0	0.0	
1976	35	84.6	2.4	**1976**	11	14.1	1.3	**1976**	0	0.0	
1977	41	77.3	1.9	**1977**	19	15.5	0.8	**1977**	3	-3.0	-1.0
1978	37	60.7	1.6	**1978**	21	14.9	0.7	**1978**	4	-3.6	-0.9
1979	36	58.3	1.6	**1979**	20	10.2	0.5	**1979**	5	-4.0	-0.8
1980	30	57.2	1.9	**1980**	12	7.5	0.6	**1980**	2	-3.2	-1.6
1981	27	54.3	2.0	**1981**	9	3.9	0.4	**1981**	3	-2.7	-0.9
1982	48	86.8	1.8	**1982**	24	17.3	0.7	**1982**	2	-1.8	-0.9
1983	31	61.8	2.0	**1983**	13	7.1	0.5	**1983**	1	-0.8	-0.8
1984	25	59.7	2.4	**1984**	10	13.8	1.4	**1984**	0	0.0	
1985	38	72.2	1.9	**1985**	19	15.6	0.8	**1985**	2	-3.5	-1.8
1986	36	63.6	1.8	**1986**	17	10.9	0.6	**1986**	4	-5.3	-1.3
1987	29	50.1	1.7	**1987**	15	8.7	0.6	**1987**	3	-4.5	-1.5
1988	22	48.9	2.2	**1988**	9	9.2	1.0	**1988**	0	0.0	
1989	32	67.1	2.1	**1989**	13	10.7	0.8	**1989**	2	-1.6	-0.8
1990	28	65.6	2.3	**1990**	11	10.6	1.0	**1990**	1	-1.2	-1.2
1991	28	61.6	2.2	**1991**	8	4.6	0.6	**1991**	1	-0.5	-0.5
1992	42	88.0	2.1	**1992**	19	21.1	1.1	**1992**	0	0.0	
1993	19	47.7	2.5	**1993**	7	10.7	1.5	**1993**	0	0.0	
1994	42	84.9	2.0	**1994**	19	18.1	1.0	**1994**	1	-0.5	-0.5
1995	28	44.6	1.6	**1995**	17	12.0	0.7	**1995**	3	-2.3	-0.8
1996	30	77.1	2.6	**1996**	6	4.0	0.7	**1996**	0	0.0	
1997	39	71.3	1.8	**1997**	18	12.3	0.7	**1997**	3	-2.0	-0.7
1998	15	31.1	2.1	**1998**	7	6.0	0.9	**1998**	1	-1.0	-1.0
1999	22	56.1	2.6	**1999**	7	10.9	1.6	**1999**	0	0.0	
2000	36	71.1	2.0	**2000**	17	14.1	0.8	**2000**	2	-1.0	-0.5
2001	32	78.8	2.5	**2001**	9	11.5	1.3	**2001**	1	-0.6	-0.6
2002	34	59.5	1.8	**2002**	20	15.8	0.8	**2002**	1	-2.0	-2.0
2003	31	57.9	1.9	**2003**	17	14.5	0.9	**2003**	4	-2.4	-0.6
2004	40	89.1	2.2	**2004**	17	19.6	1.2	**2004**	1	-0.4	-0.4
2005	20	44.5	2.2	**2005**	10	14.7	1.5	**2005**	0	0.0	
2006	45	98.6	2.2	**2006**	15	14.9	1.0	**2006**	0	0.0	
2007	28	51.7	1.8	**2007**	13	5.3	0.4	**2007**	4	-5.6	-1.4
2008	34	65.7	1.9	**2008**	16	14.7	0.9	**2008**	2	-1.0	-0.5
2009	24	64.5	2.7	**2009**	6	6.3	1.1	**2009**	0	0.0	
2010	27	54.7	2.0	**2010**	12	9.4	0.8	**2010**	3	-1.5	-0.5
2011	23	46.6	2.0	**2011**	10	9.2	0.9	**2011**	2	-1.4	-0.7
2012	34	75.1	2.2	**2012**	12	10.3	0.9	**2012**	2	-1.9	-1.0
2013	26	56.5	2.2	**2013**	10	10.9	1.1	**2013**	1	-0.8	-0.8
2014	27	63.2	2.3	**2014**	8	8.6	1.1	**2014**	1	-0.4	-0.4
2015	31	60.1	1.9	**2015**	15	15.9	1.1	**2015**	0	0.0	
2016	27	55.1	2.0	**2016**	12	11.2	0.9	**2016**	1	-1.2	-1.2
2017	42	99.2	2.4	**2017**	15	19.6	1.3	**2017**	0	0.0	
2018	32	62.7	2.0	**2018**	13	9.7	0.7	**2018**	3	-3.1	-1.0
2019	73	37.6	0.5	**2019**	54	-19.1	-0.4	**2019**	23	-43.1	-1.9
2020	77	60.2	0.8	**2020**	53	-11.8	-0.2	**2020**	22	-43.0	-2.0
2021	95	82.9	0.9	**2021**	63	-13.9	-0.2	**2021**	28	-38.6	-1.4
2022	68	24.0	0.4	**2022**	51	-25.6	-0.5	**2022**	25	-45.3	-1.8

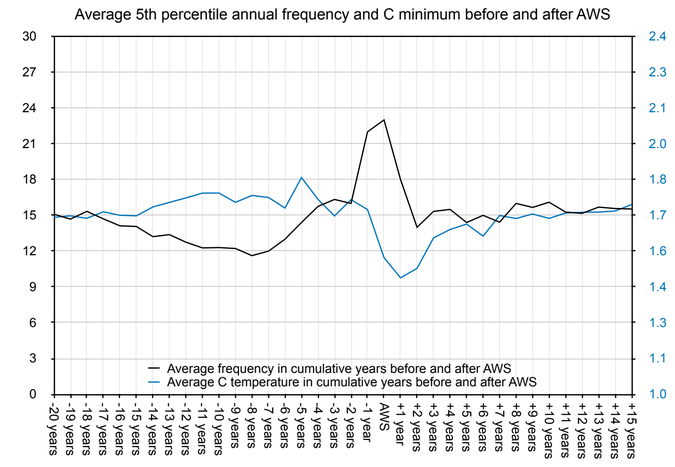
10th 10.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 8.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 4.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	35	239.6	6.8	1910	24	133.8	5.6	1910	8	27.9	3.5									
1911	75	525.5	7.0	1911	49	273.8	5.6	1911	12	25.1	2.1									
1912	80	525.8	6.6	1912	62	355.3	5.7	1912	17	61.6	3.6									
1913	108	725.8	6.7	1913	73	390.2	5.3	1913	26	79.1	3.0									
1914	63	494.9	7.9	1914	33	203.9	6.2	1914	8	28.3	3.5									
1915	62	481.7	7.8	1915	36	226.6	6.3	1915	4	11.9	3.0									
1916	54	421.1	7.8	1916	30	189.2	6.3	1916	6	23.4	3.9									
1917	67	448.2	6.7	1917	48	271.2	5.7	1917	13	41.8	3.2									
1918	78	563.1	7.2	1918	43	228.1	5.3	1918	13	36.0	2.8									
1919	76	573.5	7.5	1919	45	273.1	6.1	1919	12	43.1	3.6									
1920	20	175.9	8.8	1920	8	57.9	7.2	1920	0	0.0										
1921	55	399.7	7.3	1921	39	247.8	6.4	1921	4	11.2	2.8									
1922	99	621.9	6.3	1922	71	357.9	5.0	1922	26	70.5	2.7									
1923	102	703.3	6.9	1923	69	390.5	5.7	1923	15	44.6	3.0									
1924	79	656.7	8.3	1924	31	196.6	6.3	1924	4	16.8	4.2									
1925	80	565.3	7.1	1925	51	292.9	5.7	1925	11	36.2	3.3									
1926	75	531.8	7.1	1926	49	279.3	5.7	1926	11	38.0	3.5									
1927	83	552.9	6.7	1927	54	281.7	5.2	1927	20	50.0	2.5									
1928	54	362.4	6.7	1928	33	160.6	4.9	1928	17	56.1	3.3									
1929	78	499.3	6.4	1929	57	296.0	5.2	1929	20	61.3	3.1									
1930	61	499.8	8.2	1930	29	195.5	6.7	1930	3	12.7	4.2									
1931	38	289.8	7.6	1931	22	139.1	6.3	1931	1	2.8	2.8									
1932	88	619.6	7.0	1932	59	335.3	5.7	1932	22	80.9	3.7									
1933	49	314.3	6.4	1933	37	200.0	5.4	1933	14	44.4	3.2									
1934	49	397.3	8.1	1934	27	183.8	6.8	1934	2	6.4	3.2									
1935	100	702.1	7.0	1935	64	355.7	5.6	1935	20	61.2	3.1									
1936	41	333.5	8.1	1936	17	109.4	6.4	1936	3	9.7	3.2									
1937	67	525.7	7.8	1937	34	207.9	6.1	1937	5	15.0	3.0									
1938	54	476.7	8.8	1938	17	121.1	7.1	1938	2	8.2	4.1									
1939	60	460.9	7.7	1939	34	209.8	6.2	1939	5	20.9	4.2									
1940	86	621.3	7.2	1940	51	286.6	5.6	1940	14	40.9	2.9									
1941	60	464.0	7.7	1941	33	203.9	6.2	1941	5	13.5	2.7									
1942	53	427.6	8.1	1942	24	148.1	6.2	1942	4	13.0	3.3									
1943	90	653.6	7.3	1943	58	344.7	5.9	1943	14	45.9	3.3									
1944	88	668.8	7.6	1944	51	329.7	6.5	1944	8	28.5	3.6									
1945	56	390.2	7.0	1945	35	193.6	5.5	1945	10	28.2	2.8									
1946	80	653.1	8.2	1946	33	198.0	6.0	1946	5	10.3	2.1									
1947	52	471.3	9.1	1947	18	136.6	7.6	1947	0	0.0										
1948	50	370.1	7.4	1948	31	180.1	5.8	1948	9	32.6	3.6									
1949	95	646.3	6.8	1949	63	344.4	5.5	1949	22	73.1	3.3									
1950	64	461.1	7.2	1950	43	254.8	5.9	1950	12	46.9	3.9									
1951	78	601.7	7.7	1951	43	274.3	6.4	1951	8	28.9	3.6									
1952	37	317.8	8.6	1952	13	87.1	6.7	1952	1	3.7	3.7									
1953	30	273.1	9.1	1953	7	51.0	7.3	1953	0	0.0										
1954	27	242.0	9.0	1954	8	58.9	7.4	1954	0	0.0										
1955	3	28.5	9.5	1955	0	0.0		1955	0	0.0										
1956	10	100.2	10.0	1956	0	0.0		1956	0	0.0										
1957	17	163.8	9.6	1957	2	16.4	8.2	1957	0	0.0										
1958	8	78.8	9.9	1958	1	8.3	8.3	1958	0	0.0										
1959	12	116.0	9.7	1959	2	16.1	8.1	1959	0	0.0										
1960	27	240.7	8.9	1960	8	53.2	6.7	1960	1	3.8	3.8									
1961	34	309.1	9.1	1961	5	31.4	6.3	1961	1	2.9	2.9									
1962	14	130.2	9.3	1962	3	23.2	7.7	1962	0	0.0										
1963	37	298.8	8.1	1963	17	110.1	6.5	1963	2	7.9	4.0									
1964	26	231.1	8.9	1964	7	51.6	7.4	1964	0	0.0										
1965	30	247.0	8.2	1965	14	90.8	6.5	1965	3	7.8	2.6									
1966	22	210.3	9.6	1966	3	24.2	8.1	1966	0	0.0										
1967	49	414.0	8.4	1967	20	131.1	6.6	1967	2	6.9	3.5									
1968	16	146.0	9.1	1968	5	37.4	7.5	1968	0	0.0										
1969	13	123.8	9.5	1969	3	24.7	8.2	1969	0	0.0										
1970	12	113.6	9.5	1970	2	15.5	7.8	1970	0	0.0										
1971	24	220.5	9.2	1971	4	31.9	8.0	1971	0	0.0										
1972	9	86.4	9.6	1972	0	0.0		1972	0	0.0										
1973	0	0.0		1973	0	0.0		1973	0	0.0										
1974	28	242.3	8.7	1974	10	71.4	7.1	1974	0	0.0										
1975	14	126.7	9.1	1975	4	29.5	7.4	1975	0	0.0										
1976	28	248.2	8.9	1976	9	66.6	7.4	1976	0	0.0										
1977	35	330.8	9.5	1977	3	23.8	7.9	1977	0	0.0										
1978	21	191.0	9.1	1978	7	51.3	7.3	1978	0	0.0										
1979	15	140.8	9.4	1979	2	15.7	7.9	1979	0	0.0										
1980	1	10.5	10.5	1980	0	0.0		1980	0	0.0										
1981	9	84.2	9.4	1981	1	8.3	8.3	1981	0	0.0										
1982	30	261.0	8.7	1982	13	98.5	7.6	1982	0	0.0										
1983	24	220.9	9.2	1983	5	37.0	7.4	1983	0	0.0										
1984	20	163.7	8.2	1984	10	68.7	6.9	1984	1	3.2	3.2									
1985	23	218.1	9.5	1985	4	32.8	8.2	1985	0	0.0										
1986	14	126.2	9.0	1986	5	40.6	8.1	1986	0	0.0										
1987	14	137.0	9.8	1987	1	8.3	8.3	1987	0	0.0										
1988	5	49.5	9.9	1988	0	0.0		1988	0	0.0										
1989	15	141.1	9.4	1989	2	15.2	7.6	1989	0	0.0										
1990	13	122.3	9.4	1990	2	16.5	8.3	1990	0	0.0										
1991	10	98.9	9.9	1991	0	0.0		1991	0	0.0										
1992	3	29.7	9.9	1992	0	0.0		1992	0	0.0										
1993	10	91.6	9.2	1993	4	31.6	7.9	1993	0	0.0										
1994	28	271.5	9.7	1994	2	14.6	7.3	1994	0	0.0										
1995	10	97.7	9.8	1995	0	0.0		1995	0	0.0		20 years	16.9	9.4	20 years	2.9	7.6	20 years	0.0	
1996	6	57.0	9.5	1996	0	0.0		1996	0	0.0		19 years	17.2	9.3	19 years	3.1	7.6	19 years	0.0	
1997	14	134.3	9.6	1997	1	8.3	8.3	1997	0	0.0		18 years	17.8	9.3	18 years	3.2	7.6	18 years	0.0	
1998	5	46.2	9.2	1998	1	7.8	7.8	1998	0	0.0		17 years	18.1	9.3	17 years	3.4	7.6	17 years	0.0	
1999	16	156.8	9.8	1999	0	0.0		1999	0	0.0		16 years	18.9	9.3	16 years	3.5	7.6	16 years	0.0	
2000	22	200.3	9.1	2000	6	46.0	7.7	2000	0	0.0		15 years	19.1	9.3	15 years	3.7	7.6	15 years	0.0	
2001	18	171.9	9.6	2001	3	23.5	7.8	2001	0	0.0		14 years	18.9	9.3	14 years	3.6	7.5	14 years	0.0	
2002	27	253.3	9.4	2002	3	21.2	7.1	2002	0	0.0		13 years	18.9	9.3	13 years	3.6	7.5	13 years	0.0	
2003	12	109.8	9.2	2003	3	24.1	8.0	2003	0	0.0		12 years	18.3	9.3	12 years	3.7	7.6	12 years	0.0	
2004	16	140.8	8.8	2004	5	37.3	7.5	2004	0	0.0		11 years	18.8	9.3	11 years	3.7	7.5	11 years	0.0	
2005	1	9.5	9.5	2005	0	0.0		2005	0	0.0		10 years	19.1	9.3	10 years	3.6	7.5	10 years	0.0	
2006	24	218.4	9.1	2006	5	36.9	7.4	2006	0	0.0		9 years	21.1	9.3	9 years	4.0	7.5	9 years	0.0	
2007	22	203.9	9.3	2007	4	29.1	7.3	2007	0	0.0		8 years	20.8	9.3	8 years	3.9	7.5	8 years	0.0	
2008	19	178.9	9.4	2008	3	22.4	7.5	2008	0	0.0		7 years	20.6	9.4	7 years	3.9	7.6	7 years	0.0	
2009	10	91.7	9.2	2009	2	16.5	8.3	2009	0	0.0		6 years	20.8	9.4	6 years	4.0	7.6	6 years	0.0	
2010	2	20.6	10.3	2010	0	0.0		2010	0	0.0		5 years	23.0	9.4	5 years	4.4	7.5	5 years	0.0	
2011	32	283.7	8.9	2011	10	72.3	7.2	2011	0	0.0		4 years	28.3	9.2	4 years	5.5	7.5	4 years	0.0	
2012	44	411.2	9.3	2012	7	54.8	7.8	2012	0	0.0		3 years	27.0	9.3	3 years	4.0	7.5	3 years	0.0	
2013	10	90.5	9.1	2013	2	14.6	7.3	2013	0	0.0		2 years	18.5	9.2	2 years	2.5	7.4	2 years	0.0	
2014	27	253.1	9.4	2014	3	22.4	7.5	2014	0	0.0		1 years	27.0	9.4	1 years	3.0		1 years	0.0	
2015	14	136.2	9.7	2015	0	0.0		2015	0	0.0		0 years	14.0	9.7	0 years	0.0		0 years	0.0	
2016	7	62.0	8.9	2016	2	14.9	7.5	2016	0	0.0		1 years	7.0	8.9	1 years	2.0	7.5	1 years	0.0	
2017	8	75.0	9.4	2017	1	8.3	8.3	2017	0	0.0		2 years	7.5	9.1	2 years	1.5	7.9	2 years	0.0	
2018	18	174.3	9.7	2018	1	7.8	7.8	2018	0	0.0		3 years	11.0	9.3	3 years	1.3	7.9	3 years	0.0	
2019	32	292.2	9.1	2019	8	57.1	7.1	2019	0	0.0		4 years	16.3	9.3	4 years	3.0	7.7	4 years	0.0	
2020	36	312.5	8.7	2020	13	91.1	7.0	2020	0	0.0		5 years	20.2	9.1	5 years	5.0	7.5	5 years	0.0	
2021	44	376.2	8.6	2021	15	98.2	6.5	2021	2	6.4	3.2	6 years	24.2	9.0	6 years	6.7	7.4	6 years	0.3	3.2
2022	44	346.2	7.9	2022	22	139.1	6.3	2022	2	8.2	4.1	7 years	27.0	8.9	7 years	8.9	7.2	7 years	0.6	3.7

10th 3.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1918	40	102.0	2.6	1918	17	28.0	1.6	1918	2	0.6	0.3									
1919	42	104.5	2.5	1919	19	32.3	1.7	1919	2	1.2	0.6									
1920	34	88.2	2.6	1920	12	20.0	1.7	1920	2	1.0	0.5									
1921	34	71.1	2.1	1921	21	31.4	1.5	1921	5	1.0	0.2									
1922	35	79.3	2.3	1922	20	31.3	1.6	1922	3	0.2	0.1									
1923	29	78.6	2.7	1923	8	14.5	1.8	1923	0	0.0										
1924	42	114.2	2.7	1924	16	29.9	1.9	1924	2	0.3	0.2									
1925	53	114.8	2.2	1925	28	38.0	1.4	1925	8	2.4	0.3									
1926	28	72.8	2.6	1926	9	13.5	1.5	1926	1	-0.4	-0.4									
1927	44	90.8	2.1	1927	28	41.4	1.5	1927	4	0.9	0.2									
1928	28	70.0	2.5	1928	15	28.9	1.9	1928	1	0.4	0.4									
1929	43	83.6	1.9	1929	24	25.8	1.1	1929	7	-1.2	-0.2									
1930	27	67.2	2.5	1930	10	13.8	1.4	1930	3	0.4	0.1									
1931	40	96.1	2.4	1931	15	19.7	1.3	1931	3	-0.4	-0.1									
1932	37	81.9	2.2	1932	23	37.3	1.6	1932	5	1.1	0.2									
1933	43	109.4	2.5	1933	15	26.6	1.8	1933	1	0.7	0.7									
1934	42	97.3	2.3	1934	24	42.8	1.8	1934	2	-0.5	-0.3									
1935	28	64.9	2.3	1935	13	19.4	1.5	1935	3	0.4	0.1									
1936	45	115.3	2.6	1936	19	34.3	1.8	1936	3	1.2	0.4									
1937	43	69.9	1.6	1937	32	35.6	1.1	1937	11	0.1	0.0									
1938	35	80.8	2.3	1938	23	44.8	1.9	1938	1	0.6	0.6									
1939	32	75.5	2.4	1939	17	28.1	1.7	1939	3	0.7	0.2									
1940	43	104.0	2.4	1940	19	27.8	1.5	1940	5	2.8	0.6									
1941	41	89.5	2.2	1941	24	36.9	1.5	1941	2	-1.6	-0.8									
1942	32	81.5	2.5	1942	13	21.5	1.7	1942	2	0.9	0.5									
1943	65	131.2	2.0	1943	40	53.9	1.3	1943	15	2.7	0.2									
1944	55	114.6	2.1	1944	29	31.3	1.1	1944	11	0.4	0.0									
1945	60	117.3	2.0	1945	38	48.7	1.3	1945	12	3.0	0.3									
1946	38	92.1	2.4	1946	20	34.1	1.7	1946	2	-0.6	-0.3									
1947	41	96.6	2.4	1947	22	36.8	1.7	1947	4	2.3	0.6									
1948	39	87.1	2.2	1948	21	27.6	1.3	1948	7	0.6	0.1									
1949	53	114.1	2.2	1949	28	37.4	1.3	1949	9	1.7	0.2									
1950	46	101.9	2.2	1950	23	31.2	1.4	1950	6	2.7	0.5									
1951	48	105.9	2.2	1951	29	46.6	1.6	1951	7	0.6	0.1									
1952	45	99.3	2.2	1952	26	38.6	1.5	1952	7	4.2	0.6									
1953	48	94.8	2.0	1953	29	34.5	1.2	1953	10	0.5	0.1									
1954	54	108.6	2.0	1954	34	46.0	1.4	1954	13	2.5	0.2									
1955	43	102.8	2.4	1955	21	33.3	1.6	1955	3	-0.4	-0.1									
1956	39	76.7	2.0	1956	23	27.4	1.2	1956	7	2.5	0.4									
1957	54	120.3	2.2	1957	33	54.6	1.7	1957	5	1.8	0.4									
1958	51	107.4	2.1	1958	30	42.3	1.4	1958	7	0.0	0.0									
1959	46	95.0	2.1	1959	27	35.3	1.3	1959	8	1.9	0.2									
1960	47	107.3	2.3	1960	23	32.3	1.4	1960	7	3.4	0.5									
1961	31	70.4	2.3	1961	18	29.4	1.6	1961	3	0.2	0.1									
1962	34	77.1	2.3	1962	17	22.7	1.3	1962	4	-1.7	-0.4									
1963	58	123.5	2.1	1963	33	46.6	1.4	1963	10	1.4	0.1									
1964	34	71.4	2.1	1964	21	30.7	1.5	1964	5	0.6	0.1									
1965	46	100.5	2.2	1965	28	44.2	1.6	1965	5	1.3	0.3									
1966	45	98.8	2.2	1966	23	30.7	1.3	1966	6	-0.8	-0.1									
1967	41	94.6	2.3	1967	19	27.1	1.4	1967	6	2.6	0.4									
1968	41	108.8	2.7	1968	19	37.2	2.0	1968	2	1.0	0.5									
1969	46	100.8	2.2	1969	30	51.4	1.7	1969	2	-0.2	-0.1									
1970	40	102.2	2.6	1970	18	31.2	1.7	1970	2	1.1	0.6									
1971	38	104.5	2.8	1971	12	22.6	1.9	1971	1	0.6	0.6									
1972	38	76.3	2.0	1972	19	16.7	0.9	1972	7	-6.4	-0.9									
1973	44	82.9	1.9	1973	28	33.9	1.2	1973	6	-5.4	-0.9									
1974	25	55.0	2.2	1974	16	28.0	1.8	1974	3	1.8	0.6									
1975	26	74.7	2.9	1975	8	15.0	1.9	1975	1	0.8	0.8									
1976	43	106.3	2.5	1976	22	38.7	1.8	1976	3	0.0	0.0									
1977	27	67.7	2.5	1977	13	21.7	1.7	1977	2	0.9	0.5									
1978	38	80.3	2.1	1978	21	25.7	1.2	1978	8	0.8	0.1									
1979	35	84.9	2.4	1979	20	36.9	1.8	1979	2	-0.1	-0.1									
1980	21	61.0	2.9	1980	7	16.0	2.3	1980	0	0.0										
1981	27	60.5	2.2	1981	12	14.6	1.2	1981	2	-3.8	-1.9									
1982	42	92.7	2.2	1982	24	37.0	1.5	1982	6	0.1	0.0									
1983	41	73.7	1.8	1983	27	29.7	1.1	1983	7	-4.3	-0.6									
1984	26	62.7	2.4	1984	12	18.7	1.6	1984	2	0.6	0.3									
1985	38	90.6	2.4	1985	25	48.0	1.9	1985	2	-1.3	-0.7									
1986	29	66.5	2.3	1986	17	27.1	1.6	1986	4	2.1	0.5									
1987	37	82.6	2.2	1987	23	36.4	1.6	1987	5	1.8	0.4	20 years	30.2	2.5	20 years	15.1	1.7	20 years	2.5	0.3
1988	15	44.2	2.9	1988	3	5.6	1.9	1988	0	0.0		19 years	29.8	2.5	19 years	14.7	1.7	19 years	2.3	0.2
1989	44	90.5	2.1	1989	26	32.8	1.3	1989	9	2.4	0.3	18 years	30.7	2.5	18 years	15.3	1.7	18 years	2.4	0.2
1990	36	85.2	2.4	1990	24	46.3	1.9	1990	3	1.1	0.4	17 years	29.9	2.5	17 years	14.7	1.7	17 years	2.1	0.2
1991	26	62.2	2.4	1991	15	26.0	1.7	1991	2	0.6	0.3	16 years	29.5	2.5	16 years	14.1	1.7	16 years	2.0	0.2
1992	46	94.8	2.1	1992	26	31.5	1.2	1992	9	0.4	0.0	15 years	29.7	2.5	15 years	14.1	1.7	15 years	2.0	0.2
1993	22	53.2	2.4	1993	11	16.5	1.5	1993	2	0.8	0.4	14 years	28.6	2.5	14 years	13.2	1.7	14 years	1.5	0.2
1994	41	96.9	2.4	1994	21	32.4	1.5	1994	6	2.1	0.4	13 years	29.1	2.6	13 years	13.4	1.8	13 years	1.5	0.2
1995	39	97.3	2.5	1995	18	28.1	1.6	1995	3	-0.3	-0.1	12 years	28.1	2.6	12 years	12.8	1.8	12 years	1.1	0.2
1996	24	60.4	2.5	1996	12	21.4	1.8	1996	1	-0.3	-0.3	11 years	27.1	2.6	11 years	12.3	1.8	11 years	0.9	0.3
1997	33	92.1	2.8	1997	13	27.5	2.1	1997	0	0.0		10 years	27.4	2.6	10 years	12.3	1.8	10 years	0.9	0.4
1998	38	93.7	2.5	1998	17	26.1	1.5	1998	5	1.2	0.2	9 years	26.8	2.6	9 years	12.2	1.8	9 years	1.0	0.4
1999	28	78.9	2.8	1999	9	16.5	1.8	1999	0	0.0		8 years	25.4	2.6	8 years	11.6	1.8	8 years	0.5	0.5
2000	15	41.2	2.7	2000	6	12.1	2.0	2000	0	0.0		7 years	25.0	2.5	7 years	12.0	1.8	7 years	0.6	0.5
2001	17	42.1	2.5	2001	6	6.8	1.1	2001	1	0.0	0.0	6 years	26.7	2.5	6 years	13.0	1.7	6 years	0.7	0.5
2002	20	54.9	2.7	2002	9	19.7	2.2	2002	0	0.0		5 years	28.6	2.5	5 years	14.4	1.8	5 years	0.6	0.7
2003	29	75.5	2.6	2003	14	27.4	2.0	2003	0	0.0		4 years	30.8	2.5	4 years	15.8	1.8	4 years	0.8	0.7
2004	32	73.7	2.3	2004	17	26.7	1.6	2004	2	1.1	0.6	3 years	31.3	2.4	3 years	16.3	1.7	3 years	1.0	0.7
2005	24	62.5	2.6	2005	10	18.0	1.8	2005	0	0.0		2 years	31.0	2.5	2 years	16.0	1.8	2 years	0.5	0.8
2006	38	88.7	2.3	2006	22	37.9	1.7	2006	1	0.8	0.8	1 years	38.0	2.3	1 years	22.0	1.7	1 years	1.0	0.8
2007	38	82.4	2.2	2007	23	35.3	1.5	2007	2	0.4	0.2	0 years	38.0	2.2	0 years	23.0	1.5	0 years	2.0	0.2
2008	30	65.3	2.2	2008	18	26.2	1.5	2008	3	1.5	0.5	1 years	30.0	2.2	1 years	18.0	1.5	1 years	3.0	0.5
2009	22	53.7	2.4	2009	10	15.3	1.5	2009	1	0.5	0.5	2 years	26.0	2.3	2 years	14.0	1.5	2 years	2.0	0.5
2010	40	103.0	2.6	2010	18	33.3	1.9	2010	0	0.0		3 years	30.7	2.4	3 years	15.3	1.6	3 years	1.3	0.5
2011	34	86.4	2.5	2011	16	27.9	1.7	2011	3	2.0	0.7	4 years	31.5	2.4	4 years	15.5	1.6	4 years	1.8	0.6
2012	22	55.3	2.5	2012	10	17.5	1.8	2012	0	0.0		5 years	29.6	2.4	5 years	14.4	1.7	5 years	1.4	0.6
2013	25	48.2	1.9	2013	18	24.9	1.4	2013	4	0.8	0.2	6 years	28.8	2.4	6 years	15.0	1.6	6 years	1.8	0.5
2014	25	70.2	2.8	2014	11	24.0	2.2	2014	0	0.0		7 years	28.3	2.4	7 years	14.4	1.7	7 years	1.6	0.5
2015	42	90.3	2.2	2015	27	43.4	1.6	2015	4	1.5	0.4	8 years	30.0	2.4	8 years	16.0	1.7	8 years	1.9	0.4
2016	27	70.4	2.6	2016	13	24.0	1.8	2016	0	0.0		9 years	29.7	2.4	9 years	15.7	1.7	9 years	1.7	0.4
2017	42	100.6	2.4	2017	20	30.7	1.5	2017	2	1.3	0.7	10 years	30.9	2.4	10 years	16.1	1.7	10 years	1.7	0.5
2018	24	65.3	2.7	2018	7	13.4	1.9	2018	1	0.6	0.6	11 years	30.3	2.4	11 years	15.3	1.7	11 years	1.6	0.5
2019	27	66.7	2.5	2019	14	24.5	1.8	2019	1	-0.2	-0.2	12 years	30.0	2.4	12 years	15.2	1.7	12 years	1.6	0.4
2020	36	83.0	2.3	2020	22	37.8	1.7	2020	2	0.9	0.5	13 years	30.5	2.4	13 years	15.7	1.7	13 years	1.6	0.4
2021	26	62.2	2.4	2021	14	24.8	1.8	2021	2	0.7	0.4	14 years	30.1	2.4	14 years	15.6	1.7	14 years	1.6	0.4
2022	25	63.4	2.5	2022	15	31.5	2.1	2022	0	0.0		15 years	29.8	2.4	15 years	15.5	1.7	15 years	1.5	0.4
Original AWS probe Rosemount																				
6 years				6 years				6 years												
Pre	26.7	66.2	2.5	Pre	13.0	22.8	1.7	Pre	0.7	0.3	0.5									
Post	28.8	68.7	2.4	Post	15.0	24.2	1.6	Post	1.8	0.8	0.5									
		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										

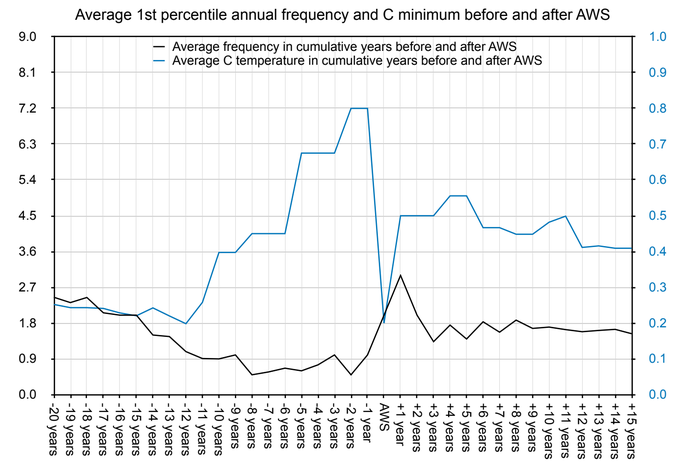
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS

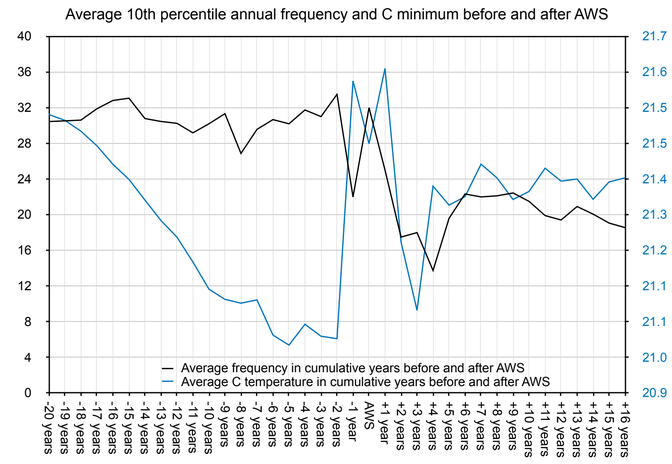


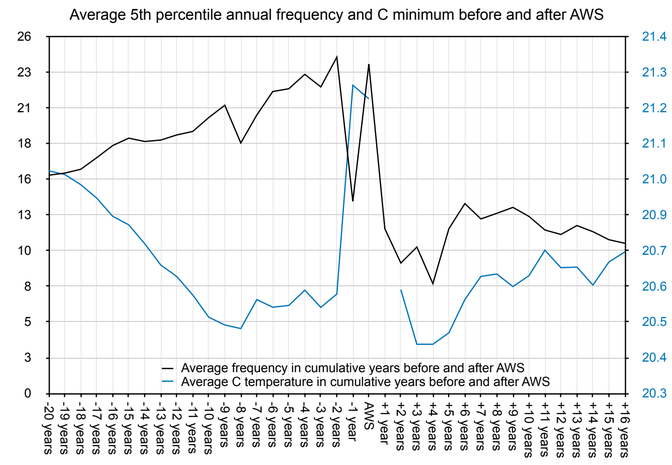
10th 22.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 21.9	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 20.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1951	37	804.8	21.8	**1951**	19	404.6	21.3	**1951**	4	81.2	20.3									
1952	23	498.3	21.7	**1952**	13	276.6	21.3	**1952**	2	40.7	20.4									
1953	52	1134.9	21.8	**1953**	25	535.0	21.4	**1953**	2	40.3	20.2									
1954	24	522.3	21.8	**1954**	11	233.0	21.2	**1954**	2	37.6	18.8									
1955	2	44.7	22.4	**1955**	0	0.0		**1955**	0	0.0										
1956	6	133.3	22.2	**1956**	1	21.9	21.9	**1956**	0	0.0										
1957	22	481.1	21.9	**1957**	12	259.0	21.6	**1957**	0	0.0										
1958	27	592.8	22.0	**1958**	9	192.8	21.4	**1958**	1	20.3	20.3									
1959	71	1547.3	21.8	**1959**	35	744.9	21.3	**1959**	4	81.9	20.5									
1960	59	1297.7	22.0	**1960**	22	474.9	21.6	**1960**	1	20.6	20.6									
1961	66	1450.4	22.0	**1961**	29	628.2	21.7	**1961**	0	0.0										
1962	31	679.5	21.9	**1962**	11	233.9	21.3	**1962**	1	20.2	20.2									
1963	66	1417.2	21.5	**1963**	43	907.0	21.1	**1963**	9	182.6	20.3									
1964	23	503.8	21.9	**1964**	9	192.8	21.4	**1964**	1	20.6	20.6									
1965	108	2301.4	21.3	**1965**	73	1523.5	20.9	**1965**	22	433.9	19.7									
1966	60	1304.0	21.7	**1966**	34	725.6	21.3	**1966**	5	102.0	20.4									
1967	60	1306.7	21.8	**1967**	32	683.2	21.4	**1967**	2	40.7	20.4									
1968	59	1286.3	21.8	**1968**	21	440.7	21.0	**1968**	6	118.0	19.7									
1969	48	1051.4	21.9	**1969**	19	406.9	21.4	**1969**	1	20.5	20.5									
1970	44	966.7	22.0	**1970**	16	343.8	21.5	**1970**	1	20.5	20.5									
1971	45	987.9	22.0	**1971**	19	409.5	21.6	**1971**	0	0.0										
1972	144	3097.1	21.5	**1972**	97	2053.0	21.2	**1972**	19	384.5	20.2									
1973	22	474.1	21.6	**1973**	16	340.8	21.3	**1973**	2	40.3	20.2									
1974	31	683.2	22.0	**1974**	9	194.2	21.6	**1974**	0	0.0										
1975	23	503.4	21.9	**1975**	9	192.3	21.4	**1975**	1	20.6	20.6									
1976	93	2013.5	21.7	**1976**	62	1325.2	21.4	**1976**	5	101.2	20.2									
1977	83	1804.9	21.7	**1977**	50	1072.2	21.4	**1977**	1	20.4	20.4									
1978	10	216.2	21.6	**1978**	5	105.2	21.0	**1978**	1	19.1	19.1									
1979	66	1433.0	21.7	**1979**	39	832.4	21.3	**1979**	6	120.8	20.1									
1980	34	745.2	21.9	**1980**	13	279.0	21.5	**1980**	1	20.6	20.6									
1981	30	662.0	22.1	**1981**	8	173.2	21.7	**1981**	0	0.0										
1982	101	2187.9	21.7	**1982**	74	1588.6	21.5	**1982**	2	41.1	20.6									
1983	33	722.4	21.9	**1983**	16	345.3	21.6	**1983**	1	20.6	20.6									
1984	33	713.6	21.6	**1984**	16	335.6	21.0	**1984**	5	99.3	19.9									
1985	48	1047.3	21.8	**1985**	18	380.9	21.2	**1985**	2	41.0	20.5									
1986	29	631.4	21.8	**1986**	13	275.6	21.2	**1986**	3	60.5	20.2	20 years	30.5	21.5	20 years	15.9	21.0	20 years	4.6	19.6
1987	29	636.5	21.9	**1987**	11	236.9	21.5	**1987**	0	0.0		19 years	30.5	21.5	19 years	16.1	21.0	19 years	4.7	19.6
1988	9	198.4	22.0	**1988**	2	43.3	21.7	**1988**	0	0.0		18 years	30.6	21.5	18 years	16.3	20.9	18 years	4.9	19.6
1989	17	376.0	22.1	**1989**	3	65.4	21.8	**1989**	0	0.0		17 years	31.9	21.5	17 years	17.2	20.9	17 years	5.2	19.6
1990	29	635.7	21.9	**1990**	10	212.4	21.2	**1990**	2	39.4	19.7	16 years	32.8	21.4	16 years	18.1	20.8	16 years	5.6	19.6
1991	65	1431.9	22.0	**1991**	22	476.0	21.6	**1991**	0	0.0		15 years	33.1	21.4	15 years	18.6	20.8	15 years	5.8	19.6
1992	35	767.5	21.9	**1992**	17	367.4	21.6	**1992**	0	0.0		14 years	30.8	21.3	14 years	18.4	20.8	14 years	6.2	19.6
1993	33	717.2	21.7	**1993**	14	295.7	21.1	**1993**	3	61.5	20.5	13 years	30.5	21.3	13 years	18.5	20.7	13 years	6.7	19.6
1994	42	918.4	21.9	**1994**	16	340.6	21.3	**1994**	3	61.7	20.6	12 years	30.3	21.2	12 years	18.8	20.7	12 years	7.0	19.5
1995	19	414.2	21.8	**1995**	9	191.6	21.3	**1995**	2	40.8	20.4	11 years	29.2	21.2	11 years	19.1	20.6	11 years	7.4	19.4
1996	20	426.8	21.3	**1996**	12	249.0	20.8	**1996**	4	78.0	19.5	10 years	30.2	21.1	10 years	20.1	20.5	10 years	7.9	19.3
1997	67	1419.0	21.2	**1997**	43	885.8	20.6	**1997**	15	285.1	19.0	9 years	31.3	21.1	9 years	21.0	20.5	9 years	8.3	19.3
1998	8	168.4	21.1	**1998**	4	79.5	19.9	**1998**	3	58.2	19.4	8 years	26.9	21.1	8 years	18.3	20.5	8 years	7.5	19.3
1999	23	496.4	21.6	**1999**	10	207.3	20.7	**1999**	3	56.9	19.0	7 years	29.6	21.1	7 years	20.3	20.6	7 years	8.1	19.3
2000	33	697.7	21.1	**2000**	21	431.3	20.5	**2000**	10	195.8	19.6	6 years	30.7	21.0	6 years	22.0	20.6	6 years	9.0	19.4
2001	24	499.7	20.8	**2001**	18	366.9	20.4	**2001**	8	153.9	19.2	5 years	30.2	21.0	5 years	22.2	20.6	5 years	8.8	19.3
2002	34	718.6	21.1	**2002**	26	540.2	20.8	**2002**	9	176.8	19.6	4 years	31.8	21.1	4 years	23.3	20.6	4 years	9.0	19.3
2003	26	547.0	21.0	**2003**	18	368.7	20.5	**2003**	8	154.8	19.4	3 years	31.0	21.0	3 years	22.3	20.6	3 years	9.0	19.2
2004	45	920.0	20.4	**2004**	35	698.7	20.0	**2004**	17	314.2	18.5	2 years	33.5	21.0	2 years	24.5	20.6	2 years	9.5	19.2
2005	22	475.2	21.6	**2005**	14	297.5	21.3	**2005**	2	39.8	19.9	1 years	22.0	21.6	1 years	14.0	21.3	1 years	2.0	19.9
2006	32	686.7	21.5	**2006**	24	509.0	21.2	**2006**	5	101.3	20.3	0 years	32.0	21.5	0 years	24.0	21.2	0 years	5.0	20.3
2007	25	540.7	21.6	**2007**	12	252.3	21.0	**2007**	2	40.3	20.2	1 years	25.0	21.6	1 years	12.0		1 years	2.0	20.2
2008	10	208.5	20.9	**2008**	7	141.5	20.2	**2008**	2	33.4	16.7	2 years	17.5	21.2	2 years	9.5	20.6	2 years	2.0	18.4
2009	19	394.8	20.8	**2009**	13	261.5	20.1	**2009**	9	175.6	19.5	3 years	18.0	21.1	3 years	10.7	20.5	3 years	4.3	18.8
2010	1	22.2	22.2	**2010**	0	0.0		**2010**	0	0.0		4 years	13.8	21.4	4 years	8.0	20.5	4 years	3.3	18.8
2011	43	909.5	21.2	**2011**	28	576.6	20.6	**2011**	8	148.7	18.6	5 years	19.6	21.3	5 years	12.0	20.5	5 years	4.2	18.7
2012	36	771.7	21.4	**2012**	23	483.0	21.0	**2012**	6	116.8	19.5	6 years	22.3	21.3	6 years	13.8	20.6	6 years	4.5	18.9
2013	20	437.0	21.9	**2013**	6	126.1	21.0	**2013**	2	39.9	20.0	7 years	22.0	21.4	7 years	12.7	20.7	7 years	4.1	19.1
2014	23	486.8	21.2	**2014**	16	331.4	20.7	**2014**	5	96.1	19.2	8 years	22.1	21.4	8 years	13.1	20.7	8 years	4.3	19.1
2015	25	523.7	20.9	**2015**	17	346.1	20.4	**2015**	9	174.4	19.4	9 years	22.4	21.3	9 years	13.6	20.6	9 years	4.8	19.1
2016	13	279.7	21.5	**2016**	7	146.5	20.9	**2016**	2	38.1	19.1	10 years	21.5	21.4	10 years	12.9	20.7	10 years	4.5	19.1
2017	4	87.7	21.9	**2017**	2	42.9	21.5	**2017**	0	0.0		11 years	19.9	21.4	11 years	11.9	20.7	11 years	4.1	19.1
2018	14	294.8	21.1	**2018**	8	161.2	20.2	**2018**	6	119.3	19.9	12 years	19.4	21.4	12 years	11.6	20.7	12 years	4.3	19.2
2019	39	836.0	21.4	**2019**	20	414.2	20.7	**2019**	5	94.3	18.9	13 years	20.9	21.4	13 years	12.2	20.7	13 years	4.3	19.2
2020	9	186.7	20.7	**2020**	6	119.8	20.0	**2020**	2	33.8	16.9	14 years	20.1	21.3	14 years	11.8	20.6	14 years	4.1	19.0
2021	5	109.6	21.9	**2021**	3	64.9	21.6	**2021**	0	0.0		15 years	19.1	21.4	15 years	11.2	20.7	15 years	3.9	19.0
2022	11	236.7	21.5	**2022**	7	148.2	21.2	**2022**	0	0.0		16 years	18.6	21.4	16 years	10.9	20.7	16 years	3.6	19.0

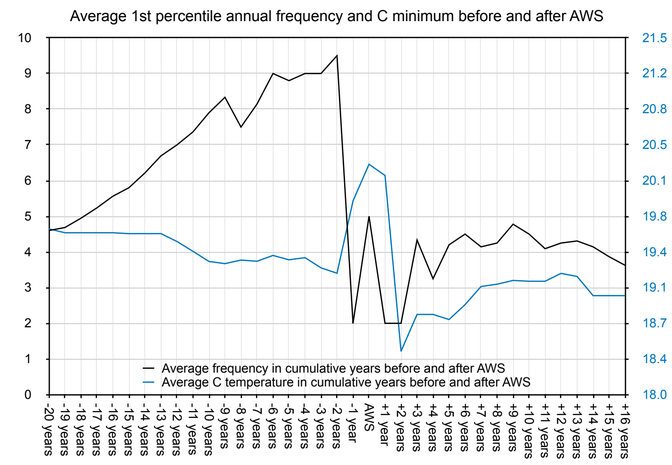
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	30.7	643.0	21.0	**Pre**	22.0	450.6	20.6	**Pre**	9.0	172.6	19.4									
Post	22.3	474.6	21.3	**Post**	13.8	285.8	20.6	**Post**	4.5	85.8	18.9									

		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										





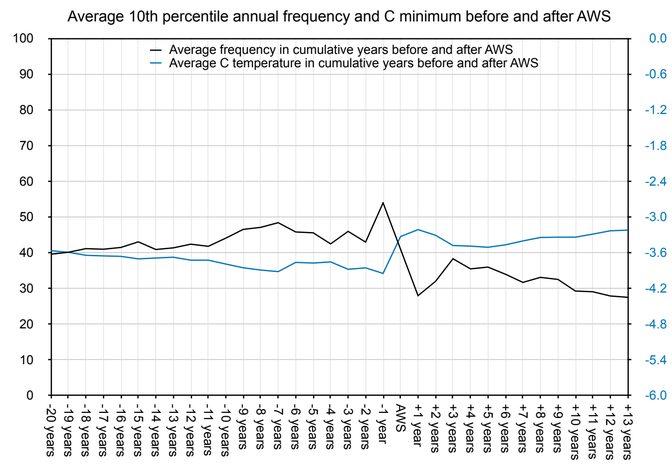


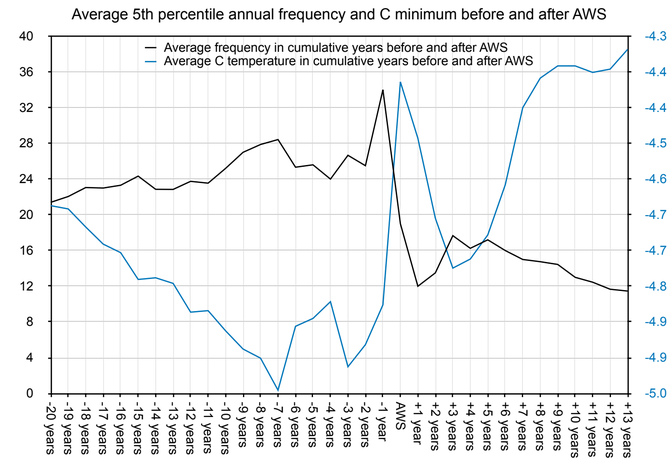
10th -1.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -3.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -5.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	35	-95.6	-2.7	**1910**	13	-50.4	-3.9	**1910**	0	0.0										
1911	47	-207.2	-4.4	**1911**	32	-172.0	-5.4	**1911**	14	-93.3	-6.7									
1912	37	-102.5	-2.8	**1912**	11	-42.8	-3.9	**1912**	0	0.0										
1913	30	-99.3	-3.3	**1913**	15	-66.4	-4.4	**1913**	4	-25.4	-6.4									
1914	28	-93.7	-3.3	**1914**	12	-57.6	-4.8	**1914**	3	-19.3	-6.4									
1915	27	-79.1	-2.9	**1915**	9	-35.1	-3.9	**1915**	0	0.0										
1916	18	-47.2	-2.6	**1916**	4	-16.2	-4.1	**1916**	0	0.0										
1917	62	-220.7	-3.6	**1917**	30	-144.4	-4.8	**1917**	9	-56.2	-6.2									
1918	61	-249.2	-4.1	**1918**	34	-192.4	-5.7	**1918**	13	-98.5	-7.6									
1919	49	-188.0	-3.8	**1919**	25	-132.8	-5.3	**1919**	10	-66.7	-6.7									
1920	31	-107.1	-3.5	**1920**	18	-80.3	-4.5	**1920**	1	-6.1	-6.1									
1921	24	-58.7	-2.4	**1921**	5	-21.1	-4.2	**1921**	1	-6.1	-6.1									
1922	60	-249.1	-4.2	**1922**	41	-207.4	-5.1	**1922**	12	-80.2	-6.7									
1923	39	-131.9	-3.4	**1923**	22	-93.4	-4.2	**1923**	4	-25.0	-6.3									
1924	37	-130.6	-3.5	**1924**	22	-94.9	-4.3	**1924**	1	-6.1	-6.1									
1925	58	-180.0	-3.1	**1925**	29	-116.3	-4.0	**1925**	1	-6.1	-6.1									
1926	33	-83.4	-2.5	**1926**	8	-29.3	-3.7	**1926**	0	0.0										
1927	72	-308.4	-4.3	**1927**	50	-260.9	-5.2	**1927**	19	-123.9	-6.5									
1928	39	-100.0	-2.6	**1928**	11	-42.0	-3.8	**1928**	0	0.0										
1929	69	-311.1	-4.5	**1929**	47	-267.4	-5.7	**1929**	25	-173.2	-6.9									
1930	30	-83.5	-2.8	**1930**	11	-45.4	-4.1	**1930**	1	-6.1	-6.1									
1931	25	-72.7	-2.9	**1931**	9	-38.9	-4.3	**1931**	0	0.0										
1932	39	-132.4	-3.4	**1932**	16	-81.6	-5.1	**1932**	4	-27.6	-6.9									
1933	33	-92.5	-2.8	**1933**	12	-44.5	-3.7	**1933**	0	0.0										
1934	37	-123.6	-3.3	**1934**	18	-79.7	-4.4	**1934**	1	-6.1	-6.1									
1935	58	-222.6	-3.8	**1935**	40	-181.3	-4.5	**1935**	5	-33.3	-6.7									
1936	33	-94.2	-2.9	**1936**	13	-50.3	-3.9	**1936**	0	0.0										
1937	43	-145.0	-3.4	**1937**	19	-93.4	-4.9	**1937**	4	-27.9	-7.0									
1938	25	-68.4	-2.7	**1938**	8	-32.1	-4.0	**1938**	0	0.0										
1939	45	-137.2	-3.0	**1939**	17	-71.6	-4.2	**1939**	1	-6.1	-6.1									
1940	54	-210.9	-3.9	**1940**	30	-158.4	-5.3	**1940**	9	-66.8	-7.4									
1941	45	-179.6	-4.0	**1941**	26	-137.2	-5.3	**1941**	6	-44.4	-7.4									
1942	50	-142.9	-2.9	**1942**	20	-76.8	-3.8	**1942**	0	0.0										
1943	37	-153.8	-4.2	**1943**	27	-132.0	-4.9	**1943**	5	-36.1	-7.2									
1944	58	-195.1	-3.4	**1944**	30	-130.8	-4.4	**1944**	3	-18.9	-6.3									
1945	29	-80.6	-2.8	**1945**	8	-32.1	-4.0	**1945**	1	-6.7	-6.7									
1946	77	-347.5	-4.5	**1946**	58	-302.2	-5.2	**1946**	17	-110.6	-6.5									
1947	48	-167.8	-3.5	**1947**	28	-122.0	-4.4	**1947**	3	-18.9	-6.3									
1948	53	-188.5	-3.6	**1948**	32	-140.3	-4.4	**1948**	5	-32.3	-6.5									
1949	42	-158.3	-3.8	**1949**	29	-128.0	-4.4	**1949**	2	-12.2	-6.1									
1950	12	-27.7	-2.3	**1950**	1	-3.3	-3.3	**1950**	0	0.0										
1951	34	-104.7	-3.1	**1951**	13	-58.9	-4.5	**1951**	1	-6.7	-6.7									
1952	31	-107.5	-3.5	**1952**	16	-73.3	-4.6	**1952**	2	-13.4	-6.7									
1953	49	-172.1	-3.5	**1953**	28	-126.2	-4.5	**1953**	2	-11.9	-6.0									
1954	24	-64.9	-2.7	**1954**	7	-27.1	-3.9	**1954**	0	0.0										
1955	30	-91.0	-3.0	**1955**	10	-48.1	-4.8	**1955**	2	-12.5	-6.3									
1956	36	-101.3	-2.8	**1956**	8	-34.9	-4.4	**1956**	1	-7.2	-7.2									
1957	43	-137.7	-3.2	**1957**	21	-89.5	-4.3	**1957**	1	-5.8	-5.8									
1958	24	-80.1	-3.3	**1958**	11	-50.9	-4.6	**1958**	2	-12.2	-6.1									
1959	20	-53.2	-2.7	**1959**	6	-23.1	-3.9	**1959**	0	0.0										
1960	39	-130.6	-3.3	**1960**	22	-91.3	-4.2	**1960**	0	0.0										
1961	39	-153.4	-3.9	**1961**	22	-117.1	-5.3	**1961**	9	-59.3	-6.6									
1962	38	-98.3	-2.6	**1962**	9	-35.6	-4.0	**1962**	0	0.0										
1963	23	-69.8	-3.0	**1963**	14	-53.0	-3.8	**1963**	0	0.0										
1964	29	-84.0	-2.9	**1964**	10	-41.6	-4.2	**1964**	1	-6.7	-6.7									
1965	36	-140.8	-3.9	**1965**	22	-107.7	-4.9	**1965**	5	-33.6	-6.7									
1966	28	-90.9	-3.2	**1966**	13	-57.2	-4.4	**1966**	1	-7.2	-7.2									
1967	39	-116.1	-3.0	**1967**	15	-58.4	-3.9	**1967**	0	0.0										
1968	36	-132.8	-3.7	**1968**	17	-87.1	-5.1	**1968**	5	-32.4	-6.5									
1969	21	-52.7	-2.5	**1969**	3	-11.1	-3.7	**1969**	0	0.0										
1970	65	-304.4	-4.7	**1970**	45	-252.2	-5.6	**1970**	18	-132.1	-7.3									
1971	43	-179.8	-4.2	**1971**	26	-139.6	-5.4	**1971**	11	-76.8	-7.0									
1972	52	-229.6	-4.4	**1972**	35	-189.1	-5.4	**1972**	14	-102.7	-7.3									
1973	12	-30.6	-2.6	**1973**	1	-3.6	-3.6	**1973**	0	0.0										
1974	44	-184.5	-4.2	**1974**	30	-149.3	-5.0	**1974**	7	-48.0	-6.9									
1975	43	-150.0	-3.5	**1975**	22	-94.9	-4.3	**1975**	2	-12.5	-6.3									
1976	46	-138.5	-3.0	**1976**	15	-63.1	-4.2	**1976**	0	0.0										
1977	47	-180.1	-3.8	**1977**	28	-135.9	-4.9	**1977**	6	-40.1	-6.7									
1978	31	-96.5	-3.1	**1978**	12	-51.8	-4.3	**1978**	1	-6.5	-6.5									
1979	38	-135.9	-3.6	**1979**	19	-89.2	-4.7	**1979**	4	-24.2	-6.1									
1980	39	-130.4	-3.3	**1980**	17	-75.8	-4.5	**1980**	1	-6.2	-6.2									
1981	30	-91.7	-3.1	**1981**	10	-42.8	-4.3	**1981**	0	0.0										
1982	56	-250.9	-4.5	**1982**	38	-210.2	-5.5	**1982**	18	-121.6	-6.8									
1983	12	-41.5	-3.5	**1983**	7	-29.4	-4.2	**1983**	0	0.0										
1984	24	-71.7	-3.0	**1984**	9	-36.3	-4.0	**1984**	0	0.0										
1985	38	-140.5	-3.7	**1985**	19	-94.9	-5.0	**1985**	6	-37.6	-6.3									
1986	33	-131.2	-4.0	**1986**	19	-100.2	-5.3	**1986**	8	-57.8	-7.2									
1987	29	-109.1	-3.8	**1987**	18	-82.3	-4.6	**1987**	2	-13.5	-6.8									
1988	14	-39.1	-2.8	**1988**	4	-16.8	-4.2	**1988**	0	0.0										
1989	29	-87.8	-3.0	**1989**	9	-40.6	-4.5	**1989**	1	-5.8	-5.8	20 years	39.6	-3.6	20 years	21.4	-4.6	20 years	4.0	-6.6
1990	22	-59.4	-2.7	**1990**	4	-16.0	-4.0	**1990**	0	0.0		19 years	40.2	-3.6	19 years	22.1	-4.6	19 years	4.2	-6.7
1991	44	-152.4	-3.5	**1991**	24	-98.5	-4.1	**1991**	0	0.0		18 years	41.2	-3.6	18 years	23.1	-4.7	18 years	4.4	-6.7
1992	33	-116.4	-3.5	**1992**	18	-79.9	-4.4	**1992**	0	0.0		17 years	41.0	-3.7	17 years	23.0	-4.7	17 years	4.6	-6.7
1993	18	-54.5	-3.0	**1993**	8	-31.5	-3.9	**1993**	0	0.0		16 years	41.5	-3.7	16 years	23.3	-4.7	16 years	4.9	-6.7
1994	73	-285.1	-3.9	**1994**	45	-217.0	-4.8	**1994**	8	-55.3	-6.9	15 years	43.1	-3.7	15 years	24.3	-4.8	15 years	5.3	-6.7
1995	35	-135.2	-3.9	**1995**	23	-106.5	-4.6	**1995**	4	-26.9	-6.7	14 years	40.9	-3.7	14 years	22.9	-4.8	14 years	5.1	-6.7
1996	29	-89.1	-3.1	**1996**	12	-49.3	-4.1	**1996**	1	-6.2	-6.2	13 years	41.4	-3.7	13 years	22.8	-4.8	13 years	5.2	-6.7
1997	49	-182.7	-3.7	**1997**	26	-126.7	-4.9	**1997**	6	-40.9	-6.8	12 years	42.4	-3.7	12 years	23.8	-4.8	12 years	5.5	-6.8
1998	19	-58.4	-3.1	**1998**	7	-31.1	-4.4	**1998**	0	0.0		11 years	41.8	-3.7	11 years	23.5	-4.8	11 years	5.5	-6.7
1999	22	-70.9	-3.2	**1999**	9	-41.0	-4.6	**1999**	0	0.0		10 years	44.1	-3.8	10 years	25.2	-4.9	10 years	6.0	-6.7
2000	42	-148.9	-3.5	**2000**	20	-95.4	-4.8	**2000**	4	-25.4	-6.4	9 years	46.6	-3.9	9 years	27.0	-4.9	9 years	6.7	-6.7
2001	38	-140.8	-3.7	**2001**	24	-107.8	-4.5	**2001**	2	-11.8	-5.9	8 years	47.1	-3.9	8 years	27.9	-4.9	8 years	7.0	-6.8
2002	64	-310.0	-4.8	**2002**	47	-270.0	-5.7	**2002**	19	-143.3	-7.5	7 years	48.4	-3.9	7 years	28.4	-5.0	7 years	7.7	-6.9
2003	47	-174.3	-3.7	**2003**	24	-118.7	-4.9	**2003**	5	-35.0	-7.0	6 years	45.8	-3.8	6 years	25.3	-4.9	6 years	5.8	-6.8
2004	58	-223.2	-3.8	**2004**	32	-159.5	-5.0	**2004**	7	-48.1	-6.9	5 years	45.6	-3.8	5 years	25.6	-4.9	5 years	6.0	-6.8
2005	32	-108.2	-3.4	**2005**	16	-71.0	-4.4	**2005**	0	0.0		4 years	42.5	-3.8	4 years	24.0	-4.8	4 years	5.8	-6.8
2006	52	-204.1	-3.9	**2006**	29	-146.0	-5.0	**2006**	10	-66.1	-6.6	3 years	46.0	-3.9	3 years	26.7	-4.9	3 years	7.7	-6.8
2007	32	-120.3	-3.8	**2007**	17	-84.7	-5.0	**2007**	5	-34.4	-6.9	2 years	43.0	-3.9	2 years	25.5	-4.9	2 years	6.5	-6.8
2008	54	-213.1	-3.9	**2008**	34	-164.1	-4.8	**2008**	8	-54.3	-6.8	1 years	54.0	-3.9	1 years	34.0	-4.8	1 years	8.0	-6.8
2009	41	-136.4	-3.3	**2009**	19	-83.4	-4.4	**2009**	1	-6.5	-6.5	0 years	41.0	-3.3	0 years	19.0	-4.4	0 years	1.0	-6.5
2010	28	-89.9	-3.2	**2010**	12	-54.0	-4.5	**2010**	2	-12.7	-6.4	1 years	28.0	-3.2	1 years	12.0	-4.5	1 years	2.0	-6.4
2011	36	-122.4	-3.4	**2011**	15	-72.2	-4.8	**2011**	4	-26.9	-6.7	2 years	32.0	-3.3	2 years	13.5	-4.7	2 years	3.0	-6.5
2012	51	-194.9	-3.8	**2012**	26	-128.7	-5.0	**2012**	6	-39.7	-6.6	3 years	38.3	-3.5	3 years	17.7	-4.8	3 years	4.0	-6.6
2013	27	-95.0	-3.5	**2013**	12	-56.2	-4.7	**2013**	3	-18.8	-6.3	4 years	35.5	-3.5	4 years	16.3	-4.7	4 years	3.8	-6.5
2014	38	-136.2	-3.6	**2014**	21	-94.5	-4.5	**2014**	4	-23.9	-6.0	5 years	36.0	-3.5	5 years	17.2	-4.7	5 years	3.8	-6.4
2015	24	-78.3	-3.3	**2015**	10	-41.0	-4.1	**2015**	0	0.0		6 years	34.0	-3.5	6 years	16.0	-4.6	6 years	3.2	-6.4
2016	18	-54.1	-3.0	**2016**	9	-31.8	-3.5	**2016**	0	0.0		7 years	31.7	-3.4	7 years	15.0	-4.4	7 years	2.7	-6.4
2017	43	-126.3	-2.9	**2017**	13	-51.7	-4.0	**2017**	0	0.0		8 years	33.1	-3.3	8 years	14.8	-4.4	8 years	2.4	-6.4
2018	28	-92.3	-3.3	**2018**	12	-50.0	-4.2	**2018**	0	0.0		9 years	32.6	-3.3	9 years	14.4	-4.4	9 years	2.1	-6.4
2019	0	0.0		**2019**	0	0.0		**2019**	0	0.0		10 years	29.3	-3.3	10 years	13.0	-4.4	10 years	1.9	-6.4
2020	27	-76.2	-2.8	**2020**	7	-31.4	-4.5	**2020**	1	-6.5	-6.5	11 years	29.1	-3.3	11 years	12.5	-4.4	11 years	1.8	-6.4
2021	15	-40.1	-2.7	**2021**	3	-12.9	-4.3	**2021**	0	0.0		12 years	27.9	-3.2	12 years	11.7	-4.4	12 years	1.7	-6.4
2022	23	-71.2	-3.1	**2022**	9	-35.1	-3.9	**2022**	0	0.0		13 years	27.5	-3.2	13 years	11.5	-4.3	13 years	1.5	-6.4

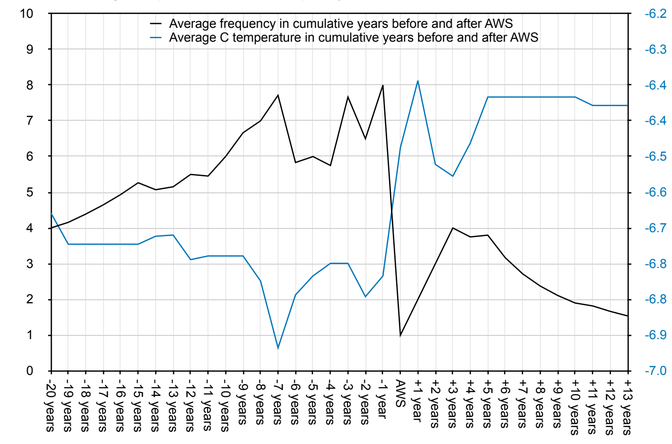
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	45.8	-173.9	-3.8	**Pre**	25.3	-124.0	-4.9	**Pre**	5.8	-39.7	-6.8
Post	34.0	-119.5	-3.5	**Post**	16.0	-74.4	-4.6	**Post**	3.2	-20.3	-6.4

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		





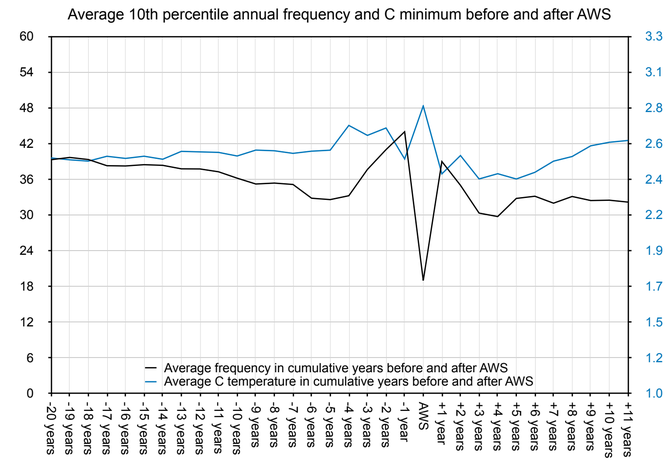


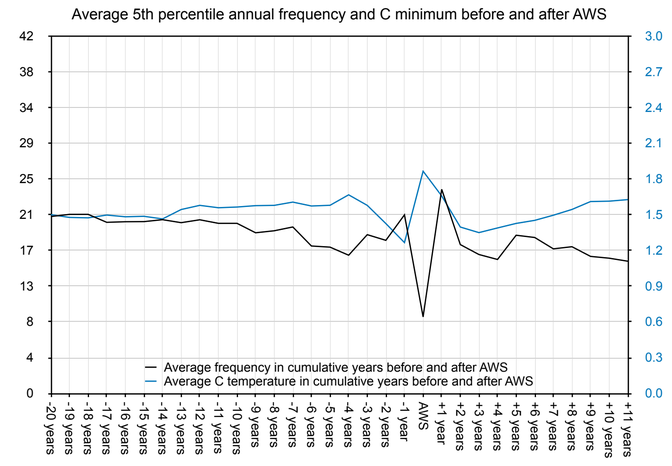
10th 4.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	38	114.4	3.0	**1910**	14	26.3	1.9	**1910**	0	0.0										
1911	31	100.6	3.2	**1911**	10	21.5	2.2	**1911**	0	0.0										
1912	26	75.5	2.9	**1912**	9	16.4	1.8	**1912**	0	0.0										
1913	29	95.0	3.3	**1913**	6	8.7	1.5	**1913**	1	0.0	0.0									
1914	25	72.1	2.9	**1914**	12	24.5	2.0	**1914**	0	0.0										
1915	15	54.4	3.6	**1915**	3	8.3	2.8	**1915**	0	0.0										
1916	31	77.6	2.5	**1916**	17	27.2	1.6	**1916**	2	0.8	0.4									
1917	35	96.9	2.8	**1917**	15	22.2	1.5	**1917**	3	0.3	0.1									
1918	14	42.7	3.1	**1918**	5	9.9	2.0	**1918**	1	-0.4	-0.4									
1919	16	47.3	3.0	**1919**	7	14.5	2.1	**1919**	0	0.0										
1920	32	76.4	2.4	**1920**	18	24.8	1.4	**1920**	4	-2.2	-0.6									
1921	16	41.3	2.6	**1921**	11	20.9	1.9	**1921**	1	-0.3	-0.3									
1922	27	70.1	2.6	**1922**	13	20.6	1.6	**1922**	2	0.4	0.2									
1923	31	85.7	2.8	**1923**	12	19.7	1.6	**1923**	1	-1.1	-1.1									
1924	30	92.8	3.1	**1924**	12	25.8	2.2	**1924**	0	0.0										
1925	42	124.0	3.0	**1925**	20	39.4	2.0	**1925**	1	0.3	0.3									
1926	31	86.2	2.8	**1926**	15	27.5	1.8	**1926**	1	0.6	0.6									
1927	20	65.4	3.3	**1927**	5	9.1	1.8	**1927**	0	0.0										
1928	25	75.6	3.0	**1928**	10	20.7	2.1	**1928**	1	0.0	0.0									
1929	33	95.7	2.9	**1929**	16	33.7	2.1	**1929**	1	0.0	0.0									
1930	28	71.9	2.6	**1930**	16	25.3	1.6	**1930**	4	0.6	0.2									
1931	46	111.0	2.4	**1931**	29	46.8	1.6	**1931**	7	0.4	0.1									
1932	32	84.5	2.6	**1932**	17	30.6	1.8	**1932**	2	0.1	0.1									
1933	33	96.7	2.9	**1933**	15	32.3	2.2	**1933**	0	0.0										
1934	23	64.1	2.8	**1934**	9	18.7	2.1	**1934**	0	0.0										
1935	31	95.7	3.1	**1935**	11	22.7	2.1	**1935**	0	0.0										
1936	15	43.9	2.9	**1936**	8	17.4	2.2	**1936**	1	0.2	0.2									
1937	9	28.3	3.1	**1937**	1	1.1	1.1	**1937**	0	0.0										
1938	28	87.7	3.1	**1938**	10	23.0	2.3	**1938**	0	0.0										
1939	41	117.5	2.9	**1939**	16	26.9	1.7	**1939**	1	-0.1	-0.1									
1940	23	69.8	3.0	**1940**	10	20.4	2.0	**1940**	0	0.0										
1941	16	53.7	3.4	**1941**	4	9.0	2.3	**1941**	0	0.0										
1942	43	131.9	3.1	**1942**	15	25.9	1.7	**1942**	1	0.5	0.5									
1943	35	91.1	2.6	**1943**	17	26.3	1.5	**1943**	2	0.2	0.1									
1944	27	87.2	3.2	**1944**	10	22.5	2.3	**1944**	0	0.0										
1945	13	36.5	2.8	**1945**	7	13.1	1.9	**1945**	1	0.3	0.3									
1946	22	63.8	2.9	**1946**	10	19.2	1.9	**1946**	0	0.0										
1947	21	54.6	2.6	**1947**	12	19.8	1.7	**1947**	2	-0.6	-0.3									
1948	20	63.1	3.2	**1948**	8	15.9	2.0	**1948**	0	0.0										
1949	19	63.8	3.4	**1949**	5	11.4	2.3	**1949**	0	0.0										
1950	29	83.6	2.9	**1950**	11	16.5	1.5	**1950**	2	0.0	0.0									
1951	30	66.7	2.2	**1951**	19	25.2	1.3	**1951**	4	-3.6	-0.9									
1952	29	77.0	2.7	**1952**	16	31.3	2.0	**1952**	1	0.6	0.6									
1953	53	110.7	2.1	**1953**	30	26.8	0.9	**1953**	14	-6.6	-0.5									
1954	51	126.1	2.5	**1954**	29	47.0	1.6	**1954**	5	-1.1	-0.2									
1955	45	103.3	2.3	**1955**	28	43.0	1.5	**1955**	5	-0.2	-0.0									
1956	72	155.8	2.2	**1956**	41	37.1	0.9	**1956**	15	-5.5	-0.4									
1957	44	87.1	2.0	**1957**	28	29.9	1.1	**1957**	10	-3.2	-0.3									
1958	41	108.8	2.7	**1958**	23	45.0	2.0	**1958**	1	-1.3	-1.3									
1959	30	73.2	2.4	**1959**	17	27.9	1.6	**1959**	3	1.3	0.4									
1960	64	135.7	2.1	**1960**	37	37.3	1.0	**1960**	11	-8.4	-0.8									
1961	54	126.9	2.4	**1961**	30	42.1	1.4	**1961**	6	0.4	0.1									
1962	42	89.2	2.1	**1962**	29	39.4	1.4	**1962**	7	-1.9	-0.3									
1963	39	99.1	2.5	**1963**	22	32.3	1.5	**1963**	4	1.2	0.3									
1964	48	92.3	1.9	**1964**	30	27.5	0.9	**1964**	11	-10.3	-0.9									
1965	45	107.1	2.4	**1965**	27	43.8	1.6	**1965**	4	-0.1	-0.0									
1966	60	116.2	1.9	**1966**	36	26.6	0.7	**1966**	18	-7.7	-0.4									
1967	54	142.6	2.6	**1967**	24	29.6	1.2	**1967**	7	-2.1	-0.3									
1968	71	148.9	2.1	**1968**	44	52.1	1.2	**1968**	12	-6.9	-0.6									
1969	55	97.5	1.8	**1969**	36	28.7	0.8	**1969**	14	-14.0	-1.0									
1970	50	130.6	2.6	**1970**	23	31.9	1.4	**1970**	7	0.9	0.1									
1971	60	147.1	2.5	**1971**	32	44.3	1.4	**1971**	10	0.1	0.0									
1972	32	80.9	2.5	**1972**	16	21.9	1.4	**1972**	6	1.8	0.3									
1973	38	91.4	2.4	**1973**	19	23.2	1.2	**1973**	4	-1.0	-0.3									
1974	33	75.2	2.3	**1974**	22	35.8	1.6	**1974**	3	-0.2	-0.1									
1975	56	121.5	2.2	**1975**	36	51.4	1.4	**1975**	9	-1.9	-0.2									
1976	58	129.2	2.2	**1976**	37	55.6	1.5	**1976**	6	-1.8	-0.3									
1977	43	113.1	2.6	**1977**	16	17.1	1.1	**1977**	4	-4.6	-1.2									
1978	34	101.1	3.0	**1978**	12	18.1	1.5	**1978**	2	-0.3	-0.2									
1979	45	102.0	2.3	**1979**	29	44.3	1.5	**1979**	5	1.1	0.2									
1980	44	112.5	2.6	**1980**	21	30.5	1.5	**1980**	3	0.6	0.2									
1981	51	89.2	1.7	**1981**	38	41.1	1.1	**1981**	11	-9.1	-0.8									
1982	50	97.3	1.9	**1982**	32	28.4	0.9	**1982**	13	-9.3	-0.7									
1983	36	73.6	2.0	**1983**	19	11.0	0.6	**1983**	8	-8.2	-1.0									
1984	41	107.3	2.6	**1984**	20	31.4	1.6	**1984**	5	1.3	0.3									
1985	41	94.1	2.3	**1985**	24	34.2	1.4	**1985**	4	-1.5	-0.4									
1986	52	118.3	2.3	**1986**	27	28.4	1.1	**1986**	7	-5.5	-0.8									
1987	45	88.9	2.0	**1987**	28	31.4	1.1	**1987**	9	-6.2	-0.7									
1988	40	87.9	2.2	**1988**	23	26.2	1.1	**1988**	7	-2.1	-0.3									
1989	54	104.7	1.9	**1989**	36	41.7	1.2	**1989**	12	-4.6	-0.4									
1990	47	78.3	1.7	**1990**	33	27.7	0.8	**1990**	11	-7.6	-0.7									
1991	32	87.9	2.7	**1991**	16	31.0	1.9	**1991**	1	-0.2	-0.2	20 years	39.3	2.5	20 years	20.8	1.5	20 years	4.2	-0.1
1992	46	122.2	2.7	**1992**	21	32.4	1.5	**1992**	5	-0.6	-0.1	19 years	39.7	2.5	19 years	21.1	1.5	19 years	4.3	-0.1
1993	57	112.2	2.0	**1993**	37	39.9	1.1	**1993**	10	-3.0	-0.3	18 years	39.3	2.5	18 years	21.1	1.5	18 years	4.3	-0.1
1994	39	107.2	2.7	**1994**	19	32.8	1.7	**1994**	3	-0.2	-0.1	17 years	38.3	2.5	17 years	20.1	1.5	17 years	3.9	-0.1
1995	35	80.6	2.3	**1995**	20	28.5	1.4	**1995**	6	0.0	0.0	16 years	38.3	2.5	16 years	20.2	1.5	16 years	4.0	-0.1
1996	40	112.1	2.8	**1996**	17	30.5	1.8	**1996**	2	-1.0	-0.5	15 years	38.5	2.5	15 years	20.2	1.5	15 years	3.9	-0.1
1997	46	85.1	1.9	**1997**	25	11.0	0.4	**1997**	15	-7.7	-0.5	14 years	38.4	2.5	14 years	20.4	1.5	14 years	4.0	-0.1
1998	38	98.8	2.6	**1998**	16	18.0	1.1	**1998**	7	1.7	0.2	13 years	37.8	2.6	13 years	20.1	1.5	13 years	3.2	-0.0
1999	43	111.5	2.6	**1999**	25	45.0	1.8	**1999**	4	0.0	0.0	12 years	37.8	2.6	12 years	20.4	1.6	12 years	2.8	-0.1
2000	48	133.7	2.8	**2000**	20	30.0	1.5	**2000**	4	-0.5	-0.1	11 years	37.3	2.6	11 years	20.0	1.6	11 years	2.7	-0.1
2001	45	98.5	2.2	**2001**	30	43.8	1.5	**2001**	4	-0.4	-0.1	10 years	36.2	2.5	10 years	20.0	1.6	10 years	2.6	-0.1
2002	34	88.5	2.6	**2002**	17	26.5	1.6	**2002**	2	-0.8	-0.4	9 years	35.2	2.6	9 years	18.9	1.6	9 years	2.4	-0.1
2003	37	99.2	2.7	**2003**	16	22.2	1.4	**2003**	3	1.4	0.5	8 years	35.4	2.6	8 years	19.1	1.6	8 years	2.5	-0.0
2004	49	120.7	2.5	**2004**	33	59.5	1.8	**2004**	1	-0.1	-0.1	7 years	35.1	2.5	7 years	19.6	1.6	7 years	2.4	-0.1
2005	34	86.0	2.5	**2005**	18	27.8	1.5	**2005**	4	-0.3	-0.1	6 years	32.8	2.6	6 years	17.3	1.6	6 years	2.7	-0.1
2006	30	57.9	1.9	**2006**	21	25.8	1.2	**2006**	4	0.4	0.1	5 years	32.6	2.6	5 years	17.2	1.6	5 years	2.4	-0.1
2007	20	58.4	2.9	**2007**	9	17.4	1.9	**2007**	0	0.0		4 years	33.3	2.7	4 years	16.3	1.7	4 years	2.0	-0.2
2008	31	79.6	2.6	**2008**	20	37.7	1.9	**2008**	1	0.6	0.6	3 years	37.7	2.7	3 years	18.7	1.6	3 years	2.7	-0.2
2009	38	110.6	2.9	**2009**	15	23.8	1.6	**2009**	2	-1.2	-0.6	2 years	41.0	2.7	2 years	18.0	1.4	2 years	3.5	-0.5
2010	44	110.5	2.5	**2010**	21	26.6	1.3	**2010**	5	-2.3	-0.5	1 years	44.0	2.5	1 years	21.0	1.3	1 years	5.0	-0.5
2011	19	54.2	2.9	**2011**	9	16.8	1.9	**2011**	1	0.4	0.4	0 years	19.0	2.9	0 years	9.0	1.9	0 years	1.0	0.4
2012	39	94.2	2.4	**2012**	24	39.8	1.7	**2012**	3	-0.4	-0.1	1 years	39.0	2.4	1 years	24.0	1.7	1 years	3.0	-0.1
2013	31	82.2	2.7	**2013**	11	12.5	1.1	**2013**	5	-0.9	-0.2	2 years	35.0	2.5	2 years	17.5	1.4	2 years	4.0	-0.2
2014	21	43.7	2.1	**2014**	14	17.6	1.3	**2014**	3	-0.8	-0.3	3 years	30.3	2.4	3 years	16.3	1.4	3 years	3.7	-0.2
2015	28	70.5	2.5	**2015**	14	21.1	1.5	**2015**	3	0.1	0.0	4 years	29.8	2.4	4 years	15.8	1.4	4 years	3.5	-0.1
2016	45	101.1	2.2	**2016**	30	47.4	1.6	**2016**	7	-1.0	-0.1	5 years	32.8	2.4	5 years	18.6	1.4	5 years	4.2	-0.1
2017	35	92.4	2.6	**2017**	17	26.9	1.6	**2017**	3	0.3	0.1	6 years	33.2	2.4	6 years	18.3	1.5	6 years	4.0	-0.1
2018	25	73.2	2.9	**2018**	9	15.8	1.8	**2018**	2	0.8	0.4	7 years	32.0	2.5	7 years	17.0	1.5	7 years	3.7	-0.0
2019	41	112.2	2.7	**2019**	19	35.8	1.9	**2019**	2	0.0	0.0	8 years	33.1	2.5	8 years	17.3	1.5	8 years	3.5	-0.0
2020	27	85.0	3.1	**2020**	7	15.0	2.1	**2020**	0	0.0		9 years	32.4	2.6	9 years	16.1	1.6	9 years	3.1	-0.0
2021	33	93.2	2.8	**2021**	14	23.0	1.6	**2021**	3	0.3	0.1	10 years	32.5	2.6	10 years	15.9	1.6	10 years	3.1	-0.0
2022	29	79.6	2.7	**2022**	12	21.1	1.8	**2022**	2	0.7	0.4	11 years	32.2	2.6	11 years	15.5	1.6	11 years	3.0	0.0

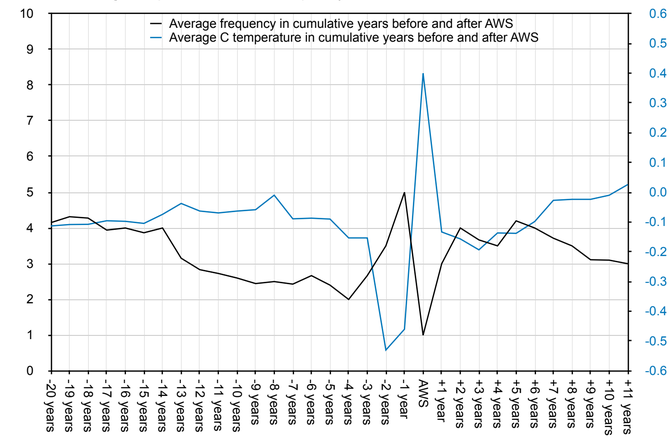
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	32.8	83.8	2.6	**Pre**	17.3	26.5	1.6	**Pre**	2.7	-0.5	-0.1
Post	33.2	80.7	2.4	**Post**	18.3	27.6	1.5	**Post**	4.0	-0.5	-0.1

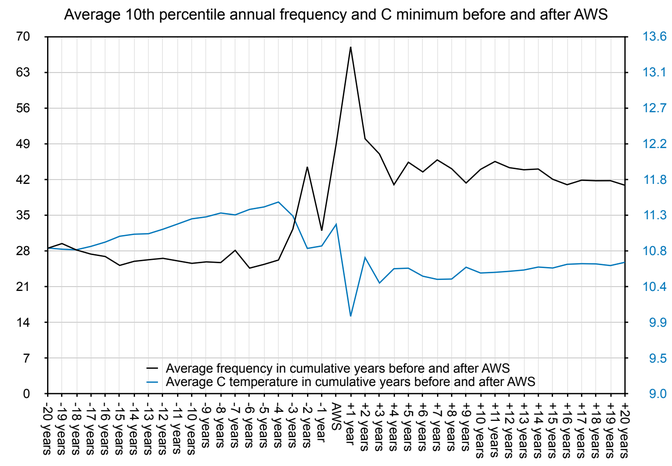
		AWS introduction
		Probe replacement
		Small screen introduction

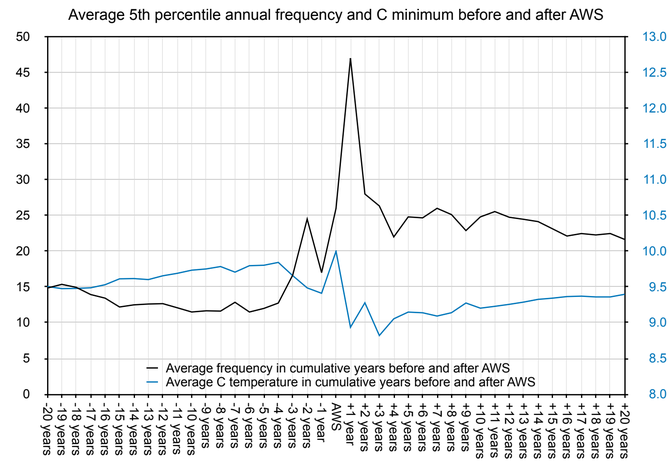


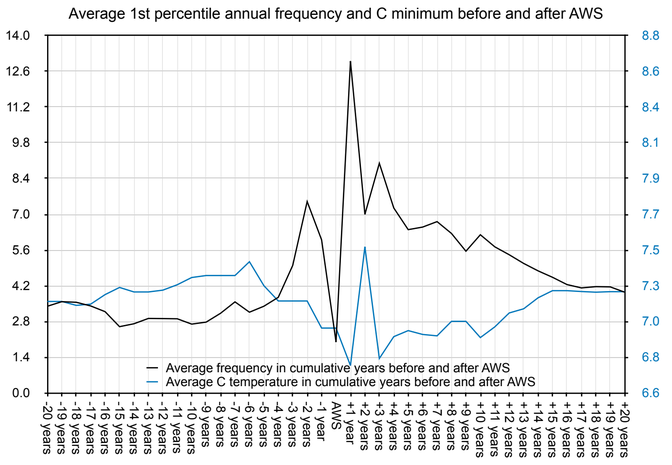




10th 13.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 11.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 8.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1942	1	12.0	12.0	**1942**	0	0.0		**1942**	0	0.0										
1943	0	0.0		**1943**	0	0.0		**1943**	0	0.0										
1944	6	73.2	12.2	**1944**	0	0.0		**1944**	0	0.0										
1945	48	492.2	10.3	**1945**	21	172.4	8.2	**1945**	9	54.8	6.1									
1946	56	631.8	11.3	**1946**	23	230.5	10.0	**1946**	0	0.0										
1947	36	400.3	11.1	**1947**	15	146.1	9.7	**1947**	0	0.0										
1948	57	599.0	10.5	**1948**	34	323.4	9.5	**1948**	3	16.2	5.4									
1949	69	700.1	10.1	**1949**	41	367.7	9.0	**1949**	12	82.9	6.9									
1950	41	413.8	10.1	**1950**	23	201.6	8.8	**1950**	7	46.0	6.6									
1951	29	332.9	11.5	**1951**	9	91.0	10.1	**1951**	0	0.0										
1952	46	495.6	10.8	**1952**	22	206.7	9.4	**1952**	3	23.0	7.7									
1953	54	565.0	10.5	**1953**	31	283.6	9.1	**1953**	5	29.8	6.0									
1954	39	412.3	10.6	**1954**	20	179.2	9.0	**1954**	6	38.9	6.5									
1955	3	34.2	11.4	**1955**	2	21.5	10.8	**1955**	0	0.0										
1956	24	282.6	11.8	**1956**	5	51.6	10.3	**1956**	0	0.0										
1957	30	313.9	10.5	**1957**	16	145.7	9.1	**1957**	4	28.2	7.1									
1958	34	356.8	10.5	**1958**	18	171.1	9.5	**1958**	1	6.1	6.1									
1959	21	234.0	11.1	**1959**	7	67.8	9.7	**1959**	0	0.0										
1960	52	551.1	10.6	**1960**	24	215.0	9.0	**1960**	4	28.5	7.1									
1961	70	748.4	10.7	**1961**	30	273.5	9.1	**1961**	6	40.5	6.8									
1962	27	290.1	10.7	**1962**	13	120.4	9.3	**1962**	4	29.5	7.4									
1963	55	530.6	9.6	**1963**	29	216.8	7.5	**1963**	16	92.6	5.8									
1964	37	391.2	10.6	**1964**	18	159.3	8.9	**1964**	6	41.2	6.9									
1965	36	347.9	9.7	**1965**	20	154.6	7.7	**1965**	11	67.7	6.2									
1966	35	386.7	11.0	**1966**	18	179.2	10.0	**1966**	0	0.0										
1967	71	718.3	10.1	**1967**	42	370.7	8.8	**1967**	11	78.1	7.1									
1968	12	138.1	11.5	**1968**	5	53.3	10.7	**1968**	0	0.0										
1969	37	444.2	12.0	**1969**	6	60.9	10.2	**1969**	0	0.0										
1970	52	569.8	11.0	**1970**	22	212.3	9.7	**1970**	2	15.0	7.5									
1971	42	433.3	10.3	**1971**	24	212.3	8.8	**1971**	6	41.0	6.8									
1972	33	354.3	10.7	**1972**	14	128.5	9.2	**1972**	1	7.8	7.8									
1973	15	172.2	11.5	**1973**	5	51.5	10.3	**1973**	0	0.0										
1974	40	418.7	10.5	**1974**	21	186.2	8.9	**1974**	7	49.9	7.1									
1975	19	206.4	10.9	**1975**	8	74.6	9.3	**1975**	1	6.1	6.1									
1976	71	767.9	10.8	**1976**	33	306.6	9.3	**1976**	7	50.0	7.1									
1977	63	627.5	10.0	**1977**	40	347.9	8.7	**1977**	13	91.7	7.1									
1978	26	280.8	10.8	**1978**	12	111.4	9.3	**1978**	3	22.5	7.5									
1979	20	208.1	10.4	**1979**	11	99.8	9.1	**1979**	2	15.4	7.7									
1980	31	335.9	10.8	**1980**	14	130.4	9.3	**1980**	2	14.9	7.5									
1981	11	123.1	11.2	**1981**	5	50.4	10.1	**1981**	0	0.0		20 years	28.6	10.9	20 years	14.9	9.5	20 years	3.4	7.2
1982	52	571.3	11.0	**1982**	23	216.6	9.4	**1982**	4	29.9	7.5	19 years	29.5	10.9	19 years	15.4	9.5	19 years	3.6	7.2
1983	42	425.1	10.1	**1983**	32	298.7	9.3	**1983**	6	42.3	7.1	18 years	28.2	10.9	18 years	14.9	9.5	18 years	3.6	7.1
1984	35	350.5	10.0	**1984**	22	193.6	8.8	**1984**	7	45.5	6.5	17 years	27.4	10.9	17 years	13.9	9.5	17 years	3.4	7.1
1985	53	520.9	9.8	**1985**	32	265.5	8.3	**1985**	12	81.2	6.8	16 years	26.9	11.0	16 years	13.4	9.5	16 years	3.2	7.2
1986	14	149.3	10.7	**1986**	8	76.5	9.6	**1986**	1	7.5	7.5	15 years	25.2	11.0	15 years	12.2	9.6	15 years	2.6	7.3
1987	22	241.4	11.0	**1987**	11	107.8	9.8	**1987**	0	0.0		14 years	26.0	11.1	14 years	12.5	9.6	14 years	2.7	7.2
1988	23	238.5	10.4	**1988**	12	107.6	9.0	**1988**	3	21.4	7.1	13 years	26.3	11.1	13 years	12.6	9.6	13 years	2.9	7.2
1989	32	332.6	10.4	**1989**	19	176.3	9.3	**1989**	3	21.0	7.0	12 years	26.6	11.1	12 years	12.7	9.7	12 years	2.9	7.2
1990	31	325.9	10.5	**1990**	18	166.5	9.3	**1990**	5	35.0	7.0	11 years	26.1	11.2	11 years	12.1	9.7	11 years	2.9	7.3
1991	23	253.6	11.0	**1991**	10	95.8	9.6	**1991**	2	14.5	7.3	10 years	25.6	11.3	10 years	11.5	9.7	10 years	2.7	7.3
1992	27	293.9	10.9	**1992**	12	113.8	9.5	**1992**	0	0.0		9 years	25.9	11.3	9 years	11.7	9.8	9 years	2.8	7.3
1993	9	103.5	11.5	**1993**	3	31.0	10.3	**1993**	0	0.0		8 years	25.8	11.3	8 years	11.6	9.8	8 years	3.1	7.3
1994	49	533.2	10.9	**1994**	21	192.5	9.2	**1994**	6	41.9	7.0	7 years	28.1	11.3	7 years	12.9	9.7	7 years	3.6	7.3
1995	21	235.6	11.2	**1995**	9	87.9	9.8	**1995**	2	15.7	7.9	6 years	24.7	11.4	6 years	11.5	9.8	6 years	3.2	7.4
1996	22	245.4	11.2	**1996**	9	86.8	9.6	**1996**	2	14.9	7.5	5 years	25.4	11.4	5 years	12.0	9.8	5 years	3.4	7.3
1997	8	96.1	12.0	**1997**	1	10.4	10.4	**1997**	0	0.0		4 years	26.3	11.5	4 years	12.8	9.8	4 years	3.8	7.2
1998	8	97.0	12.1	**1998**	1	10.0	10.0	**1998**	0	0.0		3 years	32.3	11.3	3 years	16.7	9.7	3 years	5.0	7.2
1999	57	618.0	10.8	**1999**	32	306.0	9.6	**1999**	9	66.0	7.3	2 years	44.5	10.9	2 years	24.5	9.5	2 years	7.5	7.2
2000	32	349.0	10.9	**2000**	17	160.0	9.4	**2000**	6	42.0	7.0	1 years	32.0	10.9	1 years	17.0	9.4	1 years	6.0	7.0
2001	49	548.0	11.2	**2001**	26	260.0	10.0	**2001**	2	14.0	7.0	0 years	49.0	11.2	0 years	26.0	10.0	0 years	2.0	7.0
2002	68	680.0	10.0	**2002**	47	420.0	8.9	**2002**	13	88.0	6.8	1 years	68.0	10.0	1 years	47.0	8.9	1 years	13.0	6.8
2003	32	368.4	11.5	**2003**	9	86.6	9.6	**2003**	1	7.5	7.5	2 years	50.0	10.8	2 years	28.0	9.3	2 years	7.0	7.5
2004	41	400.8	9.8	**2004**	23	181.8	7.9	**2004**	13	80.2	6.2	3 years	47.0	10.4	3 years	26.3	8.8	3 years	9.0	6.8
2005	23	256.8	11.2	**2005**	9	87.8	9.8	**2005**	2	14.7	7.4	4 years	41.0	10.6	4 years	22.0	9.1	4 years	7.3	6.9
2006	63	670.7	10.6	**2006**	36	342.9	9.5	**2006**	3	21.4	7.1	5 years	45.4	10.6	5 years	24.8	9.1	5 years	6.4	7.0
2007	34	340.1	10.0	**2007**	24	218.2	9.1	**2007**	7	47.9	6.8	6 years	43.5	10.5	6 years	24.7	9.1	6 years	6.5	7.0
2008	60	613.9	10.2	**2008**	34	299.8	8.8	**2008**	8	55.2	6.9	7 years	45.9	10.5	7 years	26.0	9.1	7 years	6.7	7.0
2009	32	336.3	10.5	**2009**	19	179.9	9.5	**2009**	3	23.0	7.7	8 years	44.1	10.5	8 years	25.1	9.1	8 years	6.3	7.0
2010	19	225.1	11.8	**2010**	5	51.8	10.4	**2010**	0	0.0		9 years	41.3	10.6	9 years	22.9	9.3	9 years	5.6	7.0
2011	68	672.6	9.9	**2011**	42	359.3	8.6	**2011**	12	73.7	6.1	10 years	44.0	10.6	10 years	24.8	9.2	10 years	6.2	6.9
2012	61	649.7	10.7	**2012**	33	313.0	9.5	**2012**	1	7.6	7.6	11 years	45.5	10.6	11 years	25.5	9.2	11 years	5.7	7.0
2013	31	332.6	10.7	**2013**	16	153.0	9.6	**2013**	2	15.9	8.0	12 years	44.3	10.6	12 years	24.8	9.3	12 years	5.4	7.1
2014	39	420.9	10.8	**2014**	21	203.0	9.7	**2014**	1	7.4	7.4	13 years	43.9	10.6	13 years	24.5	9.3	13 years	5.1	7.1
2015	46	512.0	11.1	**2015**	20	196.5	9.8	**2015**	1	8.0	8.0	14 years	44.1	10.6	14 years	24.1	9.3	14 years	4.8	7.2
2016	14	146.3	10.5	**2016**	9	86.2	9.6	**2016**	1	7.8	7.8	15 years	42.1	10.6	15 years	23.1	9.3	15 years	4.5	7.2
2017	25	284.7	11.4	**2017**	7	67.9	9.7	**2017**	0	0.0		16 years	41.0	10.7	16 years	22.1	9.4	16 years	4.3	7.2
2018	56	605.1	10.8	**2018**	28	265.0	9.5	**2018**	2	14.3	7.2	17 years	41.9	10.7	17 years	22.5	9.4	17 years	4.1	7.2
2019	40	425.0	10.6	**2019**	19	174.3	9.2	**2019**	5	35.8	7.2	18 years	41.8	10.7	18 years	22.3	9.4	18 years	4.2	7.2
2020	42	431.3	10.3	**2020**	26	243.4	9.4	**2020**	4	29.1	7.3	19 years	41.8	10.7	19 years	22.5	9.4	19 years	4.2	7.2
2021	24	275.7	11.5	**2021**	6	60.6	10.1	**2021**	0	0.0		20 years	40.9	10.7	20 years	21.7	9.4	20 years	4.0	7.2
2022	47	469.2	10.0	**2022**	34	312.1	9.2	**2022**	7	44.3	6.3									
Original AWS probe Rosemount																				
6 years				**6 years**				**6 years**												
Pre	24.7	273.5	11.4	**Pre**	11.5	110.2	9.8	**Pre**	3.2	23.1	7.4									
Post	43.5	452.8	10.5	**Post**	24.7	222.9	9.1	**Post**	6.5	43.3	7.0									
		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										







10th 11.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 9.5	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 6.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1952	44	404.9	9.2	**1952**	24	193.5	8.1	**1952**	1	6.7	6.7									
1953	11	119.5	10.9	**1953**	0	0.0		**1953**	0	0.0										
1954	10	105.6	10.6	**1954**	1	9.4	9.4	**1954**	0	0.0										
1955	30	291.5	9.7	**1955**	14	123.0	8.8	**1955**	1	6.7	6.7									
1956	43	359.6	8.4	**1956**	27	189.9	7.0	**1956**	14	78.9	5.6									
1957	36	308.6	8.6	**1957**	24	186.8	7.8	**1957**	8	44.5	5.6									
1958	35	318.1	9.1	**1958**	18	135.4	7.5	**1958**	5	25.0	5.0									
1959	25	236.0	9.4	**1959**	13	109.2	8.4	**1959**	0	0.0										
1960	41	384.6	9.4	**1960**	17	131.6	7.7	**1960**	5	30.0	6.0									
1961	41	358.1	8.7	**1961**	24	176.7	7.4	**1961**	7	36.1	5.2									
1962	37	369.1	10.0	**1962**	10	84.7	8.5	**1962**	0	0.0										
1963	33	318.5	9.7	**1963**	13	107.3	8.3	**1963**	2	12.7	6.4									
1964	30	280.7	9.4	**1964**	13	102.1	7.9	**1964**	3	16.6	5.5									
1965	33	304.1	9.2	**1965**	15	111.9	7.5	**1965**	4	18.8	4.7									
1966	62	565.1	9.1	**1966**	30	225.9	7.5	**1966**	8	48.1	6.0									
1967	52	436.1	8.4	**1967**	31	215.9	7.0	**1967**	15	84.9	5.7									
1968	52	454.7	8.7	**1968**	29	211.3	7.3	**1968**	10	47.9	4.8									
1969	53	496.6	9.4	**1969**	25	205.3	8.2	**1969**	2	13.4	6.7									
1970	44	396.1	9.0	**1970**	27	216.7	8.0	**1970**	4	24.0	6.0									
1971	69	614.2	8.9	**1971**	43	338.9	7.9	**1971**	9	52.6	5.8									
1972	37	338.7	9.2	**1972**	15	105.1	7.0	**1972**	8	50.7	6.3									
1973	14	139.1	9.9	**1973**	5	41.5	8.3	**1973**	1	6.5	6.5									
1974	37	360.6	9.7	**1974**	14	119.5	8.5	**1974**	1	6.8	6.8									
1975	26	238.5	9.2	**1975**	15	124.3	8.3	**1975**	2	12.8	6.4									
1976	43	374.9	8.7	**1976**	24	177.7	7.4	**1976**	7	37.4	5.3									
1977	32	303.2	9.5	**1977**	16	133.6	8.4	**1977**	0	0.0										
1978	39	356.7	9.1	**1978**	23	187.7	8.2	**1978**	4	24.2	6.1									
1979	42	384.4	9.2	**1979**	22	178.4	8.1	**1979**	4	26.2	6.6									
1980	32	293.7	9.2	**1980**	17	137.3	8.1	**1980**	4	26.4	6.6									
1981	38	342.8	9.0	**1981**	22	172.7	7.9	**1981**	6	34.0	5.7									
1982	42	356.4	8.5	**1982**	30	229.1	7.6	**1982**	12	72.2	6.0									
1983	31	294.0	9.5	**1983**	15	125.4	8.4	**1983**	2	12.4	6.2									
1984	47	427.7	9.1	**1984**	26	206.4	7.9	**1984**	5	28.2	5.6									
1985	33	287.6	8.7	**1985**	19	141.8	7.5	**1985**	6	37.1	6.2									
1986	40	357.2	8.9	**1986**	25	199.0	8.0	**1986**	6	33.0	5.5									
1987	30	297.3	9.9	**1987**	10	86.4	8.6	**1987**	0	0.0										
1988	30	298.2	9.9	**1988**	9	78.4	8.7	**1988**	0	0.0										
1989	33	292.5	8.9	**1989**	20	156.2	7.8	**1989**	5	32.8	6.6									
1990	34	323.2	9.5	**1990**	14	112.7	8.1	**1990**	2	6.8	3.4									
1991	20	195.3	9.8	**1991**	9	77.7	8.6	**1991**	0	0.0										
1992	28	271.7	9.7	**1992**	10	83.9	8.4	**1992**	0	0.0										
1993	39	383.1	9.8	**1993**	14	120.8	8.6	**1993**	0	0.0										
1994	48	435.2	9.1	**1994**	29	238.3	8.2	**1994**	1	5.3	5.3									
1995	42	386.1	9.2	**1995**	19	148.6	7.8	**1995**	4	23.7	5.9									
1996	14	135.7	9.7	**1996**	5	39.4	7.9	**1996**	1	5.6	5.6									
1997	40	356.4	8.9	**1997**	26	207.4	8.0	**1997**	4	25.1	6.3									
1998	24	231.7	9.7	**1998**	6	44.2	7.4	**1998**	2	12.8	6.4	20 years	35.9	9.4	20 years	17.5	8.0	20 years	3.4	6.0
1999	45	413.9	9.2	**1999**	23	180.2	7.8	**1999**	6	36.3	6.1	19 years	36.5	9.4	19 years	18.1	8.1	19 years	3.4	6.0
2000	56	518.9	9.3	**2000**	29	232.5	8.0	**2000**	4	24.5	6.1	18 years	36.1	9.4	18 years	17.8	8.1	18 years	3.3	6.0
2001	52	486.4	9.4	**2001**	23	185.0	8.0	**2001**	3	17.0	5.7	17 years	34.9	9.4	17 years	17.2	8.1	17 years	3.2	6.0
2002	37	352.3	9.5	**2002**	16	130.2	8.1	**2002**	3	16.2	5.4	16 years	33.8	9.4	16 years	16.8	8.1	16 years	3.3	6.0
2003	26	251.4	9.7	**2003**	11	90.8	8.3	**2003**	1	5.9	5.9	15 years	33.6	9.4	15 years	16.9	8.1	15 years	3.3	6.0
2004	38	356.8	9.4	**2004**	19	157.1	8.3	**2004**	1	5.6	5.6	14 years	34.1	9.3	14 years	17.3	8.1	14 years	3.4	6.1
2005	25	232.3	9.3	**2005**	12	95.5	8.0	**2005**	3	17.1	5.7	13 years	33.8	9.3	13 years	17.2	8.1	13 years	3.6	6.1
2006	57	487.7	8.6	**2006**	38	291.1	7.7	**2006**	12	71.3	5.9	12 years	34.6	9.3	12 years	17.6	8.1	12 years	3.7	6.1
2007	45	392.7	8.7	**2007**	29	225.8	7.8	**2007**	10	62.0	6.2	11 years	32.5	9.4	11 years	15.7	8.1	11 years	2.9	6.2
2008	28	264.8	9.5	**2008**	13	107.0	8.2	**2008**	2	12.6	6.3	10 years	31.3	9.5	10 years	14.4	8.2	10 years	2.2	6.1
2009	30	266.1	8.9	**2009**	18	140.3	7.8	**2009**	4	24.9	6.2	9 years	31.7	9.5	9 years	14.6	8.1	9 years	2.2	6.1
2010	23	225.6	9.8	**2010**	7	57.6	8.2	**2010**	2	13.0	6.5	8 years	31.9	9.6	8 years	14.1	8.2	8 years	2.0	6.1
2011	46	452.9	9.8	**2011**	18	153.5	8.5	**2011**	1	5.8	5.8	7 years	33.1	9.5	7 years	15.1	8.2	7 years	2.0	6.0
2012	39	358.3	9.2	**2012**	18	136.1	7.6	**2012**	4	22.6	5.7	6 years	31.0	9.5	6 years	14.7	8.1	6 years	2.2	6.1
2013	27	262.5	9.7	**2013**	8	65.6	8.2	**2013**	2	13.3	6.7	5 years	29.4	9.5	5 years	14.0	8.2	5 years	1.8	6.2
2014	45	412.1	9.2	**2014**	29	240.6	8.3	**2014**	4	26.0	6.5	4 years	30.0	9.5	4 years	15.5	8.3	4 years	1.8	6.0
2015	23	216.2	9.4	**2015**	13	111.0	8.5	**2015**	0	0.0		3 years	25.0	9.6	3 years	11.0	8.2	3 years	1.0	5.5
2016	23	230.0	10.0	**2016**	8	68.9	8.6	**2016**	0	0.0		2 years	26.0	9.7	2 years	10.0	8.1	2 years	1.5	5.5
2017	29	269.8	9.3	**2017**	12	90.8	7.6	**2017**	3	16.6	5.5	1 years	29.0	9.3	1 years	12.0	7.6	1 years	3.0	5.5
2018	44	403.7	9.2	**2018**	26	215.4	8.3	**2018**	3	19.6	6.5	0 years	44.0	9.2	0 years	26.0	8.3	0 years	3.0	6.5
2019	27	251.2	9.3	**2019**	12	94.3	7.9	**2019**	2	12.3	6.2	1 years	27.0	9.3	1 years	12.0	7.9	1 years	2.0	6.2
2020	18	174.7	9.7	**2020**	5	40.5	8.1	**2020**	0	0.0		2 years	22.5	9.5	2 years	8.5	8.0	2 years	1.0	6.2
2021	29	274.9	9.5	**2021**	12	94.5	7.9	**2021**	2	10.5	5.3	3 years	24.7	9.5	3 years	9.7	7.9	3 years	1.3	5.7
2022	34	307.0	9.0	**2022**	15	109.2	7.3	**2022**	5	28.9	5.8	4 years	27.0	9.4	4 years	11.0	7.8	4 years	2.3	5.7

Karijini was Wittenoom before 2018

4 years	Small screen introduction unkown		
Pre AWS	30.0	282.0	9.5
Post AWS	27.0	252.0	9.4
Pre small	30.0	282.0	9.5
Post small	27.0	252.0	9.4
	Original AWS probe Almos		
		AWS introduction	
		Small screen introduction	

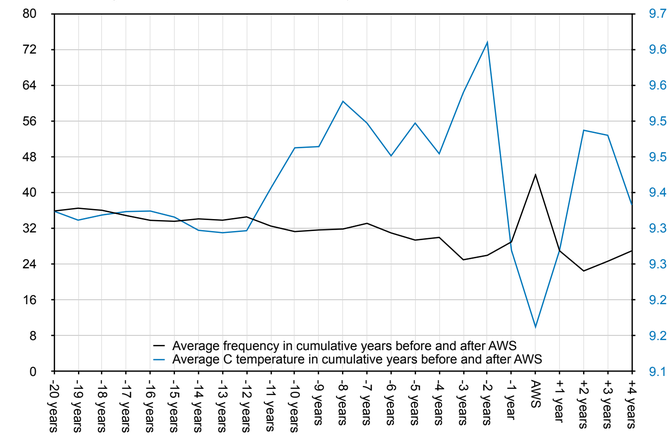
Karijini was Wittenoom before 2018

4 years	Small screen introduction unkown		
Pre AWS	15.5	127.8	8.3
Post AWS	11.0	84.6	7.8
Pre small	15.5	127.8	8.3
Post small	11.0	84.6	7.8

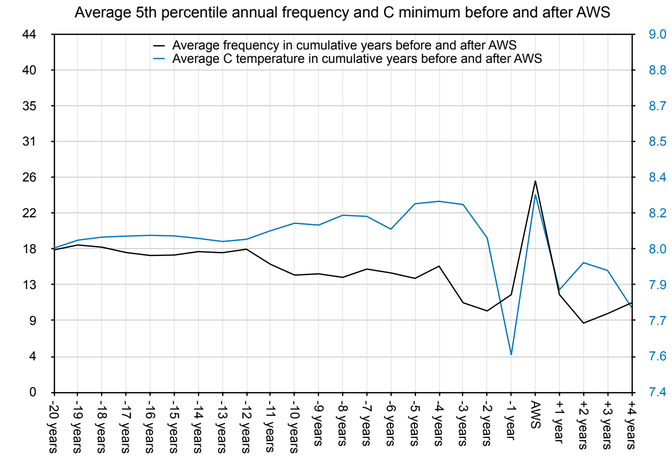
Karijini was Wittenoom before 2018

4 years	Small screen introduction unkown		
Pre AWS	1.8	10.7	6.0
Post AWS	2.3	12.9	5.7
Pre small	1.8	10.7	6.0
Post small	2.3	12.9	5.7

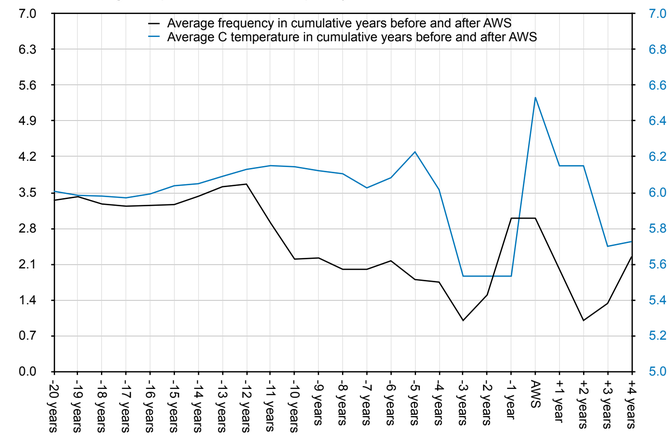
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



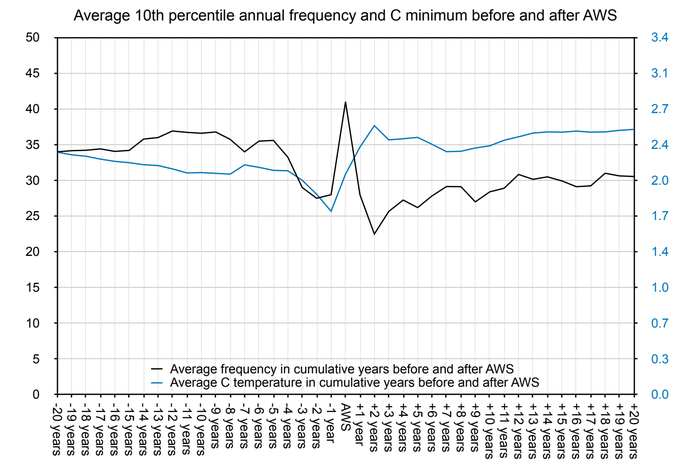
Average 1st percentile annual frequency and C minimum before and after AWS

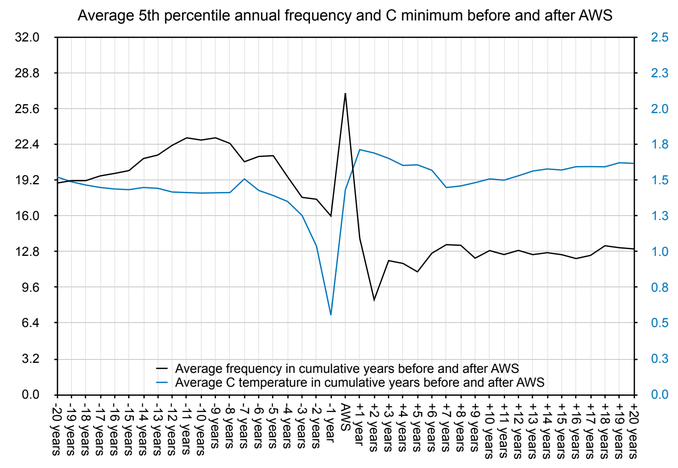


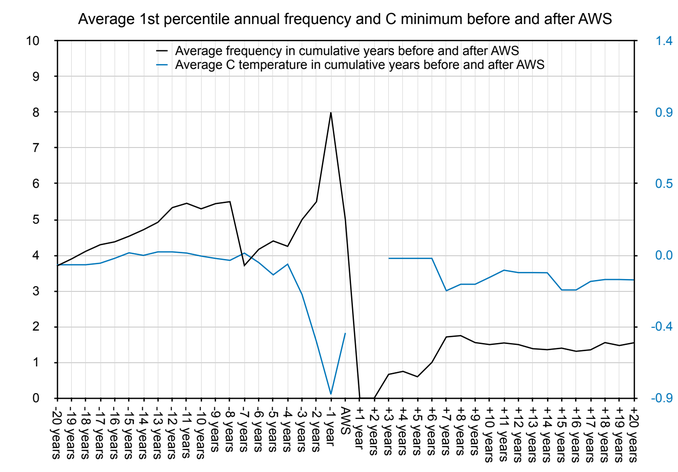
10th 3.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	48	116.1	2.4	**1910**	26	42.5	1.6	**1910**	3	0.6	0.2									
1911	48	119.0	2.5	**1911**	24	40.1	1.7	**1911**	2	0.6	0.3									
1912	39	107.8	2.8	**1912**	17	28.4	1.7	**1912**	3	-0.1	-0.0									
1913	41	97.1	2.4	**1913**	20	25.6	1.3	**1913**	5	-1.7	-0.3									
1914	46	114.9	2.5	**1914**	22	33.2	1.5	**1914**	4	0.1	0.0									
1915	23	63.1	2.7	**1915**	8	11.5	1.4	**1915**	2	-0.5	-0.3									
1916	53	118.4	2.2	**1916**	32	46.8	1.5	**1916**	5	0.6	0.1									
1917	42	115.5	2.8	**1917**	15	21.8	1.5	**1917**	2	0.0	0.0									
1918	39	74.0	1.9	**1918**	27	36.6	1.4	**1918**	3	-1.3	-0.4									
1919	43	112.8	2.6	**1919**	19	31.9	1.7	**1919**	2	0.9	0.5									
1920	38	79.6	2.1	**1920**	22	26.2	1.2	**1920**	7	-1.6	-0.2									
1921	25	71.6	2.9	**1921**	11	22.9	2.1	**1921**	1	0.0	0.0									
1922	57	121.3	2.1	**1922**	34	46.0	1.4	**1922**	6	1.3	0.2									
1923	39	78.0	2.0	**1923**	22	21.1	1.0	**1923**	8	-3.4	-0.4									
1924	52	125.2	2.4	**1924**	26	36.9	1.4	**1924**	7	1.0	0.1									
1925	72	149.1	2.1	**1925**	41	49.2	1.2	**1925**	11	-4.0	-0.4									
1926	34	93.1	2.7	**1926**	13	20.5	1.6	**1926**	3	1.2	0.4									
1927	38	89.2	2.3	**1927**	17	17.7	1.0	**1927**	6	0.4	0.1									
1928	46	122.7	2.7	**1928**	18	28.6	1.6	**1928**	1	0.2	0.2									
1929	57	140.3	2.5	**1929**	27	38.0	1.4	**1929**	4	-0.5	-0.1									
1930	16	50.9	3.2	**1930**	0	0.0		**1930**	0	0.0										
1931	47	95.9	2.0	**1931**	30	41.0	1.4	**1931**	6	-5.2	-0.9									
1932	30	76.2	2.5	**1932**	14	22.2	1.6	**1932**	3	1.3	0.4									
1933	33	79.6	2.4	**1933**	17	27.1	1.6	**1933**	1	-1.1	-1.1									
1934	47	115.8	2.5	**1934**	23	32.7	1.4	**1934**	5	-0.1	-0.0									
1935	42	102.1	2.4	**1935**	17	18.4	1.1	**1935**	5	-0.2	-0.0									
1936	51	118.7	2.3	**1936**	27	38.4	1.4	**1936**	5	-1.3	-0.3									
1937	51	123.7	2.4	**1937**	24	33.7	1.4	**1937**	5	-0.9	-0.2									
1938	14	41.7	3.0	**1938**	4	7.1	1.8	**1938**	0	0.0										
1939	40	83.3	2.1	**1939**	23	24.4	1.1	**1939**	9	0.0	0.0									
1940	50	101.1	2.0	**1940**	30	35.2	1.2	**1940**	10	-0.2	-0.0									
1941	27	71.5	2.6	**1941**	10	17.2	1.7	**1941**	0	0.0										
1942	34	83.6	2.5	**1942**	15	19.4	1.3	**1942**	5	-0.5	-0.1									
1943	51	114.8	2.3	**1943**	27	36.6	1.4	**1943**	6	0.4	0.1									
1944	41	98.6	2.4	**1944**	22	32.8	1.5	**1944**	6	1.5	0.3									
1945	17	54.6	3.2	**1945**	2	2.7	1.4	**1945**	0	0.0										
1946	34	101.0	3.0	**1946**	10	19.9	2.0	**1946**	0	0.0										
1947	49	119.0	2.4	**1947**	24	34.8	1.5	**1947**	6	-0.2	-0.0									
1948	48	117.6	2.5	**1948**	19	24.1	1.3	**1948**	5	-1.8	-0.4									
1949	35	91.2	2.6	**1949**	14	20.1	1.4	**1949**	3	1.2	0.4									
1950	45	103.9	2.3	**1950**	19	18.3	1.0	**1950**	6	-2.2	-0.4									
1951	51	109.0	2.1	**1951**	26	25.6	1.0	**1951**	10	-2.7	-0.3									
1952	55	119.1	2.2	**1952**	29	37.4	1.3	**1952**	9	1.8	0.2									
1953	47	113.5	2.4	**1953**	23	31.8	1.4	**1953**	4	0.6	0.2									
1954	50	124.5	2.5	**1954**	21	30.1	1.4	**1954**	4	-0.5	-0.1									
1955	38	95.7	2.5	**1955**	15	15.6	1.0	**1955**	6	0.6	0.1									
1956	76	174.2	2.3	**1956**	36	42.9	1.2	**1956**	10	-1.6	-0.2									
1957	41	111.8	2.7	**1957**	12	12.8	1.1	**1957**	5	0.6	0.1									
1958	48	116.2	2.4	**1958**	26	41.1	1.6	**1958**	4	1.2	0.3									
1959	36	100.0	2.8	**1959**	11	19.0	1.7	**1959**	0	0.0										
1960	66	140.0	2.1	**1960**	37	41.7	1.1	**1960**	13	-0.6	-0.0									
1961	42	105.6	2.5	**1961**	20	27.3	1.4	**1961**	4	0.1	0.0									
1962	49	115.5	2.4	**1962**	19	18.9	1.0	**1962**	8	-2.2	-0.3									
1963	27	77.8	2.9	**1963**	9	14.4	1.6	**1963**	2	0.6	0.3									
1964	50	117.6	2.4	**1964**	22	21.5	1.0	**1964**	7	-3.9	-0.6									
1965	41	119.0	2.9	**1965**	12	16.2	1.4	**1965**	3	0.6	0.2									
1966	51	127.4	2.5	**1966**	22	30.2	1.4	**1966**	7	3.0	0.4									
1967	31	87.2	2.8	**1967**	9	14.0	1.6	**1967**	3	1.8	0.6									
1968	62	163.9	2.6	**1968**	25	35.0	1.4	**1968**	5	0.6	0.1									
1969	44	98.6	2.2	**1969**	23	31.8	1.4	**1969**	5	0.5	0.1									
1970	30	74.8	2.5	**1970**	14	19.0	1.4	**1970**	3	1.1	0.4									
1971	46	113.4	2.5	**1971**	23	37.3	1.6	**1971**	4	-0.3	-0.1									
1972	34	80.0	2.4	**1972**	16	18.5	1.2	**1972**	5	0.2	0.0									
1973	38	84.2	2.2	**1973**	25	39.9	1.6	**1973**	3	-2.5	-0.8									
1974	34	83.0	2.4	**1974**	20	36.6	1.8	**1974**	1	0.1	0.1									
1975	48	125.1	2.6	**1975**	25	46.3	1.9	**1975**	1	0.6	0.6									
1976	26	70.2	2.7	**1976**	14	28.9	2.1	**1976**	0	0.0										
1977	31	66.4	2.1	**1977**	19	26.9	1.4	**1977**	6	1.1	0.2									
1978	31	86.4	2.8	**1978**	15	32.5	2.2	**1978**	0	0.0		20 years	34.0	2.3	20 years	19.0	1.5	20 years	3.7	-0.0
1979	33	83.7	2.5	**1979**	19	36.1	1.9	**1979**	0	0.0		19 years	34.2	2.3	19 years	19.2	1.5	19 years	3.9	-0.0
1980	31	84.7	2.7	**1980**	12	21.1	1.8	**1980**	1	-0.2	-0.2	18 years	34.2	2.3	18 years	19.2	1.5	18 years	4.1	-0.0
1981	40	103.4	2.6	**1981**	16	25.9	1.6	**1981**	3	-1.5	-0.5	17 years	34.4	2.2	17 years	19.6	1.4	17 years	4.3	-0.0
1982	32	77.2	2.4	**1982**	16	24.2	1.5	**1982**	2	-1.0	-0.5	16 years	34.1	2.2	16 years	19.8	1.4	16 years	4.4	0.0
1983	12	29.7	2.5	**1983**	5	6.1	1.2	**1983**	2	0.5	0.3	15 years	34.2	2.2	15 years	20.1	1.4	15 years	4.5	0.0
1984	33	75.8	2.3	**1984**	17	25.9	1.5	**1984**	2	-0.5	-0.3	14 years	35.8	2.2	14 years	21.1	1.4	14 years	4.7	0.0
1985	25	64.1	2.6	**1985**	11	19.3	1.8	**1985**	0	0.0		13 years	36.0	2.2	13 years	21.5	1.4	13 years	4.9	0.0
1986	39	100.3	2.6	**1986**	15	21.9	1.5	**1986**	4	0.5	0.1	12 years	36.9	2.1	12 years	22.3	1.4	12 years	5.3	0.0
1987	38	79.0	2.1	**1987**	25	36.2	1.4	**1987**	7	1.6	0.2	11 years	36.7	2.1	11 years	23.0	1.4	11 years	5.5	0.0
1988	35	76.2	2.2	**1988**	21	29.3	1.4	**1988**	4	0.6	0.2	10 years	36.6	2.1	10 years	22.8	1.4	10 years	5.3	0.0
1989	45	97.7	2.2	**1989**	27	37.7	1.4	**1989**	5	0.5	0.1	9 years	36.8	2.1	9 years	23.0	1.4	9 years	5.4	-0.0
1990	48	71.1	1.5	**1990**	34	25.4	0.7	**1990**	18	-6.1	-0.3	8 years	35.8	2.1	8 years	22.5	1.4	8 years	5.5	-0.0
1991	25	58.2	2.3	**1991**	18	35.9	2.0	**1991**	1	0.4	0.4	7 years	34.0	2.2	7 years	20.9	1.5	7 years	3.7	0.0
1992	35	80.8	2.3	**1992**	21	33.7	1.6	**1992**	3	1.1	0.4	6 years	35.5	2.2	6 years	21.3	1.4	6 years	4.2	-0.0
1993	45	96.8	2.2	**1993**	29	45.3	1.6	**1993**	5	-1.9	-0.4	5 years	35.6	2.1	5 years	21.4	1.4	5 years	4.4	-0.1
1994	46	110.6	2.4	**1994**	25	41.1	1.6	**1994**	2	1.1	0.6	4 years	33.3	2.1	4 years	19.5	1.4	4 years	4.3	-0.0
1995	32	73.8	2.3	**1995**	18	30.3	1.7	**1995**	4	1.5	0.4	3 years	29.0	2.0	3 years	17.7	1.3	3 years	5.0	-0.2
1996	27	55.9	2.1	**1996**	19	28.9	1.5	**1996**	3	-0.6	-0.2	2 years	27.5	1.9	2 years	17.5	1.0	2 years	5.5	-0.5
1997	28	48.9	1.7	**1997**	16	8.9	0.6	**1997**	8	-7.0	-0.9	1 years	28.0	1.7	1 years	16.0	0.6	1 years	8.0	-0.9
1998	41	86.1	2.1	**1998**	27	38.7	1.4	**1998**	5	-2.4	-0.5	0 years	41.0	2.1	0 years	27.0	1.4	0 years	5.0	-0.5
1999	28	66.0	2.4	**1999**	14	24.0	1.7	**1999**	0	0.0		1 years	28.0	2.4	1 years	14.0	1.7	1 years	0.0	
2000	17	47.0	2.8	**2000**	3	5.0	1.7	**2000**	0	0.0		2 years	22.5	2.6	2 years	8.5	1.7	2 years	0.0	
2001	32	69.0	2.2	**2001**	19	30.0	1.6	**2001**	2	0.0	0.0	3 years	25.7	2.4	3 years	12.0	1.7	3 years	0.7	0.0
2002	32	79.0	2.5	**2002**	11	16.0	1.5	**2002**	1	0.0	0.0	4 years	27.3	2.4	4 years	11.8	1.6	4 years	0.8	0.0
2003	22	55.0	2.5	**2003**	8	13.0	1.6	**2003**	0	0.0		5 years	26.2	2.4	5 years	11.0	1.6	5 years	0.6	0.0
2004	36	74.0	2.1	**2004**	21	29.0	1.4	**2004**	3	0.0	0.0	6 years	27.8	2.4	6 years	12.7	1.6	6 years	1.0	0.0
2005	37	70.0	1.9	**2005**	18	13.0	0.7	**2005**	6	-5.0	-0.8	7 years	29.1	2.3	7 years	13.4	1.4	7 years	1.7	-0.2
2006	29	68.0	2.3	**2006**	13	20.0	1.5	**2006**	2	0.0	0.0	8 years	29.1	2.3	8 years	13.4	1.5	8 years	1.8	-0.2
2007	10	26.0	2.6	**2007**	3	5.0	1.7	**2007**	0	0.0		9 years	27.0	2.3	9 years	12.2	1.5	9 years	1.6	-0.2
2008	41	104.8	2.6	**2008**	19	33.2	1.7	**2008**	1	0.1	0.1	10 years	28.4	2.4	10 years	12.9	1.5	10 years	1.5	-0.1
2009	34	100.3	3.0	**2009**	9	12.7	1.4	**2009**	2	0.4	0.2	11 years	28.9	2.4	11 years	12.5	1.5	11 years	1.5	-0.1
2010	52	146.4	2.8	**2010**	17	31.8	1.9	**2010**	1	-0.2	-0.2	12 years	30.8	2.5	12 years	12.9	1.5	12 years	1.5	-0.1
2011	22	64.2	2.9	**2011**	8	15.7	2.0	**2011**	0	0.0		13 years	30.2	2.5	13 years	12.5	1.6	13 years	1.4	-0.1
2012	35	92.5	2.6	**2012**	15	26.5	1.8	**2012**	1	-0.1	-0.1	14 years	30.5	2.5	14 years	12.7	1.6	14 years	1.4	-0.1
2013	22	54.3	2.5	**2013**	10	14.7	1.5	**2013**	2	-2.4	-1.2	15 years	29.9	2.5	15 years	12.5	1.6	15 years	1.4	-0.2
2014	17	45.2	2.7	**2014**	7	13.6	1.9	**2014**	0	0.0		16 years	29.1	2.5	16 years	12.2	1.6	16 years	1.3	-0.2
2015	31	72.7	2.3	**2015**	17	27.3	1.6	**2015**	2	0.8	0.4	17 years	29.2	2.5	17 years	12.5	1.6	17 years	1.4	-0.1
2016	61	154.7	2.5	**2016**	28	44.0	1.6	**2016**	5	0.0	0.0	18 years	31.0	2.5	18 years	13.3	1.6	18 years	1.6	-0.1
2017	24	67.0	2.8	**2017**	10	21.3	2.1	**2017**	0	0.0		19 years	30.6	2.5	19 years	13.2	1.6	19 years	1.5	-0.1
2018	29	78.2	2.7	**2018**	11	16.9	1.5	**2018**	3	-0.5	-0.2	20 years	30.6	2.5	20 years	13.1	1.6	20 years	1.6	-0.1
2019	32	88.5	2.8	**2019**	15	30.3	2.0	**2019**	0	0.0										
2020	20	56.5	2.8	**2020**	10	20.8	2.1	**2020**	0	0.0										
2021	37	111.8	3.0	**2021**	14	30.4	2.2	**2021**	0	0.0										
2022	35	96.8	2.8	**2022**	15	28.8	1.9	**2022**	1	-0.8	-0.8									

Original AWS probe Rosemount

10 years	Katanning has always had a small screen			**10 years**	Katanning has always had a small screen			**10 years**	Katanning has always had a small screen		
Pre AWS	36.6	77.0	2.1	**Pre AWS**	22.8	31.7	1.4	**Pre AWS**	5.3	-1.0	0.0
Post AWS	28.4	65.9	2.4	**Post AWS**	12.9	18.8	1.5	**Post AWS**	1.5	-0.5	-0.1
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
5 years				**5 years**				**5 years**			
Pre AWS	35.6	77.2	2.1	**Pre AWS**	21.4	30.9	1.4	**Pre AWS**	4.4	-1.4	-0.1
Post AWS	26.2	63.2	2.4	**Post AWS**	11.0	17.6	1.6	**Post AWS**	0.6	0.0	0.0
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
		AWS introduction									
		Small screen introduction									



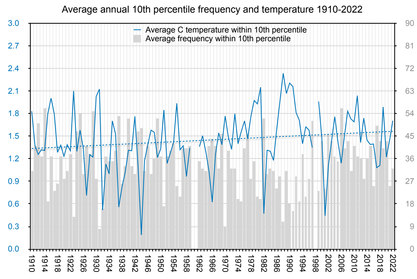


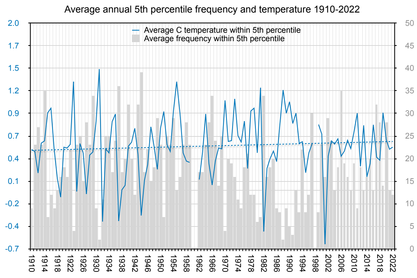


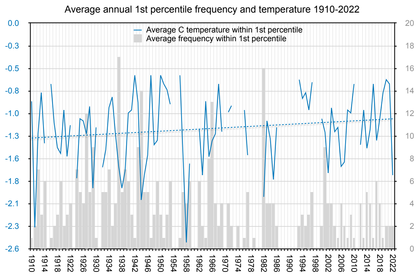
10th 3.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile
1910	31	56.8	1.8
1911	41	56.5	1.4
1912	50	62.9	1.3
1913	37	48.8	1.3
1914	56	73.3	1.3
1915	19	34.2	1.8
1916	37	74.2	2.0
1917	23	41.3	1.8
1918	26	33.4	1.3
1919	37	51.1	1.4
1920	28	34.5	1.2
1921	31	43.0	1.4
1922	38	49.6	1.3
1923	13	27.3	2.1
1924	47	61.0	1.3
1925	54	85.3	1.6
1926	30	40.2	1.3
1927	41	29.2	0.7
1928	38	47.7	1.3
1929	55	67.2	1.2
1930	28	56.8	2.0
1931	8	17.0	2.1
1932	16	8.3	0.5
1933	37	41.8	1.1
1934	35	35.0	1.0
1935	35	59.6	1.7
1936	39	59.7	1.5
1937	53	29.6	0.6
1938	26	21.4	0.8
1939	33	33.7	1.0
1940	52	68.3	1.3
1941	33	43.1	1.3
1942	30	52.9	1.8
1943	47	51.2	1.1
1944	48	9.1	0.2
1945	31	36.5	1.2
1946	41	56.8	1.4
1947	30	47.4	1.6
1948	36	55.9	1.6
1949	52	63.3	1.2
1950	37	49.2	1.3
1951	17	31.4	1.8
1952	37	42.1	1.1
1953	39	49.8	1.3
1954	42	59.5	1.4
1955	25	48.4	1.9
1956	21	27.7	1.3
1957	40	54.9	1.4
1958	40	38.6	1.0
1959	41	55.1	1.3
1960	0	0.0	
1961	0	0.0	
1962	35	47.6	1.4
1963	32	48.2	1.5
1964	31	40.1	1.3
1965	41	42.3	1.0
1966	44	27.5	0.6
1967	41	51.6	1.3
1968	32	49.4	1.5
1969	46	63.8	1.4
1970	9	15.9	1.8
1971	39	58.0	1.5
1972	32	42.4	1.3
1973	32	57.5	1.8
1974	20	28.0	1.4
1975	19	29.7	1.6
1976	40	68.1	1.7
1977	46	67.5	1.5
1978	28	49.5	1.8
1979	35	69.1	2.0
1980	21	40.5	1.9
1981	20	43.0	2.2
1982	52	24.5	0.5
1983	30	39.4	1.3
1984	32	41.6	1.3
1985	31	36.5	1.2
1986	24	38.3	1.6
1987	29	57.1	2.0
1988	11	25.7	2.3
1989	31	64.1	2.1
1990	18	39.7	2.2
1991	15	32.4	2.2
1992	29	52.6	1.8
1993	19	32.5	1.7
1994	38	53.2	1.4
1995	21	34.1	1.6
1996	28	44.3	1.6
1997	51	68.8	1.3
1998	0	0.0	
1999	23	45.1	2.0
2000	43	63.2	1.5
2001	24	10.7	0.4
2002	46	50.6	1.1
2003	43	61.7	1.4
2004	37	65.1	1.8
2005	35	49.7	1.4
2006	56	63.9	1.1
2007	40	60.1	1.5
2008	43	78.8	1.8
2009	31	53.6	1.7
2010	41	69.3	1.7
2011	37	75.4	2.0
2012	36	51.0	1.4
2013	28	48.7	1.7
2014	36	52.1	1.4
2015	41	57.0	1.4
2016	25	34.9	1.4
2017	49	53.0	1.1
2018	43	47.8	1.1
2019	40	75.5	1.9
2020	43	52.6	1.2
2021	25	36.1	1.4
2022	32	54.6	1.7
50/50	No AWS / small screen unknown		
1910-1965	34.3	44.6	1.4
1966-2022	32.6	48.4	1.5

5th 1.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile
1910	9	4.4	0.5
1911	23	10.7	0.5
1912	27	5.6	0.2
1913	23	13.0	0.6
1914	35	20.7	0.6
1915	7	6.5	0.9
1916	12	11.8	1.0
1917	9	4.4	0.5
1918	13	1.8	0.1
1919	16	-1.3	-0.1
1920	18	9.3	0.5
1921	16	8.1	0.5
1922	22	12.1	0.6
1923	4	5.2	1.3
1924	23	-0.3	-0.0
1925	25	14.0	0.6
1926	15	6.7	0.4
1927	28	-1.2	-0.0
1928	23	9.7	0.4
1929	34	15.6	0.5
1930	9	7.4	0.8
1931	2	2.9	1.5
1932	11	-4.1	-0.4
1933	25	12.4	0.5
1934	25	11.2	0.4
1935	17	14.0	0.8
1936	24	21.9	0.9
1937	36	-13.2	-0.4
1938	17	0.1	0.0
1939	20	1.2	0.1
1940	32	16.9	0.5
1941	20	11.5	0.6
1942	12	8.9	0.7
1943	32	13.8	0.4
1944	39	-11.7	-0.3
1945	17	2.0	0.1
1946	22	6.8	0.3
1947	15	11.4	0.8
1948	18	9.4	0.5
1949	29	7.3	0.3
1950	23	17.2	0.7
1951	7	6.6	0.9
1952	25	13.7	0.5
1953	23	10.7	0.5
1954	29	27.6	1.0
1955	13	16.9	1.3
1956	16	14.9	0.9
1957	23	10.3	0.4
1958	28	9.8	0.4
1959	23	7.7	0.3
1960	0	0.0	
1961	0	0.0	
1962	17	2.2	0.1
1963	17	7.6	0.4
1964	23	21.0	0.9
1965	28	9.0	0.3
1966	34	2.2	0.1
1967	24	8.5	0.4
1968	14	7.1	0.5
1969	25	12.4	0.5
1970	4	4.3	1.1
1971	20	11.7	0.6
1972	19	11.3	0.6
1973	16	17.5	1.1
1974	11	7.2	0.7
1975	9	5.2	0.6
1976	18	14.9	0.8
1977	21	5.5	0.3
1978	12	11.4	1.0
1979	12	11.8	1.0
1980	6	2.7	0.5
1981	7	8.6	1.2
1982	34	-16.7	-0.5
1983	16	4.2	0.3
1984	18	6.9	0.4
1985	20	9.4	0.5
1986	9	3.1	0.3
1987	8	6.3	0.8
1988	2	2.4	1.2
1989	9	8.3	0.9
1990	5	5.3	1.1
1991	3	2.4	0.8
1992	13	12.0	0.9
1993	8	4.5	0.6
1994	22	12.8	0.6
1995	8	1.7	0.2
1996	12	5.4	0.5
1997	30	16.7	0.6
1998	0	0.0	
1999	8	6.3	0.8
2000	23	15.5	0.7
2001	16	-10.3	-0.6
2002	29	11.9	0.4
2003	24	14.2	0.6
2004	13	7.2	0.6
2005	18	11.1	0.6
2006	35	14.3	0.4
2007	19	8.9	0.5
2008	16	9.6	0.6
2009	13	6.5	0.5
2010	19	13.3	0.7
2011	9	8.3	0.9
2012	18	5.2	0.3
2013	13	10.1	0.8
2014	16	2.6	0.2
2015	20	6.4	0.3
2016	13	10.2	0.8
2017	32	12.7	0.4
2018	28	10.1	0.4
2019	14	13.0	0.9
2020	28	17.0	0.6
2021	13	6.4	0.5
2022	12	6.2	0.5
50/50	No AWS / small screen unknown		
1910-1965	19.6	8.3	0.5
1966-2022	16.1	7.8	0.6

1st -0.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1910	1	-0.9	-0.9
1911	2	-4.7	-2.4
1912	7	-8.9	-1.3
1913	3	-2.4	-0.8
1914	6	-8.3	-1.4
1915	0	0.0	
1916	1	-0.7	-0.7
1917	2	-2.3	-1.2
1918	3	-4.3	-1.4
1919	6	-9.0	-1.5
1920	2	-2.0	-1.0
1921	3	-4.6	-1.5
1922	4	-4.7	-1.2
1923	0	0.0	
1924	7	-12.5	-1.8
1925	5	-5.5	-1.1
1926	4	-4.5	-1.1
1927	12	-15.3	-1.3
1928	5	-4.8	-1.0
1929	9	-17.1	-1.9
1930	1	-1.2	-1.2
1931	0	0.0	
1932	5	-8.3	-1.7
1933	5	-7.3	-1.5
1934	7	-6.8	-1.0
1935	2	-1.7	-0.9
1936	4	-5.1	-1.3
1937	17	-28.0	-1.6
1938	5	-9.5	-1.9
1939	7	-11.9	-1.7
1940	6	-6.2	-1.0
1941	3	-3.0	-1.0
1942	1	-0.6	-0.6
1943	9	-8.2	-0.9
1944	14	-28.5	-2.0
1945	5	-8.7	-1.7
1946	5	-7.6	-1.5
1947	1	-0.6	-0.6
1948	3	-4.2	-1.4
1949	6	-8.1	-1.4
1950	3	-1.8	-0.6
1951	1	-0.7	-0.7
1952	3	-2.3	-0.8
1953	6	-5.6	-0.9
1954	0	0.0	
1955	0	0.0	
1956	1	-0.6	-0.6
1957	5	-7.8	-1.6
1958	4	-10.1	-2.5
1959	6	-9.7	-1.6
1960	0	0.0	
1961	0	0.0	
1962	6	-7.3	-1.2
1963	2	-3.5	-1.8
1964	1	-0.9	-0.9
1965	8	-12.3	-1.5
1966	13	-17.6	-1.4
1967	4	-5.1	-1.3
1968	2	-1.4	-0.7
1969	4	-5.0	-1.3
1970	0	0.0	
1971	4	-4.1	-1.0
1972	2	-1.9	-1.0
1973	0	0.0	
1974	2	-1.5	-0.8
1975	0	0.0	
1976	1	-1.0	-1.0
1977	5	-7.6	-1.5
1978	0	0.0	
1979	1	-0.8	-0.8
1980	0	0.0	
1981	0	0.0	
1982	16	-32.0	-2.0
1983	4	-4.5	-1.1
1984	4	-5.3	-1.3
1985	4	-7.2	-1.8
1986	2	-2.4	-1.2
1987	0	0.0	
1988	0	0.0	
1989	0	0.0	
1990	0	0.0	
1991	0	0.0	
1992	0	0.0	
1993	2	-1.3	-0.7
1994	3	-2.6	-0.9
1995	2	-1.6	-0.8
1996	3	-3.0	-1.0
1997	5	-3.4	-0.7
1998	0	0.0	
1999	0	0.0	
2000	2	-2.2	-1.1
2001	9	-11.3	-1.3
2002	4	-6.9	-1.7
2003	4	-3.9	-1.0
2004	2	-2.5	-1.3
2005	1	-1.2	-1.2
2006	4	-6.6	-1.7
2007	2	-3.2	-1.6
2008	1	-1.0	-1.0
2009	3	-3.1	-1.0
2010	1	-0.7	-0.7
2011	0	0.0	
2012	4	-5.6	-1.4
2013	1	-1.0	-1.0
2014	5	-7.2	-1.4
2015	4	-4.9	-1.2
2016	1	-0.7	-0.7
2017	6	-8.1	-1.4
2018	4	-4.4	-1.1
2019	1	-0.8	-0.8
2020	2	-1.3	-0.7
2021	2	-1.4	-0.7
2022	2	-3.5	-1.8
50/50	No AWS / small screen unknown		
1910-1965	4.2	-5.9	-1.3
1966-2022	2.6	-3.3	-1.1



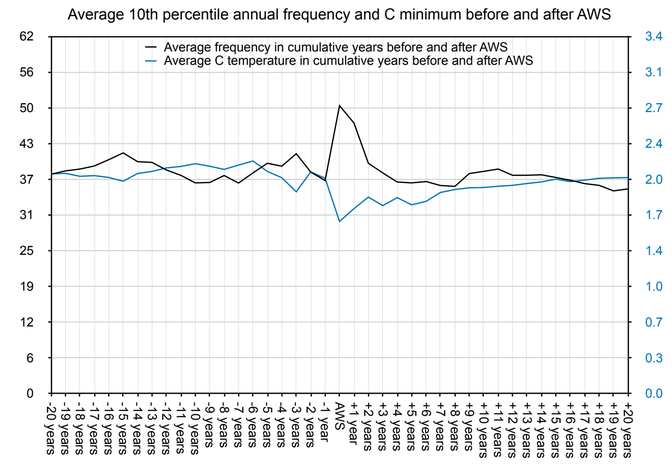


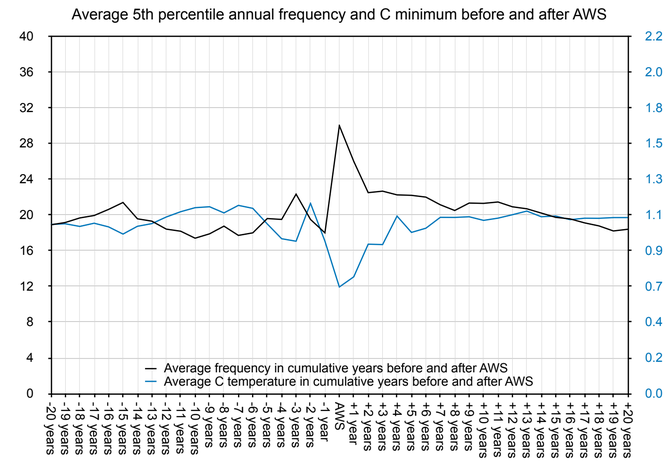


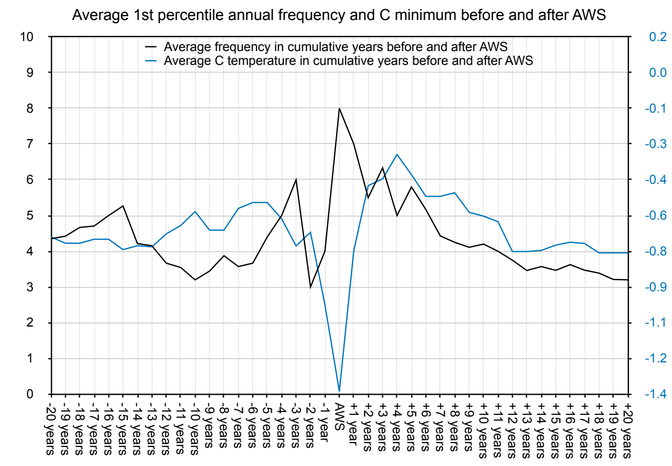
10th 2.5	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile
1931	35	25.6	0.7
1932	37	29.5	0.8
1933	41	29.2	0.7
1934	41	37.2	0.9
1935	35	33.6	1.0
1936	48	15.8	0.3
1937	34	17.1	0.5
1938	48	49.7	1.0
1939	40	29.3	0.7
1940	59	42.1	0.7
1941	34	29.8	0.9
1942	30	22.9	0.8
1943	44	26.4	0.6
1944	53	-13.6	-0.3
1945	37	6.9	0.2
1946	34	21.6	0.6
1947	30	39.9	1.3
1948	38	19.0	0.5
1949	46	28.7	0.6
1950	40	20.8	0.5
1951	24	25.0	1.0
1952	58	9.0	0.2
1953	46	37.9	0.8
1954	52	19.9	0.4
1955	29	21.9	0.8
1956	29	13.5	0.5
1957	40	21.5	0.5
1958	45	1.3	0.0
1959	50	11.3	0.2
1960	45	21.3	0.5
1961	42	0.7	0.0
1962	37	24.9	0.7
1963	27	23.8	0.9
1964	32	36.1	1.1
1965	44	31.3	0.7
1966	37	27.4	0.7
1967	41	32.6	0.8
1968	30	29.0	1.0
1969	43	33.4	0.8
1970	40	38.0	1.0
1971	32	26.3	0.8
1972	43	13.5	0.3
1973	37	38.3	1.0
1974	35	33.6	1.0
1975	38	2.3	0.1
1976	54	6.6	0.1
1977	38	42.8	1.1
1978	41	38.3	0.9
1979	21	19.2	0.9
1980	37	33.0	0.9
1981	21	34.3	1.6
1982	45	34.0	0.8
1983	41	26.2	0.6
1984	32	16.8	0.5
1985	38	35.7	0.9
1986	36	49.2	1.4
1987	47	50.3	1.1
1988	21	16.5	0.8
1989	36	38.8	1.1
1990	26	18.0	0.7
1991	17	26.1	1.5
1992	43	50.6	1.2
1993	39	37.9	1.0
1994	35	13.5	0.4
1995	22	25.8	1.2
1996	31	41.4	1.3
1997	52	-9.3	-0.2
1998	40	36.4	0.9
1999	33	9.5	0.3
2000	25	16.3	0.7
2001	32	37.6	1.2
2002	41	33.8	0.8
2003	31	41.2	1.3
2004	29	37.3	1.3
2005	23	17.0	0.7
2006	60	30.3	0.5
2007	46	10.5	0.2
2008	40	17.0	0.4
2009	18	29.8	1.7
2010	31	28.9	0.9
2011	21	22.1	1.1
2012	38	32.0	0.8
2013	18	24.1	1.3
2014	36	13.4	0.4
2015	40	24.7	0.6
2016	35	29.4	0.8
2017	37	20.9	0.6
2018	31	18.5	0.6
2019	35	29.3	0.8
2020	34	24.4	0.7
2021	31	37.5	1.2
2022	38	33.7	0.9

10th 0.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -0.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -2.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	20	-1.2	-0.1	**1910**	4	-4.3	-1.1	**1910**	0	0.0										
1911	28	-15.0	-0.5	**1911**	13	-20.4	-1.6	**1911**	2	-5.4	-2.7									
1912	35	-26.0	-0.7	**1912**	17	-27.4	-1.6	**1912**	0	0.0										
1913	41	-39.4	-1.0	**1913**	25	-41.5	-1.7	**1913**	3	-9.6	-3.2									
1914	25	-14.4	-0.6	**1914**	11	-17.6	-1.6	**1914**	1	-3.0	-3.0									
1915	20	-6.6	-0.3	**1915**	6	-8.9	-1.5	**1915**	0	0.0										
1916	19	-11.6	-0.6	**1916**	10	-13.0	-1.3	**1916**	1	-2.7	-2.7									
1917	17	-9.1	-0.5	**1917**	7	-9.7	-1.4	**1917**	0	0.0										
1918	22	-9.3	-0.4	**1918**	10	-11.4	-1.1	**1918**	0	0.0										
1919	31	-23.0	-0.7	**1919**	16	-24.9	-1.6	**1919**	1	-2.7	-2.7									
1920	19	-4.2	-0.2	**1920**	6	-6.2	-1.0	**1920**	0	0.0										
1921	22	-14.6	-0.7	**1921**	12	-17.0	-1.4	**1921**	0	0.0										
1922	16	-16.9	-1.1	**1922**	11	-16.7	-1.5	**1922**	0	0.0										
1923	24	-6.8	-0.3	**1923**	9	-7.6	-0.8	**1923**	0	0.0										
1924	34	-22.6	-0.7	**1924**	19	-25.1	-1.3	**1924**	1	-2.9	-2.9									
1925	37	-28.7	-0.8	**1925**	21	-31.3	-1.5	**1925**	3	-9.4	-3.1									
1926	17	0.5	0.0	**1926**	3	-2.9	-1.0	**1926**	0	0.0										
1927	35	-27.7	-0.8	**1927**	17	-30.7	-1.8	**1927**	4	-12.9	-3.2									
1928	22	-9.5	-0.4	**1928**	10	-12.8	-1.3	**1928**	1	-2.7	-2.7									
1929	35	-36.7	-1.0	**1929**	20	-38.4	-1.9	**1929**	3	-8.8	-2.9									
1930	18	-6.0	-0.3	**1930**	7	-9.4	-1.3	**1930**	1	-3.3	-3.3									
1931	21	-9.3	-0.4	**1931**	10	-12.0	-1.2	**1931**	1	-3.3	-3.3									
1932	23	-11.8	-0.5	**1932**	11	-15.5	-1.4	**1932**	1	-2.9	-2.9									
1933	33	-15.6	-0.5	**1933**	13	-19.3	-1.5	**1933**	1	-3.3	-3.3									
1934	21	-9.1	-0.4	**1934**	10	-12.4	-1.2	**1934**	1	-3.9	-3.9									
1935	26	-10.0	-0.4	**1935**	11	-14.5	-1.3	**1935**	1	-2.8	-2.8									
1936	28	-19.0	-0.7	**1936**	17	-21.1	-1.2	**1936**	1	-2.8	-2.8									
1937	36	-32.5	-0.9	**1937**	23	-35.5	-1.5	**1937**	1	-2.8	-2.8									
1938	34	-15.2	-0.4	**1938**	15	-23.1	-1.5	**1938**	1	-3.3	-3.3									
1939	27	-13.5	-0.5	**1939**	12	-18.9	-1.6	**1939**	1	-2.8	-2.8									
1940	30	-9.2	-0.3	**1940**	13	-14.0	-1.1	**1940**	0	0.0										
1941	45	-31.7	-0.7	**1941**	25	-37.3	-1.5	**1941**	3	-9.5	-3.2									
1942	12	-1.1	-0.1	**1942**	2	-2.4	-1.2	**1942**	0	0.0										
1943	39	-49.9	-1.3	**1943**	29	-51.6	-1.8	**1943**	6	-18.7	-3.1									
1944	41	-54.3	-1.3	**1944**	32	-55.3	-1.7	**1944**	7	-24.4	-3.5									
1945	35	-28.7	-0.8	**1945**	14	-31.6	-2.3	**1945**	5	-16.6	-3.3									
1946	17	3.4	0.2	**1946**	2	-2.1	-1.1	**1946**	0	0.0										
1947	21	-2.5	-0.1	**1947**	8	-8.9	-1.1	**1947**	0	0.0										
1948	38	-44.7	-1.2	**1948**	26	-48.4	-1.9	**1948**	5	-17.1	-3.4									
1949	41	-33.2	-0.8	**1949**	22	-38.1	-1.7	**1949**	4	-12.3	-3.1									
1950	41	-31.7	-0.8	**1950**	18	-33.3	-1.9	**1950**	4	-12.8	-3.2									
1951	36	-19.3	-0.5	**1951**	18	-23.5	-1.3	**1951**	1	-3.2	-3.2									
1952	33	-27.2	-0.8	**1952**	19	-29.4	-1.5	**1952**	2	-6.0	-3.0									
1953	34	-19.4	-0.6	**1953**	15	-24.7	-1.6	**1953**	1	-2.7	-2.7									
1954	41	-20.1	-0.5	**1954**	17	-26.1	-1.5	**1954**	2	-6.1	-3.1									
1955	37	-18.4	-0.5	**1955**	13	-23.8	-1.8	**1955**	2	-5.9	-3.0									
1956	40	-42.5	-1.1	**1956**	26	-47.8	-1.8	**1956**	7	-22.3	-3.2									
1957	42	-39.8	-0.9	**1957**	25	-43.1	-1.7	**1957**	5	-15.5	-3.1									
1958	41	-46.2	-1.1	**1958**	24	-48.1	-2.0	**1958**	6	-20.9	-3.5									
1959	35	-39.2	-1.1	**1959**	22	-39.8	-1.8	**1959**	3	-12.2	-4.1									
1960	25	-12.6	-0.5	**1960**	11	-15.1	-1.4	**1960**	0	0.0										
1961	27	-24.4	-0.9	**1961**	15	-27.1	-1.8	**1961**	3	-9.4	-3.1									
1962	22	-6.3	-0.3	**1962**	8	-12.0	-1.5	**1962**	1	-3.8	-3.8									
1963	41	-30.3	-0.7	**1963**	18	-35.0	-1.9	**1963**	4	-13.5	-3.4									
1964	27	-19.1	-0.7	**1964**	12	-22.7	-1.9	**1964**	3	-9.8	-3.3									
1965	31	-20.6	-0.7	**1965**	13	-23.2	-1.8	**1965**	3	-8.8	-2.9									
1966	35	-26.7	-0.8	**1966**	19	-26.3	-1.4	**1966**	2	-7.1	-3.6									
1967	26	-10.1	-0.4	**1967**	11	-14.5	-1.3	**1967**	0	0.0										
1968	39	-12.0	-0.3	**1968**	16	-17.6	-1.1	**1968**	0	0.0										
1969	26	-13.6	-0.5	**1969**	10	-15.7	-1.6	**1969**	1	-3.3	-3.3									
1970	55	-47.5	-0.9	**1970**	27	-54.1	-2.0	**1970**	8	-23.0	-2.9									
1971	48	-56.3	-1.2	**1971**	33	-58.0	-1.8	**1971**	9	-27.3	-3.0									
1972	55	-74.9	-1.4	**1972**	36	-80.1	-2.2	**1972**	12	-43.9	-3.7									
1973	50	-56.1	-1.1	**1973**	32	-59.4	-1.9	**1973**	9	-31.6	-3.5									
1974	39	-31.2	-0.8	**1974**	22	-33.7	-1.5	**1974**	3	-11.2	-3.7									
1975	48	-65.3	-1.4	**1975**	30	-68.5	-2.3	**1975**	10	-40.2	-4.0									
1976	75	-81.3	-1.1	**1976**	47	-87.7	-1.9	**1976**	9	-31.8	-3.5									
1977	64	-56.2	-0.9	**1977**	37	-58.3	-1.6	**1977**	6	-18.0	-3.0									
1978	47	-55.9	-1.2	**1978**	28	-60.9	-2.2	**1978**	10	-33.0	-3.3									
1979	42	-39.6	-0.9	**1979**	23	-41.2	-1.8	**1979**	5	-16.2	-3.2									
1980	33	-33.5	-1.0	**1980**	20	-37.6	-1.9	**1980**	5	-16.5	-3.3									
1981	33	-40.7	-1.2	**1981**	16	-41.9	-2.6	**1981**	8	-27.4	-3.4									
1982	56	-52.2	-0.9	**1982**	29	-55.6	-1.9	**1982**	7	-26.3	-3.8									
1983	46	-53.8	-1.2	**1983**	27	-54.6	-2.0	**1983**	7	-25.4	-3.6									
1984	38	-19.5	-0.5	**1984**	15	-23.3	-1.6	**1984**	1	-3.2	-3.2	20 years	43.1	-0.9	20 years	22.7	-1.9	20 years	5.1	-3.2
1985	26	-22.6	-0.9	**1985**	13	-25.1	-1.9	**1985**	3	-9.4	-3.1	19 years	43.3	-0.9	19 years	23.1	-1.9	19 years	5.3	-3.3
1986	40	-46.5	-1.2	**1986**	23	-49.2	-2.1	**1986**	7	-23.6	-3.4	18 years	44.3	-0.9	18 years	23.7	-1.9	18 years	5.4	-3.3
1987	39	-34.0	-0.9	**1987**	19	-35.7	-1.9	**1987**	2	-5.8	-2.9	17 years	44.5	-0.9	17 years	23.7	-1.9	17 years	5.3	-3.3
1988	22	-6.5	-0.3	**1988**	7	-10.0	-1.4	**1988**	0	0.0		16 years	44.9	-0.9	16 years	24.0	-1.9	16 years	5.5	-3.3
1989	43	-37.5	-0.9	**1989**	23	-39.9	-1.7	**1989**	3	-8.6	-2.9	15 years	46.4	-0.9	15 years	25.1	-1.9	15 years	5.9	-3.3
1990	48	-33.0	-0.7	**1990**	23	-37.6	-1.6	**1990**	2	-7.4	-3.7	14 years	46.6	-1.0	14 years	25.3	-1.9	14 years	6.1	-3.3
1991	41	-39.7	-1.0	**1991**	24	-41.7	-1.7	**1991**	4	-11.3	-2.8	13 years	46.5	-1.0	13 years	25.5	-1.9	13 years	6.4	-3.3
1992	39	-34.1	-0.9	**1992**	20	-37.9	-1.9	**1992**	6	-19.1	-3.2	12 years	47.0	-1.0	12 years	25.6	-1.9	12 years	6.6	-3.3
1993	38	-26.4	-0.7	**1993**	19	-29.7	-1.6	**1993**	0	0.0		11 years	47.7	-1.0	11 years	26.1	-1.9	11 years	6.6	-3.3
1994	51	-80.5	-1.6	**1994**	32	-84.8	-2.7	**1994**	16	-58.5	-3.7	10 years	48.7	-1.0	10 years	26.8	-2.0	10 years	7.3	-3.3
1995	58	-49.3	-0.9	**1995**	31	-54.7	-1.8	**1995**	7	-21.5	-3.1	9 years	48.4	-1.0	9 years	26.2	-1.9	9 years	6.3	-3.3
1996	45	-40.1	-0.9	**1996**	24	-43.7	-1.8	**1996**	5	-16.8	-3.4	8 years	47.3	-1.0	8 years	25.6	-1.9	8 years	6.3	-3.3
1997	49	-53.1	-1.1	**1997**	27	-57.9	-2.1	**1997**	9	-28.0	-3.1	7 years	47.6	-1.0	7 years	25.9	-1.9	7 years	6.4	-3.3
1998	55	-50.4	-0.9	**1998**	27	-50.5	-1.9	**1998**	7	-23.0	-3.3	6 years	47.3	-1.0	6 years	25.7	-1.9	6 years	6.0	-3.3
1999	55	-54.0	-1.0	**1999**	30	-57.4	-1.9	**1999**	9	-28.3	-3.1	5 years	45.8	-1.0	5 years	25.4	-1.9	5 years	5.8	-3.4
2000	41	-44.0	-1.1	**2000**	24	-46.4	-1.9	**2000**	5	-16.7	-3.3	4 years	43.5	-1.0	4 years	24.3	-1.9	4 years	5.0	-3.4
2001	37	-28.4	-0.8	**2001**	18	-31.9	-1.8	**2001**	3	-11.4	-3.8	3 years	44.3	-0.9	3 years	24.3	-1.9	3 years	5.0	-3.4
2002	51	-54.2	-1.1	**2002**	28	-58.1	-2.1	**2002**	9	-31.6	-3.5	2 years	48.0	-1.0	2 years	27.5	-1.9	2 years	6.0	-3.3
2003	45	-41.9	-0.9	**2003**	27	-46.0	-1.7	**2003**	3	-9.0	-3.0	1 years	45.0	-0.9	1 years	27.0	-1.7	1 years	3.0	-3.0
2004	37	-43.0	-1.2	**2004**	23	-43.1	-1.9	**2004**	5	-15.0	-3.0	0 years	37.0	-1.2	0 years	23.0	-1.9	0 years	5.0	-3.0
2005	37	-39.1	-1.1	**2005**	20	-40.6	-2.0	**2005**	4	-12.8	-3.2	1 years	37.0	-1.1	1 years	20.0	-2.0	1 years	4.0	-3.2
2006	66	-71.6	-1.1	**2006**	39	-73.7	-1.9	**2006**	11	-32.3	-2.9	2 years	51.5	-1.1	2 years	29.5	-2.0	2 years	7.5	-3.1
2007	38	-38.5	-1.0	**2007**	22	-39.0	-1.8	**2007**	2	-7.5	-3.8	3 years	47.0	-1.1	3 years	27.0	-1.9	3 years	5.7	-3.3
2008	42	-32.0	-0.8	**2008**	19	-34.6	-1.8	**2008**	4	-12.4	-3.1	4 years	45.8	-1.0	4 years	25.0	-1.9	4 years	5.3	-3.2
2009	25	-15.2	-0.6	**2009**	10	-16.3	-1.6	**2009**	1	-3.5	-3.5	5 years	41.6	-0.9	5 years	22.0	-1.8	5 years	4.4	-3.3
2010	47	-54.6	-1.2	**2010**	32	-56.9	-1.8	**2010**	7	-20.7	-3.0	6 years	42.5	-0.9	6 years	23.7	-1.8	6 years	4.8	-3.2
2011	47	-51.8	-1.1	**2011**	28	-54.4	-1.9	**2011**	8	-27.6	-3.5	7 years	43.1	-1.0	7 years	24.3	-1.8	7 years	5.3	-3.3
2012	49	-38.7	-0.8	**2012**	21	-42.4	-2.0	**2012**	4	-15.8	-4.0	8 years	43.9	-0.9	8 years	23.9	-1.9	8 years	5.1	-3.4
2013	34	-39.8	-1.2	**2013**	20	-41.6	-2.1	**2013**	8	-24.9	-3.1	9 years	42.8	-1.0	9 years	23.4	-1.9	9 years	5.4	-3.3
2014	48	-32.9	-0.7	**2014**	24	-38.6	-1.6	**2014**	4	-11.4	-2.9	10 years	43.3	-0.9	10 years	23.5	-1.9	10 years	5.3	-3.3
2015	56	-102.9	-1.8	**2015**	39	-105.1	-2.7	**2015**	20	-72.5	-3.6	11 years	44.5	-1.0	11 years	24.9	-1.9	11 years	6.6	-3.3
2016	28	-27.3	-1.0	**2016**	18	-28.3	-1.6	**2016**	2	-5.6	-2.8	12 years	43.1	-1.0	12 years	24.3	-1.9	12 years	6.3	-3.3
2017	70	-79.2	-1.1	**2017**	45	-85.4	-1.9	**2017**	12	-40.7	-3.4	13 years	45.2	-1.0	13 years	25.9	-1.9	13 years	6.7	-3.3
2018	51	-44.3	-0.9	**2018**	28	-46.3	-1.7	**2018**	5	-15.1	-3.0	14 years	45.6	-1.0	14 years	26.1	-1.9	14 years	6.6	-3.3
2019	52	-56.1	-1.1	**2019**	31	-59.9	-1.9	**2019**	7	-23.4	-3.3	15 years	46.0	-1.0	15 years	26.4	-1.9	15 years	6.6	-3.3
2020	42	-38.0	-0.9	**2020**	21	-43.3	-2.1	**2020**	8	-25.6	-3.2	16 years	45.8	-1.0	16 years	26.1	-1.9	16 years	6.7	-3.3
2021	36	-37.4	-1.0	**2021**	21	-38.8	-1.8	**2021**	6	-17.9	-3.0	17 years	45.2	-1.0	17 years	25.8	-1.9	17 years	6.6	-3.2
2022	41	-50.0	-1.2	**2022**	24	-51.8	-2.2	**2022**	6	-22.9	-3.8	18 years	44.9	-1.0	18 years	25.7	-1.9	18 years	6.6	-3.3

10th 3.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1945	42	80.3	1.9	**1945**	22	20.0	0.9	**1945**	6	-3.4	-0.6									
1946	29	57.4	2.0	**1946**	16	15.2	1.0	**1946**	4	-1.9	-0.5									
1947	27	42.7	1.6	**1947**	14	3.2	0.2	**1947**	5	-7.7	-1.5									
1948	48	76.1	1.6	**1948**	24	1.0	0.0	**1948**	12	-14.4	-1.2									
1949	52	102.9	2.0	**1949**	28	27.0	1.0	**1949**	5	-3.2	-0.6									
1950	52	96.2	1.9	**1950**	28	20.5	0.7	**1950**	7	-5.1	-0.7									
1951	25	55.5	2.2	**1951**	14	20.6	1.5	**1951**	2	-0.5	-0.3									
1952	25	52.2	2.1	**1952**	13	12.7	1.0	**1952**	1	-0.4	-0.4									
1953	32	75.6	2.4	**1953**	13	16.1	1.2	**1953**	2	-1.1	-0.6									
1954	33	60.0	1.8	**1954**	18	13.2	0.7	**1954**	4	-3.4	-0.9									
1955	29	63.3	2.2	**1955**	12	10.7	0.9	**1955**	2	-1.1	-0.6									
1956	37	65.0	1.8	**1956**	16	-0.6	-0.0	**1956**	9	-11.5	-1.3									
1957	36	62.3	1.7	**1957**	20	12.2	0.6	**1957**	7	-7.4	-1.1									
1958	37	79.8	2.2	**1958**	21	27.3	1.3	**1958**	3	-1.6	-0.5									
1959	47	91.0	1.9	**1959**	27	28.2	1.0	**1959**	7	-4.1	-0.6									
1960	34	70.9	2.1	**1960**	16	13.9	0.9	**1960**	4	-2.9	-0.7									
1961	27	55.0	2.0	**1961**	15	18.2	1.2	**1961**	1	-1.6	-1.6									
1962	34	58.4	1.7	**1962**	18	10.9	0.6	**1962**	7	-5.6	-0.8									
1963	32	53.4	1.7	**1963**	19	12.1	0.6	**1963**	7	-7.3	-1.0									
1964	21	54.4	2.6	**1964**	9	16.4	1.8	**1964**	0	0.0										
1965	38	48.9	1.3	**1965**	25	7.7	0.3	**1965**	11	-12.3	-1.1									
1966	45	87.0	1.9	**1966**	22	18.7	0.9	**1966**	5	-2.3	-0.5									
1967	52	106.8	2.1	**1967**	25	23.7	0.9	**1967**	6	-1.6	-0.3									
1968	40	83.8	2.1	**1968**	19	21.2	1.1	**1968**	3	-1.3	-0.4									
1969	46	90.2	2.0	**1969**	21	14.3	0.7	**1969**	5	-7.6	-1.5									
1970	44	83.8	1.9	**1970**	27	30.4	1.1	**1970**	5	-3.5	-0.7									
1971	49	97.1	2.0	**1971**	22	15.2	0.7	**1971**	6	-7.2	-1.2									
1972	47	83.9	1.8	**1972**	28	27.6	1.0	**1972**	9	-4.7	-0.5									
1973	45	78.3	1.7	**1973**	27	23.2	0.9	**1973**	5	-5.7	-1.1									
1974	28	58.9	2.1	**1974**	15	19.4	1.3	**1974**	2	-0.8	-0.4									
1975	19	26.8	1.4	**1975**	11	3.1	0.3	**1975**	5	-3.2	-0.6									
1976	42	83.7	2.0	**1976**	21	18.6	0.9	**1976**	6	-3.1	-0.5									
1977	27	54.2	2.0	**1977**	14	13.5	1.0	**1977**	3	-0.8	-0.3	20 years	38.1	2.1	20 years	18.9	1.0	20 years	4.4	-0.7
1978	33	85.8	2.6	**1978**	10	13.4	1.3	**1978**	0	0.0		19 years	38.7	2.1	19 years	19.2	1.0	19 years	4.4	-0.7
1979	30	58.8	2.0	**1979**	15	10.4	0.7	**1979**	4	-3.9	-1.0	18 years	39.0	2.1	18 years	19.7	1.0	18 years	4.7	-0.7
1980	22	51.8	2.4	**1980**	9	12.7	1.4	**1980**	0	0.0		17 years	39.5	2.1	17 years	19.9	1.0	17 years	4.7	-0.7
1981	23	59.7	2.6	**1981**	9	15.2	1.7	**1981**	1	-0.1	-0.1	16 years	40.6	2.1	16 years	20.6	1.0	16 years	5.0	-0.7
1982	63	62.5	1.0	**1982**	47	14.7	0.3	**1982**	20	-19.3	-1.0	15 years	41.8	2.0	15 years	21.4	1.0	15 years	5.3	-0.8
1983	42	77.4	1.8	**1983**	23	18.8	0.8	**1983**	5	-3.4	-0.7	14 years	40.3	2.1	14 years	19.6	1.0	14 years	4.2	-0.7
1984	56	96.0	1.7	**1984**	30	16.7	0.6	**1984**	10	-13.2	-1.3	13 years	40.2	2.1	13 years	19.3	1.0	13 years	4.2	-0.7
1985	49	97.7	2.0	**1985**	21	15.3	0.7	**1985**	5	-5.1	-1.0	12 years	38.8	2.1	12 years	18.4	1.1	12 years	3.7	-0.7
1986	51	97.1	1.9	**1986**	26	22.7	0.9	**1986**	7	-8.0	-1.1	11 years	37.9	2.2	11 years	18.2	1.1	11 years	3.5	-0.6
1987	36	86.7	2.4	**1987**	13	14.2	1.1	**1987**	1	0.0	0.0	10 years	36.6	2.2	10 years	17.4	1.1	10 years	3.2	-0.6
1988	27	64.9	2.4	**1988**	11	16.0	1.5	**1988**	0	0.0		9 years	36.7	2.2	9 years	17.9	1.2	9 years	3.4	-0.7
1989	47	86.9	1.8	**1989**	26	20.5	0.8	**1989**	6	-7.5	-1.3	8 years	37.9	2.1	8 years	18.8	1.1	8 years	3.9	-0.7
1990	26	50.5	1.9	**1990**	16	20.3	1.3	**1990**	3	-2.1	-0.7	7 years	36.6	2.2	7 years	17.7	1.2	7 years	3.6	-0.6
1991	30	81.4	2.7	**1991**	10	16.2	1.6	**1991**	0	0.0		6 years	38.3	2.2	6 years	18.0	1.1	6 years	3.7	-0.5
1992	42	98.9	2.4	**1992**	20	28.2	1.4	**1992**	2	-0.5	-0.3	5 years	40.0	2.1	5 years	19.6	1.0	5 years	4.4	-0.5
1993	33	81.1	2.5	**1993**	11	11.0	1.0	**1993**	2	-0.5	-0.3	4 years	39.5	2.1	4 years	19.5	1.0	4 years	5.0	-0.6
1994	48	74.2	1.5	**1994**	28	13.2	0.5	**1994**	12	-10.3	-0.9	3 years	41.7	1.9	3 years	22.3	0.9	3 years	6.0	-0.7
1995	40	86.8	2.2	**1995**	21	29.5	1.4	**1995**	2	-0.7	-0.4	2 years	38.5	2.1	2 years	19.5	1.2	2 years	3.0	-0.7
1996	37	75.9	2.1	**1996**	18	16.9	0.9	**1996**	4	-4.0	-1.0	1 years	37.0	2.1	1 years	18.0	0.9	1 years	4.0	-1.0
1997	50	82.0	1.6	**1997**	30	19.7	0.7	**1997**	8	-11.1	-1.4	0 years	50.0	1.6	0 years	30.0	0.7	0 years	8.0	-1.4
1998	47	82.8	1.8	**1998**	26	18.7	0.7	**1998**	7	-5.3	-0.8	1 years	47.0	1.8	1 years	26.0	0.7	1 years	7.0	-0.8
1999	33	65.4	2.0	**1999**	19	21.3	1.1	**1999**	4	-0.7	-0.2	2 years	40.0	1.9	2 years	22.5	0.9	2 years	5.5	-0.5
2000	35	57.0	1.6	**2000**	23	21.0	0.9	**2000**	8	-3.0	-0.4	3 years	38.3	1.8	3 years	22.7	0.9	3 years	6.3	-0.4
2001	32	67.0	2.1	**2001**	21	34.0	1.6	**2001**	1	0.0	0.0	4 years	36.8	1.9	4 years	22.3	1.1	4 years	5.0	-0.3
2002	36	55.0	1.5	**2002**	22	13.0	0.6	**2002**	9	-7.0	-0.8	5 years	36.6	1.8	5 years	22.2	1.0	5 years	5.8	-0.4
2003	38	75.7	2.0	**2003**	21	24.1	1.1	**2003**	2	-2.0	-1.0	6 years	36.8	1.8	6 years	22.0	1.0	6 years	5.2	-0.5
2004	32	77.6	2.4	**2004**	16	23.8	1.5	**2004**	0	0.0		7 years	36.1	1.9	7 years	21.1	1.1	7 years	4.4	-0.5
2005	35	74.9	2.1	**2005**	16	17.3	1.1	**2005**	3	-1.2	-0.4	8 years	36.0	1.9	8 years	20.5	1.1	8 years	4.3	-0.5
2006	56	117.0	2.1	**2006**	28	31.4	1.1	**2006**	3	-3.6	-1.2	9 years	38.2	2.0	9 years	21.3	1.1	9 years	4.1	-0.6
2007	42	83.7	2.0	**2007**	21	18.2	0.9	**2007**	5	-3.7	-0.7	10 years	38.6	2.0	10 years	21.3	1.1	10 years	4.2	-0.6
2008	43	89.9	2.1	**2008**	23	28.0	1.2	**2008**	2	-1.7	-0.9	11 years	39.0	2.0	11 years	21.5	1.1	11 years	4.0	-0.6
2009	26	54.1	2.1	**2009**	15	20.0	1.3	**2009**	1	-2.1	-2.1	12 years	37.9	2.0	12 years	20.9	1.1	12 years	3.8	-0.8
2010	38	83.9	2.2	**2010**	18	25.1	1.4	**2010**	0	0.0		13 years	37.9	2.0	13 years	20.7	1.1	13 years	3.5	-0.8
2011	39	86.5	2.2	**2011**	14	8.9	0.6	**2011**	5	-3.5	-0.7	14 years	38.0	2.0	14 years	20.2	1.1	14 years	3.6	-0.8
2012	31	74.5	2.4	**2012**	13	15.0	1.2	**2012**	2	-0.9	-0.5	15 years	37.5	2.0	15 years	19.7	1.1	15 years	3.5	-0.7
2013	30	50.2	1.7	**2013**	17	12.5	0.7	**2013**	6	-3.3	-0.6	16 years	37.1	2.0	16 years	19.6	1.1	16 years	3.6	-0.7
2014	27	61.0	2.3	**2014**	12	14.7	1.2	**2014**	1	-0.8	-0.8	17 years	36.5	2.0	17 years	19.1	1.1	17 years	3.5	-0.7
2015	31	72.8	2.3	**2015**	13	13.9	1.1	**2015**	2	-2.8	-1.4	18 years	36.2	2.1	18 years	18.8	1.1	18 years	3.4	-0.8
2016	18	38.4	2.1	**2016**	8	9.3	1.2	**2016**	0	0.0		19 years	35.2	2.1	19 years	18.2	1.1	19 years	3.2	-0.8
2017	42	88.7	2.1	**2017**	22	23.9	1.1	**2017**	3	-2.3	-0.8	20 years	35.6	2.1	20 years	18.4	1.1	20 years	3.2	-0.8
2018	39	86.1	2.2	**2018**	17	20.7	1.2	**2018**	1	-2.1	-2.1									
2019	21	44.7	2.1	**2019**	11	13.5	1.2	**2019**	0	0.0										
2020	33	67.9	2.1	**2020**	22	33.4	1.5	**2020**	2	-0.5	-0.3									
2021	22	49.5	2.3	**2021**	9	8.6	1.0	**2021**	2	-0.6	-0.3									
2022	25	49.7	2.0	**2022**	12	9.9	0.8	**2022**	3	-3.0	-1.0									
Original AWS probe Rosemount																				
10 years	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997											
Pre AWS	36.6	78.7	2.2	**Pre AWS**	17.4	18.6	1.1	**Pre AWS**	3.2	-2.6	-0.6									
Post AWS	38.6	75.6	2.0	**Post AWS**	21.3	22.3	1.1	**Post AWS**	4.2	-2.7	-0.6									
Pre small	36.6	78.7	2.2	**Pre small**	17.4	18.6	1.1	**Pre small**	3.2	-2.6	-0.6									
Post small	38.6	75.6	2.0	**Post small**	21.3	22.3	1.1	**Post small**	4.2	-2.7	-0.6									
5 years				**5 years**				**5 years**												
Pre AWS	40.0	83.4	2.1	**Pre AWS**	19.6	19.8	1.0	**Pre AWS**	4.4	-3.2	-0.5									
Post AWS	36.6	65.4	1.8	**Post AWS**	22.2	21.6	1.0	**Post AWS**	5.8	-3.2	-0.4									
Pre small	40.0	83.4	2.1	**Pre small**	19.6	19.8	1.0	**Pre small**	4.4	-3.2	-0.5									
Post small	36.6	65.4	1.8	**Post small**	22.2	21.6	1.0	**Post small**	5.8	-3.2	-0.4									
		AWS introduction																		
		Small screen introduction																		







10th 10.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile
1976	30	282.7	9.4
1977	31	286.2	9.2
1978	34	321.2	9.4
1979	41	377.8	9.2
1980	35	318.4	9.1
1981	31	272.9	8.8
1982	49	423.9	8.7
1983	25	228.4	9.1
1984	32	301.9	9.4
1985	48	451.9	9.4
1986	44	371.1	8.4
1987	24	232.7	9.7
1988	6	60.9	10.2
1989	28	241.1	8.6
1990	27	244.6	9.1
1991	17	173.6	10.2
1992	40	376.3	9.4
1993	59	512.4	8.7
1994	49	443.4	9.0
1995	40	358.9	9.0
1996	28	269.5	9.6
1997	43	361.7	8.4
1998	33	293.7	8.9
1999	40	365.0	9.1
2000	64	567.0	8.9
2001	38	338.6	8.9
2002	39	350.9	9.0
2003	31	292.0	9.4
2004	28	274.3	9.8
2005	37	328.7	8.9
2006	38	298.1	7.8
2007	30	286.1	9.5
2008	50	433.2	8.7
2009	42	375.3	8.9
2010	32	297.6	9.3
2011	27	259.8	9.6
2012	43	374.0	8.7
2013	36	335.2	9.3
2014	49	436.7	8.9
2015	32	305.6	9.6
2016	39	350.6	9.0
2017	40	332.8	8.3
2018	50	450.9	9.0
2019	46	425.5	9.3
2020	23	227.5	9.9
2021	38	329.4	8.7
2022	37	324.3	8.8
Original AWS probe Rosemount			
10 years	AWS and small screen both in 1994		
Pre AWS	33.4	301.5	9.2
Post AWS	39.1	347.0	8.9
*** 1996 earliest**			
Pre small	32.5	296.7	9.3
Post small	38.4	347.2	9.1
5 years			
Pre AWS	41.0	372.9	9.3
Post AWS	43.6	385.2	8.8
*** 1996 earliest**			
Pre small	34.2	309.6	9.2
Post small	36.8	329.8	9.0
		AWS introduction	
		Small screen introduction	

5th 9.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile
1976	12	100.0	8.3
1977	17	142.7	8.4
1978	15	124.7	8.3
1979	22	185.2	8.4
1980	21	175.5	8.4
1981	18	141.0	7.8
1982	30	232.1	7.7
1983	10	76.0	7.6
1984	14	119.8	8.6
1985	22	188.1	8.6
1986	29	218.1	7.5
1987	7	56.9	8.1
1988	0	0.0	
1989	20	158.7	7.9
1990	14	111.4	8.0
1991	2	18.3	9.2
1992	16	129.2	8.1
1993	32	239.7	7.5
1994	26	210.2	8.1
1995	23	185.5	8.1
1996	9	75.7	8.4
1997	26	191.1	7.4
1998	17	130.7	7.7
1999	23	190.9	8.3
2000	39	314.1	8.1
2001	22	174.5	7.9
2002	19	147.4	7.8
2003	12	98.9	8.2
2004	7	57.7	8.2
2005	23	185.9	8.1
2006	33	247.2	7.5
2007	13	112.9	8.7
2008	31	238.1	7.7
2009	28	231.6	8.3
2010	15	124.0	8.3
2011	10	85.3	8.5
2012	27	210.7	7.8
2013	15	123.9	8.3
2014	30	243.0	8.1
2015	11	89.8	8.2
2016	24	198.1	8.3
2017	29	221.0	7.6
2018	27	216.9	8.0
2019	21	173.3	8.3
2020	6	53.5	8.9
2021	22	166.4	7.6
2022	21	163.3	7.8
10 years	AWS and small screen both in 1994		
Pre AWS	16.9	132.8	8.0
Post AWS	22.1	173.8	7.9
*** 1996 earliest**			
Pre small	15.6	124.0	8.2
Post small	19.7	156.7	8.0
5 years			
Pre AWS	19.8	156.6	8.2
Post AWS	25.4	200.3	7.9
*** 1996 earliest**			
Pre small	16.8	131.5	8.1
Post small	19.6	154.8	8.0

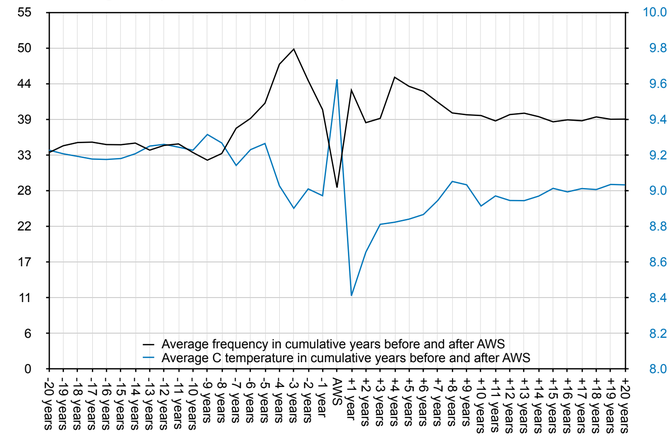
1st 6.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1976	1	6.7	6.7
1977	2	12.7	6.4
1978	2	12.4	6.2
1979	2	12.7	6.4
1980	0	0.0	
1981	3	15.3	5.1
1982	8	48.9	6.1
1983	2	12.4	6.2
1984	1	6.7	6.7
1985	2	13.6	6.8
1986	8	43.2	5.4
1987	1	5.0	5.0
1988	0	0.0	
1989	4	24.6	6.2
1990	4	25.2	6.3
1991	0	0.0	
1992	3	18.8	6.3
1993	12	73.0	6.1
1994	3	18.8	6.3
1995	4	26.8	6.7
1996	1	6.3	6.3
1997	11	66.5	6.0
1998	6	34.4	5.7
1999	3	17.7	5.9
2000	7	44.8	6.4
2001	5	31.1	6.2
2002	4	24.0	6.0
2003	1	4.3	4.3
2004	1	6.8	6.8
2005	4	24.5	6.1
2006	10	58.6	5.9
2007	0	0.0	
2008	7	41.1	5.9
2009	4	23.2	5.8
2010	3	18.9	6.3
2011	0	0.0	
2012	8	46.2	5.8
2013	2	11.2	5.6
2014	5	28.9	5.8
2015	1	6.6	6.6
2016	3	17.4	5.8
2017	8	45.6	5.7
2018	7	42.0	6.0
2019	3	19.3	6.4
2020	0	0.0	
2021	5	28.4	5.7
2022	6	35.8	6.0
10 years	AWS and small screen both in 1994		
Pre AWS	3.9	23.5	6.0
Post AWS	5.2	31.3	5.9
*** 1996 earliest**			
Pre small	3.5	21.0	6.1
Post small	4.3	26.3	6.0
5 years			
Pre AWS	4.4	27.5	6.3
Post AWS	6.4	38.9	6.1
*** 1996 earliest**			
Pre small	4.6	28.3	6.2
Post small	5.0	30.3	6.1

Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS	
	Av #	Av C
20 years	33.4	9.2
19 years	34.4	9.2
18 years	34.9	9.2
17 years	35.0	9.2
16 years	34.6	9.2
15 years	34.6	9.2
14 years	34.9	9.2
13 years	33.8	9.3
12 years	34.5	9.3
11 years	34.7	9.2
10 years	33.4	9.2
9 years	32.2	9.3
8 years	33.3	9.3
7 years	37.1	9.1
6 years	38.7	9.2
5 years	41.0	9.3
4 years	47.0	9.0
3 years	49.3	8.9
2 years	44.5	9.0
1 years	40.0	9.0
0 years	28.0	9.6
1 years	43.0	8.4
2 years	38.0	8.7
3 years	38.7	8.8
4 years	45.0	8.8
5 years	43.6	8.8
6 years	42.8	8.9
7 years	41.1	8.9
8 years	39.5	9.1
9 years	39.2	9.0
10 years	39.1	8.9
11 years	38.3	9.0
12 years	39.3	8.9
13 years	39.5	8.9
14 years	38.9	9.0
15 years	38.1	9.0
16 years	38.4	9.0
17 years	38.3	9.0
18 years	38.9	9.0
19 years	38.5	9.0
20 years	38.6	9.0

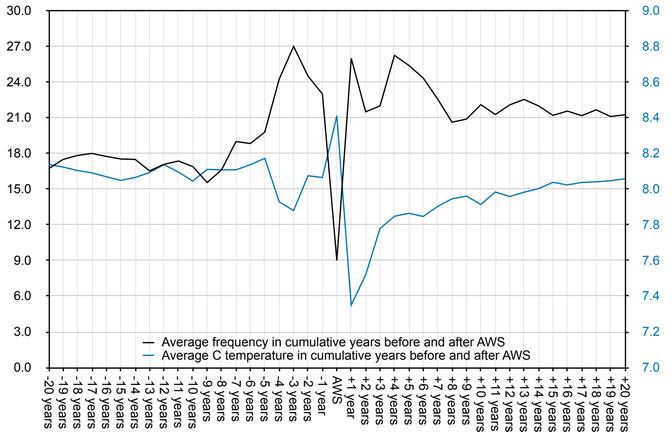
Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS	
	Av #	Av C
20 years	16.7	8.1
19 years	17.5	8.1
18 years	17.8	8.1
17 years	18.0	8.1
16 years	17.8	8.1
15 years	17.5	8.0
14 years	17.5	8.1
13 years	16.5	8.1
12 years	17.1	8.1
11 years	17.4	8.1
10 years	16.9	8.0
9 years	15.6	8.1
8 years	16.6	8.1
7 years	19.0	8.1
6 years	18.8	8.1
5 years	19.8	8.2
4 years	24.3	7.9
3 years	27.0	7.9
2 years	24.5	8.1
1 years	23.0	8.1
0 years	9.0	8.4
1 years	26.0	7.4
2 years	21.5	7.5
3 years	22.0	7.8
4 years	26.3	7.8
5 years	25.4	7.9
6 years	24.3	7.8
7 years	22.6	7.9
8 years	20.6	7.9
9 years	20.9	8.0
10 years	22.1	7.9
11 years	21.3	8.0
12 years	22.1	8.0
13 years	22.5	8.0
14 years	22.0	8.0
15 years	21.2	8.0
16 years	21.6	8.0
17 years	21.2	8.0
18 years	21.7	8.0
19 years	21.1	8.0
20 years	21.3	8.1

Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
	Av #	Av C
20 years	3.1	6.1
19 years	3.2	6.1
18 years	3.3	6.1
17 years	3.4	6.1
16 years	3.4	6.1
15 years	3.7	6.1
14 years	3.7	6.2
13 years	3.4	6.2
12 years	3.5	6.2
11 years	3.7	6.1
10 years	3.9	6.0
9 years	3.4	6.1
8 years	3.8	6.3
7 years	4.3	6.3
6 years	4.3	6.3
5 years	4.4	6.3
4 years	5.5	6.3
3 years	6.3	6.4
2 years	3.5	6.5
1 years	4.0	6.7
0 years	1.0	6.3
1 years	11.0	6.0
2 years	8.5	5.9
3 years	6.7	5.9
4 years	6.8	6.0
5 years	6.4	6.1
6 years	6.0	6.0
7 years	5.3	5.8
8 years	4.8	5.9
9 years	4.7	5.9
10 years	5.2	5.9
11 years	4.7	5.9
12 years	4.9	5.9
13 years	4.8	5.9
14 years	4.7	6.0
15 years	4.4	6.0
16 years	4.6	5.9
17 years	4.5	5.9
18 years	4.5	5.9
19 years	4.3	5.9
20 years	4.3	5.9

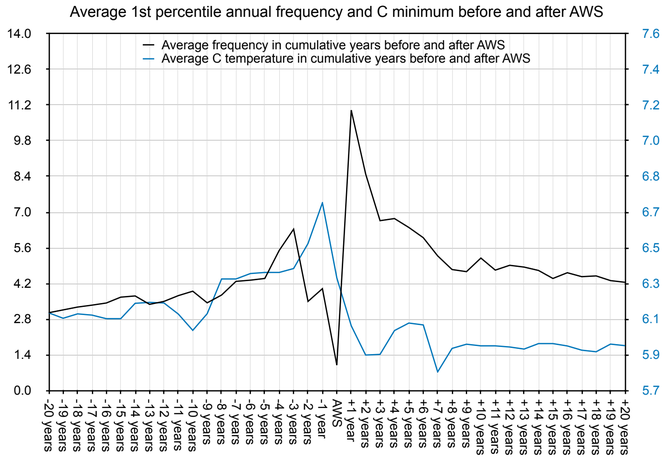
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



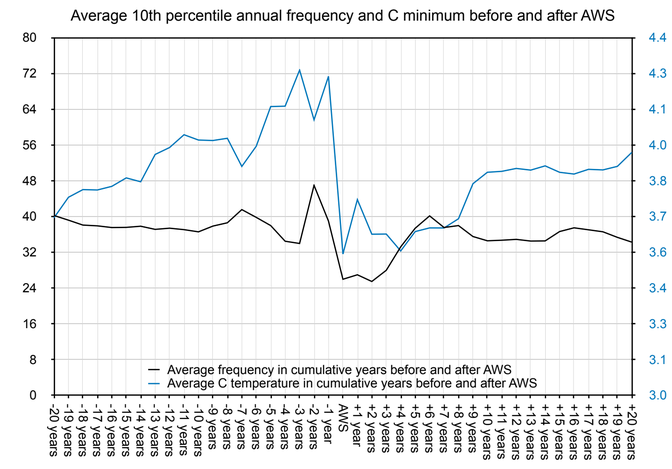
Average 1st percentile annual frequency and C minimum before and after AWS

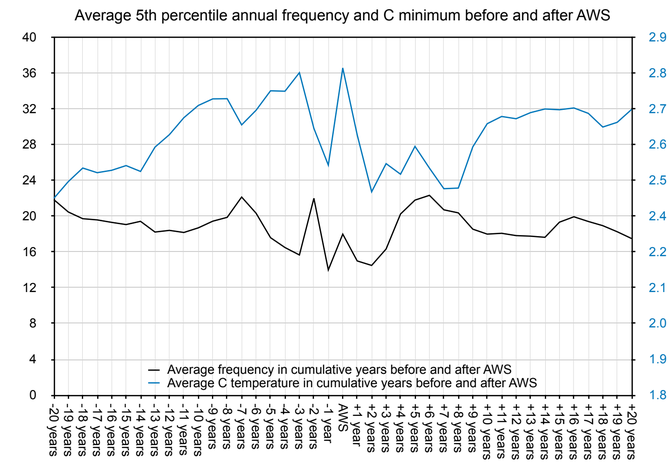


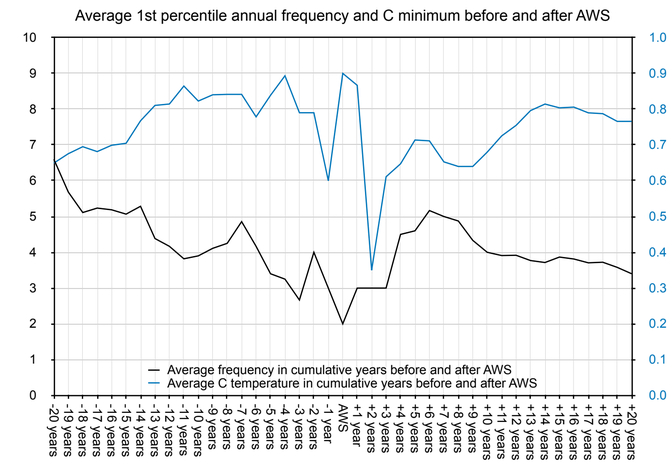
10th 6.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 1.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	44	165.2	3.8	**1910**	23	58.2	2.5	**1910**	4	-0.5	-0.1									
1911	35	123.1	3.5	**1911**	20	49.1	2.5	**1911**	5	0.9	0.2									
1912	36	181.6	5.0	**1912**	6	21.0	3.5	**1912**	0	0.0										
1913	47	186.7	4.0	**1913**	23	62.1	2.7	**1913**	2	2.1	1.1									
1914	23	91.1	4.0	**1914**	11	32.2	2.9	**1914**	0	0.0										
1915	47	205.6	4.4	**1915**	15	43.8	2.9	**1915**	1	1.4	1.4									
1916	22	87.7	4.0	**1916**	12	37.1	3.1	**1916**	1	0.3	0.3									
1917	52	203.4	3.9	**1917**	28	79.9	2.9	**1917**	3	2.1	0.7									
1918	54	178.4	3.3	**1918**	37	94.0	2.5	**1918**	5	-2.7	-0.5									
1919	58	203.3	3.5	**1919**	32	72.8	2.3	**1919**	10	5.9	0.6									
1920	30	125.5	4.2	**1920**	11	32.3	2.9	**1920**	1	1.4	1.4									
1921	18	70.5	3.9	**1921**	10	28.3	2.8	**1921**	1	1.4	1.4									
1922	53	192.6	3.6	**1922**	32	84.6	2.6	**1922**	6	4.8	0.8									
1923	55	224.3	4.1	**1923**	27	83.1	3.1	**1923**	3	4.2	1.4									
1924	42	180.1	4.3	**1924**	16	46.2	2.9	**1924**	3	3.2	1.1									
1925	62	229.6	3.7	**1925**	31	74.7	2.4	**1925**	11	8.4	0.8									
1926	42	166.2	4.0	**1926**	20	55.0	2.8	**1926**	1	0.6	0.6									
1927	42	126.6	3.0	**1927**	27	49.1	1.8	**1927**	10	3.3	0.3									
1928	0	0.0		**1928**	0	0.0		**1928**	0	0.0										
1929	52	199.5	3.8	**1929**	26	63.4	2.4	**1929**	6	3.3	0.6									
1930	22	98.7	4.5	**1930**	8	27.0	3.4	**1930**	0	0.0										
1931	32	114.2	3.6	**1931**	21	59.0	2.8	**1931**	3	1.2	0.4									
1932	48	172.6	3.6	**1932**	30	81.3	2.7	**1932**	3	2.7	0.9									
1933	28	128.5	4.6	**1933**	8	27.4	3.4	**1933**	0	0.0										
1934	39	170.8	4.4	**1934**	15	51.4	3.4	**1934**	0	0.0										
1935	42	165.3	3.9	**1935**	25	76.8	3.1	**1935**	2	1.9	1.0									
1936	27	92.7	3.4	**1936**	16	35.4	2.2	**1936**	3	-0.1	-0.0									
1937	40	150.8	3.8	**1937**	20	53.5	2.7	**1937**	3	3.2	1.1									
1938	19	87.4	4.6	**1938**	6	18.2	3.0	**1938**	0	0.0										
1939	37	155.3	4.2	**1939**	19	64.3	3.4	**1939**	0	0.0										
1940	29	97.7	3.4	**1940**	17	35.8	2.1	**1940**	6	3.3	0.6									
1941	65	243.9	3.8	**1941**	33	83.8	2.5	**1941**	6	1.6	0.3									
1942	22	91.6	4.2	**1942**	11	35.0	3.2	**1942**	0	0.0										
1943	49	162.5	3.3	**1943**	34	86.7	2.6	**1943**	5	2.2	0.4									
1944	23	110.0	4.8	**1944**	5	16.6	3.3	**1944**	0	0.0										
1945	17	75.5	4.4	**1945**	6	20.2	3.4	**1945**	0	0.0										
1946	45	167.2	3.7	**1946**	28	81.7	2.9	**1946**	2	2.2	1.1									
1947	20	90.1	4.5	**1947**	7	23.3	3.3	**1947**	1	1.1	1.1									
1948	27	119.3	4.4	**1948**	9	32.3	3.6	**1948**	0	0.0										
1949	47	167.3	3.6	**1949**	28	69.3	2.5	**1949**	4	-3.4	-0.9									
1950	22	102.6	4.7	**1950**	8	29.4	3.7	**1950**	0	0.0										
1951	47	158.0	3.4	**1951**	26	54.8	2.1	**1951**	5	-2.9	-0.6									
1952	41	168.6	4.1	**1952**	15	36.2	2.4	**1952**	3	1.7	0.6									
1953	50	185.4	3.7	**1953**	31	91.0	2.9	**1953**	3	-1.2	-0.4									
1954	20	76.7	3.8	**1954**	12	36.1	3.0	**1954**	1	1.1	1.1									
1955	27	102.4	3.8	**1955**	14	35.6	2.5	**1955**	3	0.6	0.2									
1956	45	169.4	3.8	**1956**	23	59.4	2.6	**1956**	4	3.9	1.0									
1957	35	151.9	4.3	**1957**	12	33.3	2.8	**1957**	0	0.0										
1958	30	138.7	4.6	**1958**	5	16.1	3.2	**1958**	1	1.1	1.1									
1959	41	149.6	3.6	**1959**	22	57.0	2.6	**1959**	4	4.4	1.1									
1960	68	280.1	4.1	**1960**	25	64.5	2.6	**1960**	5	1.6	0.3									
1961	35	132.8	3.8	**1961**	19	52.8	2.8	**1961**	4	2.3	0.6									
1962	21	101.5	4.8	**1962**	3	6.7	2.2	**1962**	1	1.1	1.1									
1963	29	102.4	3.5	**1963**	16	38.0	2.4	**1963**	5	4.0	0.8									
1964	22	94.6	4.3	**1964**	9	26.6	3.0	**1964**	0	0.0										
1965	26	82.6	3.2	**1965**	18	44.4	2.5	**1965**	2	0.6	0.3									
1966	30	127.0	4.2	**1966**	8	19.4	2.4	**1966**	1	1.1	1.1									
1967	42	179.1	4.3	**1967**	17	51.7	3.0	**1967**	0	0.0										
1968	30	119.0	4.0	**1968**	14	36.6	2.6	**1968**	2	0.7	0.4									
1969	28	119.5	4.3	**1969**	10	24.9	2.5	**1969**	3	3.8	1.3									
1970	48	186.4	3.9	**1970**	22	54.2	2.5	**1970**	5	4.8	1.0									
1971	37	136.1	3.7	**1971**	19	39.9	2.1	**1971**	5	0.5	0.1									
1972	47	152.6	3.2	**1972**	29	63.5	2.2	**1972**	8	4.6	0.6									
1973	11	50.0	4.5	**1973**	4	13.0	3.3	**1973**	0	0.0										
1974	69	256.2	3.7	**1974**	33	69.3	2.1	**1974**	12	6.3	0.5									
1975	45	173.5	3.9	**1975**	22	59.5	2.7	**1975**	4	2.6	0.7									
1976	60	130.3	2.2	**1976**	48	68.6	1.4	**1976**	24	4.9	0.2	20 years	40.3	3.7	20 years	21.9	2.4	20 years	6.6	0.6
1977	59	190.9	3.2	**1977**	34	58.0	1.7	**1977**	16	5.8	0.4	19 years	39.2	3.8	19 years	20.5	2.5	19 years	5.7	0.7
1978	41	157.1	3.8	**1978**	22	60.3	2.7	**1978**	3	2.7	0.9	18 years	38.1	3.8	18 years	19.7	2.5	18 years	5.1	0.7
1979	44	157.4	3.6	**1979**	24	56.8	2.4	**1979**	6	2.6	0.4	17 years	37.9	3.8	17 years	19.6	2.5	17 years	5.2	0.7
1980	37	122.9	3.3	**1980**	23	52.3	2.3	**1980**	7	4.4	0.6	16 years	37.6	3.8	16 years	19.3	2.5	16 years	5.2	0.7
1981	34	138.2	4.1	**1981**	14	38.6	2.8	**1981**	2	-0.1	-0.1	15 years	37.6	3.9	15 years	19.1	2.5	15 years	5.1	0.7
1982	47	115.0	2.4	**1982**	35	53.1	1.5	**1982**	17	5.0	0.3	14 years	37.9	3.8	14 years	19.4	2.5	14 years	5.3	0.8
1983	34	123.0	3.6	**1983**	16	33.6	2.1	**1983**	7	5.4	0.8	13 years	37.2	3.9	13 years	18.2	2.6	13 years	4.4	0.8
1984	41	140.2	3.4	**1984**	21	42.6	2.0	**1984**	8	2.9	0.4	12 years	37.4	4.0	12 years	18.4	2.6	12 years	4.2	0.8
1985	42	177.6	4.2	**1985**	13	29.6	2.3	**1985**	3	3.6	1.2	11 years	37.1	4.0	11 years	18.2	2.7	11 years	3.8	0.9
1986	25	100.4	4.0	**1986**	12	30.1	2.5	**1986**	2	1.4	0.7	10 years	36.6	4.0	10 years	18.7	2.7	10 years	3.9	0.8
1987	32	125.7	3.9	**1987**	16	43.3	2.7	**1987**	3	2.5	0.8	9 years	37.9	4.0	9 years	19.4	2.7	9 years	4.1	0.8
1988	18	86.0	4.8	**1988**	4	13.1	3.3	**1988**	0	0.0		8 years	38.6	4.0	8 years	19.9	2.7	8 years	4.3	0.8
1989	52	177.9	3.4	**1989**	33	77.9	2.4	**1989**	9	10.4	1.2	7 years	41.6	3.9	7 years	22.1	2.6	7 years	4.9	0.8
1990	49	156.8	3.2	**1990**	34	80.8	2.4	**1990**	8	4.3	0.5	6 years	39.8	4.0	6 years	20.3	2.7	6 years	4.2	0.8
1991	52	214.5	4.1	**1991**	22	60.3	2.7	**1991**	4	2.7	0.7	5 years	38.0	4.1	5 years	17.6	2.7	5 years	3.4	0.8
1992	36	133.5	3.7	**1992**	19	48.7	2.6	**1992**	5	5.5	1.1	4 years	34.5	4.1	4 years	16.5	2.7	4 years	3.3	0.9
1993	8	37.3	4.7	**1993**	3	9.4	3.1	**1993**	0	0.0		3 years	34.0	4.3	3 years	15.7	2.8	3 years	2.7	0.8
1994	55	215.0	3.9	**1994**	30	82.0	2.7	**1994**	5	4.9	1.0	2 years	47.0	4.1	2 years	22.0	2.6	2 years	4.0	0.8
1995	39	165.7	4.2	**1995**	14	35.1	2.5	**1995**	3	1.8	0.6	1 years	39.0	4.2	1 years	14.0	2.5	1 years	3.0	0.6
1996	26	92.4	3.6	**1996**	18	50.5	2.8	**1996**	2	1.8	0.9	0 years	26.0	3.6	0 years	18.0	2.8	0 years	2.0	0.9
1997	27	101.7	3.8	**1997**	15	39.0	2.6	**1997**	3	2.6	0.9	1 years	27.0	3.8	1 years	15.0	2.6	1 years	3.0	0.9
1998	24	83.9	3.5	**1998**	14	31.5	2.3	**1998**	3	-0.5	-0.2	2 years	25.5	3.6	2 years	14.5	2.4	2 years	3.0	0.4
1999	33	119.9	3.6	**1999**	20	53.7	2.7	**1999**	3	3.4	1.1	3 years	28.0	3.6	3 years	16.3	2.5	3 years	3.0	0.6
2000	49	165.0	3.4	**2000**	32	76.2	2.4	**2000**	9	6.8	0.8	4 years	33.3	3.6	4 years	20.3	2.5	4 years	4.5	0.6
2001	54	213.0	3.9	**2001**	28	81.4	2.9	**2001**	5	4.9	1.0	5 years	37.4	3.6	5 years	21.8	2.6	5 years	4.6	0.7
2002	54	201.3	3.7	**2002**	25	54.1	2.2	**2002**	8	5.6	0.7	6 years	40.2	3.7	6 years	22.3	2.5	6 years	5.2	0.7
2003	22	80.4	3.7	**2003**	11	22.6	2.1	**2003**	4	1.2	0.3	7 years	37.6	3.7	7 years	20.7	2.4	7 years	5.0	0.7
2004	41	161.7	3.9	**2004**	18	44.1	2.5	**2004**	4	2.2	0.6	8 years	38.0	3.7	8 years	20.4	2.4	8 years	4.9	0.6
2005	16	78.8	4.9	**2005**	4	14.3	3.6	**2005**	0	0.0		9 years	35.6	3.8	9 years	18.6	2.6	9 years	4.3	0.6
2006	26	111.2	4.3	**2006**	13	42.6	3.3	**2006**	1	1.0	1.0	10 years	34.6	3.9	10 years	18.0	2.6	10 years	4.0	0.7
2007	36	140.9	3.9	**2007**	19	54.7	2.9	**2007**	3	3.4	1.1	11 years	34.7	3.9	11 years	18.1	2.7	11 years	3.9	0.7
2008	37	148.5	4.0	**2008**	15	38.6	2.6	**2008**	4	4.2	1.1	12 years	34.9	3.9	12 years	17.8	2.6	12 years	3.9	0.8
2009	30	114.1	3.8	**2009**	17	49.2	2.9	**2009**	2	2.5	1.3	13 years	34.5	3.9	13 years	17.8	2.7	13 years	3.8	0.8
2010	35	144.0	4.1	**2010**	16	45.2	2.8	**2010**	3	3.1	1.0	14 years	34.6	3.9	14 years	17.6	2.7	14 years	3.7	0.8
2011	66	232.4	3.5	**2011**	43	113.7	2.6	**2011**	6	4.0	0.7	15 years	36.7	3.9	15 years	19.3	2.7	15 years	3.9	0.8
2012	50	188.2	3.8	**2012**	29	80.2	2.8	**2012**	3	2.5	0.8	16 years	37.5	3.9	16 years	19.9	2.7	16 years	3.8	0.8
2013	30	125.4	4.2	**2013**	11	26.4	2.4	**2013**	2	1.1	0.6	17 years	37.1	3.9	17 years	19.4	2.7	17 years	3.7	0.8
2014	29	111.5	3.8	**2014**	11	21.0	1.9	**2014**	4	3.0	0.8	18 years	36.6	3.9	18 years	18.9	2.6	18 years	3.7	0.8
2015	13	53.9	4.1	**2015**	6	17.4	2.9	**2015**	1	0.4	0.4	19 years	35.4	3.9	19 years	18.3	2.6	19 years	3.6	0.8
2016	14	69.9	5.0	**2016**	3	10.3	3.4	**2016**	0	0.0		20 years	34.3	4.0	20 years	17.5	2.7	20 years	3.4	0.8
2017	20	92.9	4.6	**2017**	6	17.4	2.9	**2017**	0	0.0										
2018	34	117.8	3.5	**2018**	20	46.2	2.3	**2018**	6	6.1	1.0									
2019	37	156.6	4.2	**2019**	12	29.1	2.4	**2019**	2	1.7	0.9									
2020	24	107.1	4.5	**2020**	9	29.5	3.3	**2020**	0	0.0										
2021	26	107.2	4.1	**2021**	8	17.3	2.2	**2021**	3	1.9	0.6									
2022	37	146.7	4.0	**2022**	20	57.5	2.9	**2022**	3	3.3	1.1									

Original AWS probe Rosemount

10 years	AWS and small screen both in 1996			**10 years**	AWS and small screen both in 1996			**10 years**	AWS and small screen both in 1996		
Pre AWS	36.6	141.3	4.0	**Pre AWS**	18.7	48.1	2.7	**Pre AWS**	3.9	3.4	0.8
Post AWS	34.6	131.7	3.9	**Post AWS**	18.0	46.0	2.6	**Post AWS**	4.0	2.7	0.7
Pre small	36.6	141.3	4.0	**Pre small**	18.7	48.1	2.7	**Pre small**	3.9	3.4	0.8
Post small	34.6	131.7	3.9	**Post small**	18.0	46.0	2.6	**Post small**	4.0	2.7	0.7
5 years				**5 years**				**5 years**			
Pre AWS	38.0	153.2	4.1	**Pre AWS**	17.6	47.1	2.7	**Pre AWS**	3.4	3.0	0.8
Post AWS	37.4	136.7	3.6	**Post AWS**	21.8	56.4	2.6	**Post AWS**	4.6	3.4	0.7
Pre small	38.0	153.2	4.1	**Pre small**	17.6	47.1	2.7	**Pre small**	3.4	3.0	0.8
Post small	37.4	136.7	3.6	**Post small**	21.8	56.4	2.6	**Post small**	4.6	3.4	0.7
		AWS introduction									
		Small screen introduction									





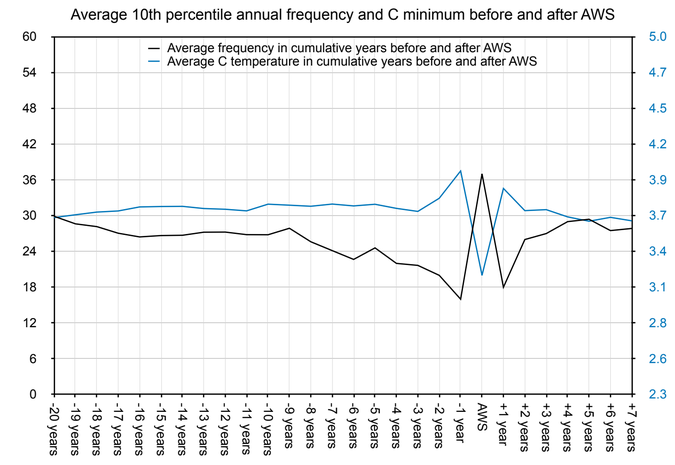


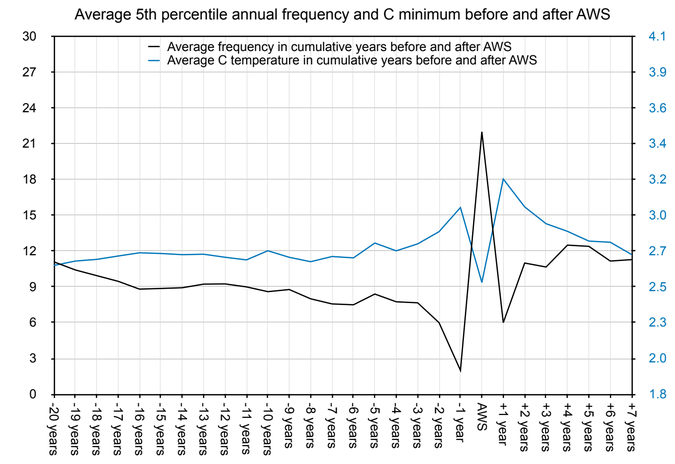
10th 4.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 3.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 1.7	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	37	124.0	3.4	**1910**	19	46.4	2.4	**1910**	1	0.3	0.3									
1911	43	129.8	3.0	**1911**	23	46.9	2.0	**1911**	8	6.6	0.8									
1912	43	124.8	2.9	**1912**	29	64.6	2.2	**1912**	10	11.8	1.2									
1913	48	131.3	2.7	**1913**	30	57.0	1.9	**1913**	15	16.9	1.1									
1914	42	142.4	3.4	**1914**	20	47.7	2.4	**1914**	5	6.1	1.2									
1915	30	98.8	3.3	**1915**	14	33.1	2.4	**1915**	3	3.5	1.2									
1916	43	149.2	3.5	**1916**	16	36.2	2.3	**1916**	4	3.3	0.8									
1917	29	94.0	3.2	**1917**	15	35.5	2.4	**1917**	2	2.4	1.2									
1918	35	119.5	3.4	**1918**	18	47.1	2.6	**1918**	2	2.9	1.5									
1919	35	110.8	3.2	**1919**	19	43.1	2.3	**1919**	5	4.5	0.9									
1920	37	124.9	3.4	**1920**	21	55.2	2.6	**1920**	1	0.7	0.7									
1921	20	54.8	2.7	**1921**	17	42.9	2.5	**1921**	3	4.1	1.4									
1922	36	121.6	3.4	**1922**	18	43.3	2.4	**1922**	3	3.6	1.2									
1923	34	113.6	3.3	**1923**	20	54.5	2.7	**1923**	0	0.0										
1924	38	109.4	2.9	**1924**	23	48.1	2.1	**1924**	8	8.5	1.1									
1925	48	136.9	2.9	**1925**	29	57.4	2.0	**1925**	10	6.2	0.6									
1926	24	80.8	3.4	**1926**	12	30.9	2.6	**1926**	2	2.9	1.5									
1927	49	150.6	3.1	**1927**	30	70.4	2.3	**1927**	7	7.8	1.1									
1928	29	92.2	3.2	**1928**	19	50.3	2.6	**1928**	3	4.3	1.4									
1929	40	104.3	2.6	**1929**	29	56.7	2.0	**1929**	11	11.5	1.0									
1930	32	114.9	3.6	**1930**	13	35.2	2.7	**1930**	2	2.6	1.3									
1931	29	88.7	3.1	**1931**	19	44.0	2.3	**1931**	2	-0.1	-0.1									
1932	33	112.0	3.4	**1932**	16	38.4	2.4	**1932**	3	4.0	1.3									
1933	40	129.8	3.2	**1933**	23	56.9	2.5	**1933**	4	6.3	1.6									
1934	33	113.7	3.4	**1934**	15	38.9	2.6	**1934**	3	3.8	1.3									
1935	34	115.1	3.4	**1935**	17	43.9	2.6	**1935**	2	3.4	1.7									
1936	47	155.8	3.3	**1936**	25	62.4	2.5	**1936**	1	1.3	1.3									
1937	44	138.7	3.2	**1937**	23	52.7	2.3	**1937**	6	6.2	1.0									
1938	67	163.4	2.4	**1938**	50	91.1	1.8	**1938**	22	10.7	0.5									
1939	40	120.9	3.0	**1939**	25	59.5	2.4	**1939**	6	6.6	1.1									
1940	36	125.5	3.5	**1940**	14	34.9	2.5	**1940**	2	2.0	1.0									
1941	51	155.9	3.1	**1941**	25	47.6	1.9	**1941**	11	9.3	0.8									
1942	30	113.8	3.8	**1942**	9	23.8	2.6	**1942**	1	1.1	1.1									
1943	59	169.6	2.9	**1943**	43	102.9	2.4	**1943**	9	7.4	0.8									
1944	47	130.3	2.8	**1944**	31	60.8	2.0	**1944**	11	6.8	0.6									
1945	62	185.0	3.0	**1945**	39	86.9	2.2	**1945**	10	7.8	0.8									
1946	37	126.7	3.4	**1946**	18	48.6	2.7	**1946**	2	2.3	1.2									
1947	33	95.4	2.9	**1947**	22	49.5	2.3	**1947**	7	7.9	1.1									
1948	36	78.1	2.2	**1948**	29	48.3	1.7	**1948**	16	13.5	0.8									
1949	44	143.5	3.3	**1949**	24	60.5	2.5	**1949**	5	7.3	1.5									
1950	50	166.6	3.3	**1950**	29	78.9	2.7	**1950**	2	1.7	0.9									
1951	45	142.4	3.2	**1951**	21	40.9	1.9	**1951**	9	8.2	0.9									
1952	43	121.6	2.8	**1952**	26	49.0	1.9	**1952**	14	14.9	1.1									
1953	39	110.4	2.8	**1953**	26	55.7	2.1	**1953**	11	12.5	1.1									
1954	37	125.0	3.4	**1954**	20	51.8	2.6	**1954**	3	4.5	1.5									
1955	43	140.2	3.3	**1955**	20	46.9	2.3	**1955**	5	7.0	1.4									
1956	42	113.9	2.7	**1956**	26	46.4	1.8	**1956**	11	7.5	0.7									
1957	38	122.8	3.2	**1957**	19	43.7	2.3	**1957**	4	2.2	0.6									
1958	43	120.5	2.8	**1958**	29	62.9	2.2	**1958**	13	17.4	1.3									
1959	34	112.4	3.3	**1959**	16	37.7	2.4	**1959**	6	6.7	1.1									
1960	38	125.7	3.3	**1960**	17	38.3	2.3	**1960**	6	8.4	1.4									
1961	35	114.5	3.3	**1961**	15	30.0	2.0	**1961**	7	10.1	1.4									
1962	35	115.0	3.3	**1962**	18	43.7	2.4	**1962**	6	8.4	1.4									
1963	46	154.6	3.4	**1963**	24	60.3	2.5	**1963**	5	5.6	1.1									
1964	29	90.6	3.1	**1964**	14	28.3	2.0	**1964**	6	6.2	1.0									
1965	38	126.4	3.3	**1965**	21	52.0	2.5	**1965**	5	5.3	1.1									
1966	57	156.4	2.7	**1966**	41	88.2	2.2	**1966**	17	19.8	1.2									
1967	36	106.0	2.9	**1967**	21	40.8	1.9	**1967**	10	10.8	1.1									
1968	40	123.9	3.1	**1968**	23	52.5	2.3	**1968**	5	3.6	0.7									
1969	37	128.1	3.5	**1969**	17	42.1	2.5	**1969**	4	5.6	1.4									
1970	47	159.4	3.4	**1970**	25	68.6	2.7	**1970**	3	4.5	1.5									
1971	30	100.3	3.3	**1971**	16	42.7	2.7	**1971**	3	4.5	1.5									
1972	37	112.5	3.0	**1972**	23	53.8	2.3	**1972**	6	5.7	1.0									
1973	42	139.7	3.3	**1973**	18	39.5	2.2	**1973**	7	8.7	1.2									
1974	33	116.5	3.5	**1974**	11	27.0	2.5	**1974**	2	1.5	0.8									
1975	38	128.5	3.4	**1975**	18	47.5	2.6	**1975**	0	0.0										
1976	50	171.6	3.4	**1976**	21	50.4	2.4	**1976**	4	5.1	1.3									
1977	54	179.8	3.3	**1977**	22	51.2	2.3	**1977**	6	6.5	1.1									
1978	40	131.0	3.3	**1978**	16	34.5	2.2	**1978**	4	4.0	1.0									
1979	39	125.4	3.2	**1979**	16	34.5	2.2	**1979**	4	4.5	1.1									
1980	28	91.1	3.3	**1980**	14	35.9	2.6	**1980**	1	1.5	1.5									
1981	30	88.5	3.0	**1981**	18	40.5	2.3	**1981**	2	1.5	0.8									
1982	46	131.2	2.9	**1982**	25	50.5	2.0	**1982**	7	6.0	0.9									
1983	38	118.1	3.1	**1983**	20	44.4	2.2	**1983**	4	2.6	0.7									
1984	34	119.0	3.5	**1984**	13	33.5	2.6	**1984**	1	1.5	1.5									
1985	46	140.0	3.0	**1985**	26	60.5	2.3	**1985**	3	4.0	1.3									
1986	32	99.8	3.1	**1986**	14	24.0	1.7	**1986**	5	5.0	1.0									
1987	30	108.8	3.6	**1987**	11	28.9	2.6	**1987**	0	0.0										
1988	20	80.9	4.0	**1988**	2	5.5	2.8	**1988**	0	0.0										
1989	40	132.1	3.3	**1989**	21	51.9	2.5	**1989**	2	2.4	1.2									
1990	44	161.0	3.7	**1990**	15	37.5	2.5	**1990**	2	3.0	1.5									
1991	30	107.9	3.6	**1991**	10	25.7	2.6	**1991**	2	2.8	1.4									
1992	41	133.4	3.3	**1992**	21	51.1	2.4	**1992**	4	5.5	1.4									
1993	33	123.3	3.7	**1993**	10	29.6	3.0	**1993**	0	0.0										
1994	44	139.8	3.2	**1994**	22	46.8	2.1	**1994**	7	8.2	1.2									
1995	54	174.4	3.2	**1995**	24	50.2	2.1	**1995**	7	9.1	1.3	20 years	29.9	3.6	20 years	11.1	2.6	20 years	1.6	1.3
1996	37	121.8	3.3	**1996**	19	46.8	2.5	**1996**	3	4.3	1.4	19 years	28.6	3.7	19 years	10.4	2.7	19 years	1.3	1.3
1997	47	166.0	3.5	**1997**	18	41.4	2.3	**1997**	3	4.0	1.3	18 years	28.2	3.7	18 years	9.9	2.7	18 years	1.2	1.2
1998	37	118.4	3.2	**1998**	20	47.1	2.4	**1998**	4	4.9	1.2	17 years	27.1	3.7	17 years	9.5	2.7	17 years	1.1	1.2
1999	23	84.4	3.7	**1999**	8	22.2	2.8	**1999**	1	1.6	1.6	16 years	26.4	3.7	16 years	8.8	2.7	16 years	0.9	1.2
2000	26	96.2	3.7	**2000**	8	22.5	2.8	**2000**	0	0.0		15 years	26.7	3.7	15 years	8.9	2.7	15 years	0.9	1.2
2001	20	78.7	3.9	**2001**	5	13.3	2.7	**2001**	2	3.2	1.6	14 years	26.7	3.7	14 years	8.9	2.7	14 years	1.0	1.2
2002	27	101.8	3.8	**2002**	9	26.4	2.9	**2002**	0	0.0		13 years	27.2	3.7	13 years	9.2	2.7	13 years	0.9	1.1
2003	32	122.6	3.8	**2003**	12	34.4	2.9	**2003**	0	0.0		12 years	27.3	3.7	12 years	9.3	2.7	12 years	1.0	1.1
2004	27	85.9	3.2	**2004**	13	27.0	2.1	**2004**	5	5.3	1.1	11 years	26.8	3.7	11 years	9.0	2.7	11 years	1.1	1.1
2005	17	64.7	3.8	**2005**	7	21.7	3.1	**2005**	0	0.0		10 years	26.8	3.7	10 years	8.6	2.7	10 years	0.7	1.1
2006	46	174.5	3.8	**2006**	15	43.6	2.9	**2006**	0	0.0		9 years	27.9	3.7	9 years	8.8	2.7	9 years	0.8	1.1
2007	36	129.8	3.6	**2007**	11	26.6	2.4	**2007**	3	3.7	1.2	8 years	25.6	3.7	8 years	8.0	2.7	8 years	0.9	1.1
2008	33	126.1	3.8	**2008**	8	21.9	2.7	**2008**	0	0.0		7 years	24.1	3.7	7 years	7.6	2.7	7 years	0.6	1.1
2009	13	47.6	3.7	**2009**	3	6.6	2.2	**2009**	1	1.2	1.2	6 years	22.7	3.7	6 years	7.5	2.7	6 years	0.7	1.1
2010	35	135.1	3.9	**2010**	11	32.7	3.0	**2010**	0	0.0		5 years	24.6	3.7	5 years	8.4	2.8	5 years	0.6	1.1
2011	23	86.8	3.8	**2011**	8	20.7	2.6	**2011**	1	1.0	1.0	4 years	22.0	3.7	4 years	7.8	2.7	4 years	0.8	1.1
2012	25	87.1	3.5	**2012**	11	28.7	2.6	**2012**	1	1.7	1.7	3 years	21.7	3.7	3 years	7.7	2.8	3 years	0.7	1.1
2013	24	85.8	3.6	**2013**	10	26.9	2.7	**2013**	1	0.5	0.5	2 years	20.0	3.8	2 years	6.0	2.8	2 years	0.5	0.5
2014	16	63.8	4.0	**2014**	2	6.0	3.0	**2014**	0	0.0		1 years	16.0	4.0	1 years	2.0	3.0	1 years	0.0	
2015	37	118.4	3.2	**2015**	22	55.4	2.5	**2015**	3	4.0	1.3	0 years	37.0	3.2	0 years	22.0	2.5	0 years	3.0	1.3
2016	18	69.4	3.9	**2016**	6	19.1	3.2	**2016**	0	0.0		1 years	18.0	3.9	1 years	6.0	3.2	1 years	0.0	
2017	34	119.7	3.5	**2017**	16	45.2	2.8	**2017**	0	0.0		2 years	26.0	3.7	2 years	11.0	3.0	2 years	0.0	
2018	29	107.6	3.7	**2018**	10	26.8	2.7	**2018**	1	1.6	1.6	3 years	27.0	3.7	3 years	10.7	2.9	3 years	0.3	1.6
2019	35	121.7	3.5	**2019**	18	48.6	2.7	**2019**	2	3.1	1.6	4 years	29.0	3.6	4 years	12.5	2.8	4 years	0.8	1.6
2020	31	107.8	3.5	**2020**	12	30.4	2.5	**2020**	1	1.5	1.5	5 years	29.4	3.6	5 years	12.4	2.8	5 years	0.8	1.6
2021	18	68.1	3.8	**2021**	5	13.7	2.7	**2021**	0	0.0		6 years	27.5	3.6	6 years	11.2	2.8	6 years	0.7	1.6
2022	30	103.6	3.5	**2022**	12	26.7	2.2	**2022**	4	5.7	1.4	7 years	27.9	3.6	7 years	11.3	2.7	7 years	1.1	1.5

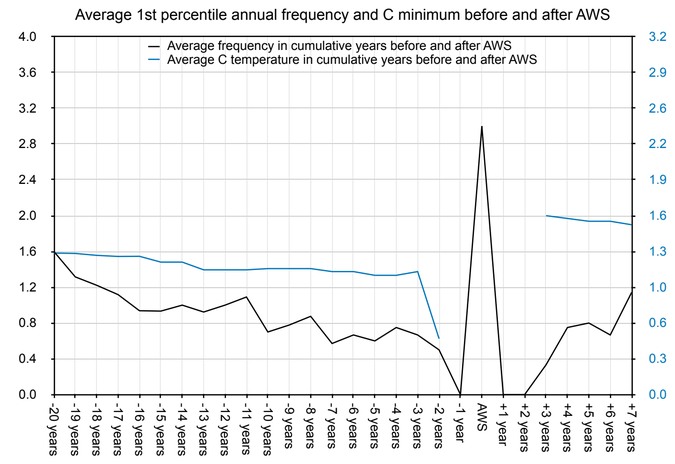
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	22.7	84.4	3.7	**Pre**	7.5	20.3	2.7	**Pre**	0.7	0.7	1.1
Post	27.5	99.1	3.6	**Post**	11.2	30.6	2.8	**Post**	0.7	1.0	1.6

		AWS introduction
		Probe replacement
		Small screen introduction





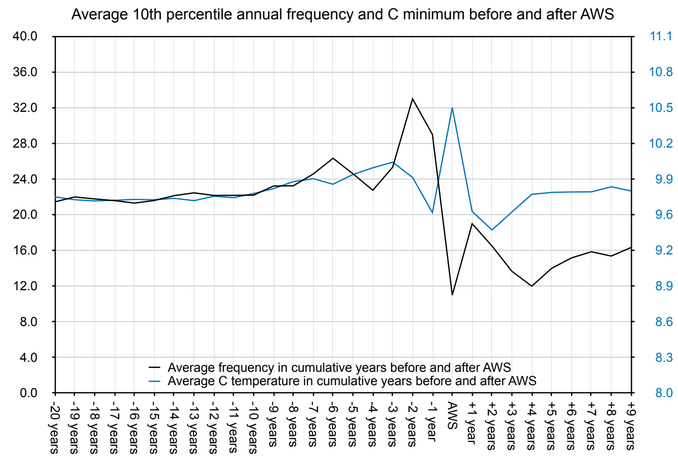


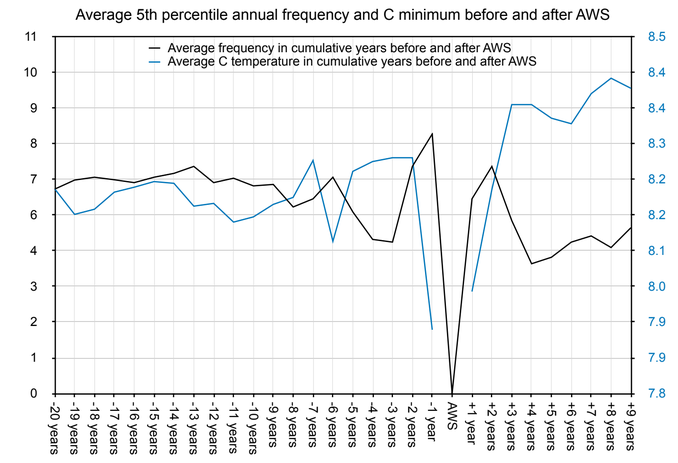
10th 11.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 9.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	28	223.0	8.0	**1910**	19	131.2	6.9	**1910**	8	41.8	5.2									
1911	54	445.2	8.2	**1911**	35	250.9	7.2	**1911**	5	27.1	5.4									
1912	41	360.0	8.8	**1912**	25	193.1	7.7	**1912**	0	0.0										
1913	58	500.3	8.6	**1913**	30	215.1	7.2	**1913**	6	30.5	5.1									
1914	41	329.9	8.0	**1914**	24	157.1	6.5	**1914**	8	40.1	5.0									
1915	40	390.3	9.8	**1915**	11	86.1	7.8	**1915**	0	0.0										
1916	27	235.6	8.7	**1916**	12	84.8	7.1	**1916**	2	8.4	4.2									
1917	51	469.2	9.2	**1917**	25	196.5	7.9	**1917**	2	11.4	5.7									
1918	48	428.9	8.9	**1918**	22	162.3	7.4	**1918**	5	23.9	4.8									
1919	61	525.1	8.6	**1919**	30	209.6	7.0	**1919**	8	41.7	5.2									
1920	31	275.4	8.9	**1920**	17	130.9	7.7	**1920**	1	4.3	4.3									
1921	18	153.1	8.5	**1921**	10	69.5	7.0	**1921**	3	15.9	5.3									
1922	52	460.7	8.9	**1922**	23	163.2	7.1	**1922**	4	21.7	5.4									
1923	72	621.8	8.6	**1923**	42	313.1	7.5	**1923**	9	49.6	5.5									
1924	54	504.6	9.3	**1924**	19	142.5	7.5	**1924**	3	16.5	5.5									
1925	82	745.1	9.1	**1925**	38	289.4	7.6	**1925**	7	36.7	5.2									
1926	32	286.0	8.9	**1926**	16	117.8	7.4	**1926**	1	4.4	4.4									
1927	37	310.3	8.4	**1927**	24	177.1	7.4	**1927**	3	15.5	5.2									
1928	47	419.9	8.9	**1928**	23	173.8	7.6	**1928**	3	17.4	5.8									
1929	51	440.3	8.6	**1929**	25	173.5	6.9	**1929**	7	33.4	4.8									
1930	36	321.2	8.9	**1930**	19	146.9	7.7	**1930**	1	4.4	4.4									
1931	30	274.9	9.2	**1931**	14	108.9	7.8	**1931**	1	5.8	5.8									
1932	43	343.5	8.0	**1932**	29	200.4	6.9	**1932**	7	37.4	5.3									
1933	25	222.1	8.9	**1933**	13	99.3	7.6	**1933**	0	0.0										
1934	41	375.7	9.2	**1934**	20	161.1	8.1	**1934**	0	0.0										
1935	24	213.7	8.9	**1935**	15	119.9	8.0	**1935**	0	0.0										
1936	15	136.7	9.1	**1936**	7	53.0	7.6	**1936**	0	0.0										
1937	35	318.2	9.1	**1937**	18	140.5	7.8	**1937**	2	11.0	5.5									
1938	30	285.3	9.5	**1938**	12	94.9	7.9	**1938**	1	5.3	5.3									
1939	48	431.3	9.0	**1939**	26	206.4	7.9	**1939**	2	10.6	5.3									
1940	29	274.6	9.5	**1940**	12	95.1	7.9	**1940**	1	5.9	5.9									
1941	46	400.6	8.7	**1941**	22	151.5	6.9	**1941**	4	19.9	5.0									
1942	15	131.8	8.8	**1942**	8	59.5	7.4	**1942**	0	0.0										
1943	41	373.4	9.1	**1943**	17	122.1	7.2	**1943**	2	8.3	4.2									
1944	44	406.3	9.2	**1944**	20	153.3	7.7	**1944**	2	11.2	5.6									
1945	23	222.7	9.7	**1945**	6	48.4	8.1	**1945**	1	5.6	5.6									
1946	64	553.0	8.6	**1946**	36	266.1	7.4	**1946**	2	11.3	5.7									
1947	27	247.8	9.2	**1947**	14	110.5	7.9	**1947**	1	5.0	5.0									
1948	82	665.6	8.1	**1948**	50	336.7	6.7	**1948**	15	64.1	4.3									
1949	87	622.0	7.1	**1949**	62	365.3	5.9	**1949**	28	107.8	3.9									
1950	59	518.0	8.8	**1950**	27	186.6	6.9	**1950**	9	49.7	5.5									
1951	81	596.0	7.4	**1951**	56	341.8	6.1	**1951**	22	85.9	3.9									
1952	63	463.5	7.4	**1952**	49	319.7	6.5	**1952**	16	67.6	4.2									
1953	86	609.4	7.1	**1953**	63	371.6	5.9	**1953**	30	119.3	4.0									
1954	47	401.5	8.5	**1954**	25	174.0	7.0	**1954**	7	31.6	4.5									
1955	52	445.3	8.6	**1955**	26	178.0	6.8	**1955**	8	35.3	4.4									
1956	71	571.7	8.1	**1956**	43	286.5	6.7	**1956**	13	62.0	4.8									
1957	52	469.3	9.0	**1957**	23	170.3	7.4	**1957**	4	18.6	4.7									
1958	57	488.4	8.6	**1958**	36	266.9	7.4	**1958**	6	31.4	5.2									
1959	59	434.3	7.4	**1959**	42	257.3	6.1	**1959**	15	63.1	4.2									
1960	87	638.6	7.3	**1960**	56	316.2	5.6	**1960**	30	117.4	3.9									
1961	97	741.0	7.6	**1961**	62	380.2	6.1	**1961**	26	106.2	4.1									
1962	63	515.9	8.2	**1962**	37	246.3	6.7	**1962**	13	54.2	4.2									
1963	69	533.6	7.7	**1963**	49	323.8	6.6	**1963**	14	47.2	3.4									
1964	56	459.0	8.2	**1964**	35	243.7	7.0	**1964**	8	36.9	4.6									
1965	63	478.1	7.6	**1965**	37	212.7	5.7	**1965**	16	54.0	3.4									
1966	32	285.8	8.9	**1966**	16	122.5	7.7	**1966**	1	4.4	4.4									
1967	26	254.2	9.8	**1967**	8	62.4	7.8	**1967**	1	5.7	5.7									
1968	39	357.5	9.2	**1968**	19	153.4	8.1	**1968**	1	5.6	5.6									
1969	17	159.3	9.4	**1969**	4	27.9	7.0	**1969**	0	0.0										
1970	39	367.7	9.4	**1970**	16	130.2	8.1	**1970**	1	5.7	5.7									
1971	28	249.5	8.9	**1971**	16	129.0	8.1	**1971**	0	0.0										
1972	30	286.3	9.5	**1972**	8	64.1	8.0	**1972**	0	0.0										
1973	5	44.6	8.9	**1973**	3	24.4	8.1	**1973**	0	0.0										
1974	40	371.5	9.3	**1974**	17	132.3	7.8	**1974**	1	5.2	5.2									
1975	17	167.0	9.8	**1975**	4	32.9	8.2	**1975**	0	0.0										
1976	38	330.8	8.7	**1976**	23	176.8	7.7	**1976**	1	5.3	5.3									
1977	32	284.3	8.9	**1977**	20	158.4	7.9	**1977**	2	11.4	5.7									
1978	33	321.1	9.7	**1978**	12	102.5	8.5	**1978**	0	0.0										
1979	20	191.7	9.6	**1979**	7	57.7	8.2	**1979**	0	0.0										
1980	23	225.1	9.8	**1980**	7	59.8	8.5	**1980**	0	0.0										
1981	28	257.7	9.2	**1981**	13	107.3	8.3	**1981**	0	0.0										
1982	42	365.2	8.7	**1982**	24	180.7	7.5	**1982**	3	16.5	5.5									
1983	22	202.4	9.2	**1983**	8	61.4	7.7	**1983**	1	5.8	5.8									
1984	27	245.6	9.1	**1984**	12	89.2	7.4	**1984**	2	10.6	5.3									
1985	34	322.1	9.5	**1985**	11	83.2	7.6	**1985**	1	5.7	5.7									
1986	22	203.4	9.2	**1986**	10	80.3	8.0	**1986**	0	0.0										
1987	24	215.7	9.0	**1987**	11	84.6	7.7	**1987**	0	0.0										
1988	13	124.9	9.6	**1988**	4	32.6	8.2	**1988**	0	0.0										
1989	34	316.1	9.3	**1989**	17	137.9	8.1	**1989**	0	0.0										
1990	31	289.0	9.3	**1990**	14	113.9	8.1	**1990**	0	0.0										
1991	16	149.5	9.3	**1991**	6	49.3	8.2	**1991**	0	0.0										
1992	23	217.2	9.4	**1992**	8	63.5	7.9	**1992**	0	0.0										
1993	11	111.9	10.2	**1993**	1	9.1	9.1	**1993**	0	0.0		20 years	21.5	9.7	20 years	6.3	8.2	20 years	0.2	5.5
1994	26	256.3	9.9	**1994**	5	39.9	8.0	**1994**	0	0.0		19 years	22.0	9.7	19 years	6.6	8.2	19 years	0.2	5.5
1995	25	239.4	9.6	**1995**	8	61.0	7.6	**1995**	1	5.7	5.7	18 years	21.8	9.7	18 years	6.7	8.2	18 years	0.2	5.5
1996	26	248.7	9.6	**1996**	8	64.4	8.1	**1996**	0	0.0		17 years	21.6	9.7	17 years	6.6	8.2	17 years	0.2	5.5
1997	17	165.3	9.7	**1997**	4	32.2	8.1	**1997**	0	0.0		16 years	21.3	9.7	16 years	6.5	8.2	16 years	0.2	5.5
1998	14	133.1	9.5	**1998**	5	41.3	8.3	**1998**	0	0.0		15 years	21.6	9.7	15 years	6.7	8.2	15 years	0.2	5.5
1999	18	179.2	10.0	**1999**	4	35.0	8.8	**1999**	0	0.0		14 years	22.1	9.7	14 years	6.8	8.2	14 years	0.2	5.5
2000	26	239.5	9.2	**2000**	13	105.4	8.1	**2000**	0	0.0		13 years	22.5	9.7	13 years	7.0	8.2	13 years	0.2	5.5
2001	22	216.6	9.8	**2001**	5	42.7	8.5	**2001**	0	0.0		12 years	22.2	9.7	12 years	6.5	8.2	12 years	0.3	5.5
2002	22	205.5	9.3	**2002**	9	72.4	8.0	**2002**	0	0.0		11 years	22.2	9.7	11 years	6.6	8.1	11 years	0.3	5.5
2003	13	121.6	9.4	**2003**	6	47.7	8.0	**2003**	0	0.0		10 years	22.2	9.7	10 years	6.4	8.1	10 years	0.3	5.5
2004	23	213.6	9.3	**2004**	12	96.9	8.1	**2004**	2	11.2	5.6	9 years	23.2	9.8	9 years	6.4	8.2	9 years	0.3	5.5
2005	14	135.3	9.7	**2005**	4	31.0	7.8	**2005**	0	0.0		8 years	23.3	9.8	8 years	5.8	8.2	8 years	0.1	5.3
2006	14	142.1	10.2	**2006**	2	18.1	9.1	**2006**	0	0.0		7 years	24.6	9.9	7 years	6.0	8.3	7 years	0.1	5.3
2007	35	328.8	9.4	**2007**	12	90.6	7.6	**2007**	1	5.3	5.3	6 years	26.3	9.8	6 years	6.7	8.1	6 years	0.2	5.3
2008	32	309.3	9.7	**2008**	9	73.6	8.2	**2008**	0	0.0		5 years	24.6	9.9	5 years	5.6	8.2	5 years	0.0	
2009	15	147.2	9.8	**2009**	5	41.2	8.2	**2009**	0	0.0		4 years	22.8	10.0	4 years	4.8	8.3	4 years	0.0	
2010	10	102.7	10.3	**2010**	0	0.0		**2010**	0	0.0		3 years	25.3	10.0	3 years	4.7	8.3	3 years	0.0	
2011	37	376.7	10.2	**2011**	6	51.6	8.6	**2011**	0	0.0		2 years	33.0	9.9	2 years	7.0	8.3	2 years	0.0	
2012	29	277.5	9.6	**2012**	8	63.4	7.9	**2012**	0	0.0		1 years	29.0	9.6	1 years	8.0	7.9	1 years	0.0	
2013	11	115.3	10.5	**2013**	0	0.0		**2013**	0	0.0		0 years	11.0	10.5	0 years	0.0		0 years	0.0	
2014	19	182.0	9.6	**2014**	6	48.0	8.0	**2014**	0	0.0		1 years	19.0	9.6	1 years	6.0	8.0	1 years	0.0	
2015	14	129.6	9.3	**2015**	8	67.2	8.4	**2015**	0	0.0		2 years	16.5	9.4	2 years	7.0	8.2	2 years	0.0	
2016	8	79.1	9.9	**2016**	2	17.4	8.7	**2016**	0	0.0		3 years	13.7	9.6	3 years	5.3	8.4	3 years	0.0	
2017	7	71.3	10.2	**2017**	0	0.0		**2017**	0	0.0		4 years	12.0	9.7	4 years	4.0	8.4	4 years	0.0	
2018	22	215.9	9.8	**2018**	5	41.3	8.3	**2018**	0	0.0		5 years	14.0	9.7	5 years	4.2	8.3	5 years	0.0	
2019	21	205.1	9.8	**2019**	7	58.0	8.3	**2019**	0	0.0		6 years	15.2	9.7	6 years	4.7	8.3	6 years	0.0	
2020	20	195.1	9.8	**2020**	6	52.1	8.7	**2020**	0	0.0		7 years	15.9	9.7	7 years	4.9	8.4	7 years	0.0	
2021	12	121.2	10.1	**2021**	2	17.2	8.6	**2021**	0	0.0		8 years	15.4	9.8	8 years	4.5	8.4	8 years	0.0	
2022	24	227.3	9.5	**2022**	10	82.6	8.3	**2022**	0	0.0		9 years	16.3	9.8	9 years	5.1	8.4	9 years	0.0	

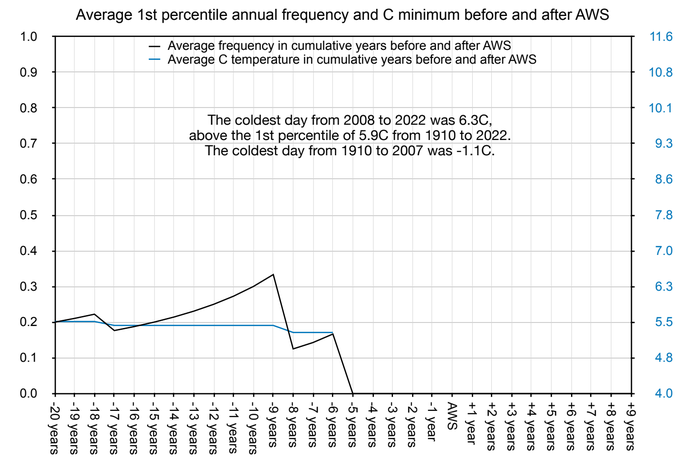
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	26.3	257.0	9.8	**Pre**	6.7	53.4	8.1	**Pre**	0.2	0.9	5.3									
Post	15.2	147.2	9.7	**Post**	4.7	38.7	8.3	**Post**	0.0	0.0										

		AWS introduction
		Probe replacement
		Small screen introduction







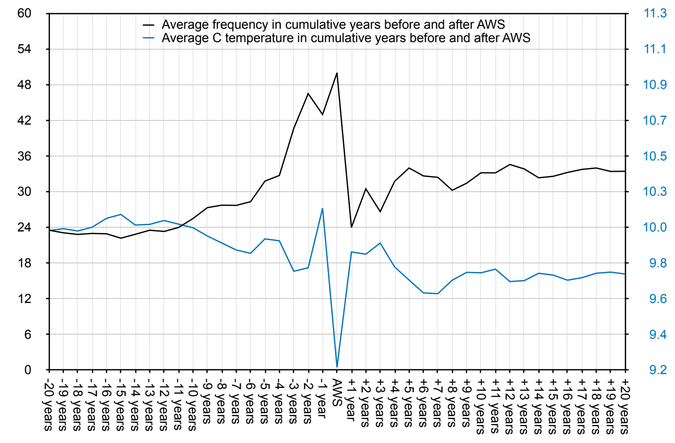
10th 11.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 9.9	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 7.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	30	277.2	9.2	**1910**	15	118.3	7.9	**1910**	2	12.8	6.4									
1911	33	322.3	9.8	**1911**	14	123.6	8.8	**1911**	2	12.8	6.4									
1912	56	515.8	9.2	**1912**	30	238.1	7.9	**1912**	12	74.9	6.2									
1913	41	362.5	8.8	**1913**	29	230.5	7.9	**1913**	7	45.2	6.5									
1914	23	222.0	9.7	**1914**	10	83.5	8.4	**1914**	1	6.8	6.8									
1915	32	323.3	10.1	**1915**	10	86.5	8.7	**1915**	1	6.7	6.7									
1916	32	299.5	9.4	**1916**	18	148.4	8.2	**1916**	3	20.0	6.7									
1917	44	446.9	10.2	**1917**	13	108.5	8.3	**1917**	3	19.3	6.4									
1918	40	364.4	9.1	**1918**	23	182.0	7.9	**1918**	8	47.1	5.9									
1919	37	354.3	9.6	**1919**	17	135.4	8.0	**1919**	2	11.5	5.8									
1920	54	510.4	9.5	**1920**	24	185.2	7.7	**1920**	8	46.2	5.8									
1921	34	333.2	9.8	**1921**	18	157.2	8.7	**1921**	2	11.7	5.9									
1922	50	449.2	9.0	**1922**	30	238.9	8.0	**1922**	7	38.6	5.5									
1923	43	385.7	9.0	**1923**	26	202.8	7.8	**1923**	7	40.4	5.8									
1924	27	273.1	10.1	**1924**	9	77.7	8.6	**1924**	1	6.7	6.7									
1925	60	515.8	8.6	**1925**	42	323.8	7.7	**1925**	13	74.6	5.7									
1926	48	437.5	9.1	**1926**	27	215.6	8.0	**1926**	6	38.5	6.4									
1927	32	273.3	8.5	**1927**	23	179.8	7.8	**1927**	5	29.2	5.8									
1928	43	397.5	9.2	**1928**	24	196.8	8.2	**1928**	5	28.3	5.7									
1929	55	495.8	9.0	**1929**	32	251.6	7.9	**1929**	10	62.1	6.2									
1930	27	278.0	10.3	**1930**	8	70.2	8.8	**1930**	0	0.0										
1931	43	419.8	9.8	**1931**	17	140.3	8.3	**1931**	2	12.5	6.3									
1932	44	400.8	9.1	**1932**	24	189.7	7.9	**1932**	7	40.3	5.8									
1933	42	383.3	9.1	**1933**	23	178.4	7.8	**1933**	8	48.0	6.0									
1934	45	424.8	9.4	**1934**	26	220.1	8.5	**1934**	2	10.7	5.4									
1935	65	550.3	8.5	**1935**	45	338.6	7.5	**1935**	12	60.6	5.1									
1936	37	327.9	8.9	**1936**	24	185.8	7.7	**1936**	7	41.9	6.0									
1937	55	501.1	9.1	**1937**	32	258.7	8.1	**1937**	5	31.9	6.4									
1938	35	336.6	9.6	**1938**	18	154.2	8.6	**1938**	0	0.0										
1939	56	511.2	9.1	**1939**	28	216.0	7.7	**1939**	7	44.1	6.3									
1940	46	407.7	8.9	**1940**	27	205.8	7.6	**1940**	10	63.5	6.4									
1941	33	312.7	9.5	**1941**	19	164.7	8.7	**1941**	0	0.0										
1942	38	375.3	9.9	**1942**	17	149.4	8.8	**1942**	0	0.0										
1943	70	612.8	8.8	**1943**	43	320.0	7.4	**1943**	17	99.0	5.8									
1944	46	404.9	8.8	**1944**	26	191.7	7.4	**1944**	6	30.9	5.2									
1945	35	327.5	9.4	**1945**	19	159.7	8.4	**1945**	1	5.0	5.0									
1946	25	210.9	8.4	**1946**	11	65.9	6.0	**1946**	7	32.6	4.7									
1947	22	213.9	9.7	**1947**	9	75.5	8.4	**1947**	2	13.4	6.7									
1948	68	590.3	8.7	**1948**	40	296.2	7.4	**1948**	13	63.4	4.9									
1949	52	456.1	8.8	**1949**	31	236.0	7.6	**1949**	9	52.4	5.8									
1950	55	493.6	9.0	**1950**	35	284.5	8.1	**1950**	7	41.7	6.0									
1951	33	293.8	8.9	**1951**	20	154.2	7.7	**1951**	4	20.5	5.1									
1952	44	420.9	9.6	**1952**	19	157.0	8.3	**1952**	2	12.8	6.4									
1953	42	399.4	9.5	**1953**	18	147.1	8.2	**1953**	4	25.1	6.3									
1954	30	294.4	9.8	**1954**	10	80.4	8.0	**1954**	1	6.1	6.1									
1955	33	302.3	9.2	**1955**	17	131.6	7.7	**1955**	5	29.5	5.9									
1956	48	414.2	8.6	**1956**	28	206.9	7.4	**1956**	10	52.8	5.3									
1957	40	366.2	9.2	**1957**	21	165.4	7.9	**1957**	6	35.7	6.0									
1958	34	318.3	9.4	**1958**	15	116.5	7.8	**1958**	3	18.4	6.1									
1959	26	257.1	9.9	**1959**	9	76.0	8.4	**1959**	0	0.0										
1960	33	296.7	9.0	**1960**	21	169.3	8.1	**1960**	5	28.9	5.8									
1961	62	530.9	8.6	**1961**	39	286.1	7.3	**1961**	13	65.3	5.0									
1962	43	410.0	9.5	**1962**	23	193.8	8.4	**1962**	4	25.7	6.4									
1963	58	556.9	9.6	**1963**	29	240.0	8.3	**1963**	5	29.8	6.0									
1964	41	361.2	8.8	**1964**	25	188.5	7.5	**1964**	9	48.2	5.4									
1965	22	181.8	8.3	**1965**	14	94.2	6.7	**1965**	5	19.6	3.9									
1966	55	509.0	9.3	**1966**	30	239.3	8.0	**1966**	6	38.5	6.4									
1967	57	507.6	8.9	**1967**	36	283.8	7.9	**1967**	8	42.1	5.3									
1968	43	403.3	9.4	**1968**	23	189.2	8.2	**1968**	3	17.8	5.9									
1969	40	398.1	10.0	**1969**	17	153.5	9.0	**1969**	0	0.0										
1970	32	327.9	10.2	**1970**	8	70.8	8.9	**1970**	1	6.8	6.8									
1971	54	523.6	9.7	**1971**	31	277.0	8.9	**1971**	1	6.9	6.9									
1972	21	200.3	9.5	**1972**	13	112.7	8.7	**1972**	0	0.0										
1973	2	20.0	10.0	**1973**	1	9.1	9.1	**1973**	0	0.0										
1974	28	286.1	10.2	**1974**	11	100.3	9.1	**1974**	0	0.0										
1975	22	221.9	10.1	**1975**	8	71.1	8.9	**1975**	0	0.0										
1976	51	513.2	10.1	**1976**	20	170.7	8.5	**1976**	3	19.4	6.5									
1977	39	378.1	9.7	**1977**	22	192.4	8.7	**1977**	1	6.9	6.9									
1978	41	405.6	9.9	**1978**	18	152.6	8.5	**1978**	2	13.8	6.9									
1979	39	383.8	9.8	**1979**	16	137.1	8.6	**1979**	2	13.4	6.7									
1980	19	186.6	9.8	**1980**	8	68.4	8.6	**1980**	0	0.0										
1981	31	307.0	9.9	**1981**	11	89.9	8.2	**1981**	3	19.4	6.5									
1982	32	313.6	9.8	**1982**	16	142.5	8.9	**1982**	0	0.0		20 years	23.6	10.0	20 years	9.2	8.6	20 years	1.2	6.4
1983	28	287.9	10.3	**1983**	10	87.3	8.7	**1983**	0	0.0		19 years	23.1	10.0	19 years	8.8	8.6	19 years	1.2	6.4
1984	20	192.8	9.6	**1984**	9	71.9	8.0	**1984**	2	12.3	6.2	18 years	22.8	10.0	18 years	8.8	8.6	18 years	1.3	6.4
1985	24	220.9	9.2	**1985**	13	101.9	7.8	**1985**	3	18.0	6.0	17 years	23.0	10.0	17 years	8.8	8.7	17 years	1.2	6.4
1986	34	331.6	9.8	**1986**	18	156.7	8.7	**1986**	1	6.1	6.1	16 years	22.9	10.1	16 years	8.5	8.7	16 years	1.1	6.5
1987	13	142.9	11.0	**1987**	1	9.5	9.5	**1987**	0	0.0		15 years	22.2	10.1	15 years	7.9	8.7	15 years	1.1	6.5
1988	14	140.0	10.0	**1988**	5	44.0	8.8	**1988**	1	7.0	7.0	14 years	22.9	10.1	14 years	8.4	8.7	14 years	1.2	6.5
1989	26	254.4	9.8	**1989**	12	103.8	8.7	**1989**	1	6.0	6.0	13 years	23.5	10.1	13 years	8.6	8.7	13 years	1.2	6.4
1990	16	165.1	10.3	**1990**	4	32.6	8.2	**1990**	1	6.2	6.2	12 years	23.3	10.1	12 years	8.3	8.7	12 years	1.3	6.5
1991	9	92.4	10.3	**1991**	2	16.6	8.3	**1991**	0	0.0		11 years	24.0	10.1	11 years	8.7	8.7	11 years	1.3	6.5
1992	9	94.3	10.5	**1992**	3	27.7	9.2	**1992**	0	0.0		10 years	25.5	10.0	10 years	9.4	8.7	10 years	1.4	6.5
1993	24	247.7	10.3	**1993**	7	64.4	9.2	**1993**	0	0.0		9 years	27.3	10.0	9 years	10.1	8.7	9 years	1.6	6.5
1994	28	286.6	10.2	**1994**	10	87.3	8.7	**1994**	1	7.0	7.0	8 years	27.8	9.9	8 years	10.5	8.6	8 years	1.8	6.5
1995	24	240.6	10.0	**1995**	8	67.0	8.4	**1995**	2	14.0	7.0	7 years	27.7	9.9	7 years	10.6	8.6	7 years	1.9	6.5
1996	11	104.1	9.5	**1996**	7	61.8	8.8	**1996**	1	7.0	7.0	6 years	28.3	9.9	6 years	11.0	8.6	6 years	1.8	6.4
1997	28	280.5	10.0	**1997**	9	79.4	8.8	**1997**	1	7.0	7.0	5 years	31.8	10.0	5 years	11.8	8.6	5 years	2.0	6.2
1998	9	94.5	10.5	**1998**	3	28.5	9.5	**1998**	0	0.0		4 years	32.8	10.0	4 years	12.5	8.6	4 years	2.3	5.9
1999	29	282.5	9.7	**1999**	16	140.5	8.8	**1999**	1	6.5	6.5	3 years	40.7	9.8	3 years	15.7	8.2	3 years	3.0	5.9
2000	50	472.6	9.5	**2000**	19	141.4	7.4	**2000**	7	35.7	5.1	2 years	46.5	9.8	2 years	15.5	8.0	2 years	4.0	5.7
2001	43	436.6	10.2	**2001**	12	102.2	8.5	**2001**	1	6.2	6.2	1 years	43.0	10.2	1 years	12.0	8.5	1 years	1.0	6.2
2002	50	460.9	9.2	**2002**	30	244.7	8.2	**2002**	5	31.1	6.2	0 years	50.0	9.2	0 years	30.0	8.2	0 years	5.0	6.2
2003	24	237.5	9.9	**2003**	8	64.5	8.1	**2003**	2	13.2	6.6	1 years	24.0	9.9	1 years	8.0	8.1	1 years	2.0	6.6
2004	37	365.2	9.9	**2004**	15	127.3	8.5	**2004**	3	20.1	6.7	2 years	30.5	9.9	2 years	11.5	8.3	2 years	2.5	6.7
2005	19	191.5	10.1	**2005**	7	59.7	8.5	**2005**	1	6.7	6.7	3 years	26.7	9.9	3 years	10.0	8.4	3 years	2.0	6.7
2006	47	441.1	9.4	**2006**	29	246.7	8.5	**2006**	3	18.0	6.0	4 years	31.8	9.8	4 years	14.8	8.4	4 years	2.3	6.5
2007	43	405.2	9.4	**2007**	23	192.9	8.4	**2007**	3	20.9	7.0	5 years	34.0	9.7	5 years	16.4	8.4	5 years	2.4	6.6
2008	26	241.2	9.3	**2008**	13	99.0	7.6	**2008**	3	12.8	4.3	6 years	32.7	9.7	6 years	15.8	8.3	6 years	2.5	6.2
2009	31	298.3	9.6	**2009**	15	122.9	8.2	**2009**	2	13.4	6.7	7 years	32.4	9.7	7 years	15.7	8.3	7 years	2.4	6.3
2010	15	154.3	10.3	**2010**	3	26.7	8.9	**2010**	0	0.0		8 years	30.3	9.7	8 years	14.1	8.3	8 years	2.1	6.3
2011	41	415.9	10.1	**2011**	15	130.1	8.7	**2011**	2	12.3	6.2	9 years	31.4	9.8	9 years	14.2	8.4	9 years	2.1	6.3
2012	49	477.7	9.7	**2012**	20	160.5	8.0	**2012**	7	41.4	5.9	10 years	33.2	9.8	10 years	14.8	8.3	10 years	2.6	6.2
2013	33	330.3	10.0	**2013**	14	128.7	9.2	**2013**	0	0.0		11 years	33.2	9.8	11 years	14.7	8.4	11 years	2.4	6.2
2014	50	445.9	8.9	**2014**	34	272.4	8.0	**2014**	7	45.8	6.5	12 years	34.6	9.7	12 years	16.3	8.4	12 years	2.8	6.3
2015	25	244.9	9.8	**2015**	11	93.5	8.5	**2015**	1	7.0	7.0	13 years	33.8	9.7	13 years	15.9	8.4	13 years	2.6	6.3
2016	13	134.3	10.3	**2016**	4	35.1	8.8	**2016**	0	0.0		14 years	32.4	9.8	14 years	15.1	8.4	14 years	2.4	6.3
2017	36	346.1	9.6	**2017**	17	138.1	8.1	**2017**	4	24.9	6.2	15 years	32.6	9.8	15 years	15.2	8.4	15 years	2.5	6.3
2018	43	399.0	9.3	**2018**	24	194.2	8.1	**2018**	4	25.1	6.3	16 years	33.3	9.7	16 years	15.8	8.4	16 years	2.6	6.3
2019	42	419.0	10.0	**2019**	18	157.7	8.8	**2019**	0	0.0		17 years	33.8	9.7	17 years	15.9	8.4	17 years	2.5	6.3
2020	38	388.3	10.2	**2020**	14	125.1	8.9	**2020**	0	0.0		18 years	34.0	9.8	18 years	15.8	8.4	18 years	2.3	6.3
2021	23	227.6	9.9	**2021**	11	97.1	8.8	**2021**	1	6.0	6.0	19 years	33.4	9.8	19 years	15.5	8.5	19 years	2.3	6.3
2022	34	324.8	9.6	**2022**	17	140.4	8.3	**2022**	4	24.1	6.0	20 years	33.5	9.8	20 years	15.6	8.4	20 years	2.4	6.3

Original AWS probe Rosemount

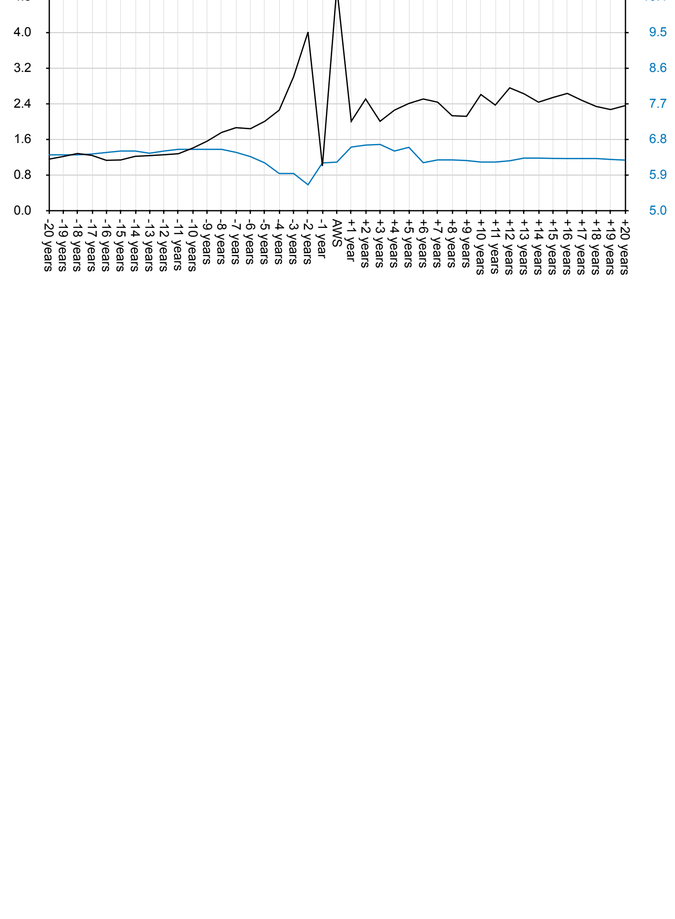
6 years				**6 years**				**6 years**			
Pre	28.3	278.5	9.9	**Pre**	11.0	92.3	8.6	**Pre**	1.8	10.4	6.4
Post	32.7	313.6	9.7	**Post**	15.8	131.7	8.3	**Post**	2.5	15.3	6.2

		AWS introduction				AWS introduction				AWS introduction
		Probe replacement				Probe replacement				Probe replacement
		Small screen introduction				Small screen introduction				Small screen introduction

Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



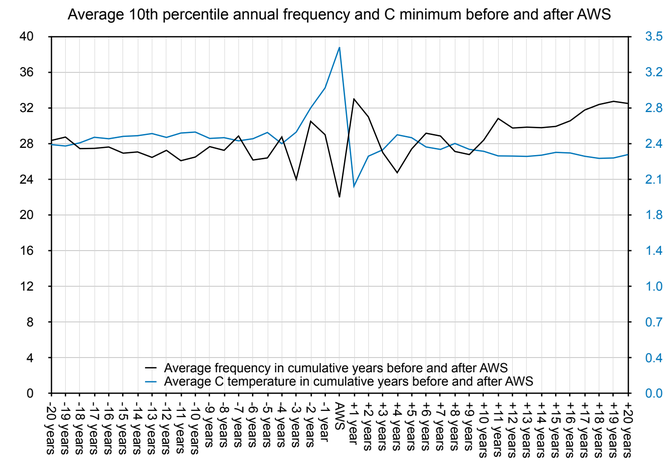
Average 1st percentile annual frequency and C minimum before and after AWS

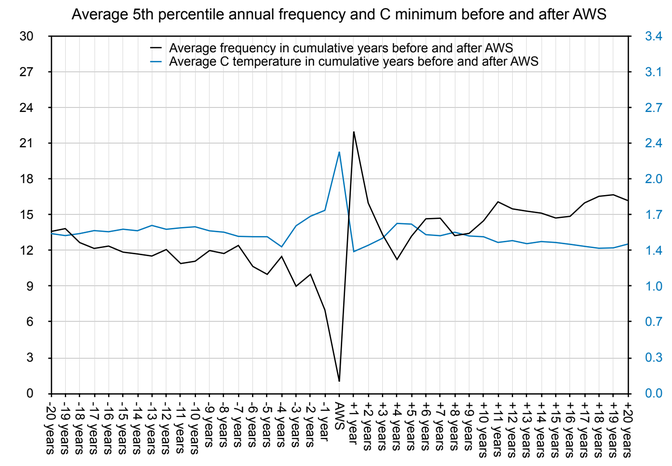
10th 3.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	20	46.9	2.3	**1910**	10	11.6	1.2	**1910**	4	-0.6	-0.2									
1911	56	91.0	1.6	**1911**	39	34.9	0.9	**1911**	13	-6.1	-0.5									
1912	47	106.0	2.3	**1912**	22	26.8	1.2	**1912**	5	-0.5	-0.1									
1913	75	132.7	1.8	**1913**	47	43.0	0.9	**1913**	12	-7.4	-0.6									
1914	47	90.9	1.9	**1914**	23	14.2	0.6	**1914**	9	-6.8	-0.8									
1915	33	97.3	2.9	**1915**	8	12.8	1.6	**1915**	0	0.0										
1916	22	52.8	2.4	**1916**	9	6.7	0.7	**1916**	4	-1.2	-0.3									
1917	47	143.6	3.1	**1917**	10	14.0	1.4	**1917**	1	-1.1	-1.1									
1918	41	109.6	2.7	**1918**	14	19.0	1.4	**1918**	1	0.0	0.0									
1919	43	98.2	2.3	**1919**	20	21.1	1.1	**1919**	6	-1.2	-0.2									
1920	35	67.3	1.9	**1920**	21	23.2	1.1	**1920**	3	-1.1	-0.4									
1921	39	85.1	2.2	**1921**	23	30.2	1.3	**1921**	3	-1.7	-0.6									
1922	59	141.8	2.4	**1922**	29	42.0	1.4	**1922**	3	-1.7	-0.6									
1923	33	104.6	3.2	**1923**	6	9.5	1.6	**1923**	0	0.0										
1924	57	97.0	1.7	**1924**	35	21.5	0.6	**1924**	13	-10.3	-0.8									
1925	47	129.9	2.8	**1925**	16	22.8	1.4	**1925**	2	-0.6	-0.3									
1926	46	119.5	2.6	**1926**	18	26.3	1.5	**1926**	1	0.1	0.1									
1927	51	80.1	1.6	**1927**	32	19.5	0.6	**1927**	10	-10.1	-1.0									
1928	37	84.3	2.3	**1928**	22	34.8	1.6	**1928**	1	0.2	0.2									
1929	88	127.4	1.4	**1929**	61	36.6	0.6	**1929**	23	-26.0	-1.1									
1930	39	100.2	2.6	**1930**	11	11.6	1.1	**1930**	4	-0.2	-0.1									
1931	48	117.0	2.4	**1931**	25	38.1	1.5	**1931**	3	-1.3	-0.4									
1932	34	65.6	1.9	**1932**	20	21.8	1.1	**1932**	4	-3.8	-1.0									
1933	40	76.0	1.9	**1933**	23	23.5	1.0	**1933**	6	-2.4	-0.4									
1934	42	82.1	2.0	**1934**	22	17.9	0.8	**1934**	9	-3.4	-0.4									
1935	34	70.4	2.1	**1935**	22	30.8	1.4	**1935**	5	-0.4	-0.1									
1936	34	71.2	2.1	**1936**	19	20.0	1.1	**1936**	3	-1.2	-0.4									
1937	52	113.2	2.2	**1937**	28	29.8	1.1	**1937**	5	-0.6	-0.1									
1938	38	83.8	2.2	**1938**	19	20.9	1.1	**1938**	5	-0.3	-0.1									
1939	36	98.9	2.7	**1939**	14	22.2	1.6	**1939**	1	-1.1	-1.1									
1940	62	129.6	2.1	**1940**	35	40.6	1.2	**1940**	7	-1.7	-0.2									
1941	46	112.2	2.4	**1941**	25	43.3	1.7	**1941**	0	0.0										
1942	32	82.3	2.6	**1942**	10	10.2	1.0	**1942**	0	0.0										
1943	54	107.6	2.0	**1943**	34	41.0	1.2	**1943**	6	-4.5	-0.8									
1944	66	138.9	2.1	**1944**	35	31.0	0.9	**1944**	10	-7.4	-0.7									
1945	20	45.5	2.3	**1945**	9	5.5	0.6	**1945**	5	-0.6	-0.1									
1946	53	99.3	1.9	**1946**	33	32.1	1.0	**1946**	9	-5.7	-0.6									
1947	30	70.1	2.3	**1947**	13	11.8	0.9	**1947**	4	-1.1	-0.3									
1948	48	84.3	1.8	**1948**	32	29.4	0.9	**1948**	8	-6.3	-0.8									
1949	45	113.8	2.5	**1949**	19	28.4	1.5	**1949**	4	-1.7	-0.4									
1950	23	58.2	2.5	**1950**	10	16.3	1.6	**1950**	0	0.0										
1951	35	78.8	2.3	**1951**	20	27.0	1.4	**1951**	2	-2.2	-1.1									
1952	38	102.7	2.7	**1952**	12	15.1	1.3	**1952**	3	-1.0	-0.3									
1953	59	129.6	2.2	**1953**	31	37.7	1.2	**1953**	7	-2.8	-0.4									
1954	44	103.4	2.4	**1954**	24	36.0	1.5	**1954**	2	-1.8	-0.9									
1955	20	46.2	2.3	**1955**	9	11.7	1.3	**1955**	2	-0.8	-0.4									
1956	25	62.4	2.5	**1956**	10	14.4	1.4	**1956**	1	-0.1	-0.1									
1957	31	81.8	2.6	**1957**	12	20.2	1.7	**1957**	0	0.0										
1958	25	35.9	1.4	**1958**	20	18.9	0.9	**1958**	6	-3.2	-0.5									
1959	32	76.7	2.4	**1959**	12	7.8	0.7	**1959**	5	-3.4	-0.7									
1960	49	119.1	2.4	**1960**	23	30.2	1.3	**1960**	3	-1.1	-0.4									
1961	48	86.9	1.8	**1961**	28	18.0	0.6	**1961**	12	-4.5	-0.4									
1962	38	100.7	2.7	**1962**	13	14.0	1.1	**1962**	3	0.0	0.0									
1963	23	62.2	2.7	**1963**	9	16.3	1.8	**1963**	0	0.0										
1964	40	96.1	2.4	**1964**	18	25.4	1.4	**1964**	2	-0.6	-0.3									
1965	42	82.0	2.0	**1965**	24	19.6	0.8	**1965**	8	-7.2	-0.9									
1966	43	106.2	2.5	**1966**	22	35.3	1.6	**1966**	2	-1.3	-0.7									
1967	57	102.5	1.8	**1967**	36	35.9	1.0	**1967**	5	-2.2	-0.4									
1968	23	50.7	2.2	**1968**	11	12.8	1.2	**1968**	2	-0.5	-0.3									
1969	43	94.2	2.2	**1969**	24	32.3	1.3	**1969**	4	-0.7	-0.2									
1970	59	113.9	1.9	**1970**	31	20.9	0.7	**1970**	12	-8.3	-0.7									
1971	53	108.1	2.0	**1971**	32	35.2	1.1	**1971**	7	-2.0	-0.3									
1972	37	98.0	2.6	**1972**	13	18.4	1.4	**1972**	1	-0.6	-0.6									
1973	12	38.1	3.2	**1973**	2	2.5	1.3	**1973**	0	0.0										
1974	25	62.7	2.5	**1974**	10	11.4	1.1	**1974**	2	-0.1	-0.1									
1975	31	70.8	2.3	**1975**	17	25.2	1.5	**1975**	1	0.1	0.1									
1976	50	90.8	1.8	**1976**	27	19.3	0.7	**1976**	7	-8.1	-1.2									
1977	41	75.0	1.8	**1977**	23	15.2	0.7	**1977**	8	-4.0	-0.5									
1978	23	62.9	2.7	**1978**	8	14.2	1.8	**1978**	0	0.0										
1979	18	54.9	3.1	**1979**	3	6.8	2.3	**1979**	0	0.0										
1980	14	41.8	3.0	**1980**	2	3.9	2.0	**1980**	0	0.0										
1981	21	56.8	2.7	**1981**	9	17.0	1.9	**1981**	0	0.0		20 years	28.4	2.4	20 years	13.6	1.5	20 years	1.9	-0.1
1982	52	96.9	1.9	**1982**	35	40.4	1.2	**1982**	9	-0.5	-0.1	19 years	28.7	2.4	19 years	13.8	1.5	19 years	2.0	-0.1
1983	27	41.5	1.5	**1983**	21	21.9	1.0	**1983**	4	-1.5	-0.4	18 years	27.4	2.5	18 years	12.7	1.5	18 years	1.6	-0.1
1984	25	68.6	2.7	**1984**	9	15.5	1.7	**1984**	0	0.0		17 years	27.5	2.5	17 years	12.2	1.5	17 years	1.5	-0.1
1985	38	81.6	2.1	**1985**	20	23.6	1.2	**1985**	2	0.0	0.0	16 years	27.6	2.5	16 years	12.4	1.5	16 years	1.6	-0.1
1986	25	60.7	2.4	**1986**	14	24.7	1.8	**1986**	0	0.0		15 years	26.9	2.5	15 years	11.9	1.6	15 years	1.5	-0.1
1987	35	79.0	2.3	**1987**	14	12.5	0.9	**1987**	2	-2.0	-1.0	14 years	27.1	2.5	14 years	11.7	1.5	14 years	1.6	-0.1
1988	17	51.0	3.0	**1988**	5	10.2	2.0	**1988**	0	0.0		13 years	26.5	2.5	13 years	11.5	1.6	13 years	1.6	-0.0
1989	40	81.6	2.0	**1989**	25	35.2	1.4	**1989**	4	-1.2	-0.3	12 years	27.3	2.5	12 years	12.1	1.6	12 years	1.8	-0.0
1990	22	54.1	2.5	**1990**	9	13.3	1.5	**1990**	1	0.2	0.2	11 years	26.1	2.6	11 years	10.9	1.6	11 years	1.5	0.0
1991	16	50.0	3.1	**1991**	3	5.8	1.9	**1991**	0	0.0		10 years	26.5	2.6	10 years	11.1	1.6	10 years	1.6	-0.0
1992	31	75.7	2.4	**1992**	14	23.1	1.7	**1992**	1	0.2	0.2	9 years	27.7	2.5	9 years	12.0	1.5	9 years	1.8	-0.0
1993	16	43.6	2.7	**1993**	7	12.7	1.8	**1993**	1	0.1	0.1	8 years	27.3	2.5	8 years	11.8	1.5	8 years	1.9	-0.1
1994	45	105.9	2.4	**1994**	23	34.8	1.5	**1994**	3	-0.3	-0.1	7 years	28.9	2.5	7 years	12.4	1.5	7 years	2.0	-0.1
1995	25	54.8	2.2	**1995**	14	20.9	1.5	**1995**	1	-0.4	-0.4	6 years	26.2	2.5	6 years	10.7	1.5	6 years	1.8	-0.1
1996	17	51.0	3.0	**1996**	4	7.5	1.9	**1996**	0	0.0		5 years	26.4	2.6	5 years	10.0	1.5	5 years	2.0	0.0
1997	43	90.6	2.1	**1997**	19	15.1	0.8	**1997**	8	-1.6	-0.2	4 years	28.8	2.4	4 years	11.5	1.4	4 years	2.5	0.0
1998	11	23.0	2.1	**1998**	7	9.9	1.4	**1998**	1	0.2	0.2	3 years	24.0	2.6	3 years	9.0	1.6	3 years	0.7	0.2
1999	32	83.3	2.6	**1999**	13	21.2	1.6	**1999**	1	0.1	0.1	2 years	30.5	2.8	2 years	10.0	1.7	2 years	0.5	0.1
2000	29	86.9	3.0	**2000**	7	12.2	1.7	**2000**	0	0.0		1 years	29.0	3.0	1 years	7.0	1.7	1 years	0.0	
2001	22	74.7	3.4	**2001**	1	2.3	2.3	**2001**	0	0.0		0 years	22.0	3.4	0 years	1.0	2.3	0 years	0.0	
2002	33	67.1	2.0	**2002**	22	29.7	1.4	**2002**	5	-2.6	-0.5	1 years	33.0	2.0	1 years	22.0	1.4	1 years	5.0	-0.5
2003	29	76.0	2.6	**2003**	10	14.7	1.5	**2003**	0	0.0		2 years	31.0	2.3	2 years	16.0	1.4	2 years	2.5	-0.5
2004	19	47.8	2.5	**2004**	8	12.9	1.6	**2004**	0	0.0		3 years	27.0	2.4	3 years	13.3	1.5	3 years	1.7	-0.5
2005	18	53.6	3.0	**2005**	5	10.2	2.0	**2005**	0	0.0		4 years	24.8	2.5	4 years	11.3	1.6	4 years	1.3	-0.5
2006	38	91.0	2.4	**2006**	21	33.3	1.6	**2006**	2	0.3	0.2	5 years	27.4	2.5	5 years	13.2	1.6	5 years	1.4	-0.2
2007	38	74.6	2.0	**2007**	22	22.2	1.0	**2007**	5	-1.3	-0.3	6 years	29.2	2.4	6 years	14.7	1.5	6 years	2.0	-0.2
2008	27	60.7	2.2	**2008**	15	21.6	1.4	**2008**	0	0.0		7 years	28.9	2.4	7 years	14.7	1.5	7 years	1.7	-0.2
2009	15	42.9	2.9	**2009**	3	5.3	1.8	**2009**	0	0.0		8 years	27.1	2.5	8 years	13.3	1.5	8 years	1.5	-0.2
2010	24	46.4	1.9	**2010**	15	18.2	1.2	**2010**	4	-0.4	-0.1	9 years	26.8	2.4	9 years	13.4	1.5	9 years	1.8	-0.2
2011	43	94.7	2.2	**2011**	24	34.2	1.4	**2011**	5	-1.5	-0.3	10 years	28.4	2.4	10 years	14.5	1.5	10 years	2.1	-0.2
2012	55	103.4	1.9	**2012**	32	28.7	0.9	**2012**	10	-2.7	-0.3	11 years	30.8	2.3	11 years	16.1	1.4	11 years	2.8	-0.2
2013	18	41.6	2.3	**2013**	9	14.8	1.6	**2013**	0	0.0		12 years	29.8	2.3	12 years	15.5	1.5	12 years	2.6	-0.2
2014	31	70.8	2.3	**2014**	13	14.0	1.1	**2014**	4	-2.4	-0.6	13 years	29.8	2.3	13 years	15.3	1.4	13 years	2.7	-0.3
2015	29	72.3	2.5	**2015**	13	22.2	1.7	**2015**	1	0.3	0.3	14 years	29.8	2.3	14 years	15.1	1.4	14 years	2.6	-0.2
2016	32	88.0	2.8	**2016**	9	11.8	1.3	**2016**	3	0.3	0.1	15 years	29.9	2.4	15 years	14.7	1.4	15 years	2.6	-0.2
2017	40	90.8	2.3	**2017**	17	19.7	1.2	**2017**	3	-2.5	-0.8	16 years	30.6	2.4	16 years	14.9	1.4	16 years	2.6	-0.2
2018	51	92.4	1.8	**2018**	34	37.1	1.1	**2018**	10	-1.7	-0.2	17 years	31.8	2.3	17 years	16.0	1.4	17 years	3.1	-0.2
2019	43	84.0	2.0	**2019**	26	27.9	1.1	**2019**	7	-3.3	-0.5	18 years	32.4	2.3	18 years	16.6	1.4	18 years	3.3	-0.2
2020	39	92.9	2.4	**2020**	19	27.6	1.5	**2020**	4	-0.2	-0.1	19 years	32.7	2.3	19 years	16.7	1.4	19 years	3.3	-0.2
2021	28	83.2	3.0	**2021**	7	14.7	2.1	**2021**	0	0.0		20 years	32.5	2.3	20 years	16.2	1.4	20 years	3.2	-0.2
2022	30	58.7	2.0	**2022**	19	22.7	1.2	**2022**	3	-1.8	-0.6									

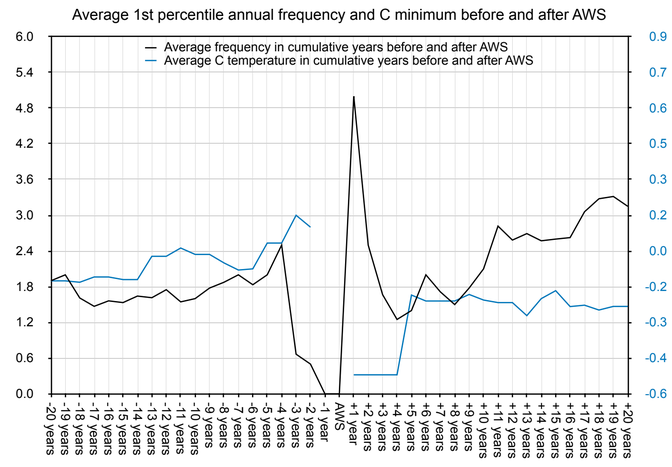
Original AWS probe Rosemount

6 years				6 years				6 years			
Pre	26.2	64.9	2.5	**Pre**	10.7	14.5	1.5	**Pre**	1.8	-0.3	-0.1
Post	29.2	68.4	2.4	**Post**	14.7	20.5	1.5	**Post**	2.0	-0.6	-0.2

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		





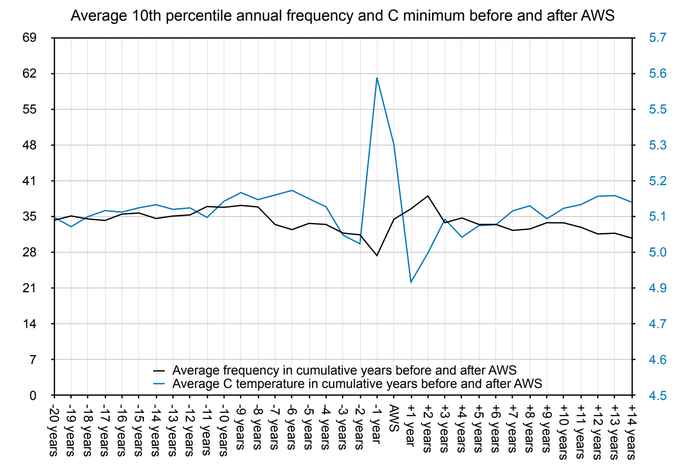


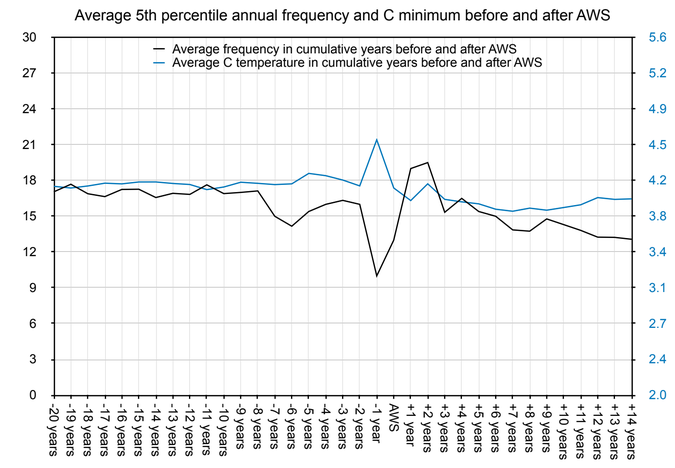
10th 6.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1927	45	226.3	5.0	**1927**	22	85.5	3.9	**1927**	6	16.2	2.7									
1928	47	225.0	4.8	**1928**	29	118.9	4.1	**1928**	6	18.0	3.0									
1929	62	307.8	5.0	**1929**	37	151.1	4.1	**1929**	5	13.7	2.7									
1930	20	118.7	5.9	**1930**	3	14.6	4.9	**1930**	0	0.0										
1931	90	403.2	4.5	**1931**	59	211.7	3.6	**1931**	18	34.8	1.9									
1932	55	266.4	4.8	**1932**	31	118.8	3.8	**1932**	7	14.3	2.0									
1933	67	336.9	5.0	**1933**	37	150.4	4.1	**1933**	6	15.2	2.5									
1934	34	170.4	5.0	**1934**	19	76.4	4.0	**1934**	3	7.4	2.5									
1935	58	296.2	5.1	**1935**	33	141.7	4.3	**1935**	4	10.1	2.5									
1936	50	252.8	5.1	**1936**	24	96.1	4.0	**1936**	5	11.3	2.3									
1937	57	270.2	4.7	**1937**	36	138.8	3.9	**1937**	5	13.0	2.6									
1938	45	223.8	5.0	**1938**	21	82.6	3.9	**1938**	5	11.6	2.3									
1939	57	295.1	5.2	**1939**	23	85.8	3.7	**1939**	7	15.2	2.2									
1940	14	81.9	5.9	**1940**	5	23.3	4.7	**1940**	0	0.0										
1941	27	157.4	5.8	**1941**	7	32.8	4.7	**1941**	0	0.0										
1942	49	233.2	4.8	**1942**	27	101.1	3.7	**1942**	7	16.8	2.4									
1943	54	239.9	4.4	**1943**	34	117.7	3.5	**1943**	12	23.0	1.9									
1944	48	255.2	5.3	**1944**	17	67.5	4.0	**1944**	2	3.9	2.0									
1945	39	222.4	5.7	**1945**	12	52.5	4.4	**1945**	0	0.0										
1946	40	174.8	4.4	**1946**	24	76.2	3.2	**1946**	6	-0.5	-0.1									
1947	56	302.0	5.4	**1947**	27	120.2	4.5	**1947**	0	0.0										
1948	37	190.7	5.2	**1948**	17	68.2	4.0	**1948**	4	9.0	2.3									
1949	16	91.6	5.7	**1949**	5	24.3	4.9	**1949**	0	0.0										
1950	0	0.0		**1950**	0	0.0		**1950**	0	0.0										
1951	34	152.5	4.5	**1951**	17	51.5	3.0	**1951**	10	20.5	2.1									
1952	55	277.4	5.0	**1952**	25	97.5	3.9	**1952**	5	10.8	2.2									
1953	44	228.1	5.2	**1953**	18	71.7	4.0	**1953**	2	3.7	1.9									
1954	37	191.3	5.2	**1954**	18	75.6	4.2	**1954**	1	2.3	2.3									
1955	39	174.5	4.5	**1955**	21	66.2	3.2	**1955**	9	15.9	1.8									
1956	53	248.9	4.7	**1956**	28	96.6	3.5	**1956**	9	15.9	1.8									
1957	47	215.4	4.6	**1957**	28	103.7	3.7	**1957**	7	16.4	2.3									
1958	45	224.0	5.0	**1958**	22	85.3	3.9	**1958**	5	11.3	2.3									
1959	12	59.9	5.0	**1959**	6	24.1	4.0	**1959**	1	3.0	3.0									
1960	62	318.8	5.1	**1960**	26	98.9	3.8	**1960**	9	21.4	2.4									
1961	41	195.2	4.8	**1961**	27	107.9	4.0	**1961**	7	18.0	2.6									
1962	33	175.0	5.3	**1962**	13	54.1	4.2	**1962**	2	5.5	2.8									
1963	31	159.7	5.2	**1963**	11	39.1	3.6	**1963**	4	10.6	2.7									
1964	30	150.0	5.0	**1964**	15	55.5	3.7	**1964**	4	9.3	2.3									
1965	28	151.4	5.4	**1965**	12	52.7	4.4	**1965**	0	0.0										
1966	53	270.7	5.1	**1966**	27	112.9	4.2	**1966**	4	9.8	2.5									
1967	35	171.4	4.9	**1967**	21	87.2	4.2	**1967**	3	5.9	2.0									
1968	56	261.9	4.7	**1968**	29	97.9	3.4	**1968**	10	18.1	1.8									
1969	43	208.4	4.8	**1969**	23	83.5	3.6	**1969**	6	12.2	2.0									
1970	27	150.2	5.6	**1970**	8	37.5	4.7	**1970**	0	0.0										
1971	41	212.0	5.2	**1971**	22	95.8	4.4	**1971**	2	4.5	2.3									
1972	28	142.0	5.1	**1972**	16	69.3	4.3	**1972**	2	5.4	2.7									
1973	28	149.2	5.3	**1973**	11	45.8	4.2	**1973**	2	4.3	2.2									
1974	30	160.8	5.4	**1974**	11	48.2	4.4	**1974**	1	2.8	2.8									
1975	38	186.3	4.9	**1975**	21	84.6	4.0	**1975**	4	7.1	1.8									
1976	26	122.5	4.7	**1976**	13	47.2	3.6	**1976**	3	6.7	2.2									
1977	28	146.3	5.2	**1977**	14	62.5	4.5	**1977**	0	0.0										
1978	40	195.8	4.9	**1978**	21	81.8	3.9	**1978**	4	9.4	2.4									
1979	40	185.4	4.6	**1979**	23	80.5	3.5	**1979**	10	23.6	2.4									
1980	27	148.2	5.5	**1980**	9	38.2	4.2	**1980**	0	0.0										
1981	37	187.9	5.1	**1981**	18	71.0	3.9	**1981**	3	6.7	2.2									
1982	41	209.6	5.1	**1982**	22	94.0	4.3	**1982**	2	6.0	3.0									
1983	16	75.8	4.7	**1983**	10	39.8	4.0	**1983**	1	1.7	1.7									
1984	33	154.1	4.7	**1984**	18	65.3	3.6	**1984**	6	12.2	2.0									
1985	24	134.2	5.6	**1985**	7	32.1	4.6	**1985**	0	0.0										
1986	46	220.1	4.8	**1986**	25	94.4	3.8	**1986**	7	16.8	2.4									
1987	24	132.7	5.5	**1987**	5	21.3	4.3	**1987**	0	0.0										
1988	18	102.7	5.7	**1988**	5	22.1	4.4	**1988**	0	0.0		20 years	33.8	5.1	20 years	17.1	4.1	20 years	2.9	2.2
1989	45	200.5	4.5	**1989**	32	118.9	3.7	**1989**	10	24.5	2.5	19 years	34.6	5.1	19 years	17.7	4.1	19 years	3.1	2.2
1990	39	185.6	4.8	**1990**	21	76.2	3.6	**1990**	6	10.0	1.7	18 years	34.1	5.1	18 years	16.9	4.1	18 years	2.7	2.2
1991	14	72.8	5.2	**1991**	7	29.7	4.2	**1991**	1	2.0	2.0	17 years	33.8	5.1	17 years	16.6	4.1	17 years	2.5	2.3
1992	32	156.8	4.9	**1992**	17	65.3	3.8	**1992**	5	11.6	2.3	16 years	35.0	5.1	16 years	17.3	4.1	16 years	2.6	2.3
1993	50	249.2	5.0	**1993**	27	111.8	4.1	**1993**	4	11.2	2.8	15 years	35.2	5.1	15 years	17.3	4.1	15 years	2.4	2.3
1994	28	149.6	5.3	**1994**	12	52.1	4.3	**1994**	1	2.7	2.7	14 years	34.1	5.1	14 years	16.6	4.1	14 years	2.3	2.2
1995	32	162.1	5.1	**1995**	18	76.6	4.3	**1995**	1	3.1	3.1	13 years	34.6	5.1	13 years	16.9	4.1	13 years	2.4	2.2
1996	17	93.2	5.5	**1996**	8	37.5	4.7	**1996**	0	0.0		12 years	34.8	5.1	12 years	16.8	4.1	12 years	2.5	2.1
1997	38	173.1	4.6	**1997**	25	95.1	3.8	**1997**	4	7.4	1.9	11 years	36.5	5.1	11 years	17.6	4.1	11 years	2.7	2.1
1998	33	161.3	4.9	**1998**	16	58.6	3.7	**1998**	4	7.4	1.9	10 years	36.3	5.2	10 years	16.9	4.1	10 years	2.6	2.1
1999	39	209.5	5.4	**1999**	16	67.7	4.2	**1999**	2	4.8	2.4	9 years	36.7	5.2	9 years	17.0	4.1	9 years	2.4	2.1
2000	60	302.9	5.0	**2000**	32	135.0	4.2	**2000**	3	8.4	2.8	8 years	36.4	5.2	8 years	17.1	4.1	8 years	2.5	2.1
2001	39	198.1	5.1	**2001**	20	81.5	4.1	**2001**	3	7.0	2.3	7 years	33.0	5.2	7 years	15.0	4.1	7 years	2.4	2.0
2002	26	138.5	5.3	**2002**	8	28.8	3.6	**2002**	3	4.9	1.6	6 years	32.0	5.2	6 years	14.2	4.1	6 years	2.3	1.9
2003	34	179.1	5.3	**2003**	13	56.2	4.3	**2003**	1	1.2	1.2	5 years	33.2	5.2	5 years	15.4	4.2	5 years	2.2	2.0
2004	38	205.9	5.4	**2004**	15	65.1	4.3	**2004**	2	4.9	2.5	4 years	33.0	5.1	4 years	16.0	4.2	4 years	2.5	2.3
2005	32	163.1	5.1	**2005**	17	72.8	4.3	**2005**	2	5.3	2.7	3 years	31.3	5.0	3 years	16.3	4.2	3 years	2.7	2.2
2006	35	155.8	4.5	**2006**	22	80.1	3.6	**2006**	6	10.3	1.7	2 years	31.0	5.0	2 years	16.0	4.1	2 years	3.0	1.7
2007	27	150.3	5.6	**2007**	10	45.7	4.6	**2007**	0	0.0		1 years	27.0	5.6	1 years	10.0	4.6	1 years	0.0	
2008	34	181.6	5.3	**2008**	13	53.1	4.1	**2008**	3	7.2	2.4	0 years	34.0	5.3	0 years	13.0	4.1	0 years	3.0	2.4
2009	36	175.7	4.9	**2009**	19	75.2	4.0	**2009**	4	11.6	2.9	1 years	36.0	4.9	1 years	19.0	4.0	1 years	4.0	2.9
2010	41	208.1	5.1	**2010**	20	85.9	4.3	**2010**	3	8.3	2.8	2 years	38.5	5.0	2 years	19.5	4.1	2 years	3.5	2.8
2011	23	122.3	5.3	**2011**	7	25.6	3.7	**2011**	2	5.8	2.9	3 years	33.3	5.1	3 years	15.3	4.0	3 years	3.0	2.9
2012	37	179.5	4.9	**2012**	20	77.4	3.9	**2012**	4	10.7	2.7	4 years	34.3	5.0	4 years	16.5	3.9	4 years	3.3	2.8
2013	28	146.3	5.2	**2013**	11	42.3	3.8	**2013**	3	6.8	2.3	5 years	33.0	5.1	5 years	15.4	3.9	5 years	3.2	2.7
2014	33	167.9	5.1	**2014**	13	46.8	3.6	**2014**	6	14.6	2.4	6 years	33.0	5.1	6 years	15.0	3.9	6 years	3.7	2.7
2015	25	135.0	5.4	**2015**	7	26.1	3.7	**2015**	3	7.7	2.6	7 years	31.9	5.1	7 years	13.9	3.9	7 years	3.6	2.6
2016	34	178.6	5.3	**2016**	13	53.3	4.1	**2016**	1	1.6	1.6	8 years	32.1	5.1	8 years	13.8	3.9	8 years	3.3	2.5
2017	43	204.1	4.7	**2017**	23	85.0	3.7	**2017**	7	15.3	2.2	9 years	33.3	5.1	9 years	14.8	3.9	9 years	3.7	2.5
2018	33	179.7	5.4	**2018**	10	41.3	4.1	**2018**	3	8.2	2.7	10 years	33.3	5.1	10 years	14.3	3.9	10 years	3.6	2.5
2019	24	126.3	5.3	**2019**	9	37.7	4.2	**2019**	1	3.0	3.0	11 years	32.5	5.1	11 years	13.8	3.9	11 years	3.4	2.5
2020	17	93.1	5.5	**2020**	7	33.5	4.8	**2020**	0	0.0		12 years	31.2	5.2	12 years	13.3	4.0	12 years	3.1	2.5
2021	33	171.5	5.2	**2021**	13	48.8	3.8	**2021**	3	5.2	1.7	13 years	31.3	5.2	13 years	13.2	4.0	13 years	3.1	2.5
2022	18	87.5	4.9	**2022**	11	44.5	4.0	**2022**	1	2.9	2.9	14 years	30.4	5.1	14 years	13.1	4.0	14 years	2.9	2.5

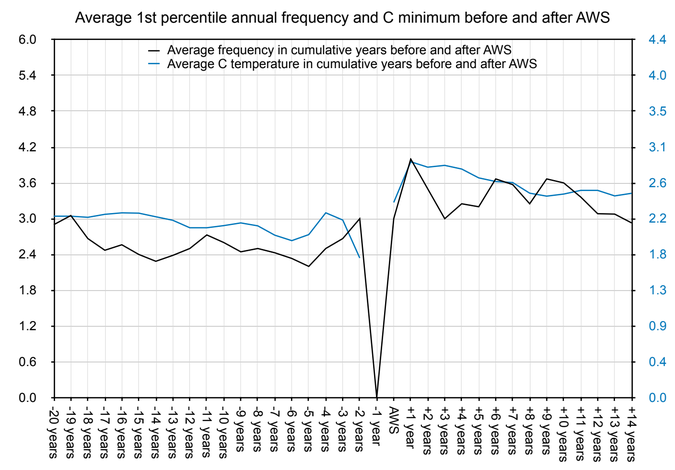
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	32.0	165.5	5.2	**Pre**	14.2	58.1	4.1	**Pre**	2.3	4.4	1.9
Post	33.0	166.6	5.1	**Post**	15.0	58.9	3.9	**Post**	3.7	9.6	2.7

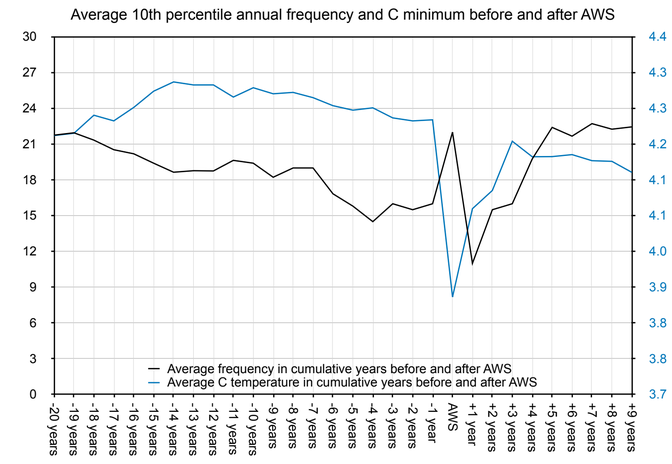
	AWS introduction
	Probe replacement
	Small screen introduction

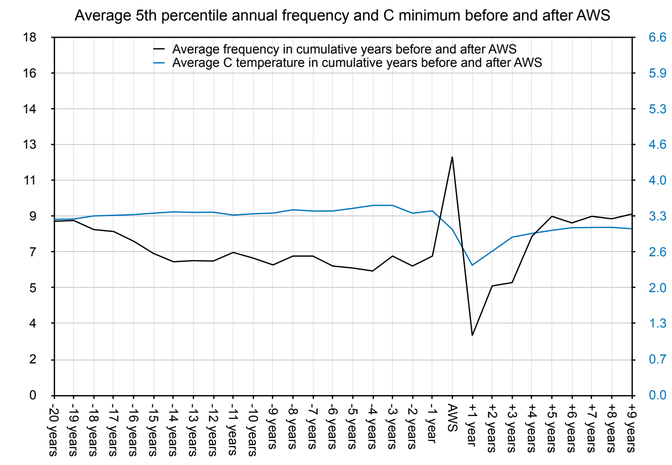


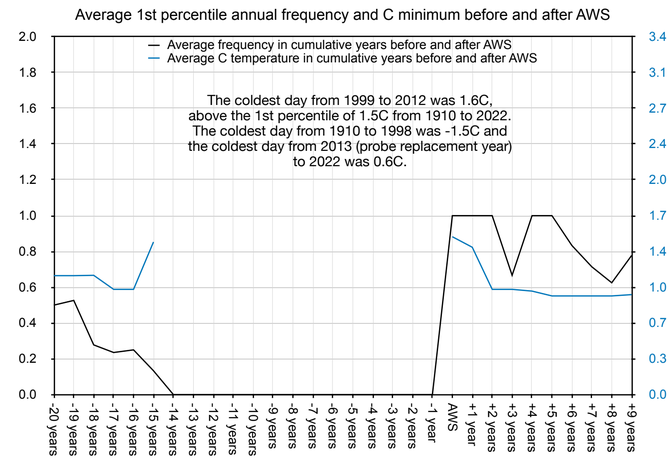




10th 5.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 1.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	34	117.2	3.4	1910	21	53.8	2.6	1910	3	1.3	0.4									
1911	47	152.2	3.2	1911	29	65.2	2.2	1911	8	4.5	0.6									
1912	56	170.1	3.0	1912	38	81.4	2.1	1912	11	4.3	0.4									
1913	48	164.5	3.4	1913	28	69.0	2.5	1913	6	1.2	0.2									
1914	52	187.1	3.6	1914	28	70.8	2.5	1914	7	3.0	0.4									
1915	26	91.9	3.5	1915	14	35.9	2.6	1915	2	1.4	0.7									
1916	58	197.1	3.4	1916	32	74.9	2.3	1916	8	2.5	0.3									
1917	42	138.1	3.3	1917	25	55.1	2.2	1917	7	4.3	0.6									
1918	38	120.6	3.2	1918	21	40.6	1.9	1918	8	5.1	0.6									
1919	56	195.9	3.5	1919	30	71.4	2.4	1919	5	1.3	0.3									
1920	44	156.9	3.6	1920	25	64.6	2.6	1920	3	3.8	1.3									
1921	42	155.2	3.7	1921	24	67.9	2.8	1921	4	3.7	0.9									
1922	54	180.9	3.4	1922	36	93.8	2.6	1922	7	5.8	0.8									
1923	34	135.8	4.0	1923	16	46.8	2.9	1923	1	1.2	1.2									
1924	55	222.9	4.1	1924	20	47.4	2.4	1924	6	6.2	1.0									
1925	55	189.6	3.4	1925	31	72.8	2.3	1925	8	-0.7	-0.1									
1926	36	137.3	3.8	1926	16	38.7	2.4	1926	4	2.7	0.7									
1927	45	117.4	2.6	1927	35	68.2	1.9	1927	15	7.0	0.5									
1928	48	146.0	3.0	1928	34	77.0	2.3	1928	10	7.4	0.7									
1929	58	182.9	3.2	1929	40	96.0	2.4	1929	9	-1.5	-0.2									
1930	43	158.7	3.7	1930	26	76.1	2.9	1930	4	5.0	1.3									
1931	50	203.7	4.1	1931	20	57.7	2.9	1931	4	4.2	1.1									
1932	54	190.2	3.5	1932	31	78.1	2.5	1932	6	4.0	0.7									
1933	59	206.1	3.5	1933	32	78.4	2.5	1933	9	7.0	0.8									
1934	63	208.0	3.3	1934	41	103.1	2.5	1934	9	8.2	0.9									
1935	43	163.2	3.8	1935	22	60.5	2.8	1935	4	3.5	0.9									
1936	55	204.9	3.7	1936	29	76.7	2.6	1936	5	3.3	0.7									
1937	47	117.2	2.5	1937	37	68.1	1.8	1937	16	7.6	0.5									
1938	53	176.6	3.3	1938	30	62.8	2.1	1938	9	6.2	0.7									
1939	48	163.2	3.4	1939	26	56.7	2.2	1939	9	4.0	0.4									
1940	53	190.3	3.6	1940	29	74.9	2.6	1940	9	7.3	0.8									
1941	36	139.3	3.9	1941	15	38.6	2.6	1941	2	1.7	0.9									
1942	39	133.4	3.4	1942	20	40.9	2.0	1942	7	2.4	0.3									
1943	81	287.0	3.5	1943	44	109.8	2.5	1943	10	9.7	1.0									
1944	63	186.2	3.0	1944	44	95.5	2.2	1944	13	1.6	0.1									
1945	65	230.4	3.5	1945	36	90.1	2.5	1945	7	1.1	0.2									
1946	46	181.8	4.0	1946	21	58.4	2.8	1946	4	3.2	0.8									
1947	38	143.0	3.8	1947	21	59.6	2.8	1947	3	2.3	0.8									
1948	60	218.1	3.6	1948	28	62.1	2.2	1948	9	4.5	0.5									
1949	71	249.0	3.5	1949	46	121.9	2.7	1949	7	5.1	0.7									
1950	60	217.3	3.6	1950	33	87.0	2.6	1950	4	4.5	1.1									
1951	42	166.1	4.0	1951	20	59.4	3.0	1951	3	3.7	1.2									
1952	50	188.4	3.8	1952	26	72.6	2.8	1952	3	1.9	0.6									
1953	36	131.3	3.6	1953	20	54.0	2.7	1953	3	3.3	1.1									
1954	37	132.7	3.6	1954	22	60.5	2.8	1954	4	4.4	1.1									
1955	45	168.7	3.7	1955	22	61.2	2.8	1955	4	4.3	1.1									
1956	46	158.5	3.4	1956	27	68.4	2.5	1956	9	4.5	0.5									
1957	39	132.5	3.4	1957	20	43.6	2.2	1957	7	5.2	0.7									
1958	47	182.2	3.9	1958	23	65.6	2.9	1958	4	3.3	0.8									
1959	53	200.6	3.8	1959	24	61.5	2.6	1959	6	2.8	0.5									
1960	50	176.2	3.5	1960	27	64.8	2.4	1960	10	7.7	0.8									
1961	30	121.0	4.0	1961	13	38.3	2.9	1961	1	0.8	0.8									
1962	36	125.3	3.5	1962	21	48.3	2.3	1962	6	5.0	0.8									
1963	42	139.0	3.3	1963	25	55.2	2.2	1963	9	3.4	0.4									
1964	24	102.7	4.3	1964	10	34.5	3.5	1964	0	0.0										
1965	37	119.4	3.2	1965	24	55.0	2.3	1965	7	5.4	0.8									
1966	40	152.3	3.8	1966	18	47.4	2.6	1966	2	1.6	0.8									
1967	48	182.6	3.8	1967	28	84.6	3.0	1967	1	1.2	1.2									
1968	37	158.7	4.3	1968	12	35.3	2.9	1968	0	0.0										
1969	47	186.0	4.0	1969	20	55.3	2.8	1969	2	-1.2	-0.6									
1970	28	110.7	4.0	1970	16	51.4	3.2	1970	2	2.1	1.1									
1971	37	146.5	4.0	1971	16	42.3	2.6	1971	2	1.2	0.6									
1972	37	127.8	3.5	1972	20	47.5	2.4	1972	6	3.9	0.7									
1973	40	132.1	3.3	1973	26	60.6	2.3	1973	7	5.4	0.8									
1974	23	82.5	3.6	1974	11	26.1	2.4	1974	1	0.6	0.6									
1975	25	96.4	3.9	1975	11	26.2	2.4	1975	2	1.9	1.0									
1976	38	156.3	4.1	1976	14	37.5	2.7	1976	2	2.1	1.1									
1977	34	132.2	3.9	1977	15	41.6	2.8	1977	0	0.0										
1978	29	122.7	4.2	1978	11	36.9	3.4	1978	0	0.0										
1979	20	77.9	3.9	1979	10	29.3	2.9	1979	1	1.2	1.2									
1980	17	70.8	4.2	1980	6	16.1	2.7	1980	1	1.5	1.5									
1981	21	83.0	4.0	1981	11	34.8	3.2	1981	0	0.0										
1982	51	173.7	3.4	1982	32	84.6	2.6	1982	6	2.0	0.3									
1983	27	102.4	3.8	1983	14	38.3	2.7	1983	3	2.2	0.7									
1984	29	106.8	3.7	1984	13	29.5	2.3	1984	4	2.8	0.7									
1985	26	94.1	3.6	1985	13	32.1	2.5	1985	4	2.6	0.7									
1986	23	88.2	3.8	1986	11	29.0	2.6	1986	1	0.8	0.8									
1987	29	126.9	4.4	1987	8	25.0	3.1	1987	1	1.5	1.5									
1988	12	55.7	4.6	1988	3	10.4	3.5	1988	0	0.0										
1989	30	110.8	3.7	1989	15	36.3	2.4	1989	3	3.3	1.1									
1990	17	76.3	4.5	1990	4	12.5	3.1	1990	0	0.0										
1991	17	81.7	4.8	1991	1	2.4	2.4	1991	0	0.0										
1992	32	137.6	4.3	1992	13	42.4	3.3	1992	0	0.0										
1993	18	74.2	4.1	1993	8	24.9	3.1	1993	0	0.0		20 years	21.8	4.2	20 years	8.8	3.2	20 years	0.5	1.1
1994	33	118.0	3.6	1994	17	37.9	2.2	1994	5	5.6	1.1	19 years	21.9	4.2	19 years	8.8	3.3	19 years	0.5	1.1
1995	35	155.2	4.4	1995	10	31.1	3.1	1995	1	1.4	1.4	18 years	21.3	4.2	18 years	8.3	3.3	18 years	0.3	1.1
1996	26	99.2	3.8	1996	16	49.9	3.1	1996	0	0.0		17 years	20.5	4.2	17 years	8.2	3.3	17 years	0.2	1.0
1997	32	121.1	3.8	1997	17	49.8	2.9	1997	2	1.1	0.6	16 years	20.2	4.3	16 years	7.8	3.3	16 years	0.3	1.0
1998	30	121.2	4.0	1998	13	39.3	3.0	1998	2	2.9	1.5	15 years	19.4	4.3	15 years	7.1	3.4	15 years	0.1	1.5
1999	17	74.6	4.4	1999	6	21.0	3.5	1999	0	0.0		14 years	18.6	4.3	14 years	6.7	3.4	14 years	0.0	
2000	19	81.8	4.3	2000	7	23.4	3.3	2000	0	0.0		13 years	18.8	4.3	13 years	6.8	3.4	13 years	0.0	
2001	9	41.1	4.6	2001	2	7.9	4.0	2001	0	0.0		12 years	18.8	4.3	12 years	6.8	3.4	12 years	0.0	
2002	22	90.2	4.1	2002	10	30.9	3.1	2002	0	0.0		11 years	19.6	4.3	11 years	7.2	3.3	11 years	0.0	
2003	30	132.2	4.4	2003	10	32.3	3.2	2003	0	0.0		10 years	19.4	4.3	10 years	6.9	3.3	10 years	0.0	
2004	12	51.2	4.3	2004	3	8.6	2.9	2004	0	0.0		9 years	18.2	4.3	9 years	6.6	3.4	9 years	0.0	
2005	19	82.9	4.4	2005	7	25.1	3.6	2005	0	0.0		8 years	19.0	4.3	8 years	7.0	3.4	8 years	0.0	
2006	32	140.0	4.4	2006	10	33.9	3.4	2006	0	0.0		7 years	19.0	4.3	7 years	7.0	3.4	7 years	0.0	
2007	22	94.8	4.3	2007	7	22.1	3.2	2007	0	0.0		6 years	16.8	4.3	6 years	6.5	3.4	6 years	0.0	
2008	21	89.0	4.2	2008	7	22.6	3.2	2008	0	0.0		5 years	15.8	4.3	5 years	6.4	3.4	5 years	0.0	
2009	10	43.2	4.3	2009	4	14.0	3.5	2009	0	0.0		4 years	14.5	4.3	4 years	6.3	3.5	4 years	0.0	
2010	17	72.3	4.3	2010	8	30.3	3.8	2010	0	0.0		3 years	16.0	4.2	3 years	7.0	3.5	3 years	0.0	
2011	15	63.5	4.2	2011	6	19.9	3.3	2011	0	0.0		2 years	15.5	4.2	2 years	6.5	3.4	2 years	0.0	
2012	16	67.8	4.2	2012	7	23.8	3.4	2012	0	0.0		1 years	16.0	4.2	1 years	7.0	3.4	1 years	0.0	
2013	22	85.6	3.9	2013	12	36.7	3.1	2013	1	1.5	1.5	0 years	22.0	3.9	0 years	12.0	3.1	0 years	1.0	1.5
2014	11	44.7	4.1	2014	3	7.2	2.4	2014	1	1.4	1.4	1 years	11.0	4.1	1 years	3.0	2.4	1 years	1.0	1.4
2015	20	82.7	4.1	2015	8	23.3	2.9	2015	1	0.6	0.6	2 years	15.5	4.1	2 years	5.5	2.7	2 years	1.0	1.0
2016	17	74.6	4.4	2016	6	20.6	3.4	2016	0	0.0		3 years	16.0	4.2	3 years	5.7	2.9	3 years	0.7	1.0
2017	31	126.3	4.1	2017	15	47.9	3.2	2017	2	1.9	1.0	4 years	19.8	4.2	4 years	8.0	3.0	4 years	1.0	1.0
2018	33	137.5	4.2	2018	13	42.5	3.3	2018	1	0.8	0.8	5 years	22.4	4.2	5 years	9.0	3.0	5 years	1.0	0.9
2019	18	75.4	4.2	2019	7	23.3	3.3	2019	0	0.0		6 years	21.7	4.2	6 years	8.7	3.1	6 years	0.8	0.9
2020	29	118.5	4.1	2020	11	34.3	3.1	2020	0	0.0		7 years	22.7	4.2	7 years	9.0	3.1	7 years	0.7	0.9
2021	19	78.8	4.1	2021	8	24.9	3.1	2021	0	0.0		8 years	22.3	4.2	8 years	8.9	3.1	8 years	0.6	0.9
2022	24	95.1	4.0	2022	11	31.6	2.9	2022	2	2.0	1.0	9 years	22.4	4.1	9 years	9.1	3.1	9 years	0.8	1.0
Original AWS probe type unknown																				
6 years				6 years				6 years												
Pre	16.8	71.8	4.3	Pre	6.5	22.1	3.4	Pre	0.0	0.0										
Post	21.7	90.2	4.2	Post	8.7	27.5	3.1	Post	0.8	0.8	0.9									
		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										



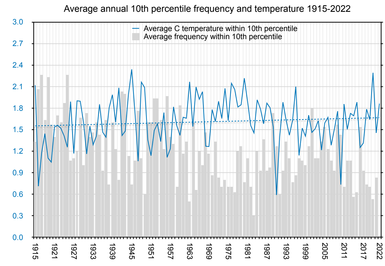


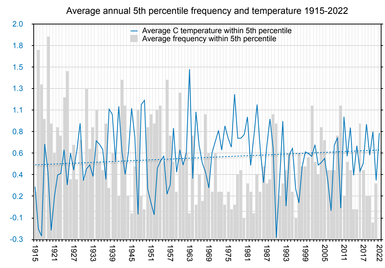


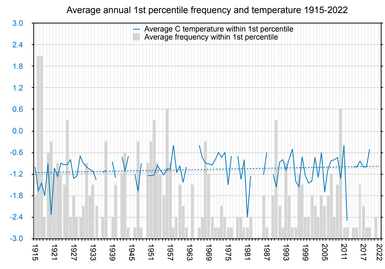
10th 3.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile
1915	40	84.8	2.1
1916	62	44.3	0.7
1917	68	80.0	1.2
1918	49	70.8	1.4
1919	67	74.0	1.1
1920	47	49.3	1.0
1921	42	64.7	1.5
1922	51	79.6	1.6
1923	48	72.9	1.5
1924	56	79.1	1.4
1925	68	85.5	1.3
1926	32	60.5	1.9
1927	33	38.6	1.2
1928	36	68.5	1.9
1929	50	94.9	1.9
1930	30	48.3	1.6
1931	52	60.5	1.2
1932	42	65.0	1.5
1933	44	56.8	1.3
1934	48	67.7	1.4
1935	43	79.7	1.9
1936	28	41.0	1.5
1937	49	68.4	1.4
1938	22	39.8	1.8
1939	48	95.4	2.0
1940	37	59.3	1.6
1941	24	50.0	2.1
1942	61	86.6	1.4
1943	60	88.9	1.5
1944	34	67.9	2.0
1945	22	51.5	2.3
1946	32	55.9	1.7
1947	53	56.3	1.1
1948	33	71.4	2.2
1949	18	37.6	2.1
1950	48	65.3	1.4
1951	48	54.7	1.1
1952	58	86.4	1.5
1953	58	91.8	1.6
1954	49	65.5	1.3
1955	37	64.3	1.7
1956	59	65.8	1.1
1957	42	51.9	1.2
1958	39	70.9	1.8
1959	21	32.7	1.6
1960	55	78.2	1.4
1961	35	58.6	1.7
1962	40	66.4	1.7
1963	15	32.5	2.2
1964	48	74.2	1.5
1965	20	41.9	2.1
1966	36	69.3	1.9
1967	30	60.9	2.0
1968	44	55.9	1.3
1969	35	44.3	1.3
1970	26	46.3	1.8
1971	40	64.6	1.6
1972	25	47.4	1.9
1973	21	34.8	1.7
1974	24	49.8	2.1
1975	21	34.2	1.6
1976	21	45.1	2.1
1977	19	39.2	2.1
1978	36	65.4	1.8
1979	38	70.2	1.8
1980	23	51.0	2.2
1981	33	62.6	1.9
1982	21	32.7	1.6
1983	9	13.1	1.5
1984	36	69.0	1.9
1985	28	50.2	1.8
1986	41	64.9	1.6
1987	28	52.4	1.9
1988	29	52.4	1.8
1989	52	80.0	1.5
1990	38	22.5	0.6
1991	18	25.4	1.4
1992	28	52.7	1.9
1993	40	65.3	1.6
1994	33	47.0	1.4
1995	23	37.5	1.6
1996	26	54.6	2.1
1997	33	37.7	1.1
1998	32	48.7	1.5
1999	30	42.3	1.4
2000	38	64.7	1.7
2001	54	79.0	1.5
2002	33	49.9	1.5
2003	33	53.7	1.6
2004	40	48.7	1.2
2005	46	73.3	1.6
2006	37	61.9	1.7
2007	32	41.1	1.3
2008	28	42.3	1.5
2009	47	82.6	1.8
2010	43	31.7	0.7
2011	21	39.0	1.9
2012	32	48.2	1.5
2013	32	55.3	1.7
2014	17	28.8	1.7
2015	19	35.8	1.9
2016	46	57.6	1.3
2017	28	36.8	1.3
2018	22	39.3	1.8
2019	21	34.5	1.6
2020	16	36.7	2.3
2021	25	36.4	1.5
2022	26	48.5	1.9
No AWS probe			
50/50	No AWS / small screen unknown		
1913-1967	42.8	64.7	1.6
1968-2021	30.8	48.8	1.6
10 years			
Pre small	39.1	59.6	1.6
Post small	30.2	50.8	1.7
5 years			
Pre small	38.6	62.0	1.7
Post small	34.2	55.3	1.7
		AWS introduction	
		Small screen introduction	

5th 1.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile
1915	11	2.9	0.3
1916	44	-8.2	-0.2
1917	36	-9.5	-0.3
1918	28	20.1	0.7
1919	47	19.7	0.4
1920	27	-5.5	-0.2
1921	20	3.1	0.2
1922	26	10.1	0.4
1923	24	9.7	0.4
1924	33	21.7	0.7
1925	39	11.0	0.3
1926	14	8.7	0.6
1927	22	9.7	0.4
1928	14	9.2	0.7
1929	23	21.6	0.9
1930	14	4.6	0.3
1931	35	15.9	0.5
1932	21	10.4	0.5
1933	26	9.7	0.4
1934	30	22.6	0.8
1935	18	12.9	0.7
1936	16	10.6	0.7
1937	27	9.2	0.3
1938	12	13.1	1.1
1939	20	20.7	1.0
1940	19	10.3	0.5
1941	10	11.2	1.1
1942	37	23.6	0.6
1943	31	12.2	0.4
1944	10	6.3	0.6
1945	6	6.6	1.1
1946	17	13.5	0.8
1947	30	-1.0	-0.0
1948	10	11.4	1.1
1949	7	8.3	1.2
1950	26	6.2	0.2
1951	29	2.7	0.1
1952	27	-1.0	-0.0
1953	30	13.8	0.5
1954	31	16.7	0.5
1955	18	10.6	0.6
1956	37	6.8	0.2
1957	24	6.8	0.3
1958	18	16.0	0.9
1959	11	4.6	0.4
1960	34	22.3	0.7
1961	18	8.9	0.5
1962	20	12.5	0.6
1963	6	9.1	1.5
1964	24	8.4	0.4
1965	8	8.5	1.1
1966	15	10.5	0.7
1967	9	4.6	0.5
1968	29	12.1	0.4
1969	20	5.0	0.3
1970	11	6.9	0.6
1971	20	14.9	0.7
1972	11	9.5	0.9
1973	11	7.2	0.7
1974	8	7.3	0.9
1975	11	8.6	0.8
1976	7	4.8	0.7
1977	8	10.0	1.3
1978	15	11.7	0.8
1979	16	12.5	0.8
1980	5	4.1	0.8
1981	13	13.1	1.0
1982	11	5.4	0.5
1983	6	4.8	0.8
1984	15	17.1	1.1
1985	11	7.2	0.7
1986	17	5.2	0.3
1987	13	9.0	0.7
1988	14	13.8	1.0
1989	29	19.4	0.7
1990	27	-7.6	-0.3
1991	10	3.4	0.3
1992	13	12.5	1.0
1993	16	0.9	0.1
1994	20	12.1	0.6
1995	11	7.4	0.7
1996	5	1.2	0.2
1997	20	1.8	0.1
1998	17	8.1	0.5
1999	17	10.8	0.6
2000	19	11.7	0.6
2001	31	18.2	0.6
2002	18	12.8	0.7
2003	15	7.4	0.5
2004	26	13.6	0.5
2005	23	13.0	0.6
2006	16	5.1	0.3
2007	16	0.1	0.0
2008	16	11.3	0.7
2009	24	18.9	0.8
2010	31	1.1	0.0
2011	10	10.1	1.0
2012	18	10.6	0.6
2013	16	14.3	0.9
2014	7	2.7	0.4
2015	7	4.9	0.7
2016	27	11.6	0.4
2017	16	8.2	0.5
2018	10	9.3	0.9
2019	10	6.0	0.6
2020	4	3.4	0.9
2021	13	4.3	0.3
2022	11	9.2	0.8
50/50	No AWS / small screen unknown		
1913-1967	22.4	9.9	0.5
1968-2021	15.4	8.5	0.6
10 years			
Pre small	21.0	10.6	0.6
Post small	14.5	8.7	0.6
5 years			
Pre small	20.4	12.2	0.7
Post small	16.8	7.8	0.5

1st -0.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1915	4	-4.0	-1.0
1916	17	-28.4	-1.7
1917	17	-24.7	-1.5
1918	2	-3.6	-1.8
1919	8	-7.3	-0.9
1920	9	-21.0	-2.3
1921	6	-6.2	-1.0
1922	7	-8.9	-1.3
1923	6	-5.4	-0.9
1924	5	-4.7	-0.9
1925	11	-10.3	-0.9
1926	2	-1.6	-0.8
1927	4	-5.3	-1.3
1928	2	-2.5	-1.3
1929	2	-1.4	-0.7
1930	3	-2.7	-0.9
1931	7	-7.0	-1.0
1932	4	-4.3	-1.1
1933	5	-5.6	-1.1
1934	3	-4.1	-1.4
1935	0	0.0	
1936	2	-2.3	-1.2
1937	9	-9.9	-1.1
1938	0	0.0	
1939	2	-1.7	-0.9
1940	5	-6.5	-1.3
1941	0	0.0	
1942	6	-4.3	-0.7
1943	8	-8.9	-1.1
1944	1	-0.7	-0.7
1945	0	0.0	
1946	1	-1.2	-1.2
1947	9	-15.1	-1.7
1948	1	-0.9	-0.9
1949	0	0.0	
1950	7	-8.7	-1.2
1951	9	-11.2	-1.2
1952	11	-13.5	-1.2
1953	7	-6.7	-1.0
1954	6	-6.6	-1.1
1955	4	-4.9	-1.2
1956	12	-12.7	-1.1
1957	7	-7.4	-1.1
1958	1	-0.4	-0.4
1959	2	-2.3	-1.2
1960	5	-4.9	-1.0
1961	3	-4.3	-1.4
1962	1	-1.0	-1.0
1963	0	0.0	
1964	5	-6.5	-1.3
1965	0	0.0	
1966	1	-0.4	-0.4
1967	2	-1.5	-0.8
1968	9	-8.1	-0.9
1969	6	-5.5	-0.9
1970	2	-1.9	-1.0
1971	1	-0.8	-0.8
1972	1	-0.6	-0.6
1973	3	-2.2	-0.7
1974	2	-1.2	-0.6
1975	1	-1.5	-1.5
1976	1	-0.7	-0.7
1977	0	0.0	
1978	2	-1.4	-0.7
1979	2	-2.7	-1.4
1980	1	-0.8	-0.8
1981	1	-2.4	-2.4
1982	2	-2.5	-1.3
1983	0	0.0	
1984	0	0.0	
1985	0	0.0	
1986	4	-4.9	-1.2
1987	1	-0.6	-0.6
1988	0	0.0	
1989	4	-4.8	-1.2
1990	11	-17.2	-1.6
1991	3	-2.6	-0.9
1992	1	-0.8	-0.8
1993	7	-7.6	-1.1
1994	4	-3.1	-0.8
1995	1	-0.5	-0.5
1996	1	-1.4	-1.4
1997	6	-9.3	-1.6
1998	5	-3.6	-0.7
1999	2	-2.5	-1.3
2000	2	-2.9	-1.5
2001	4	-5.6	-1.4
2002	3	-2.2	-0.7
2003	2	-2.6	-1.3
2004	4	-2.4	-0.6
2005	3	-5.1	-1.7
2006	4	-4.3	-1.1
2007	6	-5.0	-0.8
2008	2	-1.6	-0.8
2009	5	-3.7	-0.7
2010	12	-15.9	-1.3
2011	1	-0.4	-0.4
2012	1	-2.5	-2.5
2013	0	0.0	
2014	1	-1.0	-1.0
2015	1	-1.0	-1.0
2016	5	-4.2	-0.8
2017	3	-3.0	-1.0
2018	1	-1.0	-1.0
2019	1	-0.5	-0.5
2020	0	0.0	
2021	2	-1.5	-0.8
2022	0	0.0	
50/50	No AWS / small screen unknown		
1913-1967	4.7	-5.7	-1.1
1968-2021	2.7	-2.9	-1.0
10 years			
Pre small	4.0	-4.4	-1.1
Post small	2.8	-2.4	-0.8
5 years			
Pre small	2.8	-3.3	-1.2
Post small	4.0	-3.5	-0.8





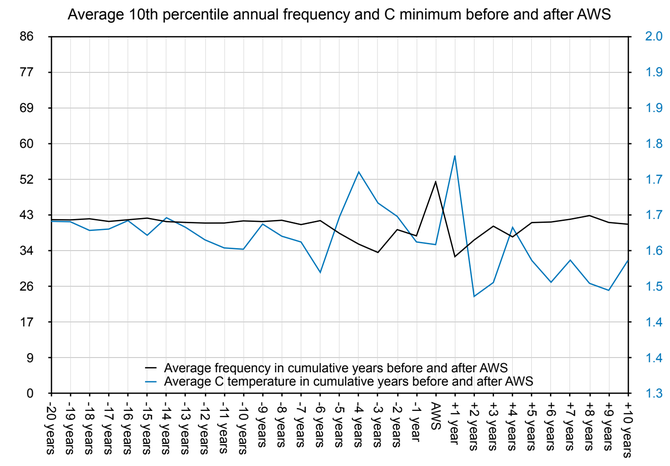


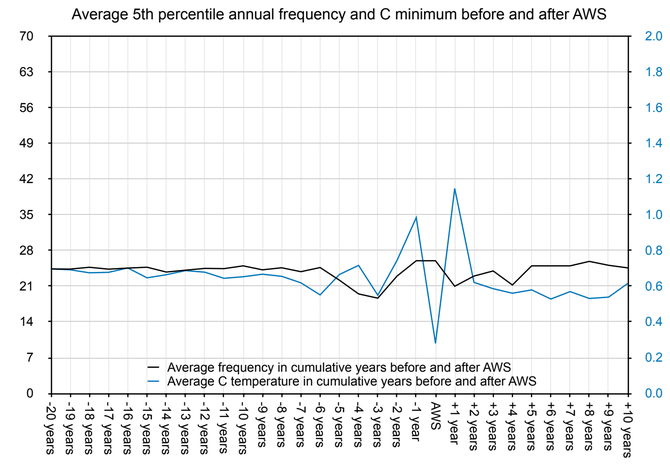
10th 3.5	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	19	43.4	2.3	**1910**	8	10.6	1.3	**1910**	1	-1.1	-1.1									
1911	40	77.9	1.9	**1911**	27	38.5	1.4	**1911**	2	-2.3	-1.2									
1912	40	59.5	1.5	**1912**	26	18.3	0.7	**1912**	7	-5.2	-0.7									
1913	45	69.8	1.6	**1913**	31	25.1	0.8	**1913**	7	-7.3	-1.0									
1914	37	76.1	2.1	**1914**	18	15.9	0.9	**1914**	3	-2.8	-0.9									
1915	8	19.0	2.4	**1915**	4	7.3	1.8	**1915**	0	0.0										
1916	29	71.9	2.5	**1916**	14	24.4	1.7	**1916**	0	0.0										
1917	20	36.0	1.8	**1917**	12	11.6	1.0	**1917**	2	-2.3	-1.2									
1918	13	25.5	2.0	**1918**	6	3.9	0.7	**1918**	2	-2.8	-1.4									
1919	44	78.3	1.8	**1919**	29	31.8	1.1	**1919**	4	-4.0	-1.0									
1920	19	40.9	2.2	**1920**	7	3.3	0.5	**1920**	3	-2.9	-1.0									
1921	18	47.0	2.6	**1921**	6	9.4	1.6	**1921**	1	-0.6	-0.6									
1922	34	80.3	2.4	**1922**	16	24.4	1.5	**1922**	0	0.0										
1923	12	30.7	2.6	**1923**	4	6.8	1.7	**1923**	0	0.0										
1924	47	96.5	2.1	**1924**	26	30.7	1.2	**1924**	3	-3.9	-1.3									
1925	27	59.7	2.2	**1925**	14	20.8	1.5	**1925**	0	0.0										
1926	21	40.7	1.9	**1926**	13	17.3	1.3	**1926**	0	0.0										
1927	45	63.2	1.4	**1927**	30	18.2	0.6	**1927**	8	-11.3	-1.4									
1928	28	53.8	1.9	**1928**	18	22.8	1.3	**1928**	1	-0.6	-0.6									
1929	44	75.9	1.7	**1929**	25	18.7	0.7	**1929**	7	-6.9	-1.0									
1930	20	47.7	2.4	**1930**	8	10.6	1.3	**1930**	0	0.0										
1931	14	34.8	2.5	**1931**	5	5.6	1.1	**1931**	1	-1.1	-1.1									
1932	28	61.9	2.2	**1932**	12	10.6	0.9	**1932**	2	-1.2	-0.6									
1933	23	53.7	2.3	**1933**	12	19.9	1.7	**1933**	0	0.0										
1934	27	55.5	2.1	**1934**	16	21.3	1.3	**1934**	1	-0.6	-0.6									
1935	21	46.8	2.2	**1935**	10	14.0	1.4	**1935**	1	-1.0	-1.0									
1936	22	48.3	2.2	**1936**	12	18.2	1.5	**1936**	1	-1.1	-1.1									
1937	27	58.9	2.2	**1937**	15	25.2	1.7	**1937**	0	0.0										
1938	32	79.0	2.5	**1938**	10	12.3	1.2	**1938**	0	0.0										
1939	21	43.0	2.0	**1939**	9	8.7	1.0	**1939**	0	0.0										
1940	28	61.2	2.2	**1940**	15	21.9	1.5	**1940**	0	0.0										
1941	26	60.7	2.3	**1941**	10	14.0	1.4	**1941**	0	0.0										
1942	15	40.3	2.7	**1942**	5	9.9	2.0	**1942**	0	0.0										
1943	31	64.7	2.1	**1943**	18	24.9	1.4	**1943**	2	-1.2	-0.6									
1944	43	65.8	1.5	**1944**	31	26.7	0.9	**1944**	6	-7.3	-1.2									
1945	22	32.1	1.5	**1945**	15	10.5	0.7	**1945**	4	-4.0	-1.0									
1946	16	40.4	2.5	**1946**	7	11.2	1.6	**1946**	0	0.0										
1947	0	0.0		**1947**	0	0.0		**1947**	0	0.0										
1948	22	53.4	2.4	**1948**	10	17.3	1.7	**1948**	0	0.0										
1949	51	90.8	1.8	**1949**	29	27.7	1.0	**1949**	4	-4.1	-1.0									
1950	34	71.8	2.1	**1950**	18	24.7	1.4	**1950**	0	0.0										
1951	26	56.6	2.2	**1951**	13	16.1	1.2	**1951**	1	-1.0	-1.0									
1952	42	73.9	1.8	**1952**	28	32.9	1.2	**1952**	2	-0.9	-0.5									
1953	43	91.7	2.1	**1953**	23	31.6	1.4	**1953**	2	-0.9	-0.5									
1954	36	77.1	2.1	**1954**	18	25.2	1.4	**1954**	0	0.0										
1955	29	62.8	2.2	**1955**	14	17.4	1.2	**1955**	1	-0.6	-0.6									
1956	33	60.0	1.8	**1956**	19	18.7	1.0	**1956**	3	-3.2	-1.1									
1957	42	84.3	2.0	**1957**	18	17.3	1.0	**1957**	1	-1.4	-1.4									
1958	46	58.9	1.3	**1958**	28	5.6	0.2	**1958**	11	-13.8	-1.3									
1959	47	71.0	1.5	**1959**	27	12.3	0.5	**1959**	9	-11.0	-1.2									
1960	51	99.1	1.9	**1960**	27	25.8	1.0	**1960**	4	-1.6	-0.4									
1961	30	64.6	2.2	**1961**	17	22.3	1.3	**1961**	1	-1.0	-1.0									
1962	33	61.8	1.9	**1962**	22	27.5	1.3	**1962**	1	-1.2	-1.2									
1963	36	55.8	1.6	**1963**	23	16.7	0.7	**1963**	6	-6.9	-1.2									
1964	33	59.8	1.8	**1964**	19	19.9	1.0	**1964**	2	-2.9	-1.5									
1965	39	65.0	1.7	**1965**	24	20.5	0.9	**1965**	5	-3.7	-0.7									
1966	50	83.2	1.7	**1966**	34	36.3	1.1	**1966**	6	-5.6	-0.9									
1967	41	79.5	1.9	**1967**	27	37.7	1.4	**1967**	3	-1.0	-0.3									
1968	39	70.8	1.8	**1968**	20	16.4	0.8	**1968**	3	-3.9	-1.3									
1969	43	85.5	2.0	**1969**	21	24.0	1.1	**1969**	3	-1.7	-0.6									
1970	46	92.6	2.0	**1970**	25	30.1	1.2	**1970**	2	-0.4	-0.2									
1971	48	96.0	2.0	**1971**	28	35.2	1.3	**1971**	3	-1.7	-0.6									
1972	35	59.6	1.7	**1972**	19	11.9	0.6	**1972**	8	-3.2	-0.4									
1973	29	58.9	2.0	**1973**	15	18.7	1.2	**1973**	2	-0.9	-0.5									
1974	32	64.9	2.0	**1974**	16	17.2	1.1	**1974**	1	-1.0	-1.0									
1975	27	51.3	1.9	**1975**	17	23.1	1.4	**1975**	1	-1.1	-1.1									
1976	69	133.1	1.9	**1976**	32	24.5	0.8	**1976**	9	-7.2	-0.8									
1977	43	88.1	2.0	**1977**	19	18.6	1.0	**1977**	3	-1.6	-0.5									
1978	29	61.3	2.1	**1978**	14	15.2	1.1	**1978**	1	-0.6	-0.6									
1979	40	86.4	2.2	**1979**	20	26.4	1.3	**1979**	0	0.0										
1980	39	85.5	2.2	**1980**	18	26.3	1.5	**1980**	0	0.0										
1981	25	55.7	2.2	**1981**	14	21.9	1.6	**1981**	0	0.0										
1982	54	50.1	0.9	**1982**	35	-5.8	-0.2	**1982**	16	-30.3	-1.9									
1983	32	38.6	1.2	**1983**	22	10.4	0.5	**1983**	6	-7.4	-1.2									
1984	48	102.0	2.1	**1984**	21	21.1	1.0	**1984**	4	-4.9	-1.2									
1985	37	76.3	2.1	**1985**	17	15.4	0.9	**1985**	2	-1.8	-0.9									
1986	24	48.7	2.0	**1986**	13	16.9	1.3	**1986**	1	-1.0	-1.0									
1987	30	73.0	2.4	**1987**	12	19.2	1.6	**1987**	0	0.0										
1988	24	60.7	2.5	**1988**	9	15.8	1.8	**1988**	0	0.0										
1989	53	96.3	1.8	**1989**	31	36.7	1.2	**1989**	3	-1.8	-0.6									
1990	33	62.8	1.9	**1990**	18	19.8	1.1	**1990**	2	-1.9	-1.0									
1991	34	83.1	2.4	**1991**	12	17.8	1.5	**1991**	0	0.0										
1992	43	71.1	1.7	**1992**	25	19.6	0.8	**1992**	9	-4.6	-0.5	20 years	41.9	1.6	20 years	24.4	0.7	20 years	6.5	-0.9
1993	37	71.9	1.9	**1993**	18	17.9	1.0	**1993**	2	-1.4	-0.7	19 years	41.8	1.6	19 years	24.4	0.7	19 years	6.3	-1.0
1994	53	83.5	1.6	**1994**	31	19.6	0.6	**1994**	8	-6.3	-0.8	18 years	42.1	1.6	18 years	24.7	0.7	18 years	6.6	-1.0
1995	35	47.5	1.4	**1995**	21	6.0	0.3	**1995**	9	-9.2	-1.0	17 years	41.5	1.6	17 years	24.4	0.7	17 years	6.5	-1.0
1996	36	74.5	2.1	**1996**	22	33.7	1.5	**1996**	0	0.0		16 years	41.9	1.6	16 years	24.6	0.7	16 years	6.3	-1.0
1997	54	61.0	1.1	**1997**	38	15.3	0.4	**1997**	12	-14.0	-1.2	15 years	42.3	1.6	15 years	24.7	0.6	15 years	6.7	-1.0
1998	44	83.2	1.9	**1998**	19	7.0	0.4	**1998**	6	-9.4	-1.6	14 years	41.4	1.6	14 years	23.8	0.7	14 years	6.4	-1.0
1999	43	82.5	1.9	**1999**	20	15.8	0.8	**1999**	3	-4.8	-1.6	13 years	41.2	1.6	13 years	24.2	0.7	13 years	6.4	-0.9
2000	41	72.8	1.8	**2000**	25	26.4	1.1	**2000**	2	-1.0	-0.5	12 years	41.1	1.6	12 years	24.5	0.7	12 years	6.7	-0.9
2001	36	58.0	1.6	**2001**	19	10.6	0.6	**2001**	7	-6.7	-1.0	11 years	41.1	1.6	11 years	24.5	0.6	11 years	7.1	-0.9
2002	43	49.0	1.1	**2002**	32	16.8	0.5	**2002**	9	-8.2	-0.9	10 years	41.6	1.6	10 years	25.0	0.7	10 years	7.1	-0.9
2003	39	71.1	1.8	**2003**	21	16.0	0.8	**2003**	6	-4.3	-0.7	9 years	41.4	1.6	9 years	24.2	0.7	9 years	6.9	-0.9
2004	49	82.7	1.7	**2004**	30	27.3	0.9	**2004**	5	-4.4	-0.9	8 years	41.8	1.6	8 years	24.6	0.7	8 years	7.0	-0.9
2005	35	68.4	2.0	**2005**	19	19.5	1.0	**2005**	2	-1.8	-0.9	7 years	40.7	1.6	7 years	23.9	0.6	7 years	7.3	-0.9
2006	57	56.6	1.0	**2006**	37	-0.7	-0.0	**2006**	19	-21.9	-1.2	6 years	41.7	1.5	6 years	24.7	0.6	6 years	8.2	-0.9
2007	49	63.5	1.3	**2007**	33	15.2	0.5	**2007**	10	-13.1	-1.3	5 years	38.6	1.6	5 years	22.2	0.7	5 years	6.0	-0.9
2008	42	80.5	1.9	**2008**	22	26.8	1.2	**2008**	4	-2.4	-0.6	4 years	36.0	1.7	4 years	19.5	0.7	4 years	5.0	-0.8
2009	23	39.7	1.7	**2009**	10	1.6	0.2	**2009**	5	-5.9	-1.2	3 years	34.0	1.7	3 years	18.7	0.5	3 years	5.3	-0.8
2010	41	69.6	1.7	**2010**	20	10.1	0.5	**2010**	8	-4.7	-0.6	2 years	39.5	1.6	2 years	23.0	0.7	2 years	5.5	-0.7
2011	38	60.7	1.6	**2011**	26	25.6	1.0	**2011**	3	-2.2	-0.7	1 years	38.0	1.6	1 years	26.0	1.0	1 years	3.0	-0.7
2012	51	81.2	1.6	**2012**	26	7.3	0.3	**2012**	9	-13.0	-1.4	0 years	51.0	1.6	0 years	26.0	0.3	0 years	9.0	-1.4
2013	33	58.3	1.8	**2013**	21	24.1	1.1	**2013**	3	-2.5	-0.8	1 years	33.0	1.8	1 years	21.0	1.1	1 years	3.0	-0.8
2014	41	49.8	1.2	**2014**	25	2.4	0.1	**2014**	11	-14.6	-1.3	2 years	37.0	1.5	2 years	23.0	0.6	2 years	7.0	-1.1
2015	47	73.9	1.6	**2015**	26	13.4	0.5	**2015**	7	-5.1	-0.7	3 years	40.3	1.5	3 years	24.0	0.6	3 years	7.0	-1.0
2016	30	58.5	2.0	**2016**	13	6.3	0.5	**2016**	2	-2.7	-1.4	4 years	37.8	1.6	4 years	21.3	0.6	4 years	5.8	-1.1
2017	55	71.6	1.3	**2017**	40	26.2	0.7	**2017**	11	-11.9	-1.1	5 years	41.2	1.6	5 years	25.0	0.6	5 years	6.8	-1.1
2018	42	54.8	1.3	**2018**	25	6.8	0.3	**2018**	9	-10.8	-1.2	6 years	41.3	1.5	6 years	25.0	0.5	6 years	7.2	-1.1
2019	46	83.8	1.8	**2019**	25	20.5	0.8	**2019**	6	-5.4	-0.9	7 years	42.0	1.6	7 years	25.0	0.6	7 years	7.0	-1.1
2020	49	58.7	1.2	**2020**	32	8.4	0.3	**2020**	13	-13.0	-1.0	8 years	42.9	1.5	8 years	25.9	0.5	8 years	7.8	-1.1
2021	28	39.0	1.4	**2021**	19	11.4	0.6	**2021**	5	-6.0	-1.2	9 years	41.2	1.5	9 years	25.1	0.5	9 years	7.4	-1.1
2022	37	77.3	2.1	**2022**	20	26.1	1.3	**2022**	4	-2.0	-0.5	10 years	40.8	1.6	10 years	24.6	0.6	10 years	7.1	-1.0

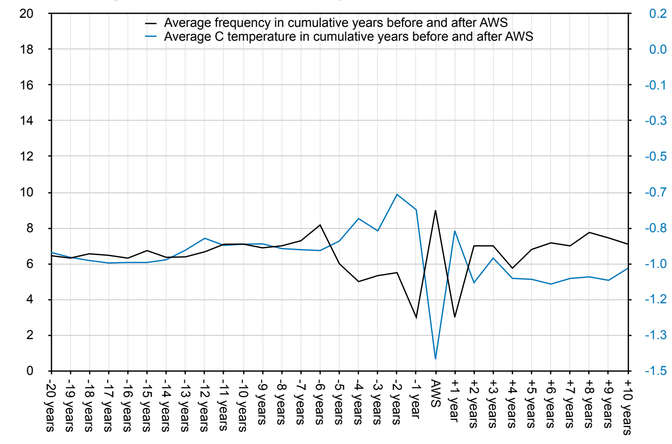
Original AWS probe type unknown

6 years				**6 years**				**6 years**			
Pre	41.7	61.8	1.5	**Pre**	24.7	13.1	0.6	**Pre**	8.2	-8.4	-0.9
Post	41.3	61.2	1.5	**Post**	25.0	13.2	0.5	**Post**	7.2	-7.9	-1.1

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		



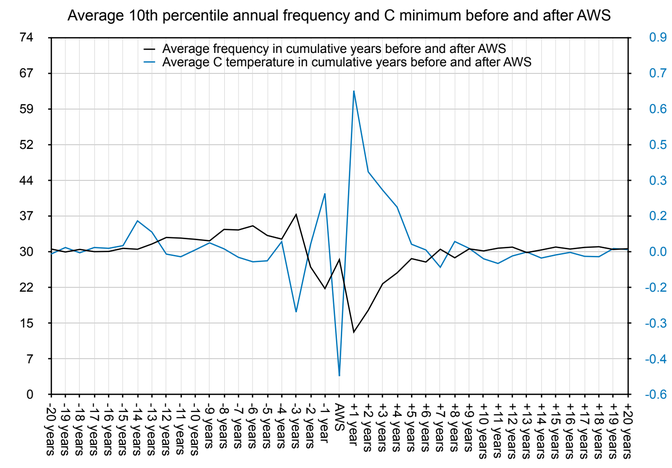


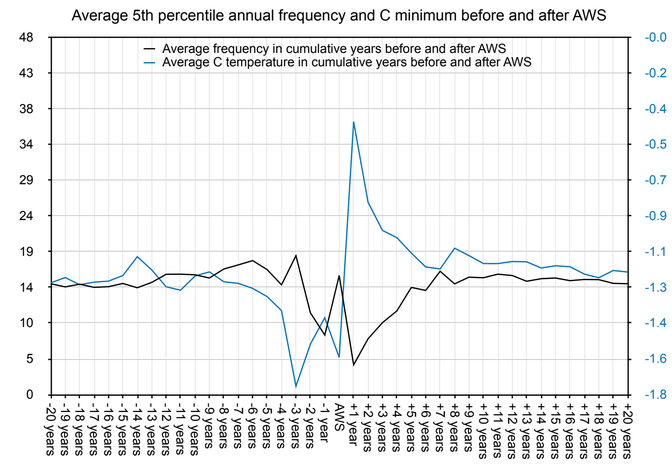


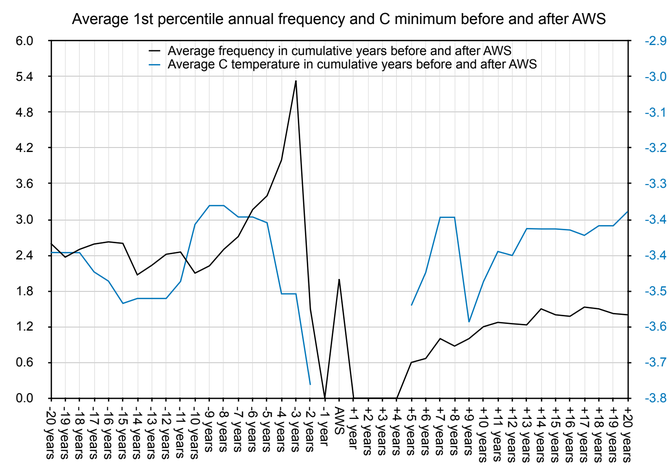
10th 2.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -2.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	24	11.2	0.5	**1910**	9	-5.1	-0.6	**1910**	0	0.0										
1911	58	-58.0	-1.0	**1911**	41	-80.3	-2.0	**1911**	13	-46.1	-3.5									
1912	32	25.4	0.8	**1912**	4	-4.5	-1.1	**1912**	0	0.0										
1913	25	-4.9	-0.2	**1913**	14	-18.1	-1.3	**1913**	1	-3.9	-3.9									
1914	33	-4.0	-0.1	**1914**	20	-20.9	-1.0	**1914**	3	-8.9	-3.0									
1915	36	16.4	0.5	**1915**	12	-9.5	-0.8	**1915**	0	0.0										
1916	14	5.5	0.4	**1916**	6	-4.6	-0.8	**1916**	0	0.0										
1917	50	-30.2	-0.6	**1917**	29	-55.7	-1.9	**1917**	9	-32.7	-3.6									
1918	64	-85.8	-1.3	**1918**	39	-110.7	-2.8	**1918**	20	-86.5	-4.3									
1919	55	-47.7	-0.9	**1919**	36	-66.3	-1.8	**1919**	11	-48.1	-4.4									
1920	29	15.4	0.5	**1920**	9	-5.7	-0.6	**1920**	1	-2.8	-2.8									
1921	12	9.3	0.8	**1921**	4	-2.4	-0.6	**1921**	0	0.0										
1922	49	-6.9	-0.1	**1922**	25	-33.4	-1.3	**1922**	5	-16.0	-3.2									
1923	24	7.8	0.3	**1923**	10	-9.1	-0.9	**1923**	1	-2.8	-2.8									
1924	41	-22.4	-0.5	**1924**	21	-40.9	-1.9	**1924**	7	-23.5	-3.4									
1925	50	-29.9	-0.6	**1925**	28	-48.4	-1.7	**1925**	4	-15.1	-3.8									
1926	41	-3.5	-0.1	**1926**	19	-24.2	-1.3	**1926**	1	-3.1	-3.1									
1927	66	-71.3	-1.1	**1927**	42	-96.3	-2.3	**1927**	16	-65.8	-4.1									
1928	36	1.4	0.0	**1928**	17	-19.1	-1.1	**1928**	0	0.0										
1929	50	-53.7	-1.1	**1929**	33	-68.8	-2.1	**1929**	14	-53.0	-3.8									
1930	35	-2.1	-0.1	**1930**	15	-22.5	-1.5	**1930**	3	-9.4	-3.1									
1931	32	-12.5	-0.4	**1931**	18	-30.2	-1.7	**1931**	3	-10.0	-3.3									
1932	50	-51.8	-1.0	**1932**	36	-69.8	-1.9	**1932**	12	-40.6	-3.4									
1933	37	-5.5	-0.1	**1933**	20	-21.0	-1.1	**1933**	0	0.0										
1934	42	-4.9	-0.1	**1934**	19	-31.1	-1.6	**1934**	4	-14.1	-3.5									
1935	51	-43.1	-0.8	**1935**	31	-66.3	-2.1	**1935**	9	-37.6	-4.2									
1936	35	8.7	0.2	**1936**	15	-14.8	-1.0	**1936**	0	0.0										
1937	41	-23.0	-0.6	**1937**	25	-37.0	-1.5	**1937**	4	-13.7	-3.4									
1938	10	4.7	0.5	**1938**	3	-5.1	-1.7	**1938**	0	0.0										
1939	38	2.6	0.1	**1939**	18	-18.2	-1.0	**1939**	2	-5.7	-2.9									
1940	47	-49.0	-1.0	**1940**	30	-68.0	-2.3	**1940**	13	-48.3	-3.7									
1941	54	-53.3	-1.0	**1941**	39	-73.6	-1.9	**1941**	12	-41.1	-3.4									
1942	15	10.6	0.7	**1942**	4	-2.6	-0.7	**1942**	0	0.0										
1943	47	-54.5	-1.2	**1943**	35	-69.1	-2.0	**1943**	10	-39.4	-3.9									
1944	37	4.9	0.1	**1944**	18	-15.5	-0.9	**1944**	1	-2.8	-2.8									
1945	25	10.3	0.4	**1945**	9	-9.5	-1.1	**1945**	1	-3.0	-3.0									
1946	70	-101.6	-1.5	**1946**	50	-122.7	-2.5	**1946**	23	-91.6	-4.0									
1947	38	-20.6	-0.5	**1947**	25	-37.3	-1.5	**1947**	4	-13.9	-3.5									
1948	47	11.3	0.2	**1948**	27	-14.2	-0.5	**1948**	0	0.0										
1949	49	-51.4	-1.0	**1949**	35	-67.3	-1.9	**1949**	10	-36.0	-3.6									
1950	17	11.9	0.7	**1950**	4	-2.8	-0.7	**1950**	0	0.0										
1951	55	-55.6	-1.0	**1951**	41	-68.2	-1.7	**1951**	12	-44.5	-3.7									
1952	24	5.8	0.2	**1952**	11	-8.5	-0.8	**1952**	0	0.0										
1953	55	-62.7	-1.1	**1953**	38	-80.8	-2.1	**1953**	9	-31.0	-3.4									
1954	18	4.9	0.3	**1954**	7	-10.5	-1.5	**1954**	1	-3.8	-3.8									
1955	25	1.5	0.1	**1955**	12	-13.4	-1.1	**1955**	1	-2.8	-2.8									
1956	29	7.3	0.3	**1956**	10	-10.9	-1.1	**1956**	2	-6.1	-3.1									
1957	34	-20.1	-0.6	**1957**	22	-34.8	-1.6	**1957**	4	-12.8	-3.2									
1958	25	2.4	0.1	**1958**	13	-11.2	-0.9	**1958**	1	-4.4	-4.4									
1959	0	0.0		**1959**	0	0.0		**1959**	0	0.0										
1960	45	-30.4	-0.7	**1960**	29	-45.8	-1.6	**1960**	7	-22.3	-3.2									
1961	46	-36.6	-0.8	**1961**	29	-56.4	-1.9	**1961**	11	-41.5	-3.8									
1962	51	1.7	0.0	**1962**	23	-32.7	-1.4	**1962**	5	-16.2	-3.2									
1963	38	-32.1	-0.8	**1963**	21	-51.7	-2.5	**1963**	9	-35.4	-3.9									
1964	37	-15.7	-0.4	**1964**	24	-29.6	-1.2	**1964**	2	-7.7	-3.9									
1965	32	-20.3	-0.6	**1965**	20	-33.7	-1.7	**1965**	5	-20.6	-4.1									
1966	43	-21.9	-0.5	**1966**	25	-44.6	-1.8	**1966**	8	-27.5	-3.4									
1967	31	7.8	0.3	**1967**	13	-9.4	-0.7	**1967**	0	0.0										
1968	37	-12.5	-0.3	**1968**	21	-31.2	-1.5	**1968**	3	-9.8	-3.3									
1969	29	13.9	0.5	**1969**	9	-8.6	-1.0	**1969**	0	0.0										
1970	59	-48.5	-0.8	**1970**	35	-76.7	-2.2	**1970**	9	-35.5	-3.9									
1971	36	-24.8	-0.7	**1971**	23	-40.7	-1.8	**1971**	6	-22.1	-3.7									
1972	45	-37.1	-0.8	**1972**	27	-56.5	-2.1	**1972**	7	-26.2	-3.7									
1973	8	4.1	0.5	**1973**	4	-1.8	-0.5	**1973**	0	0.0										
1974	40	-21.7	-0.5	**1974**	22	-39.1	-1.8	**1974**	5	-16.3	-3.3									
1975	31	1.3	0.0	**1975**	16	-15.6	-1.0	**1975**	0	0.0										
1976	42	-2.9	-0.1	**1976**	22	-29.8	-1.4	**1976**	3	-8.7	-2.9									
1977	42	-22.4	-0.5	**1977**	23	-40.2	-1.7	**1977**	7	-24.0	-3.4	20 years	30.2	-0.0	20 years	14.9	-1.2	20 years	2.6	-3.4
1978	20	8.3	0.4	**1978**	8	-4.5	-0.6	**1978**	0	0.0		19 years	29.6	0.0	19 years	14.5	-1.2	19 years	2.4	-3.4
1979	38	-14.4	-0.4	**1979**	22	-32.2	-1.5	**1979**	1	-2.9	-2.9	18 years	30.1	-0.0	18 years	14.8	-1.2	18 years	2.5	-3.4
1980	29	2.1	0.1	**1980**	13	-17.1	-1.3	**1980**	2	-6.5	-3.3	17 years	29.6	0.0	17 years	14.4	-1.2	17 years	2.6	-3.5
1981	20	-3.1	-0.2	**1981**	8	-13.2	-1.7	**1981**	3	-9.0	-3.0	16 years	29.7	0.0	16 years	14.5	-1.2	16 years	2.6	-3.5
1982	33	-47.2	-1.4	**1982**	23	-58.2	-2.5	**1982**	10	-36.6	-3.7	15 years	30.3	0.0	15 years	14.9	-1.2	15 years	2.6	-3.6
1983	16	11.9	0.7	**1983**	5	-1.2	-0.2	**1983**	0	0.0		14 years	30.1	0.1	14 years	14.4	-1.1	14 years	2.1	-3.5
1984	15	17.9	1.2	**1984**	2	-0.3	-0.2	**1984**	0	0.0		13 years	31.2	0.1	13 years	15.1	-1.2	13 years	2.2	-3.5
1985	34	3.8	0.1	**1985**	16	-17.1	-1.1	**1985**	2	-7.7	-3.9	12 years	32.6	-0.0	12 years	16.2	-1.3	12 years	2.4	-3.5
1986	35	-10.7	-0.3	**1986**	17	-33.8	-2.0	**1986**	6	-26.2	-4.4	11 years	32.5	-0.0	11 years	16.2	-1.3	11 years	2.5	-3.5
1987	35	-9.1	-0.3	**1987**	20	-27.8	-1.4	**1987**	1	-3.6	-3.6	10 years	32.2	0.0	10 years	16.1	-1.2	10 years	2.1	-3.4
1988	13	3.1	0.2	**1988**	6	-4.7	-0.8	**1988**	0	0.0		9 years	31.9	0.0	9 years	15.7	-1.2	9 years	2.2	-3.3
1989	35	9.2	0.3	**1989**	13	-15.3	-1.2	**1989**	1	-3.2	-3.2	8 years	34.3	0.0	8 years	16.9	-1.2	8 years	2.5	-3.3
1990	29	2.6	0.1	**1990**	14	-15.2	-1.1	**1990**	0	0.0		7 years	34.1	-0.0	7 years	17.4	-1.2	7 years	2.7	-3.3
1991	45	-2.8	-0.1	**1991**	24	-25.4	-1.1	**1991**	2	-6.6	-3.3	6 years	35.0	-0.0	6 years	18.0	-1.3	6 years	3.2	-3.3
1992	36	-12.9	-0.4	**1992**	25	-25.6	-1.0	**1992**	1	-3.0	-3.0	5 years	33.0	-0.0	5 years	16.8	-1.3	5 years	3.4	-3.4
1993	17	15.8	0.9	**1993**	3	-0.7	-0.2	**1993**	0	0.0		4 years	32.3	0.0	4 years	14.8	-1.4	4 years	4.0	-3.5
1994	59	-48.4	-0.8	**1994**	34	-74.2	-2.2	**1994**	13	-43.0	-3.3	3 years	37.3	-0.3	3 years	18.7	-1.8	3 years	5.3	-3.5
1995	31	-5.7	-0.2	**1995**	14	-23.5	-1.7	**1995**	3	-11.3	-3.8	2 years	26.5	0.0	2 years	11.0	-1.5	2 years	1.5	-3.8
1996	22	5.4	0.2	**1996**	8	-11.3	-1.4	**1996**	0	0.0		1 years	22.0	0.2	1 years	8.0	-1.4	1 years	0.0	
1997	28	-14.6	-0.5	**1997**	16	-25.8	-1.6	**1997**	2	-6.7	-3.4	0 years	28.0	-0.5	0 years	16.0	-1.6	0 years	2.0	-3.4
1998	13	8.8	0.7	**1998**	4	-1.7	-0.4	**1998**	0	0.0		1 years	13.0	0.7	1 years	4.0	-0.4	1 years	0.0	
1999	22	-0.1	-0.0	**1999**	11	-13.6	-1.2	**1999**	0	0.0		2 years	17.5	0.3	2 years	7.5	-0.8	2 years	0.0	
2000	34	3.6	0.1	**2000**	14	-17.6	-1.3	**2000**	0	0.0		3 years	23.0	0.3	3 years	9.7	-1.0	3 years	0.0	
2001	32	-0.8	-0.0	**2001**	16	-17.9	-1.1	**2001**	0	0.0		4 years	25.3	0.2	4 years	11.3	-1.0	4 years	0.0	
2002	40	-23.7	-0.6	**2002**	27	-37.7	-1.4	**2002**	3	-10.7	-3.6	5 years	28.2	0.0	5 years	14.4	-1.1	5 years	0.6	-3.6
2003	24	-2.7	-0.1	**2003**	12	-18.1	-1.5	**2003**	1	-3.4	-3.4	6 years	27.5	0.0	6 years	14.0	-1.2	6 years	0.7	-3.5
2004	46	-23.0	-0.5	**2004**	32	-39.2	-1.2	**2004**	3	-9.2	-3.1	7 years	30.1	-0.1	7 years	16.6	-1.2	7 years	1.0	-3.3
2005	16	12.8	0.8	**2005**	3	-1.0	-0.3	**2005**	0	0.0		8 years	28.4	0.0	8 years	14.9	-1.1	8 years	0.9	-3.3
2006	45	-9.7	-0.2	**2006**	23	-32.1	-1.4	**2006**	2	-8.8	-4.4	9 years	30.2	0.0	9 years	15.8	-1.1	9 years	1.0	-3.6
2007	26	-11.0	-0.4	**2007**	15	-22.5	-1.5	**2007**	3	-9.3	-3.1	10 years	29.8	-0.0	10 years	15.7	-1.1	10 years	1.2	-3.5
2008	36	-8.8	-0.2	**2008**	21	-24.0	-1.1	**2008**	2	-6.1	-3.1	11 years	30.4	-0.0	11 years	16.2	-1.1	11 years	1.3	-3.4
2009	33	10.9	0.3	**2009**	14	-14.2	-1.0	**2009**	1	-3.5	-3.5	12 years	30.6	-0.0	12 years	16.0	-1.1	12 years	1.3	-3.4
2010	16	3.1	0.2	**2010**	6	-6.9	-1.2	**2010**	1	-2.9	-2.9	13 years	29.5	-0.0	13 years	15.2	-1.1	13 years	1.2	-3.4
2011	37	-13.0	-0.4	**2011**	20	-31.3	-1.6	**2011**	5	-16.9	-3.4	14 years	30.0	-0.0	14 years	15.6	-1.2	14 years	1.5	-3.4
2012	39	6.6	0.2	**2012**	17	-16.9	-1.0	**2012**	0	0.0		15 years	30.6	-0.0	15 years	15.7	-1.2	15 years	1.4	-3.4
2013	24	3.8	0.2	**2013**	10	-12.3	-1.2	**2013**	1	-3.4	-3.4	16 years	30.2	-0.0	16 years	15.3	-1.2	16 years	1.4	-3.4
2014	36	-10.2	-0.3	**2014**	18	-32.1	-1.8	**2014**	4	-14.1	-3.5	17 years	30.5	-0.0	17 years	15.5	-1.2	17 years	1.5	-3.4
2015	33	-1.5	-0.0	**2015**	15	-22.9	-1.5	**2015**	1	-3.1	-3.1	18 years	30.7	-0.0	18 years	15.4	-1.2	18 years	1.5	-3.4
2016	20	12.6	0.6	**2016**	6	-3.1	-0.5	**2016**	0	0.0		19 years	30.1	0.0	19 years	14.9	-1.2	19 years	1.4	-3.4
2017	33	-2.3	-0.1	**2017**	14	-18.6	-1.3	**2017**	1	-2.9	-2.9	20 years	30.3	0.0	20 years	14.9	-1.2	20 years	1.4	-3.3
2018	42	-33.8	-0.8	**2018**	27	-49.5	-1.8	**2018**	6	-22.5	-3.8									
2019	38	16.8	0.4	**2019**	12	-13.0	-1.1	**2019**	0	0.0										
2020	25	12.1	0.5	**2020**	8	-6.3	-0.8	**2020**	0	0.0										
2021	27	19.4	0.7	**2021**	5	-1.9	-0.4	**2021**	0	0.0										
2022	31	25.9	0.8	**2022**	8	-3.5	-0.4	**2022**	0	0.0										

Original AWS probe Rosemount

10 years	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997		
Pre AWS	32.2	-4.3	0.0	**Pre AWS**	16.1	-22.4	-1.2	**Pre AWS**	2.1	-7.1	-3.4
Post AWS	29.8	-4.6	-0.0	**Post AWS**	15.7	-20.1	-1.1	**Post AWS**	1.2	-4.1	-3.5
Pre small	32.2	-4.3	0.0	**Pre small**	16.1	-22.4	-1.2	**Pre small**	2.1	-7.1	-3.4
Post small	29.8	-4.6	-0.0	**Post small**	15.7	-20.1	-1.1	**Post small**	1.2	-4.1	-3.5
5 years				**5 years**				**5 years**			
Pre AWS	33.0	-9.2	-0.0	**Pre AWS**	16.8	-27.1	-1.3	**Pre AWS**	3.4	-11.5	-3.4
Post AWS	28.2	-2.4	0.0	**Post AWS**	14.4	-17.7	-1.1	**Post AWS**	0.6	-2.1	-3.6
Pre small	33.0	-9.2	-0.0	**Pre small**	16.8	-27.1	-1.3	**Pre small**	3.4	-11.5	-3.4
Post small	28.2	-2.4	0.0	**Post small**	14.4	-17.7	-1.1	**Post small**	0.6	-2.1	-3.6
		AWS introduction									
		Small screen introduction									







10th 4.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 3.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 1.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1926	65	154.5	2.4	**1926**	48	82.7	1.7	**1926**	17	3.4	0.2									
1927	56	119.7	2.1	**1927**	44	71.9	1.6	**1927**	16	0.5	0.0									
1928	55	147.0	2.7	**1928**	38	77.2	2.0	**1928**	11	7.9	0.7									
1929	65	158.5	2.4	**1929**	47	82.3	1.8	**1929**	20	12.3	0.6									
1930	27	76.9	2.8	**1930**	16	31.0	1.9	**1930**	5	3.4	0.7									
1931	55	146.9	2.7	**1931**	34	61.0	1.8	**1931**	12	3.7	0.3									
1932	44	122.5	2.8	**1932**	27	50.2	1.9	**1932**	9	4.5	0.5									
1933	51	148.0	2.9	**1933**	31	62.5	2.0	**1933**	9	2.8	0.3									
1934	57	148.2	2.6	**1934**	38	68.1	1.8	**1934**	12	4.6	0.4									
1935	64	183.1	2.9	**1935**	39	79.1	2.0	**1935**	12	7.0	0.6									
1936	44	146.6	3.3	**1936**	18	37.7	2.1	**1936**	4	1.1	0.3									
1937	61	147.6	2.4	**1937**	41	62.6	1.5	**1937**	16	5.0	0.3									
1938	43	123.0	2.9	**1938**	31	72.7	2.3	**1938**	3	0.0	0.0									
1939	51	158.2	3.1	**1939**	30	69.6	2.3	**1939**	4	0.7	0.2									
1940	47	156.7	3.3	**1940**	23	56.6	2.5	**1940**	3	1.7	0.6									
1941	36	128.6	3.6	**1941**	18	51.9	2.9	**1941**	1	1.1	1.1									
1942	58	157.5	2.7	**1942**	37	69.6	1.9	**1942**	11	5.0	0.5									
1943	54	150.5	2.8	**1943**	33	60.6	1.8	**1943**	11	5.6	0.5									
1944	43	136.8	3.2	**1944**	28	73.8	2.6	**1944**	4	3.9	1.0									
1945	25	89.6	3.6	**1945**	12	35.9	3.0	**1945**	0	0.0										
1946	38	119.1	3.1	**1946**	19	39.5	2.1	**1946**	2	-3.3	-1.7									
1947	52	156.7	3.0	**1947**	31	67.8	2.2	**1947**	6	2.9	0.5									
1948	31	92.4	3.0	**1948**	19	41.6	2.2	**1948**	3	1.6	0.5									
1949	26	102.6	3.9	**1949**	7	21.5	3.1	**1949**	0	0.0										
1950	50	143.2	2.9	**1950**	27	47.5	1.8	**1950**	11	3.0	0.3									
1951	57	158.5	2.8	**1951**	37	72.5	2.0	**1951**	10	6.3	0.6									
1952	52	157.8	3.0	**1952**	29	63.1	2.2	**1952**	7	3.3	0.5									
1953	33	91.2	2.8	**1953**	21	39.3	1.9	**1953**	8	3.3	0.4									
1954	47	148.2	3.2	**1954**	24	55.0	2.3	**1954**	5	5.0	1.0									
1955	32	88.6	2.8	**1955**	18	30.5	1.7	**1955**	8	2.1	0.3									
1956	57	168.6	3.0	**1956**	37	86.1	2.3	**1956**	6	5.0	0.8									
1957	0	0.0		**1957**	0	0.0		**1957**	0	0.0										
1958	14	53.7	3.8	**1958**	4	12.2	3.1	**1958**	0	0.0										
1959	8	22.8	2.9	**1959**	6	15.0	2.5	**1959**	0	0.0										
1960	35	110.8	3.2	**1960**	19	43.4	2.3	**1960**	0	0.0										
1961	27	69.6	2.6	**1961**	21	44.7	2.1	**1961**	5	3.9	0.8									
1962	28	105.0	3.8	**1962**	11	33.2	3.0	**1962**	0	0.0										
1963	11	41.4	3.8	**1963**	5	16.0	3.2	**1963**	0	0.0										
1964	18	54.9	3.1	**1964**	12	30.5	2.5	**1964**	1	0.6	0.6									
1965	16	63.0	3.9	**1965**	4	10.4	2.6	**1965**	0	0.0										
1966	47	145.8	3.1	**1966**	30	72.5	2.4	**1966**	1	0.6	0.6									
1967	26	90.5	3.5	**1967**	12	32.1	2.7	**1967**	0	0.0										
1968	36	106.4	3.0	**1968**	22	45.9	2.1	**1968**	4	2.6	0.7									
1969	42	133.9	3.2	**1969**	21	46.3	2.2	**1969**	4	1.9	0.5									
1970	17	63.2	3.7	**1970**	6	15.5	2.6	**1970**	1	1.1	1.1									
1971	29	108.7	3.7	**1971**	10	25.9	2.6	**1971**	1	1.1	1.1									
1972	16	55.8	3.5	**1972**	6	14.3	2.4	**1972**	1	0.9	0.9									
1973	25	94.8	3.8	**1973**	8	21.9	2.7	**1973**	0	0.0										
1974	15	59.6	4.0	**1974**	3	8.3	2.8	**1974**	0	0.0										
1975	20	73.6	3.7	**1975**	6	13.0	2.2	**1975**	1	0.5	0.5									
1976	23	92.8	4.0	**1976**	6	17.1	2.9	**1976**	0	0.0										
1977	16	61.0	3.8	**1977**	3	6.2	2.1	**1977**	0	0.0		20 years	24.5	3.5	20 years	9.0	2.2	20 years	1.2	0.6
1978	28	105.2	3.8	**1978**	8	17.7	2.2	**1978**	0	0.0		19 years	24.9	3.4	19 years	9.3	2.2	19 years	1.2	0.6
1979	30	102.6	3.4	**1979**	12	26.9	2.2	**1979**	1	0.2	0.2	18 years	24.7	3.4	18 years	9.3	2.2	18 years	1.3	0.6
1980	23	90.2	3.9	**1980**	5	13.8	2.8	**1980**	0	0.0		17 years	24.4	3.4	17 years	9.2	2.2	17 years	1.3	0.6
1981	31	110.3	3.6	**1981**	7	15.1	2.2	**1981**	0	0.0		16 years	24.5	3.4	16 years	9.4	2.2	16 years	1.4	0.6
1982	28	91.2	3.3	**1982**	13	29.3	2.3	**1982**	2	1.8	0.9	15 years	24.1	3.4	15 years	9.6	2.2	15 years	1.5	0.6
1983	12	31.1	2.6	**1983**	6	8.8	1.5	**1983**	1	0.6	0.6	14 years	23.8	3.4	14 years	9.4	2.2	14 years	1.4	0.6
1984	32	109.0	3.4	**1984**	12	26.8	2.2	**1984**	2	1.8	0.9	13 years	24.7	3.4	13 years	9.6	2.2	13 years	1.5	0.6
1985	22	79.6	3.6	**1985**	8	21.6	2.7	**1985**	0	0.0		12 years	24.1	3.4	12 years	9.4	2.3	12 years	1.4	0.6
1986	35	113.9	3.3	**1986**	17	39.0	2.3	**1986**	2	2.1	1.1	11 years	24.3	3.4	11 years	9.5	2.2	11 years	1.5	0.6
1987	15	49.6	3.3	**1987**	8	19.5	2.4	**1987**	1	0.5	0.5	10 years	23.2	3.4	10 years	8.8	2.2	10 years	1.5	0.5
1988	14	53.0	3.8	**1988**	3	7.4	2.5	**1988**	0	0.0		9 years	24.1	3.5	9 years	8.9	2.2	9 years	1.6	0.5
1989	29	92.8	3.2	**1989**	12	21.6	1.8	**1989**	3	1.0	0.3	8 years	25.4	3.4	8 years	9.6	2.1	8 years	1.8	0.5
1990	44	128.9	2.9	**1990**	20	27.5	1.4	**1990**	8	-0.3	-0.0	7 years	24.9	3.5	7 years	9.3	2.2	7 years	1.6	0.5
1991	16	59.9	3.7	**1991**	3	6.3	2.1	**1991**	1	0.8	0.8	6 years	21.7	3.5	6 years	7.5	2.3	6 years	0.5	0.8
1992	17	50.5	3.0	**1992**	10	20.4	2.0	**1992**	2	1.6	0.8	5 years	22.8	3.5	5 years	8.4	2.4	5 years	0.4	0.8
1993	36	135.4	3.8	**1993**	8	19.7	2.5	**1993**	0	0.0		4 years	24.3	3.6	4 years	8.0	2.5	4 years	0.0	
1994	22	79.1	3.6	**1994**	9	25.1	2.8	**1994**	0	0.0		3 years	20.3	3.6	3 years	8.0	2.4	3 years	0.0	
1995	25	78.8	3.2	**1995**	14	35.7	2.6	**1995**	0	0.0		2 years	19.5	3.6	2 years	7.5	2.3	2 years	0.0	
1996	14	56.3	4.0	**1996**	1	2.0	2.0	**1996**	0	0.0		1 years	14.0	4.0	1 years	1.0	2.0	1 years	0.0	
1997	36	93.5	2.6	**1997**	22	34.5	1.6	**1997**	9	3.8	0.4	0 years	36.0	2.6	0 years	22.0	1.6	0 years	9.0	0.4
1998	34	112.1	3.3	**1998**	15	32.0	2.1	**1998**	3	0.0	0.0	1 years	34.0	3.3	1 years	15.0	2.1	1 years	3.0	0.0
1999	20	69.5	3.5	**1999**	10	27.0	2.7	**1999**	0	0.0		2 years	27.0	3.4	2 years	12.5	2.4	2 years	1.5	0.0
2000	28	96.6	3.5	**2000**	12	29.2	2.4	**2000**	0	0.0		3 years	27.3	3.4	3 years	12.3	2.4	3 years	1.0	0.0
2001	48	158.8	3.3	**2001**	23	55.3	2.4	**2001**	1	0.2	0.2	4 years	32.5	3.4	4 years	15.0	2.4	4 years	1.0	0.1
2002	25	77.6	3.1	**2002**	14	33.3	2.4	**2002**	1	0.8	0.8	5 years	31.0	3.3	5 years	14.8	2.4	5 years	1.0	0.3
2003	36	120.3	3.3	**2003**	14	28.5	2.0	**2003**	2	1.2	0.6	6 years	31.8	3.3	6 years	14.7	2.3	6 years	1.2	0.4
2004	38	120.7	3.2	**2004**	17	35.8	2.1	**2004**	3	2.5	0.8	7 years	32.7	3.3	7 years	15.0	2.3	7 years	1.4	0.5
2005	58	167.1	2.9	**2005**	30	55.9	1.9	**2005**	8	2.0	0.3	8 years	35.9	3.3	8 years	16.9	2.3	8 years	2.3	0.4
2006	42	104.8	2.5	**2006**	27	42.2	1.6	**2006**	8	-1.0	-0.1	9 years	36.6	3.2	9 years	18.0	2.2	9 years	2.9	0.4
2007	33	125.2	3.8	**2007**	9	24.5	2.7	**2007**	0	0.0		10 years	36.2	3.2	10 years	17.1	2.2	10 years	2.6	0.4
2008	36	117.6	3.3	**2008**	18	38.8	2.2	**2008**	4	3.7	0.9	11 years	36.2	3.2	11 years	17.2	2.2	11 years	2.7	0.4
2009	45	132.7	2.9	**2009**	27	60.1	2.2	**2009**	5	3.9	0.8	12 years	36.9	3.2	12 years	18.0	2.2	12 years	2.9	0.5
2010	54	143.2	2.7	**2010**	31	50.1	1.6	**2010**	7	-3.7	-0.5	13 years	38.2	3.2	13 years	19.0	2.2	13 years	3.2	0.4
2011	23	82.6	3.6	**2011**	7	17.8	2.5	**2011**	0	0.0		14 years	37.1	3.2	14 years	18.1	2.2	14 years	3.0	0.4
2012	38	122.7	3.2	**2012**	18	43.1	2.4	**2012**	0	0.0		15 years	37.2	3.2	15 years	18.1	2.2	15 years	2.8	0.4
2013	49	167.4	3.4	**2013**	19	40.1	2.1	**2013**	3	1.7	0.6	16 years	37.9	3.2	16 years	18.2	2.2	16 years	2.8	0.4
2014	25	81.6	3.3	**2014**	15	37.4	2.5	**2014**	2	2.0	1.0	17 years	37.2	3.2	17 years	18.0	2.2	17 years	2.8	0.4
2015	21	64.3	3.1	**2015**	11	22.5	2.0	**2015**	2	1.0	0.5	18 years	36.3	3.2	18 years	17.6	2.2	18 years	2.7	0.4
2016	49	135.5	2.8	**2016**	34	72.6	2.1	**2016**	8	7.2	0.9	19 years	36.9	3.2	19 years	18.5	2.2	19 years	3.0	0.5
2017	29	80.4	2.8	**2017**	18	34.5	1.9	**2017**	4	2.3	0.6	20 years	36.6	3.2	20 years	18.5	2.2	20 years	3.1	0.5
2018	39	141.1	3.6	**2018**	13	34.4	2.6	**2018**	0	0.0										
2019	43	152.5	3.5	**2019**	16	38.0	2.4	**2019**	2	0.9	0.5									
2020	19	77.5	4.1	**2020**	4	11.9	3.0	**2020**	0	0.0										
2021	36	116.9	3.2	**2021**	17	37.5	2.2	**2021**	1	0.9	0.9									
2022	29	100.3	3.5	**2022**	11	24.4	2.2	**2022**	0	0.0										

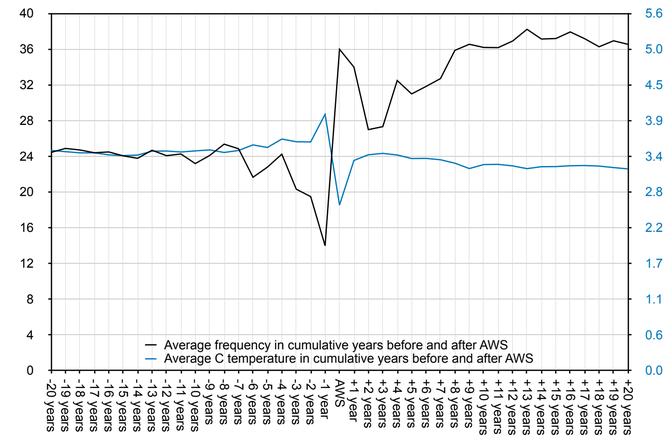
Original AWS probe Rosemount

10 years	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997		
Pre AWS	23.2	78.4	3.4	**Pre AWS**	8.8	18.5	2.2	**Pre AWS**	1.5	0.4	0.5
Post AWS	36.2	115.3	3.2	**Post AWS**	17.1	36.4	2.2	**Post AWS**	2.6	0.6	0.4
Pre small	23.2	78.4	3.4	**Pre small**	8.8	18.5	2.2	**Pre small**	1.5	0.4	0.5
Post small	36.2	115.3	3.2	**Post small**	17.1	36.4	2.2	**Post small**	2.6	0.6	0.4
5 years				**5 years**				**5 years**			
Pre AWS	22.8	80.0	3.5	**Pre AWS**	8.4	20.6	2.4	**Pre AWS**	0.4	0.3	0.8
Post AWS	31.0	102.9	3.3	**Post AWS**	14.8	35.4	2.4	**Post AWS**	1.0	0.2	0.3
Pre small	22.8	80.0	3.5	**Pre small**	8.4	20.6	2.4	**Pre small**	0.4	0.3	0.8
Post small	31.0	102.9	3.3	**Post small**	14.8	35.4	2.4	**Post small**	1.0	0.2	0.3

AWS introduction

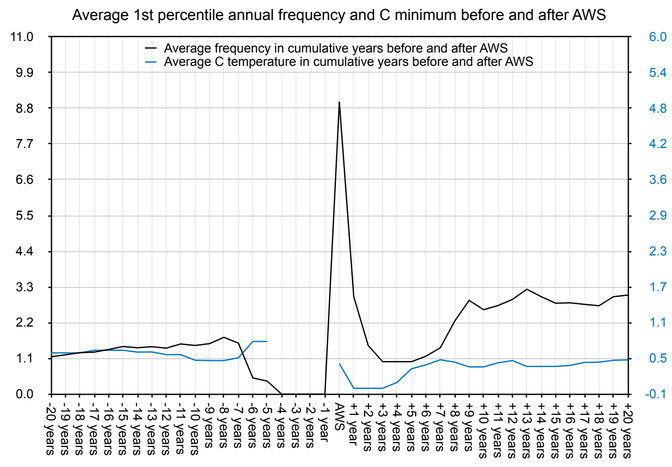
Small screen introduction

Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS

Average 1st percentile annual frequency and C minimum before and after AWS

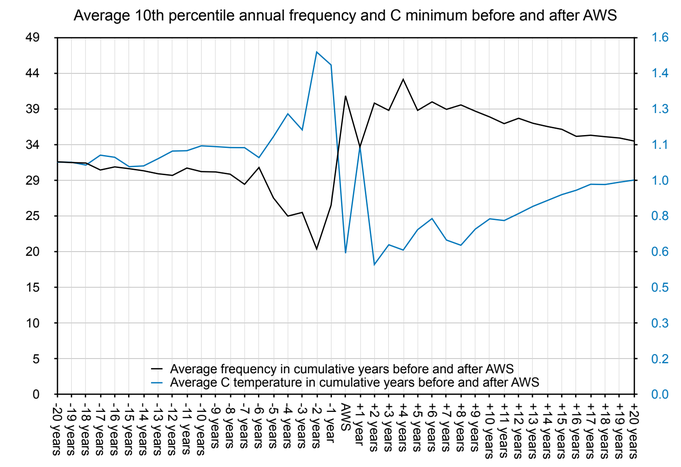


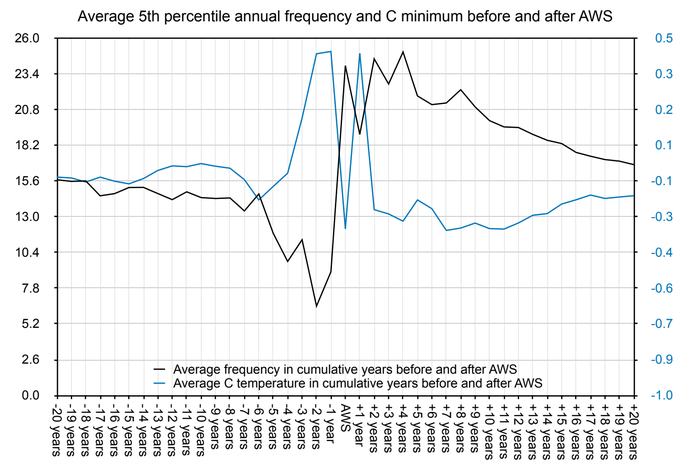
10th 2.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	22	40.3	1.8	**1910**	5	1.1	0.2	**1910**	0	0.0										
1911	33	5.2	0.2	**1911**	24	-14.5	-0.6	**1911**	6	-14.5	-2.4									
1912	55	65.9	1.2	**1912**	25	-1.8	-0.1	**1912**	2	-3.9	-2.0									
1913	44	52.1	1.2	**1913**	20	3.4	0.2	**1913**	2	-3.4	-1.7									
1914	36	28.2	0.8	**1914**	24	4.6	0.2	**1914**	2	-5.6	-2.8									
1915	31	38.2	1.2	**1915**	15	3.9	0.3	**1915**	1	-1.7	-1.7									
1916	23	38.3	1.7	**1916**	5	-1.0	-0.2	**1916**	1	-2.2	-2.2									
1917	46	32.8	0.7	**1917**	25	-13.1	-0.5	**1917**	7	-14.3	-2.0									
1918	44	19.7	0.4	**1918**	25	-21.0	-0.8	**1918**	8	-24.9	-3.1									
1919	42	21.7	0.5	**1919**	28	-9.1	-0.3	**1919**	6	-15.9	-2.7									
1920	18	30.8	1.7	**1920**	3	-1.1	-0.4	**1920**	0	0.0										
1921	0	0.0		**1921**	0	0.0		**1921**	0	0.0										
1922	0	0.0		**1922**	0	0.0		**1922**	0	0.0										
1923	0	0.0		**1923**	0	0.0		**1923**	0	0.0										
1924	36	49.5	1.4	**1924**	14	1.6	0.1	**1924**	1	-1.7	-1.7									
1925	13	-0.9	-0.1	**1925**	9	-8.8	-1.0	**1925**	3	-8.8	-2.9									
1926	25	31.1	1.2	**1926**	10	-2.2	-0.2	**1926**	0	0.0										
1927	44	33.9	0.8	**1927**	26	-1.9	-0.1	**1927**	3	-6.6	-2.2									
1928	32	51.5	1.6	**1928**	10	5.1	0.5	**1928**	0	0.0										
1929	54	11.2	0.2	**1929**	33	-37.5	-1.1	**1929**	12	-36.1	-3.0									
1930	27	37.0	1.4	**1930**	11	1.7	0.2	**1930**	1	-2.2	-2.2									
1931	34	49.3	1.5	**1931**	13	1.2	0.1	**1931**	1	-1.7	-1.7									
1932	6	1.6	0.3	**1932**	4	-3.4	-0.9	**1932**	0	0.0										
1933	30	33.1	1.1	**1933**	17	1.2	0.1	**1933**	1	-1.7	-1.7									
1934	31	38.6	1.2	**1934**	14	0.6	0.0	**1934**	1	-1.7	-1.7									
1935	50	55.6	1.1	**1935**	22	-4.8	-0.2	**1935**	2	-6.1	-3.1									
1936	31	39.0	1.3	**1936**	18	11.6	0.6	**1936**	0	0.0										
1937	29	30.1	1.0	**1937**	14	-2.8	-0.2	**1937**	2	-4.5	-2.3									
1938	15	22.2	1.5	**1938**	3	-2.8	-0.9	**1938**	1	-1.7	-1.7									
1939	44	50.2	1.1	**1939**	22	3.3	0.2	**1939**	2	-3.4	-1.7									
1940	33	9.2	0.3	**1940**	19	-20.1	-1.1	**1940**	5	-14.7	-2.9									
1941	41	29.3	0.7	**1941**	25	-4.0	-0.2	**1941**	4	-7.1	-1.8									
1942	33	52.9	1.6	**1942**	13	7.8	0.6	**1942**	0	0.0										
1943	63	-18.4	-0.3	**1943**	45	-58.1	-1.3	**1943**	18	-49.7	-2.8									
1944	40	42.1	1.1	**1944**	20	-0.9	-0.0	**1944**	4	-7.6	-1.9									
1945	36	25.4	0.7	**1945**	27	6.7	0.2	**1945**	2	-3.9	-2.0									
1946	59	38.4	0.7	**1946**	33	-16.8	-0.5	**1946**	6	-16.7	-2.8									
1947	44	55.2	1.3	**1947**	21	0.5	0.0	**1947**	4	-8.4	-2.1									
1948	42	12.3	0.3	**1948**	30	-13.4	-0.4	**1948**	6	-13.4	-2.2									
1949	48	2.8	0.1	**1949**	34	-25.2	-0.7	**1949**	11	-30.6	-2.8									
1950	33	39.2	1.2	**1950**	18	4.5	0.3	**1950**	1	-1.7	-1.7									
1951	0	0.0		**1951**	0	0.0		**1951**	0	0.0										
1952	45	13.1	0.3	**1952**	33	-16.0	-0.5	**1952**	10	-29.4	-2.9									
1953	55	17.2	0.3	**1953**	38	-20.2	-0.5	**1953**	7	-17.3	-2.5									
1954	31	33.1	1.1	**1954**	19	7.9	0.4	**1954**	0	0.0										
1955	44	43.8	1.0	**1955**	26	0.7	0.0	**1955**	3	-7.2	-2.4									
1956	49	56.2	1.1	**1956**	25	3.5	0.1	**1956**	3	-5.1	-1.7									
1957	44	25.3	0.6	**1957**	26	-14.0	-0.5	**1957**	7	-15.1	-2.2									
1958	39	24.4	0.6	**1958**	24	-12.5	-0.5	**1958**	7	-16.1	-2.3									
1959	39	50.3	1.3	**1959**	22	10.0	0.5	**1959**	0	0.0										
1960	64	34.4	0.5	**1960**	37	-23.1	-0.6	**1960**	10	-22.2	-2.2									
1961	56	39.8	0.7	**1961**	27	-26.5	-1.0	**1961**	13	-32.3	-2.5									
1962	53	56.6	1.1	**1962**	25	-6.9	-0.3	**1962**	5	-10.0	-2.0									
1963	41	44.2	1.1	**1963**	19	-6.2	-0.3	**1963**	3	-6.2	-2.1									
1964	43	44.5	1.0	**1964**	24	0.0	0.0	**1964**	3	-7.2	-2.4									
1965	45	14.2	0.3	**1965**	27	-27.2	-1.0	**1965**	12	-30.1	-2.5									
1966	49	27.2	0.6	**1966**	29	-15.2	-0.5	**1966**	7	-17.1	-2.4									
1967	46	29.5	0.6	**1967**	26	-11.3	-0.4	**1967**	3	-6.5	-2.2									
1968	54	45.0	0.8	**1968**	28	-12.7	-0.5	**1968**	7	-14.7	-2.1									
1969	36	41.9	1.2	**1969**	16	4.3	0.3	**1969**	0	0.0										
1970	67	-1.0	-0.0	**1970**	45	-46.6	-1.0	**1970**	18	-48.0	-2.7									
1971	43	-9.7	-0.2	**1971**	29	-38.4	-1.3	**1971**	11	-33.9	-3.1									
1972	49	34.2	0.7	**1972**	23	-19.5	-0.8	**1972**	8	-20.5	-2.6									
1973	21	30.7	1.5	**1973**	7	1.8	0.3	**1973**	0	0.0										
1974	47	31.7	0.7	**1974**	24	-10.2	-0.4	**1974**	5	-10.3	-2.1									
1975	32	46.2	1.4	**1975**	11	4.0	0.4	**1975**	0	0.0										
1976	43	52.1	1.2	**1976**	16	-2.1	-0.1	**1976**	2	-3.6	-1.8									
1977	45	28.5	0.6	**1977**	22	-16.2	-0.7	**1977**	5	-13.2	-2.6									
1978	36	25.6	0.7	**1978**	18	-9.9	-0.6	**1978**	3	-6.5	-2.2									
1979	38	41.4	1.1	**1979**	19	-0.6	-0.0	**1979**	2	-3.3	-1.7									
1980	34	35.7	1.1	**1980**	18	-0.3	-0.0	**1980**	1	-2.0	-2.0	20 years	32.0	1.0	20 years	15.7	-0.1	20 years	2.3	-2.0
1981	33	41.9	1.3	**1981**	15	3.3	0.2	**1981**	0	0.0		19 years	31.8	1.0	19 years	15.6	-0.1	19 years	2.3	-2.0
1982	48	13.1	0.3	**1982**	34	-15.3	-0.5	**1982**	7	-14.4	-2.1	18 years	31.8	1.0	18 years	15.6	-0.1	18 years	2.4	-2.0
1983	24	29.4	1.2	**1983**	12	2.3	0.2	**1983**	0	0.0		17 years	30.8	1.1	17 years	14.5	-0.1	17 years	2.2	-2.0
1984	35	59.3	1.7	**1984**	8	0.5	0.1	**1984**	1	-1.9	-1.9	16 years	31.3	1.1	16 years	14.7	-0.1	16 years	2.3	-2.0
1985	35	34.1	1.0	**1985**	15	-6.3	-0.4	**1985**	4	-10.2	-2.6	15 years	31.0	1.0	15 years	15.1	-0.1	15 years	2.4	-2.0
1986	36	21.8	0.6	**1986**	21	-11.2	-0.5	**1986**	5	-12.4	-2.5	14 years	30.7	1.0	14 years	15.1	-0.1	14 years	2.3	-1.9
1987	33	21.3	0.6	**1987**	20	-5.7	-0.3	**1987**	4	-8.1	-2.0	13 years	30.3	1.1	13 years	14.7	-0.1	13 years	2.1	-1.9
1988	19	20.4	1.1	**1988**	8	0.0	0.0	**1988**	0	0.0		12 years	30.1	1.1	12 years	14.3	-0.0	12 years	1.9	-1.9
1989	36	31.5	0.9	**1989**	19	-3.2	-0.2	**1989**	2	-4.3	-2.2	11 years	31.1	1.1	11 years	14.8	-0.0	11 years	2.1	-1.9
1990	31	35.5	1.1	**1990**	15	1.1	0.1	**1990**	2	-3.0	-1.5	10 years	30.6	1.1	10 years	14.4	-0.0	10 years	2.1	-1.8
1991	33	37.8	1.1	**1991**	14	0.4	0.0	**1991**	1	-1.5	-1.5	9 years	30.6	1.1	9 years	14.3	-0.0	9 years	2.1	-1.9
1992	40	44.4	1.1	**1992**	21	6.1	0.3	**1992**	0	0.0		8 years	30.3	1.1	8 years	14.4	-0.0	8 years	2.3	-2.0
1993	15	20.6	1.4	**1993**	6	2.5	0.4	**1993**	1	-1.5	-1.5	7 years	28.9	1.1	7 years	13.4	-0.1	7 years	2.6	-2.0
1994	52	30.9	0.6	**1994**	29	-13.4	-0.5	**1994**	7	-13.1	-1.9	6 years	31.2	1.1	6 years	14.7	-0.2	6 years	2.8	-2.1
1995	37	27.6	0.7	**1995**	20	-6.9	-0.3	**1995**	5	-11.3	-2.3	5 years	27.0	1.2	5 years	11.8	-0.1	5 years	2.0	-2.1
1996	23	33.9	1.5	**1996**	5	-3.8	-0.8	**1996**	1	-2.3	-2.3	4 years	24.5	1.3	4 years	9.8	-0.1	4 years	1.3	-2.1
1997	35	17.1	0.5	**1997**	21	-7.9	-0.4	**1997**	4	-7.5	-1.9	3 years	25.0	1.2	3 years	11.3	0.2	3 years	1.3	-1.9
1998	14	22.3	1.6	**1998**	4	1.7	0.4	**1998**	0	0.0		2 years	20.0	1.5	2 years	6.5	0.4	2 years	0.0	
1999	26	38.4	1.5	**1999**	9	4.0	0.4	**1999**	0	0.0		1 years	26.0	1.5	1 years	9.0	0.4	1 years	0.0	
2000	41	26.0	0.6	**2000**	24	-7.2	-0.3	**2000**	3	-7.0	-2.3	0 years	41.0	0.6	0 years	24.0	-0.3	0 years	3.0	-2.3
2001	34	37.8	1.1	**2001**	19	8.3	0.4	**2001**	0	0.0		1 years	34.0	1.1	1 years	19.0	0.4	1 years	0.0	
2002	46	2.5	0.1	**2002**	30	-26.3	-0.9	**2002**	10	-23.6	-2.4	2 years	40.0	0.6	2 years	24.5	-0.2	2 years	5.0	-2.4
2003	37	31.4	0.8	**2003**	19	-5.2	-0.3	**2003**	3	-7.2	-2.4	3 years	39.0	0.7	3 years	22.7	-0.2	3 years	4.3	-2.4
2004	56	32.3	0.6	**2004**	32	-11.5	-0.4	**2004**	4	-7.7	-1.9	4 years	43.3	0.6	4 years	25.0	-0.3	4 years	4.3	-2.2
2005	22	24.3	1.1	**2005**	9	1.6	0.2	**2005**	0	0.0		5 years	39.0	0.7	5 years	21.8	-0.2	5 years	3.4	-2.2
2006	46	47.7	1.0	**2006**	18	-7.2	-0.4	**2006**	3	-6.2	-2.1	6 years	40.2	0.8	6 years	21.2	-0.2	6 years	3.3	-2.2
2007	33	3.8	0.1	**2007**	22	-18.8	-0.9	**2007**	6	-17.7	-3.0	7 years	39.1	0.7	7 years	21.3	-0.3	7 years	3.7	-2.3
2008	44	22.3	0.5	**2008**	29	-6.6	-0.2	**2008**	1	-1.5	-1.5	8 years	39.8	0.7	8 years	22.3	-0.3	8 years	3.4	-2.2
2009	32	42.3	1.3	**2009**	11	-1.2	-0.1	**2009**	1	-2.3	-2.3	9 years	38.9	0.7	9 years	21.0	-0.3	9 years	3.1	-2.2
2010	31	37.2	1.2	**2010**	11	-5.6	-0.5	**2010**	4	-9.6	-2.4	10 years	38.1	0.8	10 years	20.0	-0.3	10 years	3.2	-2.2
2011	28	19.7	0.7	**2011**	15	-4.8	-0.3	**2011**	3	-8.2	-2.7	11 years	37.2	0.8	11 years	19.5	-0.3	11 years	3.2	-2.3
2012	46	53.1	1.2	**2012**	19	0.1	0.0	**2012**	3	-5.0	-1.7	12 years	37.9	0.8	12 years	19.5	-0.3	12 years	3.2	-2.2
2013	29	35.8	1.2	**2013**	13	1.9	0.1	**2013**	0	0.0		13 years	37.2	0.8	13 years	19.0	-0.2	13 years	2.9	-2.2
2014	31	37.5	1.2	**2014**	13	-1.9	-0.1	**2014**	0	0.0		14 years	36.8	0.9	14 years	18.6	-0.2	14 years	2.7	-2.2
2015	31	39.2	1.3	**2015**	15	5.5	0.4	**2015**	0	0.0		15 years	36.4	0.9	15 years	18.3	-0.2	15 years	2.5	-2.2
2016	21	25.4	1.2	**2016**	8	0.7	0.1	**2016**	0	0.0		16 years	35.4	0.9	16 years	17.7	-0.2	16 years	2.4	-2.2
2017	38	52.1	1.4	**2017**	13	2.1	0.2	**2017**	0	0.0		17 years	35.6	0.9	17 years	17.4	-0.2	17 years	2.2	-2.2
2018	32	29.5	0.9	**2018**	13	-5.4	-0.4	**2018**	3	-5.1	-1.7	18 years	35.4	0.9	18 years	17.2	-0.2	18 years	2.3	-2.2
2019	32	36.5	1.1	**2019**	15	-0.9	-0.1	**2019**	2	-5.8	-2.9	19 years	35.2	1.0	19 years	17.1	-0.2	19 years	2.3	-2.2
2020	27	30.7	1.1	**2020**	12	-0.7	-0.1	**2020**	0	0.0		20 years	34.8	1.0	20 years	16.8	-0.2	20 years	2.2	-2.2
2021	27	40.8	1.5	**2021**	7	1.6	0.2	**2021**	0	0.0										
2022	34	52.0	1.5	**2022**	11	4.6	0.4	**2022**	0	0.0										

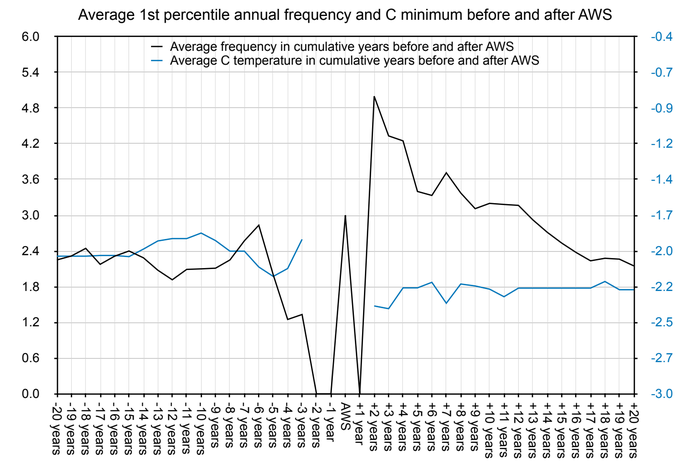
Original AWS probe Rosemount

6 years				6 years				6 years			
Pre	31.2	28.4	1.1	**Pre**	14.7	-4.4	-0.2	**Pre**	2.8	-5.7	-2.1
Post	40.2	29.3	0.8	**Post**	21.2	-6.7	-0.2	**Post**	3.3	-7.5	-2.2

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		



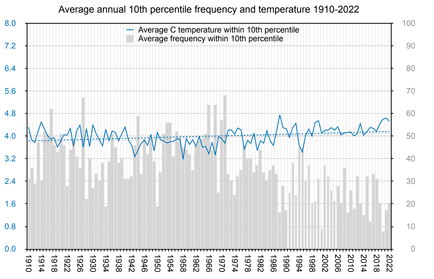


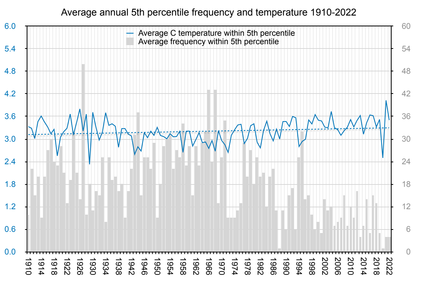


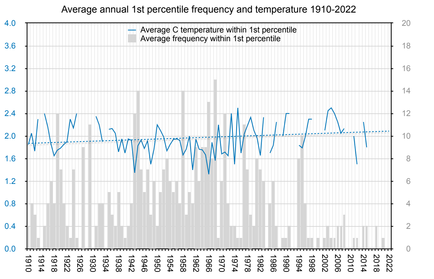
10th 5.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile
1910	31	134.0	4.3
1911	36	139.5	3.9
1912	29	109.7	3.8
1913	47	196.2	4.2
1914	30	135.1	4.5
1915	52	220.6	4.2
1916	51	204.2	4.0
1917	62	241.5	3.9
1918	46	181.6	3.9
1919	43	155.3	3.6
1920	51	194.7	3.8
1921	46	186.1	4.0
1922	28	113.1	4.0
1923	44	188.1	4.3
1924	48	175.1	3.6
1925	41	172.3	4.2
1926	36	158.1	4.4
1927	67	242.1	3.6
1928	22	93.9	4.3
1929	40	145.3	3.6
1930	27	118.6	4.4
1931	33	135.2	4.1
1932	30	116.4	3.9
1933	38	138.9	3.7
1934	19	80.6	4.2
1935	39	149.8	3.8
1936	51	213.3	4.2
1937	45	186.0	4.1
1938	38	145.7	3.8
1939	40	163.6	4.1
1940	31	134.1	4.3
1941	31	120.1	3.9
1942	32	117.8	3.7
1943	46	150.4	3.3
1944	59	207.1	3.5
1945	33	123.7	3.7
1946	49	188.8	3.9
1947	42	154.6	3.7
1948	49	199.2	4.1
1949	39	135.6	3.5
1950	19	78.5	4.1
1951	34	131.6	3.9
1952	51	195.2	3.8
1953	56	210.5	3.8
1954	56	212.8	3.8
1955	41	156.7	3.8
1956	52	202.3	3.9
1957	49	191.8	3.9
1958	45	143.2	3.2
1959	44	172.2	3.9
1960	42	155.7	3.7
1961	35	135.6	3.9
1962	46	167.6	3.6
1963	48	191.3	4.0
1964	49	177.0	3.6
1965	51	185.3	3.6
1966	64	216.0	3.4
1967	44	166.1	3.8
1968	64	213.3	3.3
1969	25	99.5	4.0
1970	57	222.7	3.9
1971	68	255.1	3.8
1972	33	139.2	4.2
1973	30	126.5	4.2
1974	24	97.7	4.1
1975	32	137.3	4.3
1976	35	147.9	4.2
1977	46	162.3	3.5
1978	40	154.1	3.9
1979	40	149.8	3.7
1980	34	139.8	4.1
1981	37	129.1	3.5
1982	44	168.9	3.8
1983	34	127.5	3.8
1984	30	125.8	4.2
1985	35	134.5	3.8
1986	37	135.9	3.7
1987	33	138.0	4.2
1988	16	76.1	4.8
1989	28	120.4	4.3
1990	17	72.5	4.3
1991	25	98.9	4.0
1992	38	163.5	4.3
1993	24	106.9	4.5
1994	45	165.5	3.7
1995	45	154.6	3.4
1996	30	120.8	4.0
1997	37	157.4	4.3
1998	20	80.0	4.0
1999	21	94.4	4.5
2000	31	140.9	4.5
2001	9	37.0	4.1
2002	37	155.7	4.2
2003	32	135.0	4.2
2004	26	111.8	4.3
2005	21	88.5	4.2
2006	28	121.3	4.3
2007	20	80.9	4.0
2008	36	148.2	4.1
2009	16	66.1	4.1
2010	26	107.9	4.2
2011	18	72.1	4.0
2012	32	130.7	4.1
2013	20	88.9	4.4
2014	15	60.5	4.0
2015	32	132.9	4.2
2016	12	51.7	4.3
2017	33	141.2	4.3
2018	31	129.2	4.2
2019	20	88.6	4.4
2020	8	36.8	4.6
2021	17	78.9	4.6
2022	20	90.6	4.5
50/50	No AWS / small screen unknown		
1910-1965	41.8	162.0	3.9
1966-2022	31.1	124.4	4.1

5th 4.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile
1910	10	33.3	3.3
1911	22	72.3	3.3
1912	15	45.2	3.0
1913	20	69.3	3.5
1914	9	32.5	3.6
1915	20	69.1	3.5
1916	27	89.7	3.3
1917	30	94.3	3.1
1918	24	78.2	3.3
1919	23	58.7	2.6
1920	28	85.4	3.1
1921	21	67.1	3.2
1922	13	42.7	3.3
1923	19	69.6	3.7
1924	32	99.6	3.1
1925	21	72.3	3.4
1926	14	53.2	3.8
1927	50	160.6	3.2
1928	10	36.6	3.7
1929	18	41.9	2.3
1930	11	40.8	3.7
1931	16	53.0	3.3
1932	15	44.6	3.0
1933	25	79.7	3.2
1934	8	29.6	3.7
1935	25	84.1	3.4
1936	19	64.7	3.4
1937	20	66.8	3.3
1938	16	44.5	2.8
1939	18	59.0	3.3
1940	9	29.5	3.3
1941	16	50.1	3.1
1942	22	67.8	3.1
1943	31	80.4	2.6
1944	37	103.4	2.8
1945	15	40.2	2.7
1946	25	79.2	3.2
1947	25	75.9	3.0
1948	22	70.6	3.2
1949	29	89.8	3.1
1950	9	29.8	3.3
1951	18	55.7	3.1
1952	28	85.8	3.1
1953	30	90.2	3.0
1954	31	97.4	3.1
1955	22	67.3	3.1
1956	27	82.8	3.1
1957	25	80.2	3.2
1958	34	90.0	2.6
1959	23	73.8	3.2
1960	28	89.9	3.2
1961	15	42.2	2.8
1962	28	83.6	3.0
1963	23	72.9	3.2
1964	29	84.2	2.9
1965	32	93.5	2.9
1966	43	118.3	2.8
1967	24	71.0	3.0
1968	43	115.1	2.7
1969	13	41.9	3.2
1970	25	74.0	3.0
1971	35	99.7	2.8
1972	9	23.8	2.6
1973	9	27.9	3.1
1974	9	29.2	3.2
1975	11	37.1	3.4
1976	13	44.1	3.4
1977	29	83.5	2.9
1978	20	60.3	3.0
1979	27	90.6	3.4
1980	18	61.3	3.4
1981	25	72.9	2.9
1982	20	55.3	2.8
1983	21	67.8	3.2
1984	12	41.7	3.5
1985	20	62.8	3.1
1986	22	64.9	3.0
1987	11	35.9	3.3
1988	1	3.0	3.0
1989	11	38.1	3.5
1990	6	20.8	3.5
1991	15	50.0	3.3
1992	17	61.2	3.6
1993	6	21.4	3.6
1994	25	70.0	2.8
1995	32	94.0	2.9
1996	14	41.9	3.0
1997	15	52.6	3.5
1998	10	34.0	3.4
1999	6	21.9	3.7
2000	8	28.0	3.5
2001	5	17.4	3.5
2002	14	46.4	3.3
2003	11	36.3	3.3
2004	12	44.8	3.7
2005	7	23.1	3.3
2006	8	26.0	3.3
2007	9	27.9	3.1
2008	15	48.3	3.2
2009	7	23.2	3.3
2010	12	42.2	3.5
2011	9	29.9	3.3
2012	16	55.9	3.5
2013	4	14.5	3.6
2014	7	21.9	3.1
2015	14	48.1	3.4
2016	5	18.2	3.6
2017	15	54.3	3.6
2018	13	43.2	3.3
2019	5	17.6	3.5
2020	1	2.5	2.5
2021	4	16.1	4.0
2022	4	14.0	3.5
50/50	No AWS / small screen unknown		
1910-1965	22.0	68.7	3.2
1966-2022	14.4	45.4	3.3

1st 2.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile
1910	2	3.7	1.9
1911	4	8.2	2.1
1912	3	5.2	1.7
1913	1	2.3	2.3
1914	0	0.0	
1915	2	4.8	2.4
1916	4	8.7	2.2
1917	6	11.2	1.9
1918	4	6.6	1.7
1919	12	21.0	1.8
1920	7	12.5	1.8
1921	4	7.4	1.9
1922	2	3.8	1.9
1923	1	2.3	2.3
1924	7	15.0	2.1
1925	1	2.4	2.4
1926	0	0.0	
1927	9	16.7	1.9
1928	0	0.0	
1929	11	19.3	1.8
1930	0	0.0	
1931	2	4.7	2.4
1932	4	8.8	2.2
1933	4	7.6	1.9
1934	0	0.0	
1935	5	10.6	2.1
1936	3	6.4	2.1
1937	2	4.1	2.1
1938	5	8.6	1.7
1939	2	3.9	2.0
1940	1	1.7	1.7
1941	2	3.9	2.0
1942	4	7.7	1.9
1943	12	16.2	1.4
1944	14	25.6	1.8
1945	7	13.5	1.9
1946	5	8.9	1.8
1947	7	13.4	1.9
1948	3	4.5	1.5
1949	6	10.6	1.8
1950	2	4.4	2.2
1951	5	10.5	2.1
1952	7	13.9	2.0
1953	8	13.9	1.7
1954	6	11.1	1.9
1955	5	9.7	1.9
1956	6	11.7	2.0
1957	4	7.7	1.9
1958	14	23.3	1.7
1959	3	5.3	1.8
1960	5	10.0	2.0
1961	4	5.6	1.4
1962	9	17.5	1.9
1963	6	10.6	1.8
1964	9	15.8	1.8
1965	9	15.0	1.7
1966	13	17.2	1.3
1967	8	15.1	1.9
1968	15	23.5	1.6
1969	1	2.2	2.2
1970	6	10.1	1.7
1971	12	20.6	1.7
1972	4	6.6	1.7
1973	2	4.8	2.4
1974	2	3.0	1.5
1975	1	2.5	2.5
1976	1	1.7	1.7
1977	11	22.4	2.0
1978	7	15.3	2.2
1979	3	7.0	2.3
1980	2	4.2	2.1
1981	8	15.7	2.0
1982	7	11.6	1.7
1983	6	14.0	2.3
1984	0	0.0	
1985	4	6.8	1.7
1986	6	11.0	1.8
1987	2	4.5	2.3
1988	0	0.0	
1989	1	2.0	2.0
1990	1	2.4	2.4
1991	2	4.8	2.4
1992	0	0.0	
1993	0	0.0	
1994	8	14.7	1.8
1995	10	17.9	1.8
1996	4	8.0	2.0
1997	1	2.3	2.3
1998	1	2.3	2.3
1999	0	0.0	
2000	1	2.3	2.3
2001	0	0.0	
2002	1	2.1	2.1
2003	2	4.9	2.5
2004	1	2.5	2.5
2005	1	2.4	2.4
2006	2	4.5	2.3
2007	2	4.1	2.1
2008	3	6.4	2.1
2009	0	0.0	
2010	0	0.0	
2011	1	2.0	2.0
2012	1	1.5	1.5
2013	0	0.0	
2014	2	4.5	2.3
2015	2	3.6	1.8
2016	0	0.0	
2017	0	0.0	
2018	2	4.2	2.1
2019	0	0.0	
2020	1	2.5	2.5
2021	0	0.0	
2022	0	0.0	
50/50	No AWS / small screen unknown		
1910-1965	4.8	8.9	1.9
1966-2022	3.0	5.6	2.0





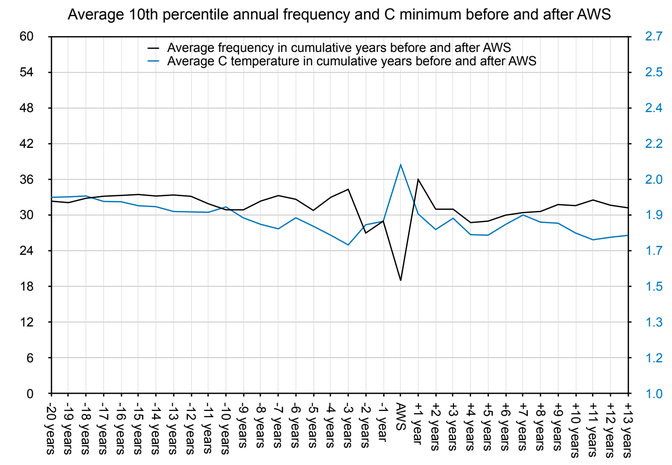


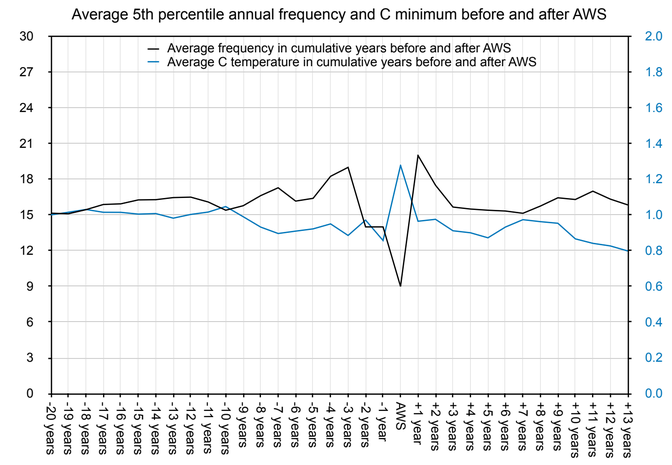
10th 3.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1940	40	75.7	1.9	**1940**	23	27.8	1.2	**1940**	1	-1.2	-1.2									
1941	30	61.3	2.0	**1941**	14	14.8	1.1	**1941**	1	-0.3	-0.3									
1942	21	40.9	1.9	**1942**	11	11.1	1.0	**1942**	1	-0.7	-0.7									
1943	48	80.1	1.7	**1943**	30	30.2	1.0	**1943**	4	-2.6	-0.7									
1944	41	32.1	0.8	**1944**	26	-9.1	-0.4	**1944**	14	-18.7	-1.3									
1945	34	42.7	1.3	**1945**	22	9.5	0.4	**1945**	6	-5.4	-0.9									
1946	25	43.7	1.7	**1946**	11	6.5	0.6	**1946**	4	-2.1	-0.5									
1947	24	46.7	1.9	**1947**	12	14.0	1.2	**1947**	1	-0.1	-0.1									
1948	33	68.8	2.1	**1948**	11	6.9	0.6	**1948**	4	-3.8	-1.0									
1949	47	84.1	1.8	**1949**	26	21.1	0.8	**1949**	5	-2.9	-0.6									
1950	42	67.3	1.6	**1950**	25	19.0	0.8	**1950**	6	-4.4	-0.7									
1951	44	93.2	2.1	**1951**	19	20.9	1.1	**1951**	1	-3.7	-3.7									
1952	47	88.8	1.9	**1952**	23	23.8	1.0	**1952**	2	-2.3	-1.2									
1953	50	96.2	1.9	**1953**	21	16.2	0.8	**1953**	5	-3.3	-0.7									
1954	51	67.4	1.3	**1954**	26	0.5	0.0	**1954**	11	-11.3	-1.0									
1955	34	43.8	1.3	**1955**	19	3.8	0.2	**1955**	6	-10.1	-1.7									
1956	47	83.4	1.8	**1956**	23	11.9	0.5	**1956**	6	-6.8	-1.1									
1957	63	69.5	1.1	**1957**	40	6.9	0.2	**1957**	15	-17.8	-1.2									
1958	43	49.8	1.2	**1958**	26	4.1	0.2	**1958**	10	-12.7	-1.3									
1959	61	69.3	1.1	**1959**	34	-8.8	-0.3	**1959**	15	-24.3	-1.6									
1960	49	58.8	1.2	**1960**	29	5.4	0.2	**1960**	10	-14.3	-1.4									
1961	46	81.6	1.8	**1961**	22	14.7	0.7	**1961**	5	-5.2	-1.0									
1962	31	43.9	1.4	**1962**	19	11.8	0.6	**1962**	4	-4.9	-1.2									
1963	41	53.0	1.3	**1963**	23	4.1	0.2	**1963**	9	-10.1	-1.1									
1964	44	91.5	2.1	**1964**	16	11.0	0.7	**1964**	5	-4.2	-0.8									
1965	52	92.4	1.8	**1965**	25	18.3	0.7	**1965**	6	-7.1	-1.2									
1966	59	106.1	1.8	**1966**	29	24.5	0.8	**1966**	3	-3.4	-1.1									
1967	63	93.2	1.5	**1967**	35	14.3	0.4	**1967**	12	-12.1	-1.0									
1968	42	89.6	2.1	**1968**	16	16.0	1.0	**1968**	2	-2.7	-1.4									
1969	61	84.8	1.4	**1969**	34	11.9	0.4	**1969**	12	-13.8	-1.2									
1970	42	72.9	1.7	**1970**	24	23.6	1.0	**1970**	3	-0.6	-0.2									
1971	38	81.7	2.2	**1971**	12	11.1	0.9	**1971**	3	-1.0	-0.3									
1972	48	53.4	1.1	**1972**	31	4.2	0.1	**1972**	10	-15.3	-1.5									
1973	45	69.1	1.5	**1973**	28	23.1	0.8	**1973**	6	-6.6	-1.1									
1974	44	68.5	1.6	**1974**	27	20.6	0.8	**1974**	6	-8.0	-1.3									
1975	21	37.7	1.8	**1975**	9	3.1	0.3	**1975**	3	-2.8	-0.9									
1976	44	63.1	1.4	**1976**	24	8.5	0.4	**1976**	8	-8.3	-1.0									
1977	51	100.5	2.0	**1977**	22	22.2	1.0	**1977**	1	-0.1	-0.1									
1978	33	49.2	1.5	**1978**	24	24.2	1.0	**1978**	2	-1.5	-0.8									
1979	30	60.4	2.0	**1979**	14	15.1	1.1	**1979**	3	-1.9	-0.6									
1980	19	37.7	2.0	**1980**	10	13.1	1.3	**1980**	0	0.0										
1981	23	48.5	2.1	**1981**	9	11.2	1.2	**1981**	0	0.0										
1982	49	57.9	1.2	**1982**	28	1.7	0.1	**1982**	10	-14.1	-1.4									
1983	40	80.2	2.0	**1983**	20	22.6	1.1	**1983**	3	-0.7	-0.2									
1984	22	40.6	1.8	**1984**	10	8.5	0.9	**1984**	2	-1.6	-0.8									
1985	34	64.5	1.9	**1985**	14	7.8	0.6	**1985**	4	-4.0	-1.0									
1986	20	47.8	2.4	**1986**	6	7.7	1.3	**1986**	0	0.0										
1987	34	70.4	2.1	**1987**	12	11.9	1.0	**1987**	1	-0.1	-0.1									
1988	12	25.1	2.1	**1988**	5	6.5	1.3	**1988**	0	0.0										
1989	37	70.1	1.9	**1989**	16	11.5	0.7	**1989**	3	-4.9	-1.6	20 years	32.4	1.9	20 years	15.2	1.0	20 years	2.4	-0.9
1990	19	35.4	1.9	**1990**	9	6.6	0.7	**1990**	2	-1.0	-0.5	19 years	32.1	1.9	19 years	15.1	1.0	19 years	2.4	-0.8
1991	27	64.3	2.4	**1991**	8	10.4	1.3	**1991**	0	0.0		18 years	32.8	1.9	18 years	15.4	1.0	18 years	2.4	-0.8
1992	31	60.1	1.9	**1992**	15	15.3	1.0	**1992**	2	-0.9	-0.5	17 years	33.2	1.9	17 years	15.9	1.0	17 years	2.5	-0.8
1993	31	68.2	2.2	**1993**	11	12.8	1.2	**1993**	0	0.0		16 years	33.3	1.9	16 years	15.9	1.0	16 years	2.6	-0.9
1994	37	72.4	2.0	**1994**	16	15.4	1.0	**1994**	3	-1.1	-0.4	15 years	33.5	1.9	15 years	16.3	1.0	15 years	2.7	-0.9
1995	31	67.8	2.2	**1995**	14	18.8	1.3	**1995**	1	-2.0	-2.0	14 years	33.2	1.9	14 years	16.3	1.0	14 years	2.7	-0.9
1996	36	68.1	1.9	**1996**	16	11.7	0.7	**1996**	4	-4.7	-1.2	13 years	33.4	1.9	13 years	16.5	1.0	13 years	2.8	-0.8
1997	47	88.6	1.9	**1997**	21	18.0	0.9	**1997**	4	-2.6	-0.7	12 years	33.2	1.9	12 years	16.5	1.0	12 years	2.8	-0.8
1998	42	67.6	1.6	**1998**	23	16.3	0.7	**1998**	5	-3.2	-0.6	11 years	31.9	1.9	11 years	16.1	1.0	11 years	2.6	-0.8
1999	31	73.1	2.4	**1999**	12	18.7	1.6	**1999**	0	0.0		10 years	30.9	1.9	10 years	15.4	1.0	10 years	2.4	-0.8
2000	19	39.6	2.1	**2000**	9	13.1	1.5	**2000**	0	0.0		9 years	30.9	1.8	9 years	15.8	1.0	9 years	2.7	-0.8
2001	26	50.8	2.0	**2001**	12	14.2	1.2	**2001**	1	-1.0	-1.0	8 years	32.4	1.8	8 years	16.6	0.9	8 years	3.0	-0.8
2002	37	54.4	1.5	**2002**	24	19.6	0.8	**2002**	5	-4.6	-0.9	7 years	33.3	1.8	7 years	17.3	0.9	7 years	3.3	-0.8
2003	42	85.6	2.0	**2003**	15	12.7	0.8	**2003**	3	-1.4	-0.5	6 years	32.7	1.8	6 years	16.2	0.9	6 years	3.0	-0.8
2004	22	43.3	2.0	**2004**	9	7.3	0.8	**2004**	2	-0.7	-0.4	5 years	30.8	1.8	5 years	16.4	0.9	5 years	3.0	-0.8
2005	29	54.9	1.9	**2005**	16	18.3	1.1	**2005**	2	-0.3	-0.2	4 years	33.0	1.8	4 years	18.3	1.0	4 years	3.3	-1.0
2006	49	74.3	1.5	**2006**	29	20.7	0.7	**2006**	7	-5.6	-0.8	3 years	34.3	1.7	3 years	19.0	0.9	3 years	3.7	-1.2
2007	25	44.7	1.8	**2007**	14	15.2	1.1	**2007**	1	-2.6	-2.6	2 years	27.0	1.8	2 years	14.0	1.0	2 years	2.0	-1.5
2008	29	52.8	1.8	**2008**	14	12.0	0.9	**2008**	3	-0.9	-0.3	1 years	29.0	1.8	1 years	14.0	0.9	1 years	3.0	-0.3
2009	19	39.7	2.1	**2009**	9	11.5	1.3	**2009**	1	-0.5	-0.5	0 years	19.0	2.1	0 years	9.0	1.3	0 years	1.0	-0.5
2010	36	66.8	1.9	**2010**	20	19.3	1.0	**2010**	2	-1.1	-0.6	1 years	36.0	1.9	1 years	20.0	1.0	1 years	2.0	-0.6
2011	26	44.4	1.7	**2011**	15	14.8	1.0	**2011**	3	-1.6	-0.5	2 years	31.0	1.8	2 years	17.5	1.0	2 years	2.5	-0.5
2012	31	60.2	1.9	**2012**	12	9.4	0.8	**2012**	2	-0.6	-0.3	3 years	31.0	1.8	3 years	15.7	0.9	3 years	2.3	-0.5
2013	22	33.5	1.5	**2013**	15	13.0	0.9	**2013**	3	-1.5	-0.5	4 years	28.8	1.8	4 years	15.5	0.9	4 years	2.5	-0.5
2014	30	52.4	1.7	**2014**	15	11.4	0.8	**2014**	2	-2.7	-1.4	5 years	29.0	1.8	5 years	15.4	0.9	5 years	2.4	-0.6
2015	35	72.1	2.1	**2015**	15	18.5	1.2	**2015**	2	-0.5	-0.3	6 years	30.0	1.8	6 years	15.3	0.9	6 years	2.3	-0.6
2016	33	70.0	2.1	**2016**	14	17.1	1.2	**2016**	0	0.0		7 years	30.4	1.9	7 years	15.1	1.0	7 years	2.0	-0.6
2017	32	50.5	1.6	**2017**	20	17.7	0.9	**2017**	2	-2.8	-1.4	8 years	30.6	1.8	8 years	15.8	1.0	8 years	2.0	-0.7
2018	41	72.6	1.8	**2018**	22	19.4	0.9	**2018**	3	-3.3	-1.1	9 years	31.8	1.8	9 years	16.4	1.0	9 years	2.1	-0.7
2019	30	40.4	1.3	**2019**	15	1.2	0.1	**2019**	7	-7.5	-1.1	10 years	31.6	1.8	10 years	16.3	0.9	10 years	2.6	-0.8
2020	42	59.2	1.4	**2020**	24	14.2	0.6	**2020**	6	-4.1	-0.7	11 years	32.5	1.7	11 years	17.0	0.8	11 years	2.9	-0.8
2021	22	41.3	1.9	**2021**	9	6.0	0.7	**2021**	3	-1.4	-0.5	12 years	31.7	1.7	12 years	16.3	0.8	12 years	2.9	-0.7
2022	26	48.4	1.9	**2022**	10	4.6	0.5	**2022**	3	-3.1	-1.0	13 years	31.2	1.8	13 years	15.8	0.8	13 years	2.9	-0.8

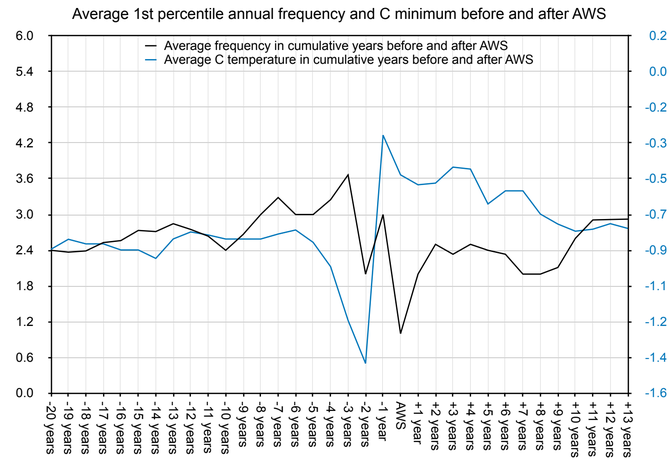
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	32.7	59.3	1.8	**Pre**	16.2	14.4	0.9	**Pre**	3.0	-1.9	-0.8									
Post	30.0	54.9	1.8	**Post**	15.3	14.4	0.9	**Post**	2.3	-1.3	-0.6									

		AWS introduction
		Probe replacement
		Small screen introduction





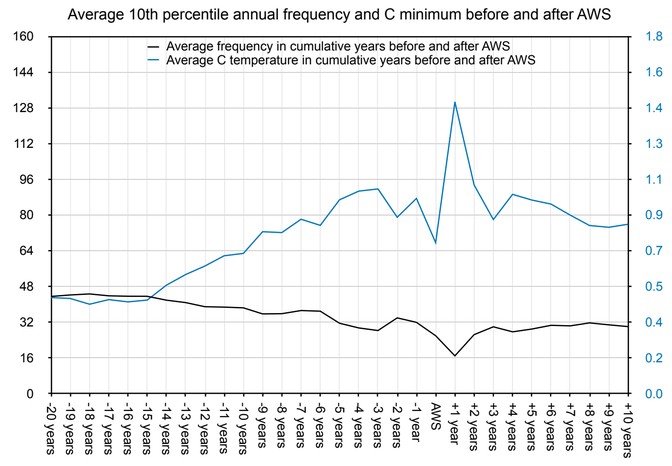


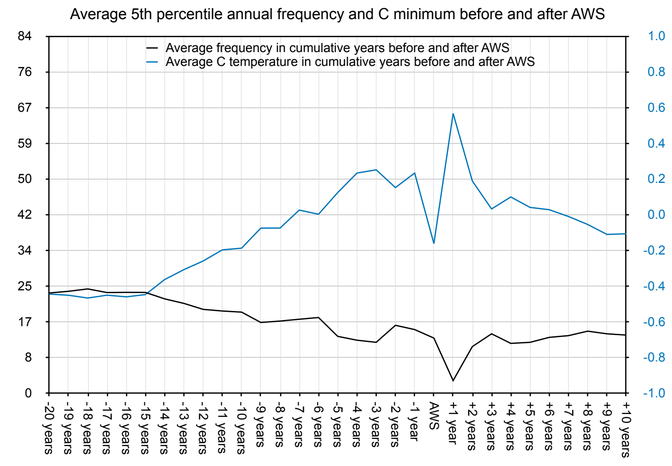
10th 2.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1911	31	12.0	0.4	**1911**	15	-12.9	-0.9	**1911**	5	-11.2	-2.2									
1912	45	42.1	0.9	**1912**	18	-3.2	-0.2	**1912**	1	-1.7	-1.7									
1913	33	13.8	0.4	**1913**	18	-12.8	-0.7	**1913**	5	-9.5	-1.9									
1914	47	32.5	0.7	**1914**	19	-14.7	-0.8	**1914**	5	-10.6	-2.1									
1915	14	23.9	1.7	**1915**	2	0.6	0.3	**1915**	0	0.0										
1916	23	25.7	1.1	**1916**	8	0.6	0.1	**1916**	0	0.0										
1917	25	23.8	1.0	**1917**	6	-5.6	-0.9	**1917**	2	-5.6	-2.8									
1918	35	43.4	1.2	**1918**	11	0.2	0.0	**1918**	1	-1.7	-1.7									
1919	37	5.8	0.2	**1919**	24	-16.6	-0.7	**1919**	7	-14.5	-2.1									
1920	45	37.9	0.8	**1920**	17	-7.0	-0.4	**1920**	3	-6.7	-2.2									
1921	31	36.8	1.2	**1921**	6	-5.6	-0.9	**1921**	3	-5.6	-1.9									
1922	44	45.8	1.0	**1922**	16	0.8	0.1	**1922**	1	-2.2	-2.2									
1923	13	21.6	1.7	**1923**	1	0.6	0.6	**1923**	0	0.0										
1924	48	23.5	0.5	**1924**	25	-14.4	-0.6	**1924**	6	-14.5	-2.4									
1925	43	47.5	1.1	**1925**	16	-3.7	-0.2	**1925**	2	-3.4	-1.7									
1926	29	16.9	0.6	**1926**	14	-7.8	-0.6	**1926**	4	-6.8	-1.7									
1927	45	37.1	0.8	**1927**	17	-10.1	-0.6	**1927**	4	-7.3	-1.8									
1928	43	22.5	0.5	**1928**	23	-10.2	-0.4	**1928**	4	-10.0	-2.5									
1929	62	28.1	0.5	**1929**	27	-30.4	-1.1	**1929**	10	-27.3	-2.7									
1930	38	29.5	0.8	**1930**	14	-11.6	-0.8	**1930**	4	-9.5	-2.4									
1931	14	20.0	1.4	**1931**	2	1.4	0.7	**1931**	0	0.0										
1932	27	21.8	0.8	**1932**	10	-5.1	-0.5	**1932**	1	-1.4	-1.4									
1933	30	26.7	0.9	**1933**	13	-2.1	-0.2	**1933**	1	-1.4	-1.4									
1934	30	17.7	0.6	**1934**	15	-8.6	-0.6	**1934**	1	-2.8	-2.8									
1935	14	17.0	1.2	**1935**	4	0.3	0.1	**1935**	0	0.0										
1936	18	16.1	0.9	**1936**	7	-1.9	-0.3	**1936**	1	-1.7	-1.7									
1937	23	18.4	0.8	**1937**	13	0.8	0.1	**1937**	0	0.0										
1938	42	25.7	0.6	**1938**	22	-8.7	-0.4	**1938**	4	-6.7	-1.7									
1939	33	20.7	0.6	**1939**	15	-9.5	-0.6	**1939**	5	-9.4	-1.9									
1940	37	39.5	1.1	**1940**	13	-0.1	-0.0	**1940**	0	0.0										
1941	16	9.5	0.6	**1941**	8	-3.5	-0.4	**1941**	1	-2.2	-2.2									
1942	15	22.6	1.5	**1942**	2	0.6	0.3	**1942**	0	0.0										
1943	35	33.0	0.9	**1943**	14	-0.1	-0.0	**1943**	1	-1.7	-1.7									
1944	49	-7.6	-0.2	**1944**	34	-30.5	-0.9	**1944**	7	-16.3	-2.3									
1945	33	16.8	0.5	**1945**	16	-11.1	-0.7	**1945**	5	-12.1	-2.4									
1946	33	38.8	1.2	**1946**	10	-1.8	-0.2	**1946**	1	-1.7	-1.7									
1947	26	34.7	1.3	**1947**	7	1.8	0.3	**1947**	0	0.0										
1948	32	47.6	1.5	**1948**	7	1.2	0.2	**1948**	0	0.0										
1949	1	1.7	1.7	**1949**	0	0.0		**1949**	0	0.0										
1950	47	50.0	1.1	**1950**	17	-1.0	-0.1	**1950**	1	-1.7	-1.7									
1951	28	26.2	0.9	**1951**	13	-1.0	-0.1	**1951**	1	-1.7	-1.7									
1952	43	53.4	1.2	**1952**	12	0.6	0.1	**1952**	0	0.0										
1953	50	50.9	1.0	**1953**	17	-3.2	-0.2	**1953**	1	-2.2	-2.2									
1954	56	40.6	0.7	**1954**	28	-8.0	-0.3	**1954**	3	-7.8	-2.6									
1955	29	29.1	1.0	**1955**	13	1.4	0.1	**1955**	0	0.0										
1956	41	51.1	1.2	**1956**	11	-1.0	-0.1	**1956**	0	0.0										
1957	47	37.3	0.8	**1957**	18	-13.9	-0.8	**1957**	5	-9.6	-1.9									
1958	54	-14.9	-0.3	**1958**	34	-46.6	-1.4	**1958**	16	-47.2	-3.0									
1959	66	-11.8	-0.2	**1959**	42	-47.7	-1.1	**1959**	15	-43.6	-2.9									
1960	48	16.8	0.4	**1960**	25	-17.4	-0.7	**1960**	9	-15.9	-1.8									
1961	44	24.5	0.6	**1961**	23	-10.5	-0.5	**1961**	6	-10.6	-1.8									
1962	39	33.8	0.9	**1962**	16	-0.1	-0.0	**1962**	2	-4.4	-2.2									
1963	36	17.8	0.5	**1963**	18	-12.9	-0.7	**1963**	4	-10.3	-2.6									
1964	41	9.9	0.2	**1964**	24	-17.9	-0.7	**1964**	5	-14.5	-2.9									
1965	57	27.8	0.5	**1965**	24	-29.2	-1.2	**1965**	10	-28.9	-2.9									
1966	47	20.9	0.4	**1966**	25	-13.5	-0.5	**1966**	4	-9.3	-2.3									
1967	62	17.9	0.3	**1967**	40	-19.7	-0.5	**1967**	8	-14.6	-1.8									
1968	44	24.6	0.6	**1968**	23	-12.0	-0.5	**1968**	5	-11.5	-2.3									
1969	54	29.8	0.6	**1969**	26	-19.2	-0.7	**1969**	8	-14.5	-1.8									
1970	58	40.4	0.7	**1970**	28	-10.3	-0.4	**1970**	4	-9.4	-2.4									
1971	42	27.7	0.7	**1971**	23	-3.8	-0.2	**1971**	3	-5.2	-1.7									
1972	53	-3.4	-0.1	**1972**	29	-43.6	-1.5	**1972**	14	-36.6	-2.6									
1973	37	29.5	0.8	**1973**	14	-6.0	-0.4	**1973**	2	-4.0	-2.0									
1974	28	16.9	0.6	**1974**	9	-12.1	-1.3	**1974**	4	-10.1	-2.5									
1975	30	29.0	1.0	**1975**	10	-1.0	-0.1	**1975**	0	0.0										
1976	57	27.9	0.5	**1976**	22	-23.6	-1.1	**1976**	9	-25.2	-2.8									
1977	51	49.1	1.0	**1977**	17	-2.3	-0.1	**1977**	0	0.0										
1978	31	23.5	0.8	**1978**	13	-5.4	-0.4	**1978**	3	-5.4	-1.8									
1979	29	9.2	0.3	**1979**	15	-12.3	-0.8	**1979**	5	-9.5	-1.9									
1980	29	35.5	1.2	**1980**	11	3.3	0.3	**1980**	0	0.0										
1981	18	22.4	1.2	**1981**	5	0.7	0.1	**1981**	0	0.0										
1982	66	-16.0	-0.2	**1982**	44	-49.8	-1.1	**1982**	19	-53.5	-2.8									
1983	40	19.0	0.5	**1983**	19	-14.7	-0.8	**1983**	7	-14.7	-2.1									
1984	48	11.1	0.2	**1984**	29	-17.9	-0.6	**1984**	8	-17.9	-2.2									
1985	47	20.9	0.4	**1985**	24	-16.5	-0.7	**1985**	7	-18.1	-2.6									
1986	26	29.0	1.1	**1986**	9	-1.1	-0.1	**1986**	1	-2.3	-2.3									
1987	38	37.7	1.0	**1987**	14	-0.4	-0.0	**1987**	0	0.0										
1988	14	21.0	1.5	**1988**	2	0.4	0.2	**1988**	0	0.0										
1989	43	37.7	0.9	**1989**	18	-5.0	-0.3	**1989**	2	-2.8	-1.4									
1990	36	36.4	1.0	**1990**	15	2.3	0.2	**1990**	0	0.0										
1991	24	31.7	1.3	**1991**	7	1.2	0.2	**1991**	1	-1.4	-1.4									
1992	31	17.9	0.6	**1992**	16	-5.1	-0.3	**1992**	4	-6.0	-1.5	20 years	43.6	0.5	20 years	23.6	-0.4	20 years	6.3	-2.2
1993	36	36.0	1.0	**1993**	14	-2.4	-0.2	**1993**	2	-4.0	-2.0	19 years	44.3	0.5	19 years	24.0	-0.5	19 years	6.4	-2.3
1994	59	3.4	0.1	**1994**	39	-28.8	-0.7	**1994**	12	-30.8	-2.6	18 years	44.7	0.5	18 years	24.6	-0.5	18 years	6.6	-2.3
1995	47	30.9	0.7	**1995**	23	-6.9	-0.3	**1995**	1	-3.6	-3.6	17 years	43.9	0.5	17 years	23.7	-0.5	17 years	6.3	-2.3
1996	44	14.4	0.3	**1996**	24	-15.6	-0.7	**1996**	6	-12.6	-2.1	16 years	43.7	0.5	16 years	23.8	-0.5	16 years	6.6	-2.2
1997	68	-39.6	-0.6	**1997**	45	-73.2	-1.6	**1997**	22	-66.2	-3.0	15 years	43.7	0.5	15 years	23.7	-0.4	15 years	6.7	-2.2
1998	56	-8.3	-0.1	**1998**	36	-39.0	-1.1	**1998**	13	-32.7	-2.5	14 years	41.9	0.5	14 years	22.2	-0.4	14 years	5.6	-2.1
1999	63	5.5	0.1	**1999**	38	-33.7	-0.9	**1999**	16	-31.0	-1.9	13 years	40.8	0.6	13 years	21.2	-0.3	13 years	5.0	-2.1
2000	41	3.1	0.1	**2000**	24	-22.7	-0.9	**2000**	7	-14.7	-2.1	12 years	39.0	0.6	12 years	19.8	-0.3	12 years	4.1	-2.1
2001	42	24.2	0.6	**2001**	22	-6.4	-0.3	**2001**	3	-5.0	-1.7	11 years	38.8	0.7	11 years	19.4	-0.2	11 years	3.8	-2.1
2002	63	-17.4	-0.3	**2002**	41	-49.1	-1.2	**2002**	19	-49.4	-2.6	10 years	38.5	0.7	10 years	19.1	-0.2	10 years	3.9	-2.1
2003	35	29.8	0.9	**2003**	14	-1.1	-0.1	**2003**	0	0.0		9 years	35.8	0.8	9 years	16.7	-0.1	9 years	2.2	-2.0
2004	26	8.9	0.3	**2004**	14	-10.9	-0.8	**2004**	5	-11.4	-2.3	8 years	35.9	0.8	8 years	17.0	-0.1	8 years	2.5	-2.0
2005	39	41.5	1.1	**2005**	15	2.5	0.2	**2005**	1	-1.4	-1.4	7 years	37.3	0.9	7 years	17.4	0.0	7 years	2.1	-2.0
2006	64	13.1	0.2	**2006**	40	-24.2	-0.6	**2006**	11	-24.4	-2.2	6 years	37.0	0.8	6 years	17.8	0.0	6 years	2.3	-2.2
2007	40	32.1	0.8	**2007**	17	-5.3	-0.3	**2007**	2	-3.2	-1.6	5 years	31.6	1.0	5 years	13.4	0.1	5 years	0.6	-2.2
2008	33	32.6	1.0	**2008**	14	2.5	0.2	**2008**	0	0.0		4 years	29.5	1.0	4 years	12.5	0.2	4 years	0.3	-2.7
2009	17	22.4	1.3	**2009**	4	1.8	0.5	**2009**	0	0.0		3 years	28.3	1.0	3 years	12.0	0.3	3 years	0.3	-2.7
2010	36	28.6	0.8	**2010**	17	1.2	0.1	**2010**	1	-2.7	-2.7	2 years	34.0	0.9	2 years	16.0	0.2	2 years	0.5	-2.7
2011	32	31.5	1.0	**2011**	15	3.5	0.2	**2011**	0	0.0		1 years	32.0	1.0	1 years	15.0	0.2	1 years	0.0	
2012	26	19.8	0.8	**2012**	13	-2.1	-0.2	**2012**	1	-1.8	-1.8	0 years	26.0	0.8	0 years	13.0	-0.2	0 years	1.0	-1.8
2013	17	25.0	1.5	**2013**	3	1.7	0.6	**2013**	0	0.0		1 years	17.0	1.5	1 years	3.0	0.6	1 years	0.0	
2014	36	22.8	0.6	**2014**	19	-3.6	-0.2	**2014**	0	0.0		2 years	26.5	1.1	2 years	11.0	0.2	2 years	0.0	
2015	37	19.6	0.5	**2015**	20	-5.6	-0.3	**2015**	2	-3.8	-1.9	3 years	30.0	0.9	3 years	14.0	0.0	3 years	0.7	-1.9
2016	21	29.1	1.4	**2016**	5	1.5	0.3	**2016**	0	0.0		4 years	27.8	1.0	4 years	11.8	0.1	4 years	0.5	-1.9
2017	34	29.3	0.9	**2017**	13	-2.5	-0.2	**2017**	0	0.0		5 years	29.0	1.0	5 years	12.0	0.0	5 years	0.4	-1.9
2018	39	33.3	0.9	**2018**	19	-0.7	-0.0	**2018**	0	0.0		6 years	30.7	1.0	6 years	13.2	0.0	6 years	0.3	-1.9
2019	29	16.4	0.6	**2019**	16	-3.8	-0.2	**2019**	1	-1.6	-1.6	7 years	30.4	0.9	7 years	13.6	-0.0	7 years	0.4	-1.8
2020	41	19.8	0.5	**2020**	22	-8.1	-0.4	**2020**	3	-5.9	-2.0	8 years	31.8	0.8	8 years	14.6	-0.1	8 years	0.8	-1.8
2021	24	18.4	0.8	**2021**	9	-5.0	-0.6	**2021**	2	-4.6	-2.3	9 years	30.9	0.8	9 years	14.0	-0.1	9 years	0.9	-1.9
2022	23	22.8	1.0	**2022**	11	-0.8	-0.1	**2022**	0	0.0		10 years	30.1	0.9	10 years	13.7	-0.1	10 years	0.8	-1.9

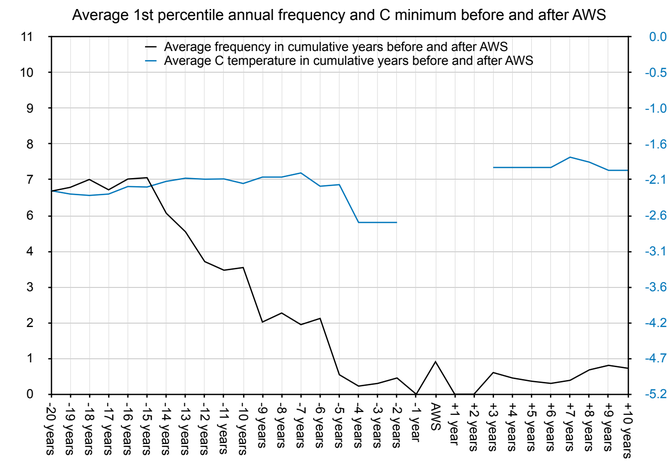
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	37.0	26.7	0.8	**Pre**	17.8	-3.4	0.0	**Pre**	2.3	-5.1	-2.2									
Post	30.7	26.5	1.0	**Post**	13.2	-1.5	0.0	**Post**	0.3	-0.6	-1.9									

		AWS introduction
		Probe replacement
		Small screen introduction



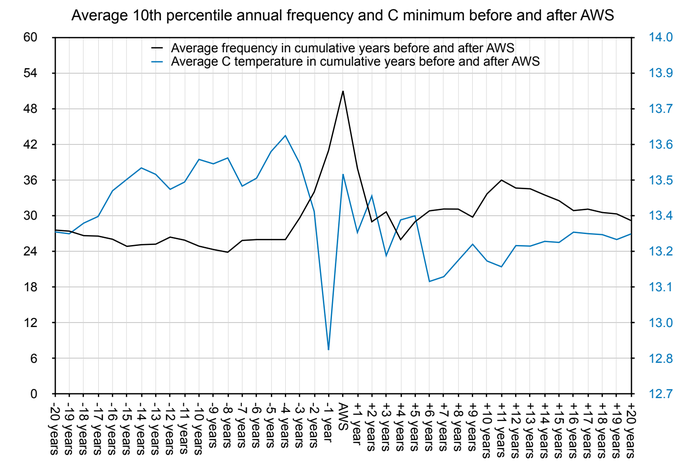


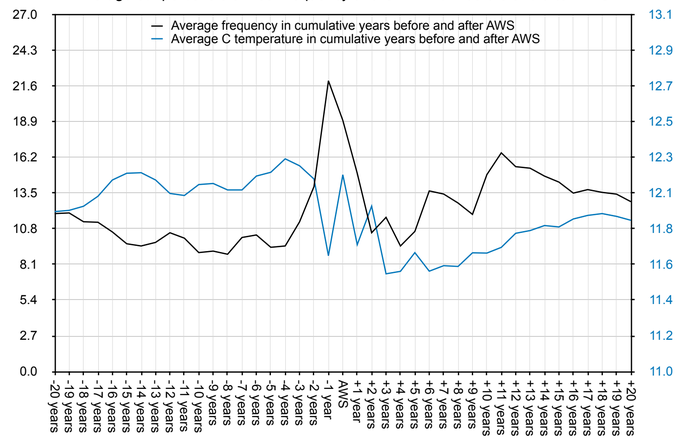


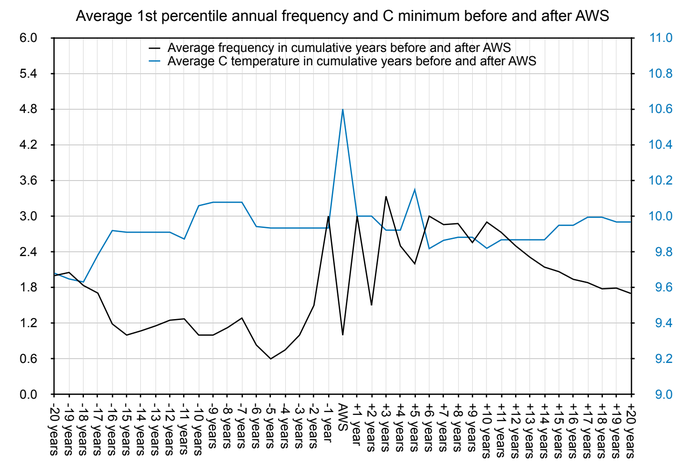
10th 15.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 13.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 10.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	30	363.1	12.1	**1910**	20	220.9	11.0	**1910**	9	84.5	9.4									
1911	56	683.5	12.2	**1911**	35	389.8	11.1	**1911**	11	100.2	9.1									
1912	38	482.6	12.7	**1912**	26	314.2	12.1	**1912**	2	20.7	10.4									
1913	70	926.3	13.2	**1913**	27	313.8	11.6	**1913**	3	28.0	9.3									
1914	44	562.2	12.8	**1914**	20	225.2	11.3	**1914**	7	64.8	9.3									
1915	49	640.4	13.1	**1915**	22	260.0	11.8	**1915**	4	40.0	10.0									
1916	11	149.7	13.6	**1916**	3	35.5	11.8	**1916**	0	0.0										
1917	35	432.7	12.4	**1917**	16	165.3	10.3	**1917**	9	83.1	9.2									
1918	46	553.1	12.0	**1918**	35	400.0	11.4	**1918**	10	98.6	9.9									
1919	57	703.2	12.3	**1919**	36	404.7	11.2	**1919**	9	83.3	9.3									
1920	24	325.5	13.6	**1920**	7	80.2	11.5	**1920**	0	0.0										
1921	23	279.8	12.2	**1921**	17	195.1	11.5	**1921**	7	69.1	9.9									
1922	58	670.6	11.6	**1922**	39	406.5	10.4	**1922**	23	217.3	9.4									
1923	70	854.5	12.2	**1923**	49	561.0	11.4	**1923**	13	123.9	9.5									
1924	38	514.0	13.5	**1924**	12	145.8	12.2	**1924**	2	21.2	10.6									
1925	83	1030.5	12.4	**1925**	44	479.8	10.9	**1925**	12	100.5	8.4									
1926	49	653.8	13.3	**1926**	16	184.5	11.5	**1926**	4	38.8	9.7									
1927	15	196.4	13.1	**1927**	8	95.5	11.9	**1927**	0	0.0										
1928	14	201.8	14.4	**1928**	1	12.9	12.9	**1928**	0	0.0										
1929	75	966.6	12.9	**1929**	40	470.6	11.8	**1929**	5	51.8	10.4									
1930	45	592.2	13.2	**1930**	25	302.4	12.1	**1930**	3	30.6	10.2									
1931	33	427.4	13.0	**1931**	18	212.8	11.8	**1931**	2	20.0	10.0									
1932	46	573.9	12.5	**1932**	28	320.3	11.4	**1932**	7	67.2	9.6									
1933	30	370.3	12.3	**1933**	18	199.1	11.1	**1933**	7	65.8	9.4									
1934	33	440.6	13.4	**1934**	12	136.9	11.4	**1934**	4	40.8	10.2									
1935	23	320.3	13.9	**1935**	4	48.1	12.0	**1935**	0	0.0										
1936	21	260.8	12.4	**1936**	12	131.5	11.0	**1936**	5	48.3	9.7									
1937	40	497.9	12.4	**1937**	22	244.3	11.1	**1937**	9	89.9	10.0									
1938	27	351.8	13.0	**1938**	10	112.5	11.3	**1938**	3	27.9	9.3									
1939	54	659.7	12.2	**1939**	35	391.3	11.2	**1939**	13	124.5	9.6									
1940	40	544.0	13.6	**1940**	13	153.0	11.8	**1940**	3	31.2	10.4									
1941	62	777.3	12.5	**1941**	39	448.1	11.5	**1941**	9	88.4	9.8									
1942	22	297.0	13.5	**1942**	7	82.2	11.7	**1942**	0	0.0										
1943	49	619.6	12.6	**1943**	29	335.3	11.6	**1943**	7	72.4	10.3									
1944	20	272.5	13.6	**1944**	6	70.6	11.8	**1944**	1	10.6	10.6									
1945	33	400.3	12.1	**1945**	20	217.2	10.9	**1945**	8	71.6	9.0									
1946	74	925.8	12.5	**1946**	40	440.3	11.0	**1946**	14	126.7	9.1									
1947	51	670.8	13.2	**1947**	18	196.1	10.9	**1947**	6	52.3	8.7									
1948	49	613.6	12.5	**1948**	28	316.7	11.3	**1948**	7	61.6	8.8									
1949	69	880.2	12.8	**1949**	31	336.2	10.8	**1949**	14	133.4	9.5									
1950	49	640.3	13.1	**1950**	22	256.7	11.7	**1950**	4	40.0	10.0									
1951	64	784.9	12.3	**1951**	37	401.0	10.8	**1951**	16	146.9	9.2									
1952	61	784.1	12.9	**1952**	28	314.9	11.2	**1952**	12	123.6	10.3									
1953	69	883.5	12.8	**1953**	36	416.3	11.6	**1953**	10	100.6	10.1									
1954	31	403.3	13.0	**1954**	13	148.6	11.4	**1954**	6	63.6	10.6									
1955	20	280.8	14.0	**1955**	5	61.7	12.3	**1955**	0	0.0										
1956	53	690.7	13.0	**1956**	20	216.8	10.8	**1956**	9	87.3	9.7									
1957	44	589.6	13.4	**1957**	14	160.6	11.5	**1957**	4	41.2	10.3									
1958	34	449.0	13.2	**1958**	14	163.3	11.7	**1958**	3	27.7	9.2									
1959	47	594.5	12.6	**1959**	24	269.4	11.2	**1959**	7	61.7	8.8									
1960	58	737.4	12.7	**1960**	28	316.3	11.3	**1960**	8	75.1	9.4									
1961	57	764.5	13.4	**1961**	22	266.2	12.1	**1961**	2	20.0	10.0									
1962	27	360.5	13.4	**1962**	13	158.5	12.2	**1962**	1	10.6	10.6									
1963	51	633.7	12.4	**1963**	29	321.3	11.1	**1963**	11	105.1	9.6									
1964	33	439.0	13.3	**1964**	12	137.1	11.4	**1964**	4	42.0	10.5									
1965	47	586.4	12.5	**1965**	25	271.6	10.9	**1965**	10	91.5	9.2									
1966	27	372.5	13.8	**1966**	6	73.3	12.2	**1966**	0	0.0										
1967	51	660.7	13.0	**1967**	21	239.0	11.4	**1967**	5	49.5	9.9									
1968	41	553.8	13.5	**1968**	11	123.5	11.2	**1968**	3	27.3	9.1									
1969	30	417.8	13.9	**1969**	4	48.9	12.2	**1969**	0	0.0										
1970	30	409.5	13.7	**1970**	10	124.2	12.4	**1970**	0	0.0										
1971	51	649.5	12.7	**1971**	25	281.7	11.3	**1971**	8	77.1	9.6									
1972	35	449.0	12.8	**1972**	20	236.8	11.8	**1972**	2	20.9	10.5									
1973	10	142.2	14.2	**1973**	2	26.2	13.1	**1973**	0	0.0										
1974	50	650.9	13.0	**1974**	22	254.4	11.6	**1974**	4	38.0	9.5									
1975	26	334.0	12.8	**1975**	12	133.6	11.1	**1975**	3	26.4	8.8									
1976	54	701.9	13.0	**1976**	31	374.9	12.1	**1976**	2	21.2	10.6									
1977	62	790.8	12.8	**1977**	27	292.7	10.8	**1977**	10	95.1	9.5									
1978	35	443.5	12.7	**1978**	15	164.3	11.0	**1978**	9	91.9	10.2									
1979	19	259.4	13.7	**1979**	5	59.4	11.9	**1979**	0	0.0										
1980	23	296.9	12.9	**1980**	15	184.7	12.3	**1980**	0	0.0										
1981	31	416.0	13.4	**1981**	11	129.9	11.8	**1981**	1	10.0	10.0	20 years	27.6	13.3	20 years	12.0	11.9	20 years	2.0	9.7
1982	41	516.1	12.6	**1982**	24	276.9	11.5	**1982**	6	58.8	9.8	19 years	27.4	13.3	19 years	12.0	11.9	19 years	2.1	9.6
1983	28	361.5	12.9	**1983**	12	132.4	11.0	**1983**	4	33.7	8.4	18 years	26.7	13.3	18 years	11.3	12.0	18 years	1.8	9.6
1984	35	414.8	11.9	**1984**	23	243.7	10.6	**1984**	10	88.2	8.8	17 years	26.6	13.3	17 years	11.3	12.0	17 years	1.7	9.8
1985	44	563.7	12.8	**1985**	24	277.7	11.6	**1985**	4	39.9	10.0	16 years	26.1	13.4	16 years	10.6	12.1	16 years	1.2	9.9
1986	21	271.0	12.9	**1986**	12	145.5	12.1	**1986**	0	0.0		15 years	24.9	13.5	15 years	9.7	12.2	15 years	1.0	9.9
1987	24	331.9	13.8	**1987**	6	76.1	12.7	**1987**	0	0.0		14 years	25.1	13.5	14 years	9.5	12.2	14 years	1.1	9.9
1988	11	155.7	14.2	**1988**	1	13.0	13.0	**1988**	0	0.0		13 years	25.2	13.5	13 years	9.8	12.1	13 years	1.2	9.9
1989	32	421.0	13.2	**1989**	15	182.5	12.2	**1989**	1	10.1	10.1	12 years	26.4	13.4	12 years	10.5	12.0	12 years	1.3	9.9
1990	36	455.3	12.6	**1990**	21	240.6	11.5	**1990**	4	36.5	9.1	11 years	25.9	13.5	11 years	10.1	12.0	11 years	1.3	9.9
1991	30	411.0	13.7	**1991**	8	96.4	12.1	**1991**	1	10.0	10.0	10 years	24.9	13.6	10 years	9.0	12.1	10 years	1.0	10.1
1992	28	374.3	13.4	**1992**	11	136.1	12.4	**1992**	0	0.0		9 years	24.3	13.5	9 years	9.1	12.1	9 years	1.0	10.1
1993	10	142.8	14.3	**1993**	0	0.0		**1993**	0	0.0		8 years	23.9	13.6	8 years	8.9	12.1	8 years	1.1	10.1
1994	25	332.1	13.3	**1994**	9	104.2	11.6	**1994**	4	41.4	10.4	7 years	25.9	13.5	7 years	10.1	12.1	7 years	1.3	10.1
1995	26	338.1	13.0	**1995**	15	180.6	12.0	**1995**	2	19.9	10.0	6 years	26.0	13.5	6 years	10.3	12.2	6 years	0.8	9.9
1996	26	347.1	13.4	**1996**	9	106.7	11.9	**1996**	0	0.0		5 years	26.0	13.6	5 years	9.4	12.2	5 years	0.6	9.9
1997	15	209.2	13.9	**1997**	4	49.5	12.4	**1997**	0	0.0		4 years	26.0	13.6	4 years	9.5	12.3	4 years	0.8	9.9
1998	21	291.7	13.9	**1998**	6	74.2	12.4	**1998**	0	0.0		3 years	29.7	13.5	3 years	11.3	12.2	3 years	1.0	9.9
1999	27	374.5	13.9	**1999**	6	75.5	12.6	**1999**	0	0.0		2 years	34.0	13.4	2 years	14.0	12.1	2 years	1.5	9.9
2000	41	527.3	12.9	**2000**	22	257.0	11.7	**2000**	3	29.8	9.9	1 years	41.0	12.9	1 years	22.0	11.7	1 years	3.0	9.9
2001	51	688.6	13.5	**2001**	19	231.0	12.2	**2001**	1	10.6	10.6	0 years	51.0	13.5	0 years	19.0	12.2	0 years	1.0	10.6
2002	38	505.0	13.3	**2002**	15	176.2	11.7	**2002**	3	30.0	10.0	1 years	38.0	13.3	1 years	15.0	11.7	1 years	3.0	10.0
2003	20	271.1	13.6	**2003**	6	73.2	12.2	**2003**	0	0.0		2 years	29.0	13.4	2 years	10.5	12.0	2 years	1.5	10.0
2004	34	434.2	12.8	**2004**	14	150.9	10.8	**2004**	7	68.9	9.8	3 years	30.7	13.2	3 years	11.7	11.6	3 years	3.3	9.9
2005	12	164.7	13.7	**2005**	3	34.9	11.6	**2005**	0	0.0		4 years	26.0	13.3	4 years	9.5	11.6	4 years	2.5	9.9
2006	41	549.8	13.4	**2006**	15	182.1	12.1	**2006**	1	10.6	10.6	5 years	29.0	13.3	5 years	10.6	11.7	5 years	2.2	10.1
2007	40	476.6	11.9	**2007**	29	320.3	11.0	**2007**	7	61.8	8.8	6 years	30.8	13.1	6 years	13.7	11.6	6 years	3.0	9.8
2008	33	436.7	13.2	**2008**	12	141.8	11.8	**2008**	2	20.1	10.1	7 years	31.1	13.1	7 years	13.4	11.6	7 years	2.9	9.9
2009	31	421.7	13.6	**2009**	8	92.7	11.6	**2009**	3	29.9	10.0	8 years	31.1	13.2	8 years	12.8	11.6	8 years	2.9	9.9
2010	19	260.6	13.7	**2010**	5	61.7	12.3	**2010**	0	0.0		9 years	29.8	13.2	9 years	11.9	11.7	9 years	2.6	9.9
2011	69	871.9	12.6	**2011**	42	490.7	11.7	**2011**	6	56.7	9.5	10 years	33.7	13.2	10 years	14.9	11.7	10 years	2.9	9.8
2012	59	764.3	13.0	**2012**	33	398.2	12.1	**2012**	1	10.2	10.2	11 years	36.0	13.2	11 years	16.5	11.7	11 years	2.7	9.9
2013	20	281.8	14.1	**2013**	4	50.9	12.7	**2013**	0	0.0		12 years	34.7	13.2	12 years	15.5	11.8	12 years	2.5	9.9
2014	33	436.2	13.2	**2014**	14	168.3	12.0	**2014**	0	0.0		13 years	34.5	13.2	13 years	15.4	11.8	13 years	2.3	9.9
2015	20	269.6	13.5	**2015**	7	85.7	12.2	**2015**	0	0.0		14 years	33.5	13.3	14 years	14.8	11.9	14 years	2.1	9.9
2016	19	250.8	13.2	**2016**	8	93.9	11.7	**2016**	1	10.6	10.6	15 years	32.5	13.3	15 years	14.3	11.9	15 years	2.1	9.9
2017	6	83.1	13.9	**2017**	1	12.6	12.6	**2017**	0	0.0		16 years	30.9	13.3	16 years	13.5	11.9	16 years	1.9	9.9
2018	35	462.0	13.2	**2018**	18	220.6	12.3	**2018**	1	10.4	10.4	17 years	31.1	13.3	17 years	13.8	11.9	17 years	1.9	10.0
2019	21	277.6	13.2	**2019**	10	121.1	12.1	**2019**	0	0.0		18 years	30.6	13.3	18 years	13.6	11.9	18 years	1.8	10.0
2020	26	336.5	12.9	**2020**	11	127.8	11.6	**2020**	2	19.4	9.7	19 years	30.3	13.3	19 years	13.4	11.9	19 years	1.8	10.0
2021	8	109.4	13.7	**2021**	2	22.9	11.5	**2021**	0	0.0		20 years	29.2	13.3	20 years	12.9	11.9	20 years	1.7	10.0
2022	32	418.9	13.1	**2022**	13	150.4	11.6	**2022**	3	29.8	9.9									

Original AWS probe Rosemount

10 years	AWS and small screen both in 2001			**10 years**	AWS and small screen both in 2001			**10 years**	AWS and small screen both in 2001		
Pre AWS	24.9	334.8	13.6	**Pre AWS**	9.0	108.0	12.1	**Pre AWS**	1.0	10.1	10.1
Post AWS	33.7	439.2	13.2	**Post AWS**	14.9	172.5	11.7	**Post AWS**	2.9	27.8	9.8
Pre small	24.9	334.8	13.6	**Pre small**	9.0	108.0	12.1	**Pre small**	1.0	10.1	10.1
Post small	33.7	439.2	13.2	**Post small**	14.9	172.5	11.7	**Post small**	2.9	27.8	9.8
5 years				**5 years**				**5 years**			
Pre AWS	26.0	350.0	13.6	**Pre AWS**	9.4	112.6	12.2	**Pre AWS**	0.6	6.0	9.9
Post AWS	29.0	385.0	13.3	**Post AWS**	10.6	123.5	11.7	**Post AWS**	2.2	21.9	10.1
Pre small	26.0	350.0	13.6	**Pre small**	9.4	112.6	12.2	**Pre small**	0.6	6.0	9.9
Post small	29.0	385.0	13.3	**Post small**	10.6	123.5	11.7	**Post small**	2.2	21.9	10.1
		AWS introduction									
		Small screen introduction									





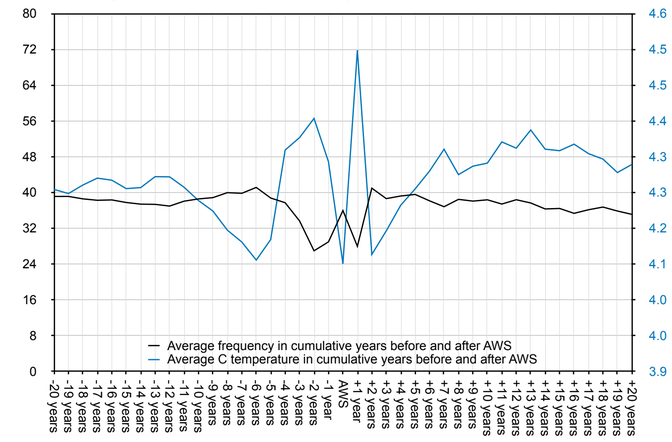


10th 5.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.7	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1956	38	170.8	4.5	**1956**	13	44.0	3.4	**1956**	2	3.9	2.0									
1957	34	156.2	4.6	**1957**	13	46.5	3.6	**1957**	1	2.4	2.4									
1958	33	128.5	3.9	**1958**	23	77.8	3.4	**1958**	5	9.4	1.9									
1959	25	105.6	4.2	**1959**	15	54.1	3.6	**1959**	1	2.3	2.3									
1960	37	166.1	4.5	**1960**	14	49.3	3.5	**1960**	2	4.7	2.4									
1961	37	151.2	4.1	**1961**	23	79.9	3.5	**1961**	3	5.8	1.9									
1962	38	162.1	4.3	**1962**	20	69.9	3.5	**1962**	2	5.1	2.6									
1963	33	148.5	4.5	**1963**	12	39.6	3.3	**1963**	3	6.3	2.1									
1964	38	167.8	4.4	**1964**	15	50.9	3.4	**1964**	3	7.9	2.6									
1965	42	186.6	4.4	**1965**	15	49.5	3.3	**1965**	3	5.1	1.7									
1966	53	218.9	4.1	**1966**	32	112.7	3.5	**1966**	5	10.1	2.0									
1967	27	119.6	4.4	**1967**	12	43.9	3.7	**1967**	1	1.8	1.8									
1968	43	182.4	4.2	**1968**	26	95.1	3.7	**1968**	4	10.5	2.6									
1969	38	181.8	4.8	**1969**	9	34.2	3.8	**1969**	1	2.7	2.7									
1970	61	233.9	3.8	**1970**	38	112.8	3.0	**1970**	13	16.6	1.3									
1971	66	249.5	3.8	**1971**	41	121.2	3.0	**1971**	12	17.6	1.5									
1972	41	193.2	4.7	**1972**	12	41.2	3.4	**1972**	2	4.6	2.3									
1973	26	119.3	4.6	**1973**	8	28.1	3.5	**1973**	2	4.2	2.1									
1974	39	169.5	4.3	**1974**	17	56.1	3.3	**1974**	4	4.5	1.1									
1975	40	182.5	4.6	**1975**	18	67.7	3.8	**1975**	1	2.5	2.5									
1976	40	181.8	4.5	**1976**	17	64.8	3.8	**1976**	1	2.3	2.3									
1977	57	242.1	4.2	**1977**	26	88.5	3.4	**1977**	3	6.5	2.2									
1978	42	176.8	4.2	**1978**	24	85.1	3.5	**1978**	5	12.6	2.5									
1979	39	163.9	4.2	**1979**	22	79.0	3.6	**1979**	3	7.2	2.4									
1980	39	172.0	4.4	**1980**	15	48.2	3.2	**1980**	6	14.1	2.4	20 years	39.2	4.3	20 years	18.9	3.4	20 years	4.6	2.1
1981	49	193.4	3.9	**1981**	27	85.2	3.2	**1981**	7	10.7	1.5	19 years	39.2	4.2	19 years	19.1	3.4	19 years	4.5	2.0
1982	44	177.6	4.0	**1982**	23	69.8	3.0	**1982**	8	13.7	1.7	18 years	38.6	4.3	18 years	18.6	3.4	18 years	4.3	2.1
1983	37	160.7	4.3	**1983**	17	58.8	3.5	**1983**	3	5.8	1.9	17 years	38.3	4.3	17 years	18.4	3.4	17 years	4.1	2.1
1984	47	212.5	4.5	**1984**	19	67.9	3.6	**1984**	2	4.2	2.1	16 years	38.4	4.3	16 years	18.4	3.4	16 years	4.2	2.1
1985	43	181.9	4.2	**1985**	22	75.8	3.4	**1985**	3	7.6	2.5	15 years	37.8	4.3	15 years	18.4	3.4	15 years	4.3	2.1
1986	38	151.3	4.0	**1986**	22	69.6	3.2	**1986**	6	8.6	1.4	14 years	37.4	4.3	14 years	18.1	3.4	14 years	4.4	2.1
1987	42	180.0	4.3	**1987**	19	66.6	3.5	**1987**	4	8.3	2.1	13 years	37.4	4.3	13 years	17.8	3.4	13 years	4.3	2.1
1988	25	112.6	4.5	**1988**	9	31.9	3.5	**1988**	1	2.3	2.3	12 years	37.0	4.3	12 years	17.8	3.4	12 years	4.3	2.1
1989	33	149.2	4.5	**1989**	13	49.4	3.8	**1989**	1	2.4	2.4	11 years	38.1	4.3	11 years	18.5	3.4	11 years	4.6	2.1
1990	36	159.1	4.4	**1990**	15	54.0	3.6	**1990**	3	7.0	2.3	10 years	38.6	4.2	10 years	19.1	3.4	10 years	5.0	2.1
1991	30	135.4	4.5	**1991**	12	42.2	3.5	**1991**	1	2.3	2.3	9 years	38.9	4.2	9 years	19.6	3.3	9 years	5.2	2.0
1992	41	177.9	4.3	**1992**	20	71.1	3.6	**1992**	3	5.8	1.9	8 years	40.0	4.2	8 years	20.5	3.3	8 years	5.8	2.0
1993	32	139.7	4.4	**1993**	14	48.3	3.5	**1993**	2	2.9	1.5	7 years	39.9	4.2	7 years	20.6	3.3	7 years	6.1	2.0
1994	53	207.6	3.9	**1994**	27	75.5	2.8	**1994**	14	28.4	2.0	6 years	41.2	4.1	6 years	21.7	3.3	6 years	6.8	2.2
1995	43	148.7	3.5	**1995**	33	97.9	3.0	**1995**	13	26.0	2.0	5 years	38.8	4.2	5 years	20.6	3.4	5 years	5.4	2.2
1996	50	213.0	4.3	**1996**	25	82.7	3.3	**1996**	7	15.7	2.2	4 years	37.8	4.3	4 years	17.5	3.4	4 years	3.5	2.3
1997	47	201.3	4.3	**1997**	20	62.4	3.1	**1997**	7	16.5	2.4	3 years	33.7	4.4	3 years	15.0	3.5	3 years	2.3	2.4
1998	25	112.0	4.5	**1998**	10	37.0	3.7	**1998**	0	0.0		2 years	27.0	4.4	2 years	12.5	3.7	2 years	0.0	
1999	29	125.0	4.3	**1999**	15	55.0	3.7	**1999**	0	0.0		1 years	29.0	4.3	1 years	15.0	3.7	1 years	0.0	
2000	36	148.0	4.1	**2000**	22	78.0	3.5	**2000**	2	4.0	2.0	0 years	36.0	4.1	0 years	22.0	3.5	0 years	2.0	2.0
2001	28	126.8	4.5	**2001**	11	38.9	3.5	**2001**	1	2.4	2.4	1 years	28.0	4.5	1 years	11.0	3.5	1 years	1.0	2.4
2002	54	201.4	3.7	**2002**	34	100.3	3.0	**2002**	10	12.5	1.3	2 years	41.0	4.1	2 years	22.5	3.2	2 years	5.5	1.8
2003	34	145.1	4.3	**2003**	17	59.1	3.5	**2003**	3	3.4	1.1	3 years	38.7	4.2	3 years	20.7	3.3	3 years	4.7	1.6
2004	41	179.4	4.4	**2004**	19	67.3	3.5	**2004**	3	6.7	2.2	4 years	39.3	4.2	4 years	20.3	3.4	4 years	4.3	1.8
2005	41	179.8	4.4	**2005**	16	53.6	3.4	**2005**	4	8.8	2.2	5 years	39.6	4.3	5 years	19.4	3.4	5 years	4.2	1.8
2006	31	138.5	4.5	**2006**	13	44.4	3.4	**2006**	2	3.8	1.9	6 years	38.2	4.3	6 years	18.3	3.4	6 years	3.8	1.9
2007	29	133.1	4.6	**2007**	12	45.8	3.8	**2007**	1	2.7	2.7	7 years	36.9	4.3	7 years	17.4	3.4	7 years	3.4	2.0
2008	50	196.9	3.9	**2008**	33	109.9	3.3	**2008**	7	13.5	1.9	8 years	38.5	4.3	8 years	19.4	3.4	8 years	3.9	2.0
2009	35	155.2	4.4	**2009**	14	47.3	3.4	**2009**	3	4.9	1.6	9 years	38.1	4.3	9 years	18.8	3.4	9 years	3.8	1.9
2010	41	178.8	4.4	**2010**	17	58.5	3.4	**2010**	3	6.3	2.1	10 years	38.4	4.3	10 years	18.6	3.4	10 years	3.7	1.9
2011	28	133.4	4.8	**2011**	6	21.9	3.7	**2011**	1	2.2	2.2	11 years	37.5	4.3	11 years	17.5	3.4	11 years	3.5	2.0
2012	49	205.9	4.2	**2012**	29	104.3	3.6	**2012**	3	7.6	2.5	12 years	38.4	4.3	12 years	18.4	3.5	12 years	3.4	2.0
2013	29	139.2	4.8	**2013**	9	35.9	4.0	**2013**	0	0.0		13 years	37.7	4.4	13 years	17.7	3.5	13 years	3.2	2.0
2014	19	73.1	3.8	**2014**	12	37.5	3.1	**2014**	4	8.3	2.1	14 years	36.4	4.3	14 years	17.3	3.5	14 years	3.2	2.0
2015	38	163.0	4.3	**2015**	20	68.7	3.4	**2015**	6	13.2	2.2	15 years	36.5	4.3	15 years	17.5	3.5	15 years	3.4	2.0
2016	19	86.2	4.5	**2016**	7	23.4	3.3	**2016**	2	3.6	1.8	16 years	35.4	4.3	16 years	16.8	3.5	16 years	3.3	2.0
2017	49	197.5	4.0	**2017**	31	104.4	3.4	**2017**	7	15.4	2.2	17 years	36.2	4.3	17 years	17.6	3.5	17 years	3.5	2.0
2018	47	194.3	4.1	**2018**	22	69.7	3.2	**2018**	7	14.6	2.1	18 years	36.8	4.3	18 years	17.9	3.4	18 years	3.7	2.0
2019	20	76.3	3.8	**2019**	12	35.8	3.0	**2019**	4	8.2	2.1	19 years	35.9	4.3	19 years	17.6	3.4	19 years	3.7	2.0
2020	21	96.7	4.6	**2020**	8	29.9	3.7	**2020**	1	1.4	1.4	20 years	35.2	4.3	20 years	17.1	3.4	20 years	3.6	2.0
2021	28	125.6	4.5	**2021**	11	39.2	3.6	**2021**	1	1.6	1.6									
2022	20	91.0	4.6	**2022**	6	21.0	3.5	**2022**	1	2.6	2.6									

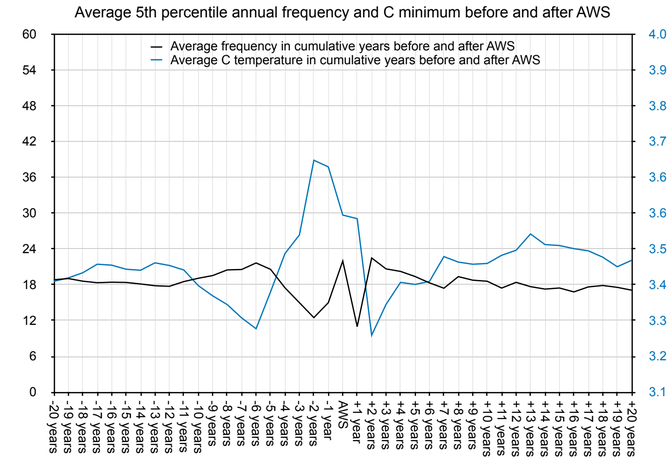
Original AWS probe Rosemount

10 years	AWS and small screen both in 2000			**10 years**	AWS and small screen both in 2000			**10 years**	AWS and small screen both in 2000		
Pre AWS	38.6	162.0	4.2	**Pre AWS**	19.1	62.6	3.4	**Pre AWS**	5.0	10.5	2.1
Post AWS	38.4	163.5	4.3	**Post AWS**	18.6	62.5	3.4	**Post AWS**	3.7	6.5	1.9
Pre small	38.6	162.0	4.2	**Pre small**	19.1	62.6	3.4	**Pre small**	5.0	10.5	2.1
Post small	38.4	163.5	4.3	**Post small**	18.6	62.5	3.4	**Post small**	3.7	6.5	1.9
5 years				**5 years**				**5 years**			
Pre AWS	38.8	160.0	4.2	**Pre AWS**	20.6	67.0	3.4	**Pre AWS**	5.4	11.6	2.2
Post AWS	39.6	166.5	4.3	**Post AWS**	19.4	63.8	3.4	**Post AWS**	4.2	6.8	1.8
Pre small	38.8	160.0	4.2	**Pre small**	20.6	67.0	3.4	**Pre small**	5.4	11.6	2.2
Post small	39.6	166.5	4.3	**Post small**	19.4	63.8	3.4	**Post small**	4.2	6.8	1.8
		AWS introduction									
		Small screen introduction									

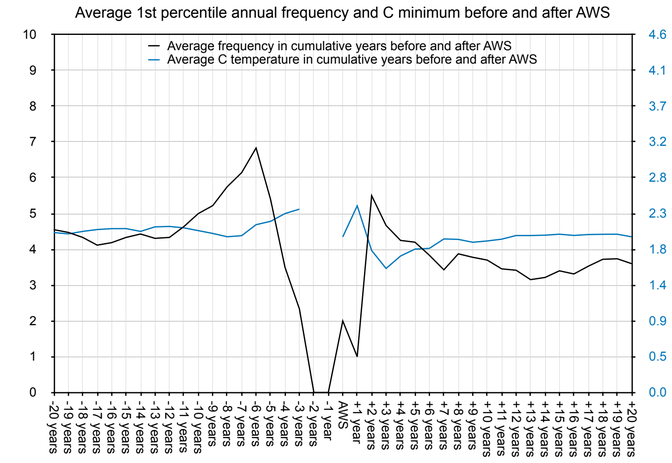
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS



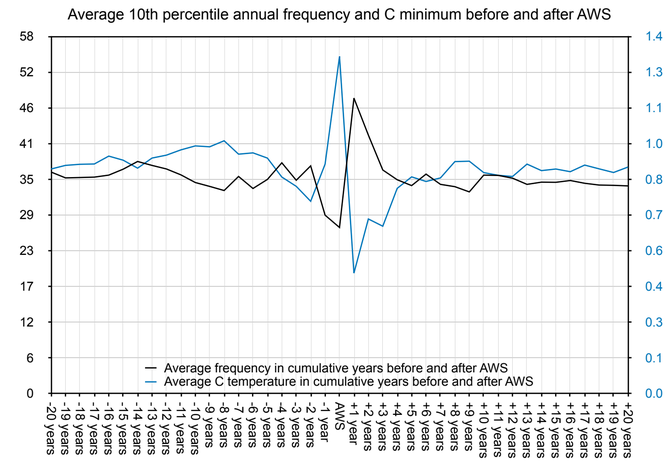
10th 2.5	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1957	54	26.0	0.5	**1957**	30	-17.5	-0.6	**1957**	12	-19.3	-1.6									
1958	45	4.9	0.1	**1958**	29	-22.2	-0.8	**1958**	9	-21.8	-2.4									
1959	66	25.0	0.4	**1959**	33	-35.5	-1.1	**1959**	12	-37.4	-3.1									
1960	45	32.1	0.7	**1960**	20	-11.6	-0.6	**1960**	6	-10.5	-1.8									
1961	48	49.0	1.0	**1961**	19	-6.8	-0.4	**1961**	4	-6.2	-1.6									
1962	40	23.3	0.6	**1962**	23	-5.1	-0.2	**1962**	4	-5.8	-1.5									
1963	26	13.5	0.5	**1963**	13	-7.4	-0.6	**1963**	4	-7.8	-2.0									
1964	36	10.1	0.3	**1964**	22	-14.4	-0.7	**1964**	7	-15.9	-2.3									
1965	41	18.3	0.4	**1965**	25	-12.4	-0.5	**1965**	7	-13.7	-2.0									
1966	46	52.5	1.1	**1966**	14	-2.7	-0.2	**1966**	5	-7.0	-1.4									
1967	51	26.4	0.5	**1967**	26	-16.8	-0.6	**1967**	9	-15.3	-1.7									
1968	35	28.8	0.8	**1968**	16	-6.6	-0.4	**1968**	5	-9.0	-1.8									
1969	47	32.1	0.7	**1969**	24	-4.9	-0.2	**1969**	4	-5.4	-1.4									
1970	48	32.5	0.7	**1970**	26	-8.0	-0.3	**1970**	4	-7.5	-1.9									
1971	31	30.1	1.0	**1971**	14	2.1	0.2	**1971**	1	-1.3	-1.3									
1972	41	25.5	0.6	**1972**	20	-13.2	-0.7	**1972**	8	-15.7	-2.0									
1973	26	18.0	0.7	**1973**	15	-1.8	-0.1	**1973**	3	-4.3	-1.4									
1974	31	29.2	0.9	**1974**	14	0.3	0.0	**1974**	1	-1.6	-1.6									
1975	36	39.1	1.1	**1975**	17	3.0	0.2	**1975**	0	0.0										
1976	54	33.0	0.6	**1976**	31	-5.4	-0.2	**1976**	7	-15.1	-2.2	20 years	36.0	0.9	20 years	17.6	-0.2	20 years	3.7	-1.7
1977	34	27.8	0.8	**1977**	16	-3.9	-0.2	**1977**	3	-4.6	-1.5	19 years	35.1	0.9	19 years	16.9	-0.2	19 years	3.5	-1.7
1978	34	29.9	0.9	**1978**	16	-0.9	-0.1	**1978**	3	-4.7	-1.6	18 years	35.1	0.9	18 years	16.9	-0.2	18 years	3.6	-1.7
1979	30	12.2	0.4	**1979**	17	-12.4	-0.7	**1979**	7	-11.9	-1.7	17 years	35.2	0.9	17 years	17.0	-0.2	17 years	3.6	-1.7
1980	21	24.6	1.2	**1980**	10	3.7	0.4	**1980**	0	0.0		16 years	35.5	0.9	16 years	17.0	-0.1	16 years	3.4	-1.7
1981	19	25.7	1.4	**1981**	6	1.5	0.3	**1981**	1	-1.5	-1.5	15 years	36.5	0.9	15 years	17.5	-0.2	15 years	3.6	-1.7
1982	46	17.0	0.4	**1982**	27	-20.7	-0.8	**1982**	8	-18.0	-2.3	14 years	37.7	0.9	14 years	18.3	-0.2	14 years	3.8	-1.7
1983	44	34.6	0.8	**1983**	22	-8.9	-0.4	**1983**	7	-13.0	-1.9	13 years	37.1	0.9	13 years	17.6	-0.2	13 years	3.5	-1.6
1984	47	33.3	0.7	**1984**	24	-9.2	-0.4	**1984**	6	-12.1	-2.0	12 years	36.5	0.9	12 years	17.3	-0.1	12 years	3.2	-1.6
1985	48	38.4	0.8	**1985**	24	-4.8	-0.2	**1985**	5	-10.9	-2.2	11 years	35.5	1.0	11 years	16.6	-0.1	11 years	2.9	-1.5
1986	40	40.1	1.0	**1986**	19	-1.6	-0.1	**1986**	3	-4.4	-1.5	10 years	34.3	1.0	10 years	15.9	-0.1	10 years	2.7	-1.5
1987	39	30.4	0.8	**1987**	24	3.5	0.1	**1987**	3	-3.9	-1.3	9 years	33.7	1.0	9 years	15.6	-0.1	9 years	2.7	-1.5
1988	17	23.1	1.4	**1988**	6	1.5	0.3	**1988**	0	0.0		8 years	33.0	1.0	8 years	14.5	-0.1	8 years	2.6	-1.5
1989	47	42.7	0.9	**1989**	21	-4.2	-0.2	**1989**	7	-9.6	-1.4	7 years	35.3	0.9	7 years	15.7	-0.2	7 years	3.0	-1.5
1990	26	27.2	1.0	**1990**	9	-0.5	-0.1	**1990**	2	-2.4	-1.2	6 years	33.3	0.9	6 years	14.8	-0.2	6 years	2.3	-1.5
1991	24	29.3	1.2	**1991**	7	-1.2	-0.2	**1991**	0	0.0		5 years	34.8	0.9	5 years	16.0	-0.2	5 years	2.4	-1.6
1992	46	44.1	1.0	**1992**	19	-4.6	-0.2	**1992**	3	-5.6	-1.9	4 years	37.5	0.8	4 years	18.3	-0.2	4 years	3.0	-1.6
1993	30	27.9	0.9	**1993**	16	2.4	0.2	**1993**	0	0.0		3 years	34.7	0.8	3 years	18.0	-0.2	3 years	3.0	-1.5
1994	45	27.4	0.6	**1994**	25	-11.3	-0.5	**1994**	6	-9.6	-1.6	2 years	37.0	0.8	2 years	19.0	-0.4	2 years	4.5	-1.5
1995	29	26.1	0.9	**1995**	13	-4.0	-0.3	**1995**	3	-4.1	-1.4	1 years	29.0	0.9	1 years	13.0	-0.3	1 years	3.0	-1.4
1996	27	35.7	1.3	**1996**	11	2.9	0.3	**1996**	1	-1.2	-1.2	0 years	27.0	1.3	0 years	11.0	0.3	0 years	1.0	-1.2
1997	48	22.7	0.5	**1997**	26	-18.4	-0.7	**1997**	12	-21.9	-1.8	1 years	48.0	0.5	1 years	26.0	-0.7	1 years	12.0	-1.8
1998	36	32.3	0.9	**1998**	19	-0.7	-0.0	**1998**	1	-1.1	-1.1	2 years	42.0	0.7	2 years	22.5	-0.4	2 years	6.5	-1.5
1999	25	15.0	0.6	**1999**	12	-6.2	-0.5	**1999**	3	-6.8	-2.3	3 years	36.3	0.7	3 years	19.0	-0.4	3 years	5.3	-1.7
2000	30	37.5	1.3	**2000**	12	4.7	0.4	**2000**	0	0.0		4 years	34.8	0.8	4 years	17.3	-0.2	4 years	4.0	-1.7
2001	30	30.9	1.0	**2001**	13	1.8	0.1	**2001**	1	-1.2	-1.2	5 years	33.8	0.9	5 years	16.4	-0.1	5 years	3.4	-1.6
2002	45	33.4	0.7	**2002**	26	-2.1	-0.1	**2002**	3	-5.5	-1.8	6 years	35.7	0.8	6 years	18.0	-0.1	6 years	3.3	-1.6
2003	24	22.3	0.9	**2003**	12	-0.1	-0.0	**2003**	1	-1.3	-1.3	7 years	34.0	0.8	7 years	17.1	-0.1	7 years	3.0	-1.6
2004	31	42.1	1.4	**2004**	7	1.4	0.2	**2004**	1	-1.2	-1.2	8 years	33.6	0.9	8 years	15.9	-0.1	8 years	2.8	-1.5
2005	26	24.0	0.9	**2005**	13	-0.1	-0.0	**2005**	1	-1.2	-1.2	9 years	32.8	0.9	9 years	15.6	-0.1	9 years	2.6	-1.5
2006	60	27.9	0.5	**2006**	33	-19.3	-0.6	**2006**	9	-19.9	-2.2	10 years	35.5	0.9	10 years	17.3	-0.1	10 years	3.2	-1.6
2007	35	26.3	0.8	**2007**	17	-7.6	-0.4	**2007**	4	-6.8	-1.7	11 years	35.5	0.9	11 years	17.3	-0.2	11 years	3.3	-1.6
2008	30	24.0	0.8	**2008**	14	-4.4	-0.3	**2008**	4	-6.7	-1.7	12 years	35.0	0.9	12 years	17.0	-0.2	12 years	3.3	-1.6
2009	22	32.6	1.5	**2009**	8	4.2	0.5	**2009**	0	0.0		13 years	34.0	0.9	13 years	16.3	-0.1	13 years	3.1	-1.6
2010	39	21.2	0.5	**2010**	23	-7.4	-0.3	**2010**	5	-8.2	-1.6	14 years	34.4	0.9	14 years	16.8	-0.1	14 years	3.2	-1.6
2011	34	32.9	1.0	**2011**	14	-2.2	-0.2	**2011**	1	-3.2	-3.2	15 years	34.3	0.9	15 years	16.6	-0.1	15 years	3.1	-1.7
2012	39	27.8	0.7	**2012**	19	-8.0	-0.4	**2012**	6	-10.5	-1.8	16 years	34.6	0.9	16 years	16.8	-0.1	16 years	3.3	-1.7
2013	27	35.4	1.3	**2013**	11	4.7	0.4	**2013**	0	0.0		17 years	34.2	0.9	17 years	16.4	-0.1	17 years	3.1	-1.7
2014	29	18.3	0.6	**2014**	15	-10.5	-0.7	**2014**	6	-9.6	-1.6	18 years	33.9	0.9	18 years	16.3	-0.1	18 years	3.2	-1.7
2015	33	20.1	0.6	**2015**	19	-7.0	-0.4	**2015**	4	-8.1	-2.0	19 years	33.8	0.9	19 years	16.5	-0.2	19 years	3.3	-1.7
2016	32	41.4	1.3	**2016**	12	2.5	0.2	**2016**	1	-1.8	-1.8	20 years	33.8	0.9	20 years	16.3	-0.1	20 years	3.2	-1.7
2017	49	37.4	0.8	**2017**	25	-8.5	-0.3	**2017**	4	-8.7	-2.2									
2018	42	18.1	0.4	**2018**	27	-9.4	-0.3	**2018**	8	-13.4	-1.7									
2019	47	29.7	0.6	**2019**	25	-10.9	-0.4	**2019**	9	-14.4	-1.6									
2020	46	28.8	0.6	**2020**	26	-8.8	-0.3	**2020**	6	-13.1	-2.2									
2021	34	44.1	1.3	**2021**	12	2.9	0.2	**2021**	0	0.0										
2022	27	21.7	0.8	**2022**	14	-2.7	-0.2	**2022**	3	-4.8	-1.6									

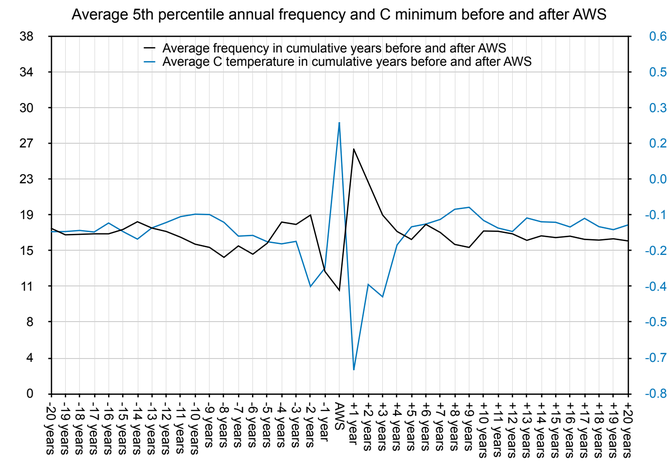
Original AWS probe Rosemount

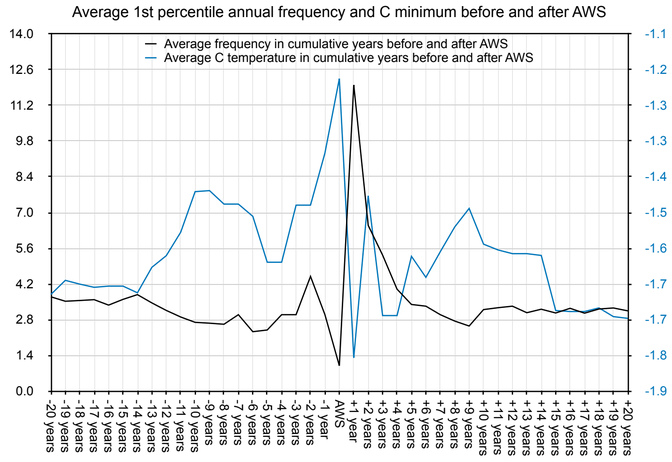
10 years	AWS and small screen both in 1996			**10 years**	AWS and small screen both in 1996			**10 years**	AWS and small screen both in 1996		
Pre AWS	34.3	31.8	1.0	**Pre AWS**	15.9	-2.0	-0.1	**Pre AWS**	2.7	-4.0	-1.5
Post AWS	35.5	28.8	0.9	**Post AWS**	17.3	-3.9	-0.1	**Post AWS**	3.2	-6.0	-1.6
Pre small	34.3	31.8	1.0	**Pre small**	15.9	-2.0	-0.1	**Pre small**	2.7	-4.0	-1.5
Post small	35.5	28.8	0.9	**Post small**	17.3	-3.9	-0.1	**Post small**	3.2	-6.0	-1.6
5 years				**5 years**				**5 years**			
Pre AWS	34.8	31.0	0.9	**Pre AWS**	16.0	-3.7	-0.2	**Pre AWS**	2.4	-3.9	-1.6
Post AWS	33.8	27.7	0.9	**Post AWS**	16.4	-3.8	-0.1	**Post AWS**	3.4	-6.2	-1.6
Pre small	34.8	31.0	0.9	**Pre small**	16.0	-3.7	-0.2	**Pre small**	2.4	-3.9	-1.6
Post small	33.8	27.7	0.9	**Post small**	16.4	-3.8	-0.1	**Post small**	3.4	-6.2	-1.6

AWS introduction

Small screen introduction





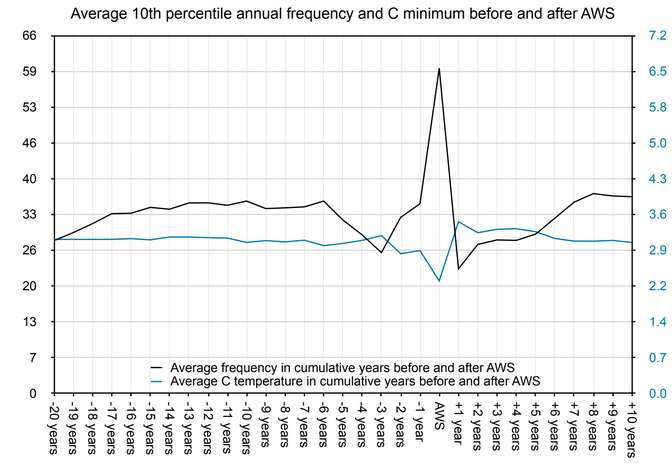


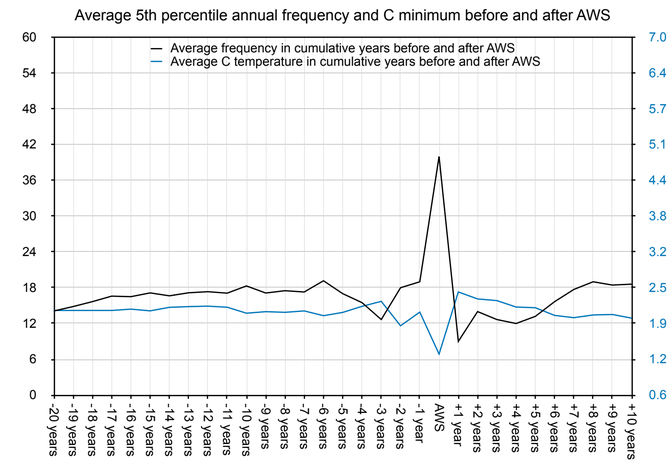
10th 4.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 3.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1941	38	133.2	3.5	**1941**	14	38.5	2.8	**1941**	0	0.0										
1942	28	98.5	3.5	**1942**	9	22.8	2.5	**1942**	0	0.0										
1943	46	139.6	3.0	**1943**	27	61.8	2.3	**1943**	3	0.9	0.3									
1944	57	161.3	2.8	**1944**	32	62.1	1.9	**1944**	6	-1.3	-0.2									
1945	24	73.1	3.0	**1945**	11	18.1	1.6	**1945**	5	2.0	0.4									
1946	50	144.7	2.9	**1946**	27	52.7	2.0	**1946**	5	1.0	0.2									
1947	30	103.5	3.5	**1947**	10	22.7	2.3	**1947**	1	0.0	0.0									
1948	43	103.8	2.4	**1948**	29	46.9	1.6	**1948**	7	0.7	0.1									
1949	51	158.4	3.1	**1949**	23	45.5	2.0	**1949**	4	1.0	0.3									
1950	36	124.2	3.5	**1950**	15	37.0	2.5	**1950**	1	0.5	0.5									
1951	34	105.4	3.1	**1951**	16	30.6	1.9	**1951**	3	1.4	0.5									
1952	37	124.0	3.4	**1952**	15	30.5	2.0	**1952**	4	-0.7	-0.2									
1953	49	143.1	2.9	**1953**	27	53.3	2.0	**1953**	7	0.8	0.1									
1954	38	113.2	3.0	**1954**	22	47.6	2.2	**1954**	4	2.3	0.6									
1955	19	56.0	2.9	**1955**	10	19.1	1.9	**1955**	1	0.7	0.7									
1956	34	95.0	2.8	**1956**	18	32.4	1.8	**1956**	3	0.4	0.1									
1957	27	85.4	3.2	**1957**	15	36.9	2.5	**1957**	0	0.0										
1958	24	52.7	2.2	**1958**	17	25.3	1.5	**1958**	6	-2.0	-0.3									
1959	34	109.7	3.2	**1959**	15	31.8	2.1	**1959**	3	0.9	0.3									
1960	47	124.8	2.7	**1960**	32	63.6	2.0	**1960**	8	2.0	0.3									
1961	44	101.9	2.3	**1961**	29	40.1	1.4	**1961**	11	-0.6	-0.1									
1962	25	77.7	3.1	**1962**	12	23.4	2.0	**1962**	0	0.0										
1963	26	73.6	2.8	**1963**	16	33.4	2.1	**1963**	3	2.0	0.7									
1964	36	108.4	3.0	**1964**	21	47.9	2.3	**1964**	1	-0.4	-0.4									
1965	35	84.1	2.4	**1965**	20	22.4	1.1	**1965**	10	-2.2	-0.2									
1966	41	140.8	3.4	**1966**	18	46.0	2.6	**1966**	0	0.0										
1967	57	158.9	2.8	**1967**	35	70.0	2.0	**1967**	6	2.7	0.5									
1968	28	90.3	3.2	**1968**	12	23.8	2.0	**1968**	3	1.2	0.4									
1969	29	96.4	3.3	**1969**	14	32.3	2.3	**1969**	0	0.0										
1970	44	124.9	2.8	**1970**	23	39.2	1.7	**1970**	5	0.8	0.2									
1971	39	118.3	3.0	**1971**	25	57.0	2.3	**1971**	2	0.5	0.3									
1972	31	104.5	3.4	**1972**	15	38.4	2.6	**1972**	1	0.7	0.7									
1973	8	33.3	4.2	**1973**	1	2.4	2.4	**1973**	0	0.0										
1974	26	75.9	2.9	**1974**	11	14.0	1.3	**1974**	4	1.2	0.3									
1975	26	77.1	3.0	**1975**	15	31.5	2.1	**1975**	3	1.1	0.4									
1976	69	191.2	2.8	**1976**	38	58.1	1.5	**1976**	11	-2.1	-0.2									
1977	50	121.1	2.4	**1977**	33	52.0	1.6	**1977**	8	-0.7	-0.1									
1978	33	119.8	3.6	**1978**	13	34.8	2.7	**1978**	0	0.0										
1979	27	94.2	3.5	**1979**	12	31.7	2.6	**1979**	0	0.0										
1980	31	103.8	3.3	**1980**	15	35.6	2.4	**1980**	0	0.0										
1981	29	95.9	3.3	**1981**	13	29.7	2.3	**1981**	0	0.0										
1982	46	114.8	2.5	**1982**	32	55.8	1.7	**1982**	6	2.5	0.4									
1983	42	96.5	2.3	**1983**	28	39.0	1.4	**1983**	10	2.3	0.2									
1984	41	134.9	3.3	**1984**	15	27.7	1.8	**1984**	4	1.6	0.4									
1985	39	117.4	3.0	**1985**	21	43.9	2.1	**1985**	3	0.2	0.1									
1986	32	102.4	3.2	**1986**	16	34.3	2.1	**1986**	2	1.1	0.6									
1987	40	110.7	2.8	**1987**	26	54.9	2.1	**1987**	1	0.5	0.5									
1988	26	91.7	3.5	**1988**	7	13.0	1.9	**1988**	0	0.0										
1989	40	94.0	2.4	**1989**	25	33.0	1.3	**1989**	8	-2.0	-0.3									
1990	30	90.3	3.0	**1990**	13	21.7	1.7	**1990**	0	0.0										
1991	3	11.6	3.9	**1991**	1	3.1	3.1	**1991**	0	0.0										
1992	0	0.0		**1992**	0	0.0		**1992**	0	0.0		20 years	28.2	3.1	20 years	14.1	2.1	20 years	2.9	0.2
1993	0	0.0		**1993**	0	0.0		**1993**	0	0.0		19 years	29.7	3.1	19 years	14.8	2.1	19 years	3.1	0.2
1994	0	0.0		**1994**	0	0.0		**1994**	0	0.0		18 years	31.3	3.1	18 years	15.7	2.1	18 years	3.2	0.2
1995	32	91.6	2.9	**1995**	18	31.2	1.7	**1995**	6	3.2	0.5	17 years	33.2	3.1	17 years	16.6	2.1	17 years	3.4	0.2
1996	17	59.2	3.5	**1996**	7	18.2	2.6	**1996**	0	0.0		16 years	33.3	3.1	16 years	16.5	2.1	16 years	3.3	0.2
1997	39	89.5	2.3	**1997**	24	29.4	1.2	**1997**	12	4.1	0.3	15 years	34.3	3.1	15 years	17.1	2.1	15 years	3.5	0.2
1998	19	60.0	3.2	**1998**	10	20.0	2.0	**1998**	2	1.5	0.8	14 years	34.0	3.1	14 years	16.6	2.2	14 years	2.9	0.2
1999	35	115.4	3.3	**1999**	15	31.3	2.1	**1999**	2	1.0	0.5	13 years	35.2	3.1	13 years	17.2	2.2	13 years	2.9	0.2
2000	40	128.9	3.2	**2000**	20	48.0	2.4	**2000**	1	0.8	0.8	12 years	35.2	3.1	12 years	17.3	2.2	12 years	3.0	0.1
2001	27	108.3	4.0	**2001**	5	16.2	3.2	**2001**	0	0.0		11 years	34.7	3.1	11 years	17.1	2.2	11 years	3.2	0.0
2002	48	129.9	2.7	**2002**	29	52.7	1.8	**2002**	4	-0.5	-0.1	10 years	35.5	3.0	10 years	18.3	2.1	10 years	3.5	0.0
2003	33	108.5	3.3	**2003**	14	30.6	2.2	**2003**	2	0.4	0.2	9 years	34.1	3.1	9 years	17.1	2.1	9 years	3.4	0.1
2004	33	92.6	2.8	**2004**	19	36.2	1.9	**2004**	4	0.0	0.0	8 years	34.3	3.1	8 years	17.5	2.1	8 years	3.6	0.0
2005	28	104.9	3.7	**2005**	6	15.7	2.6	**2005**	0	0.0		7 years	34.4	3.1	7 years	17.3	2.1	7 years	3.6	0.0
2006	53	146.1	2.8	**2006**	30	51.8	1.7	**2006**	8	1.1	0.1	6 years	35.5	3.0	6 years	19.2	2.0	6 years	4.2	0.0
2007	43	119.2	2.8	**2007**	23	37.8	1.6	**2007**	7	0.2	0.0	5 years	32.0	3.0	5 years	17.0	2.1	5 years	3.4	0.0
2008	39	108.9	2.8	**2008**	24	46.1	1.9	**2008**	4	-1.4	-0.4	4 years	29.3	3.1	4 years	15.5	2.2	4 years	2.5	0.0
2009	13	50.8	3.9	**2009**	2	6.3	3.2	**2009**	0	0.0		3 years	26.0	3.2	3 years	12.7	2.3	3 years	2.0	0.2
2010	30	82.5	2.8	**2010**	17	27.1	1.6	**2010**	4	-0.3	-0.1	2 years	32.5	2.8	2 years	18.0	1.8	2 years	3.0	0.2
2011	35	100.7	2.9	**2011**	19	39.6	2.1	**2011**	2	1.0	0.5	1 years	35.0	2.9	1 years	19.0	2.1	1 years	2.0	0.5
2012	60	136.0	2.3	**2012**	40	53.3	1.3	**2012**	15	1.0	0.1	0 years	60.0	2.3	0 years	40.0	1.3	0 years	15.0	0.1
2013	23	79.5	3.5	**2013**	9	22.0	2.4	**2013**	0	0.0		1 years	23.0	3.5	1 years	9.0	2.4	1 years	0.0	
2014	32	96.5	3.0	**2014**	19	41.7	2.2	**2014**	2	0.2	0.1	2 years	27.5	3.2	2 years	14.0	2.3	2 years	1.0	0.1
2015	30	103.2	3.4	**2015**	10	22.3	2.2	**2015**	2	1.2	0.6	3 years	28.3	3.3	3 years	12.7	2.3	3 years	1.3	0.4
2016	28	93.9	3.4	**2016**	10	18.3	1.8	**2016**	2	0.6	0.3	4 years	28.3	3.3	4 years	12.0	2.2	4 years	1.5	0.3
2017	34	102.5	3.0	**2017**	18	38.0	2.1	**2017**	3	1.8	0.6	5 years	29.4	3.3	5 years	13.2	2.2	5 years	1.8	0.4
2018	47	114.9	2.4	**2018**	28	37.5	1.3	**2018**	9	0.3	0.0	6 years	32.3	3.1	6 years	15.7	2.0	6 years	3.0	0.3
2019	53	145.3	2.7	**2019**	30	52.2	1.7	**2019**	7	1.5	0.2	7 years	35.3	3.1	7 years	17.7	2.0	7 years	3.6	0.3
2020	48	146.8	3.1	**2020**	28	66.5	2.4	**2020**	2	0.9	0.5	8 years	36.9	3.1	8 years	19.0	2.0	8 years	3.4	0.3
2021	33	105.7	3.2	**2021**	14	29.5	2.1	**2021**	3	1.3	0.4	9 years	36.4	3.1	9 years	18.4	2.0	9 years	3.3	0.3
2022	35	93.2	2.7	**2022**	20	27.7	1.4	**2022**	6	-2.5	-0.4	10 years	36.3	3.0	10 years	18.6	2.0	10 years	3.6	0.3

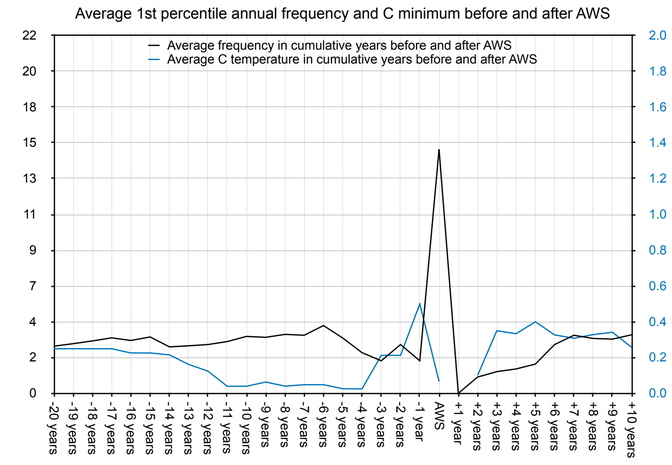
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	35.5	101.4	3.0	**Pre**	19.2	34.8	2.0	**Pre**	4.2	0.1	0.0
Post	32.3	98.4	3.1	**Post**	15.7	30.0	2.0	**Post**	3.0	0.7	0.3

		AWS introduction
		Probe replacement
		Small screen introduction







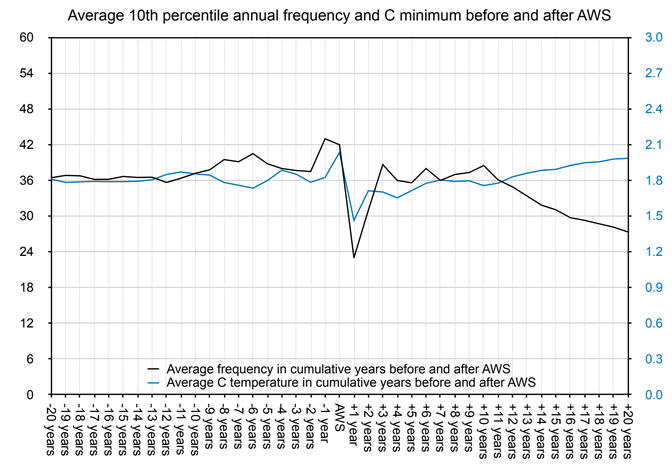
10th 3.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.9	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1939	44	73.9	1.7	**1939**	24	19.8	0.8	**1939**	6	-3.7	-0.6									
1940	53	92.4	1.7	**1940**	26	17.5	0.7	**1940**	8	-3.6	-0.5									
1941	44	73.7	1.7	**1941**	24	21.6	0.9	**1941**	3	-2.6	-0.9									
1942	60	94.1	1.6	**1942**	30	13.3	0.4	**1942**	10	-8.5	-0.9									
1943	71	96.7	1.4	**1943**	42	17.6	0.4	**1943**	16	-13.1	-0.8									
1944	59	61.1	1.0	**1944**	36	-3.2	-0.1	**1944**	18	-19.5	-1.1									
1945	57	93.3	1.6	**1945**	28	14.7	0.5	**1945**	10	-6.0	-0.6									
1946	47	94.1	2.0	**1946**	19	16.7	0.9	**1946**	3	-1.3	-0.4									
1947	45	70.3	1.6	**1947**	25	14.2	0.6	**1947**	6	-5.6	-0.9									
1948	62	94.8	1.5	**1948**	32	11.7	0.4	**1948**	12	-8.9	-0.7									
1949	50	89.4	1.8	**1949**	26	24.2	0.9	**1949**	5	-3.3	-0.7									
1950	28	53.8	1.9	**1950**	14	16.6	1.2	**1950**	1	0.0	0.0									
1951	36	79.4	2.2	**1951**	11	11.6	1.1	**1951**	2	-0.4	-0.2									
1952	35	67.8	1.9	**1952**	18	19.9	1.1	**1952**	1	-0.4	-0.4									
1953	45	82.4	1.8	**1953**	23	21.2	0.9	**1953**	4	-1.3	-0.3									
1954	63	94.6	1.5	**1954**	33	13.6	0.4	**1954**	12	-12.0	-1.0									
1955	54	75.2	1.4	**1955**	32	17.3	0.5	**1955**	10	-6.7	-0.7									
1956	45	90.5	2.0	**1956**	15	11.5	0.8	**1956**	4	-2.1	-0.5									
1957	48	71.8	1.5	**1957**	27	16.7	0.6	**1957**	6	-9.0	-1.5									
1958	50	97.5	2.0	**1958**	18	13.2	0.7	**1958**	6	-3.2	-0.5									
1959	46	84.4	1.8	**1959**	22	16.6	0.8	**1959**	7	-3.1	-0.4									
1960	46	99.6	2.2	**1960**	16	16.8	1.1	**1960**	3	-0.7	-0.2									
1961	36	73.7	2.0	**1961**	15	17.7	1.2	**1961**	3	-0.9	-0.3									
1962	46	78.3	1.7	**1962**	26	21.6	0.8	**1962**	5	-1.1	-0.2									
1963	54	107.6	2.0	**1963**	24	23.6	1.0	**1963**	5	-0.6	-0.1									
1964	42	82.3	2.0	**1964**	18	15.8	0.9	**1964**	4	-0.6	-0.2									
1965	44	78.0	1.8	**1965**	21	11.0	0.5	**1965**	8	-4.8	-0.6									
1966	43	82.1	1.9	**1966**	24	25.5	1.1	**1966**	5	-3.0	-0.6									
1967	34	55.4	1.6	**1967**	19	15.1	0.8	**1967**	3	-0.5	-0.2									
1968	27	58.0	2.1	**1968**	11	13.9	1.3	**1968**	0	0.0										
1969	37	66.9	1.8	**1969**	17	11.2	0.7	**1969**	5	-5.2	-1.0									
1970	33	60.9	1.8	**1970**	17	18.0	1.1	**1970**	1	-1.1	-1.1									
1971	49	90.9	1.9	**1971**	23	19.4	0.8	**1971**	6	-2.6	-0.4									
1972	40	73.9	1.8	**1972**	19	17.9	0.9	**1972**	3	-1.9	-0.6									
1973	39	58.4	1.5	**1973**	26	24.6	0.9	**1973**	2	-0.6	-0.3									
1974	24	54.9	2.3	**1974**	8	10.4	1.3	**1974**	0	0.0										
1975	31	53.5	1.7	**1975**	15	11.2	0.7	**1975**	2	-1.0	-0.5									
1976	36	75.9	2.1	**1976**	14	14.2	1.0	**1976**	2	-2.5	-1.3									
1977	34	51.9	1.5	**1977**	17	9.5	0.6	**1977**	6	-4.0	-0.7									
1978	28	60.5	2.2	**1978**	9	7.2	0.8	**1978**	1	0.0	0.0									
1979	38	73.4	1.9	**1979**	15	12.1	0.8	**1979**	2	-1.0	-0.5									
1980	29	67.3	2.3	**1980**	7	9.3	1.3	**1980**	0	0.0		20 years	36.5	1.8	20 years	17.2	0.8	20 years	3.6	-0.9
1981	38	65.0	1.7	**1981**	23	22.5	1.0	**1981**	1	-1.0	-1.0	19 years	36.8	1.8	19 years	17.7	0.8	19 years	3.7	-0.9
1982	47	80.6	1.7	**1982**	22	15.2	0.7	**1982**	6	-5.4	-0.9	18 years	36.8	1.8	18 years	17.4	0.8	18 years	3.9	-0.9
1983	36	65.8	1.8	**1983**	13	5.8	0.4	**1983**	4	-4.0	-1.0	17 years	36.2	1.8	17 years	17.2	0.8	17 years	3.8	-0.9
1984	29	51.8	1.8	**1984**	13	9.9	0.8	**1984**	3	-3.8	-1.3	16 years	36.2	1.8	16 years	17.4	0.8	16 years	3.8	-0.8
1985	39	68.0	1.7	**1985**	18	10.3	0.6	**1985**	3	-4.6	-1.5	15 years	36.7	1.8	15 years	17.7	0.8	15 years	3.8	-0.8
1986	36	58.9	1.6	**1986**	19	11.6	0.6	**1986**	4	-2.0	-0.5	14 years	36.5	1.8	14 years	17.7	0.8	14 years	3.9	-0.8
1987	47	59.8	1.3	**1987**	29	12.0	0.4	**1987**	10	-5.8	-0.6	13 years	36.5	1.8	13 years	17.6	0.8	13 years	3.8	-0.8
1988	28	45.3	1.6	**1988**	19	21.2	1.1	**1988**	2	-0.4	-0.2	12 years	35.7	1.8	12 years	16.7	0.9	12 years	3.3	-0.8
1989	28	56.8	2.0	**1989**	12	13.4	1.1	**1989**	2	-0.7	-0.4	11 years	36.4	1.9	11 years	16.5	0.8	11 years	3.5	-0.9
1990	32	62.4	2.0	**1990**	13	14.8	1.1	**1990**	2	-0.6	-0.3	10 years	37.2	1.9	10 years	16.9	0.8	10 years	3.6	-0.9
1991	24	56.1	2.3	**1991**	7	7.7	1.1	**1991**	1	-1.2	-1.2	9 years	37.8	1.8	9 years	17.3	0.8	9 years	3.8	-1.0
1992	42	81.8	1.9	**1992**	17	11.8	0.7	**1992**	4	-4.8	-1.2	8 years	39.5	1.8	8 years	18.6	0.7	8 years	4.1	-0.9
1993	31	59.1	1.9	**1993**	15	16.4	1.1	**1993**	1	-1.3	-1.3	7 years	39.1	1.8	7 years	18.9	0.7	7 years	4.1	-0.9
1994	49	69.3	1.4	**1994**	25	5.1	0.2	**1994**	11	-12.8	-1.2	6 years	40.5	1.7	6 years	19.5	0.7	6 years	4.7	-0.8
1995	42	61.0	1.5	**1995**	25	14.2	0.6	**1995**	7	-4.2	-0.6	5 years	38.8	1.8	5 years	18.4	0.8	5 years	3.4	-0.8
1996	39	77.5	2.0	**1996**	17	16.8	1.0	**1996**	2	0.0	0.0	4 years	38.0	1.9	4 years	16.8	0.8	4 years	2.5	-0.8
1997	38	75.5	2.0	**1997**	15	10.5	0.7	**1997**	3	-3.6	-1.2	3 years	37.7	1.9	3 years	16.7	0.7	3 years	2.7	-1.1
1998	32	55.8	1.7	**1998**	15	10.6	0.7	**1998**	2	-2.0	-1.0	2 years	37.5	1.8	2 years	17.5	0.8	2 years	2.5	-1.1
1999	43	78.5	1.8	**1999**	20	16.1	0.8	**1999**	3	-3.4	-1.1	1 years	43.0	1.8	1 years	20.0	0.8	1 years	3.0	-1.1
2000	42	85.5	2.0	**2000**	20	25.9	1.3	**2000**	1	0.0	0.0	0 years	42.0	2.0	0 years	20.0	1.3	0 years	1.0	0.0
2001	23	33.7	1.5	**2001**	14	10.1	0.7	**2001**	3	-4.3	-1.4	1 years	23.0	1.5	1 years	14.0	0.7	1 years	3.0	-1.4
2002	39	76.5	2.0	**2002**	14	7.9	0.6	**2002**	2	-2.2	-1.1	2 years	31.0	1.7	2 years	14.0	0.6	2 years	2.5	-1.3
2003	54	90.8	1.7	**2003**	28	20.9	0.7	**2003**	3	-2.1	-0.7	3 years	38.7	1.7	3 years	18.7	0.7	3 years	2.7	-1.1
2004	28	42.2	1.5	**2004**	17	12.4	0.7	**2004**	2	-1.1	-0.6	4 years	36.0	1.7	4 years	18.3	0.7	4 years	2.5	-0.9
2005	34	66.6	2.0	**2005**	19	28.3	1.5	**2005**	0	0.0		5 years	35.6	1.7	5 years	18.4	0.9	5 years	2.0	-0.9
2006	50	104.0	2.1	**2006**	19	20.7	1.1	**2006**	3	-0.9	-0.3	6 years	38.0	1.8	6 years	18.5	0.9	6 years	2.2	-0.8
2007	24	47.3	2.0	**2007**	11	10.1	0.9	**2007**	2	-0.8	-0.4	7 years	36.0	1.8	7 years	17.4	0.9	7 years	2.1	-0.7
2008	44	75.3	1.7	**2008**	24	21.3	0.9	**2008**	4	-3.1	-0.8	8 years	37.0	1.8	8 years	18.3	0.9	8 years	2.4	-0.8
2009	40	73.2	1.8	**2009**	21	21.5	1.0	**2009**	2	-1.4	-0.7	9 years	37.3	1.8	9 years	18.6	0.9	9 years	2.3	-0.7
2010	49	68.6	1.4	**2010**	33	24.9	0.8	**2010**	7	-2.3	-0.3	10 years	38.5	1.8	10 years	20.0	0.9	10 years	2.8	-0.7
2011	12	23.8	2.0	**2011**	5	4.1	0.8	**2011**	1	-0.5	-0.5	11 years	36.1	1.8	11 years	18.6	0.9	11 years	2.6	-0.7
2012	22	53.2	2.4	**2012**	7	9.1	1.3	**2012**	0	0.0		12 years	34.9	1.8	12 years	17.7	0.9	12 years	2.4	-0.7
2013	15	33.3	2.2	**2013**	5	6.4	1.3	**2013**	0	0.0		13 years	33.4	1.9	13 years	16.7	0.9	13 years	2.2	-0.7
2014	12	26.3	2.2	**2014**	5	6.6	1.3	**2014**	0	0.0		14 years	31.9	1.9	14 years	15.9	1.0	14 years	2.1	-0.7
2015	20	40.4	2.0	**2015**	10	13.6	1.4	**2015**	0	0.0		15 years	31.1	1.9	15 years	15.5	1.0	15 years	1.9	-0.7
2016	10	24.1	2.4	**2016**	3	4.7	1.6	**2016**	0	0.0		16 years	29.8	1.9	16 years	14.7	1.0	16 years	1.8	-0.7
2017	22	51.0	2.3	**2017**	8	11.2	1.4	**2017**	0	0.0		17 years	29.3	1.9	17 years	14.3	1.1	17 years	1.7	-0.7
2018	19	39.5	2.1	**2018**	7	7.5	1.1	**2018**	0	0.0		18 years	28.7	2.0	18 years	13.9	1.1	18 years	1.6	-0.7
2019	18	43.4	2.4	**2019**	5	7.3	1.5	**2019**	0	0.0		19 years	28.2	2.0	19 years	13.4	1.1	19 years	1.5	-0.7
2020	12	25.2	2.1	**2020**	4	4.0	1.0	**2020**	1	-0.2	-0.2	20 years	27.4	2.0	20 years	13.0	1.1	20 years	1.5	-0.6
2021	13	33.3	2.6	**2021**	2	2.7	1.4	**2021**	0	0.0										
2022	15	33.1	2.2	**2022**	8	12.0	1.5	**2022**	0	0.0										

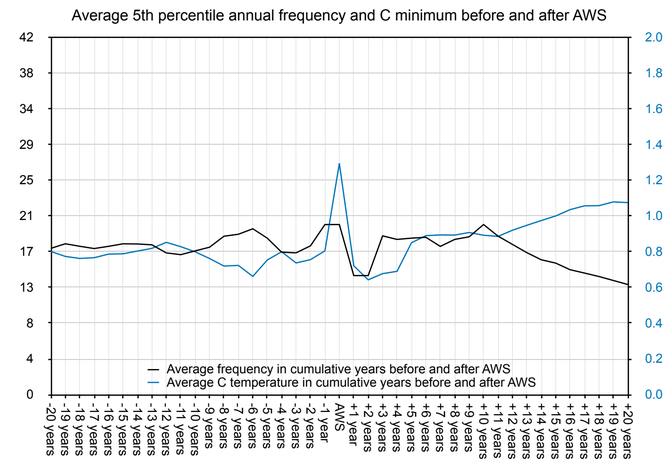
Original AWS probe Rosemount

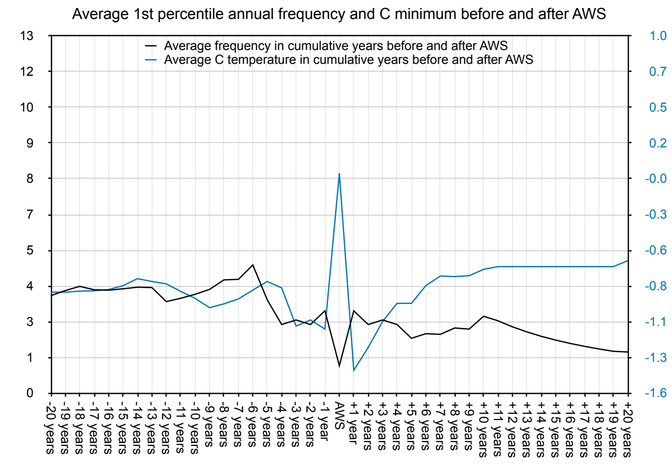
10 years				**10 years**				**10 years**			
Pre AWS	37.2	67.7	1.9	**Pre AWS**	16.9	12.4	0.8	**Pre AWS**	3.6	-3.4	-0.9
Post AWS	38.5	67.8	1.8	**Post AWS**	20.0	17.8	0.9	**Post AWS**	2.8	-1.8	-0.7
Pre small	40.9	76.0	1.9	**Pre small**	20.0	17.5	0.9	**Pre small**	4.2	-2.0	-0.5
Post small	34.4	64.1	1.9	**Post small**	15.6	13.6	0.9	**Post small**	2.2	-1.6	-0.6
5 years				**5 years**				**5 years**			
Pre AWS	38.8	69.7	1.8	**Pre AWS**	18.4	13.6	0.8	**Pre AWS**	3.4	-2.6	-0.8
Post AWS	35.6	62.0	1.7	**Post AWS**	18.4	15.9	0.9	**Post AWS**	2.0	-1.9	-0.9
Pre small	36.0	66.4	1.9	**Pre small**	17.4	15.5	0.9	**Pre small**	3.0	-1.9	-0.7
Post small	32.8	58.9	1.8	**Post small**	16.0	14.0	0.9	**Post small**	2.4	-1.6	-0.7

AWS introduction

Small screen introduction







10th 13.5	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 12.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 8.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	17	186.2	11.0	**1910**	12	122.3	10.2	**1910**	2	15.8	7.9									
1911	68	785.4	11.6	**1911**	27	262.8	9.7	**1911**	9	71.1	7.9									
1912	44	499.2	11.3	**1912**	30	320.2	10.7	**1912**	5	41.6	8.3									
1913	76	759.5	10.0	**1913**	52	450.0	8.7	**1913**	23	135.5	5.9									
1914	53	632.5	11.9	**1914**	30	334.5	11.2	**1914**	1	8.2	8.2									
1915	19	222.3	11.7	**1915**	11	118.9	10.8	**1915**	1	8.2	8.2									
1916	12	145.0	12.1	**1916**	5	56.1	11.2	**1916**	1	7.7	7.7									
1917	27	322.9	12.0	**1917**	10	100.7	10.1	**1917**	2	13.0	6.5									
1918	15	178.9	11.9	**1918**	7	74.7	10.7	**1918**	1	8.3	8.3									
1919	26	321.5	12.4	**1919**	9	101.2	11.2	**1919**	0	0.0										
1920	2	25.9	13.0	**1920**	0	0.0		**1920**	0	0.0										
1921	29	323.0	11.1	**1921**	16	158.6	9.9	**1921**	5	34.8	7.0									
1922	44	476.2	10.8	**1922**	26	245.7	9.5	**1922**	9	67.7	7.5									
1923	55	606.6	11.0	**1923**	35	346.2	9.9	**1923**	10	74.9	7.5									
1924	29	350.2	12.1	**1924**	14	156.5	11.2	**1924**	0	0.0										
1925	54	604.1	11.2	**1925**	33	335.0	10.2	**1925**	10	73.6	7.4									
1926	28	311.4	11.1	**1926**	16	154.0	9.6	**1926**	5	39.5	7.9									
1927	27	312.1	11.6	**1927**	19	209.1	11.0	**1927**	1	8.9	8.9									
1928	47	525.9	11.2	**1928**	24	228.5	9.5	**1928**	8	56.2	7.0									
1929	68	781.6	11.5	**1929**	35	352.2	10.1	**1929**	11	90.3	8.2									
1930	38	423.4	11.1	**1930**	27	283.0	10.5	**1930**	2	16.0	8.0									
1931	41	483.4	11.8	**1931**	22	232.4	10.6	**1931**	3	20.8	6.9									
1932	65	714.3	11.0	**1932**	39	376.7	9.7	**1932**	12	84.3	7.0									
1933	11	121.0	11.0	**1933**	6	56.2	9.4	**1933**	3	25.0	8.3									
1934	27	315.7	11.7	**1934**	12	125.2	10.4	**1934**	2	15.6	7.8									
1935	0	0.0		**1935**	0	0.0		**1935**	0	0.0										
1936	0	0.0		**1936**	0	0.0		**1936**	0	0.0										
1937	0	0.0		**1937**	0	0.0		**1937**	0	0.0										
1938	0	0.0		**1938**	0	0.0		**1938**	0	0.0										
1939	63	699.1	11.1	**1939**	36	350.8	9.7	**1939**	10	66.7	6.7									
1940	56	672.5	12.0	**1940**	22	235.9	10.7	**1940**	3	25.0	8.3									
1941	66	743.5	11.3	**1941**	35	347.8	9.9	**1941**	9	71.6	8.0									
1942	19	221.4	11.7	**1942**	9	96.6	10.7	**1942**	0	0.0										
1943	34	383.3	11.3	**1943**	20	200.9	10.0	**1943**	5	36.8	7.4									
1944	68	811.3	11.9	**1944**	33	362.2	11.0	**1944**	1	8.3	8.3									
1945	63	729.6	11.6	**1945**	28	283.6	10.1	**1945**	6	41.5	6.9									
1946	55	567.5	10.3	**1946**	40	378.0	9.5	**1946**	12	85.3	7.1									
1947	28	346.0	12.4	**1947**	6	64.6	10.8	**1947**	0	0.0										
1948	52	611.8	11.8	**1948**	23	241.7	10.5	**1948**	4	29.4	7.4									
1949	53	587.5	11.1	**1949**	31	304.7	9.8	**1949**	8	57.3	7.2									
1950	27	305.7	11.3	**1950**	14	138.3	9.9	**1950**	4	32.1	8.0									
1951	41	484.6	11.8	**1951**	22	241.0	11.0	**1951**	1	7.8	7.8									
1952	22	247.8	11.3	**1952**	12	118.0	9.8	**1952**	4	31.2	7.8									
1953	60	709.3	11.8	**1953**	20	196.8	9.8	**1953**	6	47.0	7.8									
1954	29	337.9	11.7	**1954**	10	92.7	9.3	**1954**	4	28.3	7.1									
1955	12	143.2	11.9	**1955**	6	65.1	10.9	**1955**	0	0.0										
1956	21	237.2	11.3	**1956**	12	122.8	10.2	**1956**	2	15.6	7.8									
1957	31	373.9	12.1	**1957**	8	75.9	9.5	**1957**	2	15.0	7.5									
1958	16	180.9	11.3	**1958**	8	77.0	9.6	**1958**	4	30.8	7.7									
1959	45	503.4	11.2	**1959**	28	283.1	10.1	**1959**	7	54.5	7.8									
1960	45	518.5	11.5	**1960**	21	207.6	9.9	**1960**	6	42.8	7.1									
1961	49	576.0	11.8	**1961**	22	230.3	10.5	**1961**	4	28.8	7.2									
1962	27	319.3	11.8	**1962**	11	114.5	10.4	**1962**	1	6.1	6.1									
1963	50	543.8	10.9	**1963**	30	288.6	9.6	**1963**	10	72.9	7.3									
1964	22	252.8	11.5	**1964**	11	113.0	10.3	**1964**	3	25.5	8.5									
1965	57	635.9	11.2	**1965**	31	298.2	9.6	**1965**	8	49.1	6.1									
1966	19	226.8	11.9	**1966**	8	85.7	10.7	**1966**	1	8.9	8.9									
1967	29	344.4	11.9	**1967**	13	138.6	10.7	**1967**	0	0.0										
1968	27	323.1	12.0	**1968**	10	102.6	10.3	**1968**	2	14.5	7.3									
1969	22	268.3	12.2	**1969**	7	76.2	10.9	**1969**	0	0.0										
1970	27	327.8	12.1	**1970**	11	121.4	11.0	**1970**	0	0.0										
1971	25	292.5	11.7	**1971**	8	76.1	9.5	**1971**	3	23.9	8.0									
1972	33	411.4	12.5	**1972**	8	89.6	11.2	**1972**	0	0.0										
1973	8	96.0	12.0	**1973**	4	43.0	10.8	**1973**	0	0.0										
1974	47	507.0	10.8	**1974**	33	327.0	9.9	**1974**	7	53.5	7.6									
1975	20	238.0	11.9	**1975**	8	80.5	10.1	**1975**	2	13.5	6.8									
1976	55	627.0	11.4	**1976**	31	315.0	10.2	**1976**	6	48.0	8.0									
1977	16	193.0	12.1	**1977**	7	75.5	10.8	**1977**	0	0.0										
1978	39	466.5	12.0	**1978**	16	165.5	10.3	**1978**	4	33.0	8.3									
1979	33	413.5	12.5	**1979**	10	115.5	11.6	**1979**	0	0.0										
1980	35	433.0	12.4	**1980**	11	120.5	11.0	**1980**	1	8.5	8.5									
1981	19	237.0	12.5	**1981**	5	55.0	11.0	**1981**	0	0.0		20 years	22.9	12.0	20 years	9.9	10.6	20 years	1.3	7.3
1982	71	839.5	11.8	**1982**	35	369.5	10.6	**1982**	4	29.5	7.4	19 years	23.1	12.0	19 years	10.2	10.6	19 years	1.3	7.3
1983	20	233.5	11.7	**1983**	9	89.0	9.9	**1983**	2	13.5	6.8	18 years	20.4	12.0	18 years	8.8	10.6	18 years	1.2	7.3
1984	29	310.5	10.7	**1984**	14	115.5	8.3	**1984**	8	49.5	6.2	17 years	20.5	12.0	17 years	8.8	10.6	17 years	1.1	7.4
1985	44	522.0	11.9	**1985**	21	220.5	10.5	**1985**	2	17.0	8.5	16 years	19.9	12.1	16 years	8.4	10.8	16 years	0.7	7.6
1986	10	113.7	11.4	**1986**	6	62.5	10.4	**1986**	1	7.5	7.5	15 years	18.3	12.1	15 years	7.6	10.8	15 years	0.6	7.5
1987	20	258.5	12.9	**1987**	3	34.0	11.3	**1987**	0	0.0		14 years	18.9	12.2	14 years	7.7	10.9	14 years	0.6	7.4
1988	14	166.5	11.9	**1988**	4	36.5	9.1	**1988**	2	15.5	7.8	13 years	18.8	12.1	13 years	8.1	10.8	13 years	0.6	7.4
1989	17	204.0	12.0	**1989**	10	112.0	11.2	**1989**	0	0.0		12 years	19.3	12.1	12 years	8.4	11.0	12 years	0.5	7.3
1990	32	373.0	11.7	**1990**	16	164.0	10.3	**1990**	2	12.0	6.0	11 years	19.5	12.1	11 years	8.3	11.0	11 years	0.5	7.3
1991	34	426.7	12.6	**1991**	10	108.0	10.8	**1991**	0	0.0		10 years	18.2	12.2	10 years	7.5	11.1	10 years	0.4	8.0
1992	26	311.5	12.0	**1992**	13	144.5	11.1	**1992**	0	0.0		9 years	16.4	12.1	9 years	7.2	11.1	9 years	0.4	8.0
1993	15	192.0	12.8	**1993**	3	35.0	11.7	**1993**	0	0.0		8 years	15.3	12.2	8 years	6.5	11.1	8 years	0.5	8.0
1994	33	407.0	12.3	**1994**	13	143.0	11.0	**1994**	0	0.0		7 years	15.3	12.0	7 years	7.0	11.0	7 years	0.6	8.0
1995	19	232.0	12.2	**1995**	9	101.0	11.2	**1995**	0	0.0		6 years	12.3	12.0	6 years	6.0	11.0	6 years	0.7	8.0
1996	35	415.0	11.9	**1996**	16	167.0	10.4	**1996**	3	24.0	8.0	5 years	11.0	11.9	5 years	5.4	10.9	5 years	0.8	8.0
1997	14	164.5	11.8	**1997**	7	75.5	10.8	**1997**	1	8.0	8.0	4 years	5.0		4 years	2.8		4 years	0.3	8.0
1998	0	0.0		**1998**	0	0.0		**1998**	0	0.0		3 years	2.0		3 years	1.3		3 years	0.0	
1999	6	72.5	12.1	**1999**	4	45.5	11.4	**1999**	0	0.0		2 years	3.0		2 years	2.0		2 years	0.0	
2000	0	0.0		**2000**	0	0.0		**2000**	0	0.0		1 years	0.0		1 years	0.0		1 years	0.0	
2001	17	191.0	11.2	**2001**	12	126.0	10.5	**2001**	1	6.0	6.0	0 years	17.0	11.2	0 years	12.0	10.5	0 years	1.0	6.0
2002	47	524.0	11.1	**2002**	33	342.0	10.4	**2002**	2	11.0	5.5	1 years	47.0	11.1	1 years	33.0	10.4	1 years	2.0	5.5
2003	25	293.6	11.7	**2003**	13	138.0	10.6	**2003**	1	7.9	7.9	2 years	36.0	11.4	2 years	23.0	10.5	2 years	1.5	6.7
2004	52	588.0	11.3	**2004**	31	315.0	10.2	**2004**	6	46.0	7.7	3 years	41.3	11.4	3 years	25.7	10.4	3 years	3.0	7.0
2005	28	337.1	12.0	**2005**	13	142.5	11.0	**2005**	2	16.0	8.0	4 years	38.0	11.6	4 years	22.5	10.5	4 years	2.8	7.3
2006	52	612.9	11.8	**2006**	27	288.6	10.7	**2006**	2	16.4	8.2	5 years	40.8	11.6	5 years	23.4	10.6	5 years	2.6	7.5
2007	42	447.2	10.6	**2007**	26	245.2	9.4	**2007**	10	72.4	7.2	6 years	41.0	11.4	6 years	23.8	10.4	6 years	3.8	7.4
2008	45	529.5	11.8	**2008**	24	258.1	10.8	**2008**	3	22.8	7.6	7 years	41.6	11.5	7 years	23.9	10.4	7 years	3.7	7.4
2009	39	453.1	11.6	**2009**	18	184.5	10.3	**2009**	4	27.6	6.9	8 years	41.3	11.5	8 years	23.1	10.4	8 years	3.8	7.4
2010	2	26.2	13.1	**2010**	0	0.0		**2010**	0	0.0		9 years	36.9	11.7	9 years	20.6	10.4	9 years	3.3	7.4
2011	87	943.3	10.8	**2011**	61	609.2	10.0	**2011**	15	116.6	7.8	10 years	41.9	11.6	10 years	24.6	10.4	10 years	4.5	7.4
2012	50	593.6	11.9	**2012**	19	195.1	10.3	**2012**	3	23.7	7.9	11 years	42.6	11.6	11 years	24.1	10.3	11 years	4.4	7.5
2013	34	409.7	12.1	**2013**	15	164.1	10.9	**2013**	2	17.6	8.8	12 years	41.9	11.7	12 years	23.3	10.4	12 years	4.2	7.6
2014	43	505.4	11.8	**2014**	22	236.4	10.7	**2014**	1	8.5	8.5	13 years	42.0	11.7	13 years	23.2	10.4	13 years	3.9	7.7
2015	35	405.2	11.6	**2015**	20	212.1	10.6	**2015**	4	33.7	8.4	14 years	41.5	11.7	14 years	23.0	10.4	14 years	3.9	7.7
2016	13	155.6	12.0	**2016**	6	65.4	10.9	**2016**	0	0.0		15 years	39.6	11.7	15 years	21.9	10.5	15 years	3.7	7.7
2017	33	415.2	12.6	**2017**	8	89.6	11.2	**2017**	1	8.5	8.5	16 years	39.2	11.7	16 years	21.0	10.5	16 years	3.5	7.8
2018	55	659.8	12.0	**2018**	23	245.9	10.7	**2018**	4	32.6	8.2	17 years	40.1	11.8	17 years	21.1	10.5	17 years	3.5	7.8
2019	72	770.4	10.7	**2019**	50	489.0	9.8	**2019**	16	121.6	7.6	18 years	41.9	11.7	18 years	22.7	10.5	18 years	4.2	7.8
2020	33	390.1	11.8	**2020**	14	147.0	10.5	**2020**	4	33.3	8.3	19 years	41.4	11.7	19 years	22.3	10.5	19 years	4.2	7.8
2021	13	165.2	12.7	**2021**	3	35.1	11.7	**2021**	0	0.0		20 years	40.0	11.8	20 years	21.3	10.6	20 years	4.0	7.8
2022	22	245.5	11.2	**2022**	14	142.0	10.1	**2022**	2	12.3	6.2									

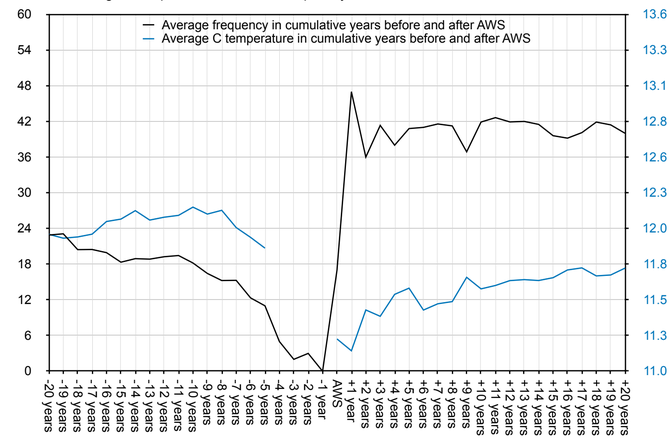
Original AWS probe Almos

10 years				**10 years**				**10 years**			
Pre AWS	24.5	298.6	12.2	**Pre AWS**	9.7	104.5	10.8	**Pre AWS**	0.7	5.2	7.3
Post AWS	41.9	475.5	11.6	**Post AWS**	24.6	252.3	10.4	**Post AWS**	4.5	33.7	7.4
Pre small	24.1	287.8	12.0	**Pre small**	10.0	103.3	10.5	**Pre small**	1.5	10.2	7.2
Post small	36.2	417.0	11.6	**Post small**	20.4	212.3	10.5	**Post small**	3.0	22.3	7.3
5 years				**5 years**				**5 years**			
Pre AWS	25.6	311.5	12.2	**Pre AWS**	10.8	118.1	11.1	**Pre AWS**	0.6	4.8	8.0
Post AWS	40.8	471.1	11.6	**Post AWS**	23.4	245.2	10.6	**Post AWS**	2.6	19.5	7.5
Pre small	24.8	301.4	12.2	**Pre small**	10.4	112.7	11.0	**Pre small**	0.4	2.4	6.0
Post small	28.6	331.1	11.6	**Post small**	16.6	174.8	10.6	**Post small**	1.4	9.8	6.9

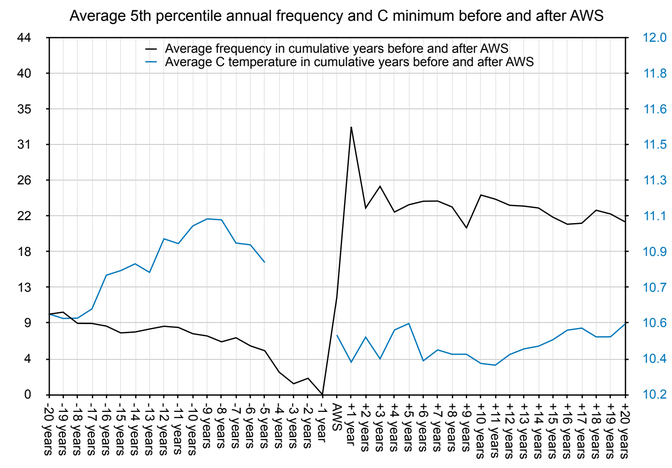
AWS introduction

Small screen introduction

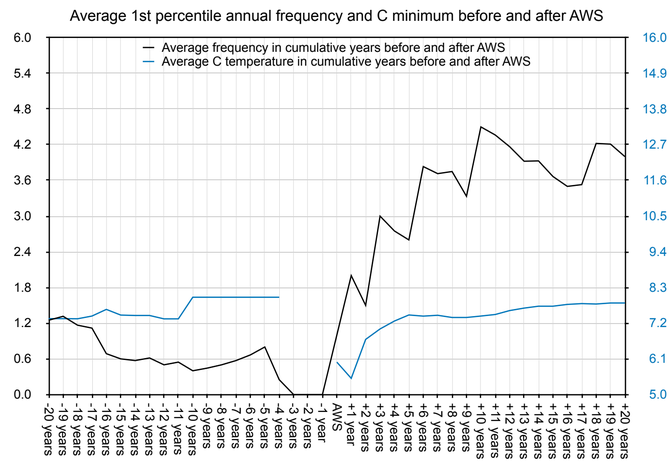
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



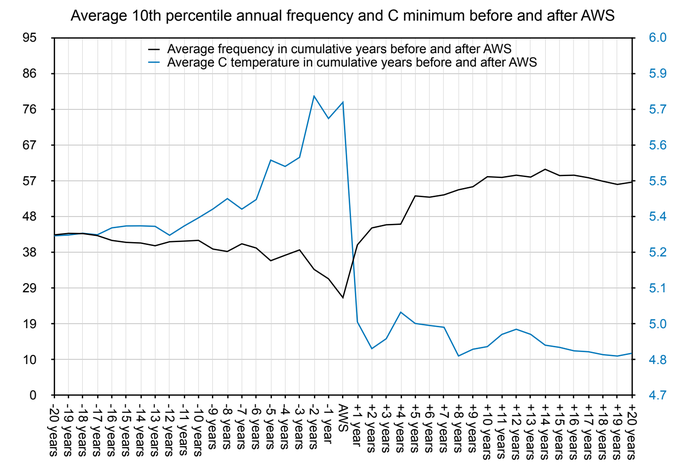
Average 1st percentile annual frequency and C minimum before and after AWS

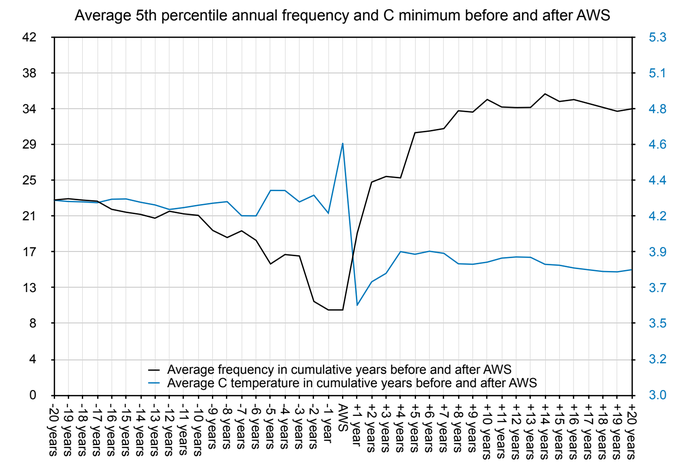


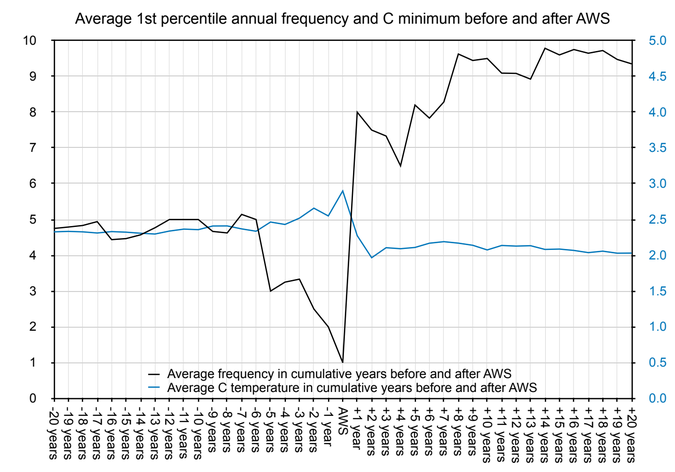
10th 7.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	20	125.8	6.3	**1910**	5	26.7	5.3	**1910**	0	0.0										
1911	40	214.1	5.4	**1911**	20	88.5	4.4	**1911**	2	5.2	2.6									
1912	23	135.3	5.9	**1912**	7	31.8	4.5	**1912**	1	2.8	2.8									
1913	29	158.7	5.5	**1913**	13	57.3	4.4	**1913**	2	5.6	2.8									
1914	34	174.2	5.1	**1914**	20	84.3	4.2	**1914**	3	6.6	2.2									
1915	13	75.3	5.8	**1915**	5	23.6	4.7	**1915**	0	0.0										
1916	36	186.1	5.2	**1916**	20	81.7	4.1	**1916**	4	8.5	2.1									
1917	34	180.6	5.3	**1917**	21	97.2	4.6	**1917**	2	4.6	2.3									
1918	19	110.0	5.8	**1918**	6	27.0	4.5	**1918**	0	0.0										
1919	36	207.2	5.8	**1919**	14	65.9	4.7	**1919**	0	0.0										
1920	23	116.6	5.1	**1920**	12	45.9	3.8	**1920**	3	5.8	1.9									
1921	18	106.4	5.9	**1921**	7	35.3	5.0	**1921**	0	0.0										
1922	30	163.7	5.5	**1922**	17	79.9	4.7	**1922**	2	5.7	2.9									
1923	17	99.3	5.8	**1923**	8	41.9	5.2	**1923**	0	0.0										
1924	29	175.4	6.0	**1924**	7	32.8	4.7	**1924**	0	0.0										
1925	47	268.9	5.7	**1925**	21	103.0	4.9	**1925**	1	2.8	2.8									
1926	19	109.5	5.8	**1926**	8	39.6	5.0	**1926**	0	0.0										
1927	25	135.4	5.4	**1927**	12	53.5	4.5	**1927**	0	0.0										
1928	18	108.3	6.0	**1928**	5	24.5	4.9	**1928**	0	0.0										
1929	33	198.4	6.0	**1929**	10	50.9	5.1	**1929**	0	0.0										
1930	14	83.9	6.0	**1930**	5	26.4	5.3	**1930**	0	0.0										
1931	41	223.7	5.5	**1931**	21	95.0	4.5	**1931**	1	2.9	2.9									
1932	25	141.6	5.7	**1932**	12	57.5	4.8	**1932**	0	0.0										
1933	26	144.2	5.5	**1933**	11	49.1	4.5	**1933**	1	3.1	3.1									
1934	31	173.2	5.6	**1934**	15	73.2	4.9	**1934**	1	2.9	2.9									
1935	23	131.4	5.7	**1935**	10	47.7	4.8	**1935**	1	3.1	3.1									
1936	20	111.8	5.6	**1936**	8	36.9	4.6	**1936**	0	0.0										
1937	32	166.3	5.2	**1937**	18	76.6	4.3	**1937**	3	7.7	2.6									
1938	17	104.2	6.1	**1938**	4	21.6	5.4	**1938**	0	0.0										
1939	25	147.7	5.9	**1939**	9	43.9	4.9	**1939**	0	0.0										
1940	22	128.4	5.8	**1940**	7	32.6	4.7	**1940**	0	0.0										
1941	14	87.4	6.2	**1941**	2	10.9	5.5	**1941**	0	0.0										
1942	30	178.0	5.9	**1942**	12	58.9	4.9	**1942**	0	0.0										
1943	45	261.5	5.8	**1943**	17	77.6	4.6	**1943**	1	2.0	2.0									
1944	15	88.4	5.9	**1944**	4	17.9	4.5	**1944**	0	0.0										
1945	9	54.3	6.0	**1945**	2	9.3	4.7	**1945**	0	0.0										
1946	20	110.0	5.5	**1946**	5	17.3	3.5	**1946**	2	4.9	2.5									
1947	31	171.3	5.5	**1947**	14	61.0	4.4	**1947**	1	2.9	2.9									
1948	18	102.5	5.7	**1948**	7	30.9	4.4	**1948**	0	0.0										
1949	11	65.6	6.0	**1949**	3	13.7	4.6	**1949**	0	0.0										
1950	22	124.8	5.7	**1950**	8	35.0	4.4	**1950**	2	5.2	2.6									
1951	34	183.5	5.4	**1951**	17	76.6	4.5	**1951**	1	3.1	3.1									
1952	31	176.2	5.7	**1952**	12	53.9	4.5	**1952**	1	3.1	3.1									
1953	20	111.5	5.6	**1953**	11	54.7	5.0	**1953**	0	0.0										
1954	33	195.0	5.9	**1954**	12	60.4	5.0	**1954**	1	3.1	3.1									
1955	26	133.0	5.1	**1955**	15	64.5	4.3	**1955**	2	4.6	2.3									
1956	46	250.6	5.4	**1956**	22	99.0	4.5	**1956**	2	4.9	2.5									
1957	28	157.4	5.6	**1957**	12	54.5	4.5	**1957**	2	5.6	2.8									
1958	33	191.7	5.8	**1958**	12	57.5	4.8	**1958**	0	0.0										
1959	11	62.7	5.7	**1959**	4	17.9	4.5	**1959**	0	0.0										
1960	37	206.2	5.6	**1960**	17	75.6	4.4	**1960**	1	2.7	2.7									
1961	19	108.0	5.7	**1961**	9	44.5	4.9	**1961**	0	0.0										
1962	21	119.9	5.7	**1962**	9	44.6	5.0	**1962**	0	0.0										
1963	8	48.5	6.1	**1963**	2	10.6	5.3	**1963**	0	0.0										
1964	38	190.0	5.0	**1964**	17	57.8	3.4	**1964**	6	5.8	1.0									
1965	34	192.7	5.7	**1965**	13	59.1	4.5	**1965**	3	8.8	2.9									
1966	49	244.0	5.0	**1966**	28	109.7	3.9	**1966**	7	13.5	1.9									
1967	33	175.9	5.3	**1967**	18	79.8	4.4	**1967**	3	8.3	2.8									
1968	62	288.3	4.7	**1968**	46	187.3	4.1	**1968**	10	19.7	2.0									
1969	56	263.9	4.7	**1969**	35	129.6	3.7	**1969**	14	30.5	2.2									
1970	37	205.7	5.6	**1970**	19	88.8	4.7	**1970**	0	0.0										
1971	64	338.1	5.3	**1971**	36	158.0	4.4	**1971**	6	15.8	2.6									
1972	60	286.8	4.8	**1972**	37	140.0	3.8	**1972**	8	14.8	1.9									
1973	48	252.1	5.3	**1973**	27	116.6	4.3	**1973**	3	6.4	2.1									
1974	42	230.5	5.5	**1974**	22	99.6	4.5	**1974**	3	8.4	2.8									
1975	58	319.9	5.5	**1975**	23	93.4	4.1	**1975**	8	18.0	2.3									
1976	35	183.0	5.2	**1976**	20	88.1	4.4	**1976**	4	8.8	2.2	20 years	42.7	5.3	20 years	22.9	4.3	20 years	4.8	2.3
1977	44	227.4	5.2	**1977**	26	111.5	4.3	**1977**	4	9.8	2.5	19 years	43.1	5.3	19 years	23.1	4.2	19 years	4.8	2.3
1978	52	279.9	5.4	**1978**	25	108.3	4.3	**1978**	3	7.8	2.6	18 years	43.0	5.3	18 years	22.9	4.2	18 years	4.8	2.3
1979	63	307.6	4.9	**1979**	38	147.5	3.9	**1979**	13	26.0	2.0	17 years	42.5	5.3	17 years	22.8	4.2	17 years	4.9	2.3
1980	49	255.0	5.2	**1980**	27	114.2	4.2	**1980**	4	9.8	2.5	16 years	41.2	5.3	16 years	21.8	4.3	16 years	4.4	2.3
1981	43	228.4	5.3	**1981**	25	114.0	4.6	**1981**	3	7.6	2.5	15 years	40.7	5.3	15 years	21.5	4.3	15 years	4.5	2.3
1982	50	267.0	5.3	**1982**	27	120.5	4.5	**1982**	2	4.9	2.5	14 years	40.5	5.3	14 years	21.2	4.2	14 years	4.6	2.3
1983	27	154.0	5.7	**1983**	11	50.3	4.6	**1983**	2	3.6	1.8	13 years	39.8	5.3	13 years	20.8	4.2	13 years	4.8	2.3
1984	39	191.7	4.9	**1984**	25	101.5	4.1	**1984**	5	10.2	2.0	12 years	40.8	5.3	12 years	21.6	4.2	12 years	5.0	2.3
1985	39	195.6	5.0	**1985**	23	93.3	4.1	**1985**	5	12.2	2.4	11 years	41.0	5.3	11 years	21.3	4.2	11 years	5.0	2.4
1986	62	313.6	5.1	**1986**	37	151.8	4.1	**1986**	8	15.2	1.9	10 years	41.2	5.3	10 years	21.1	4.2	10 years	5.0	2.4
1987	44	223.3	5.1	**1987**	26	108.0	4.2	**1987**	5	12.0	2.4	9 years	38.9	5.4	9 years	19.3	4.2	9 years	4.7	2.4
1988	24	136.4	5.7	**1988**	13	63.4	4.9	**1988**	1	2.7	2.7	8 years	38.3	5.4	8 years	18.5	4.2	8 years	4.6	2.4
1989	47	242.9	5.2	**1989**	26	108.1	4.2	**1989**	6	15.4	2.6	7 years	40.3	5.4	7 years	19.3	4.2	7 years	5.1	2.4
1990	56	263.0	4.7	**1990**	32	106.7	3.3	**1990**	15	25.4	1.7	6 years	39.2	5.4	6 years	18.2	4.2	6 years	5.0	2.3
1991	30	169.4	5.6	**1991**	11	47.5	4.3	**1991**	2	5.2	2.6	5 years	35.8	5.6	5 years	15.4	4.3	5 years	3.0	2.5
1992	33	179.3	5.4	**1992**	17	77.1	4.5	**1992**	3	6.5	2.2	4 years	37.3	5.5	4 years	16.5	4.3	4 years	3.3	2.4
1993	49	250.9	5.1	**1993**	27	112.2	4.2	**1993**	5	11.2	2.2	3 years	38.7	5.6	3 years	16.3	4.2	3 years	3.3	2.5
1994	36	211.3	5.9	**1994**	12	52.8	4.4	**1994**	3	8.3	2.8	2 years	33.5	5.8	2 years	11.0	4.3	2 years	2.5	2.7
1995	31	176.9	5.7	**1995**	10	41.7	4.2	**1995**	2	5.1	2.6	1 years	31.0	5.7	1 years	10.0	4.2	1 years	2.0	2.6
1996	26	149.9	5.8	**1996**	10	46.2	4.6	**1996**	1	2.9	2.9	0 years	26.0	5.8	0 years	10.0	4.6	0 years	1.0	2.9
1997	40	198.7	5.0	**1997**	19	68.0	3.6	**1997**	8	18.2	2.3	1 years	40.0	5.0	1 years	19.0	3.6	1 years	8.0	2.3
1998	49	233.9	4.8	**1998**	31	120.2	3.9	**1998**	7	11.6	1.7	2 years	44.5	4.9	2 years	25.0	3.7	2 years	7.5	2.0
1999	47	234.0	5.0	**1999**	27	105.1	3.9	**1999**	7	16.7	2.4	3 years	45.3	4.9	3 years	25.7	3.8	3 years	7.3	2.1
2000	46	243.4	5.3	**2000**	25	108.5	4.3	**2000**	4	8.2	2.1	4 years	45.5	5.0	4 years	25.5	3.9	4 years	6.5	2.1
2001	83	398.3	4.8	**2001**	52	199.6	3.8	**2001**	15	32.7	2.2	5 years	53.0	5.0	5 years	30.8	3.9	5 years	8.2	2.1
2002	51	250.8	4.9	**2002**	32	128.7	4.0	**2002**	6	14.8	2.5	6 years	52.7	5.0	6 years	31.0	3.9	6 years	7.8	2.2
2003	57	279.8	4.9	**2003**	33	126.4	3.8	**2003**	11	25.5	2.3	7 years	53.3	4.9	7 years	31.3	3.9	7 years	8.3	2.2
2004	64	263.3	4.1	**2004**	48	162.0	3.4	**2004**	19	38.5	2.0	8 years	54.6	4.8	8 years	33.4	3.8	8 years	9.6	2.2
2005	62	314.0	5.1	**2005**	32	122.1	3.8	**2005**	8	15.2	1.9	9 years	55.4	4.9	9 years	33.2	3.8	9 years	9.4	2.1
2006	82	407.0	5.0	**2006**	48	190.9	4.0	**2006**	10	14.9	1.5	10 years	58.1	4.9	10 years	34.7	3.9	10 years	9.5	2.1
2007	56	300.4	5.4	**2007**	25	103.5	4.1	**2007**	5	13.8	2.8	11 years	57.9	4.9	11 years	33.8	3.9	11 years	9.1	2.1
2008	65	334.6	5.1	**2008**	33	131.0	4.0	**2008**	9	18.3	2.0	12 years	58.5	4.9	12 years	33.8	3.9	12 years	9.1	2.1
2009	52	244.4	4.7	**2009**	34	131.2	3.9	**2009**	7	15.4	2.2	13 years	58.0	4.9	13 years	33.8	3.9	13 years	8.9	2.1
2010	87	380.4	4.4	**2010**	56	182.3	3.3	**2010**	21	29.5	1.4	14 years	60.1	4.9	14 years	35.4	3.8	14 years	9.8	2.1
2011	35	166.7	4.8	**2011**	22	82.5	3.8	**2011**	7	15.1	2.2	15 years	58.4	4.9	15 years	34.5	3.8	15 years	9.6	2.1
2012	60	280.4	4.7	**2012**	38	135.1	3.6	**2012**	12	21.4	1.8	16 years	58.5	4.9	16 years	34.7	3.8	16 years	9.8	2.1
2013	47	225.9	4.8	**2013**	27	97.8	3.6	**2013**	8	12.4	1.6	17 years	57.8	4.9	17 years	34.2	3.8	17 years	9.6	2.0
2014	41	191.4	4.7	**2014**	26	93.8	3.6	**2014**	11	26.4	2.4	18 years	56.9	4.8	18 years	33.8	3.8	18 years	9.7	2.1
2015	41	194.9	4.8	**2015**	25	93.7	3.7	**2015**	5	7.6	1.5	19 years	56.1	4.8	19 years	33.3	3.8	19 years	9.5	2.0
2016	68	343.0	5.0	**2016**	39	158.6	4.1	**2016**	7	14.4	2.1	20 years	56.7	4.9	20 years	33.6	3.8	20 years	9.4	2.0
2017	42	214.9	5.1	**2017**	24	98.2	4.1	**2017**	3	5.6	1.9									
2018	50	267.0	5.3	**2018**	28	125.4	4.5	**2018**	4	11.0	2.8									
2019	62	305.2	4.9	**2019**	36	140.1	3.9	**2019**	10	22.0	2.2									
2020	45	228.1	5.1	**2020**	31	138.8	4.5	**2020**	2	5.1	2.6									
2021	45	225.9	5.0	**2021**	27	113.5	4.2	**2021**	5	9.5	1.9									
2022	54	267.9	5.0	**2022**	33	133.1	4.0	**2022**	6	15.8	2.6									

Original AWS probe Rosemount

10 years				**10 years**				**10 years**												
Pre AWS	41.2	216.7	5.3	**Pre AWS**	21.1	86.9	4.2	**Pre AWS**	5.0	10.7	2.4									
Post AWS	58.1	282.3	4.9	**Post AWS**	34.7	133.2	3.9	**Post AWS**	9.5	19.6	2.1									
*** 1996 earliest**				*** 1996 earliest**				*** 1996 earliest**												
Pre small	37.6	200.3	5.4	**Pre small**	18.4	76.4	4.3	**Pre small**	4.3	9.5	2.5									
Post small	59.7	292.5	4.9	**Post small**	35.3	136.7	3.9	**Post small**	9.2	19.2	2.1									
5 years				**5 years**				**5 years**												
Pre AWS	35.8	197.6	5.6	**Pre AWS**	15.4	66.3	4.3	**Pre AWS**	3.0	7.3	2.5									
Post AWS	53.0	261.7	5.0	**Post AWS**	30.8	120.3	3.9	**Post AWS**	8.2	17.5	2.1									
*** 1996 earliest**				*** 1996 earliest**				*** 1996 earliest**												
Pre small	35.0	193.7	5.6	**Pre small**	15.2	66.0	4.4	**Pre small**	2.8	6.8	2.5									
Post small	55.2	272.1	5.0	**Post small**	33.4	132.4	4.0	**Post small**	7.8	16.8	2.1									
		AWS introduction																		
		Small screen introduction																		





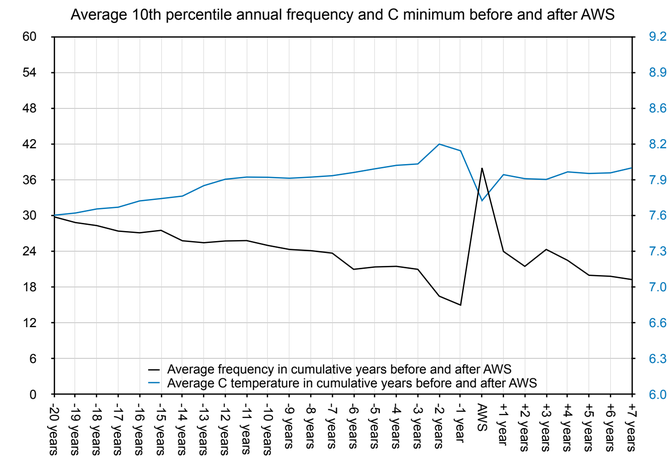


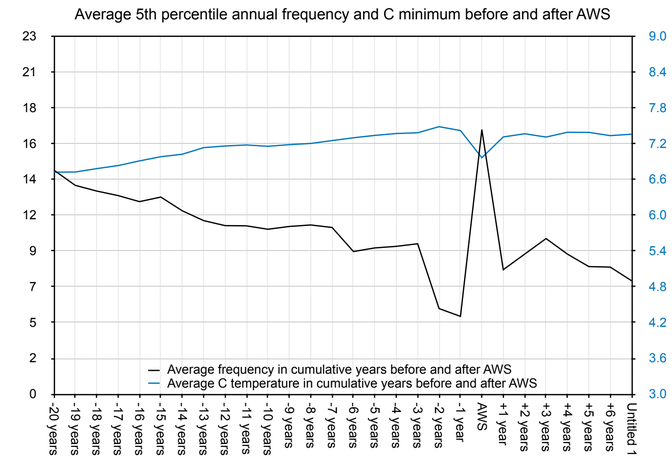
10th 8.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 7.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 6.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1946	74	526.6	7.1	**1946**	52	336.8	6.5	**1946**	20	100.3	5.0									
1947	54	413.3	7.7	**1947**	30	207.5	6.9	**1947**	7	40.6	5.8									
1948	50	383.5	7.7	**1948**	30	209.7	7.0	**1948**	7	41.2	5.9									
1949	44	342.2	7.8	**1949**	25	176.7	7.1	**1949**	4	22.2	5.6									
1950	19	146.9	7.7	**1950**	10	68.0	6.8	**1950**	2	10.6	5.3									
1951	56	449.1	8.0	**1951**	24	172.1	7.2	**1951**	3	16.7	5.6									
1952	55	424.3	7.7	**1952**	29	199.5	6.9	**1952**	6	32.8	5.5									
1953	53	414.0	7.8	**1953**	27	187.4	6.9	**1953**	6	33.9	5.7									
1954	48	382.5	8.0	**1954**	19	132.8	7.0	**1954**	3	16.7	5.6									
1955	51	406.7	8.0	**1955**	21	143.9	6.9	**1955**	9	54.4	6.0									
1956	74	574.6	7.8	**1956**	35	238.3	6.8	**1956**	10	55.7	5.6									
1957	53	406.2	7.7	**1957**	31	215.8	7.0	**1957**	8	45.6	5.7									
1958	55	408.4	7.4	**1958**	38	258.9	6.8	**1958**	11	61.2	5.6									
1959	26	203.8	7.8	**1959**	11	74.5	6.8	**1959**	3	16.1	5.4									
1960	59	456.4	7.7	**1960**	31	215.3	6.9	**1960**	9	51.3	5.7									
1961	36	288.3	8.0	**1961**	16	115.7	7.2	**1961**	1	5.6	5.6									
1962	49	387.1	7.9	**1962**	21	147.5	7.0	**1962**	3	17.8	5.9									
1963	39	313.1	8.0	**1963**	15	107.9	7.2	**1963**	2	11.7	5.9									
1964	52	407.3	7.8	**1964**	22	149.3	6.8	**1964**	8	45.3	5.7									
1965	40	316.2	7.9	**1965**	21	151.9	7.2	**1965**	1	6.1	6.1									
1966	57	454.6	8.0	**1966**	27	195.4	7.2	**1966**	4	21.7	5.4									
1967	37	293.1	7.9	**1967**	18	130.6	7.3	**1967**	1	6.1	6.1									
1968	55	421.1	7.7	**1968**	23	151.2	6.6	**1968**	8	41.6	5.2									
1969	41	323.1	7.9	**1969**	20	142.7	7.1	**1969**	1	6.1	6.1									
1970	54	409.6	7.6	**1970**	30	203.7	6.8	**1970**	8	43.9	5.5									
1971	64	492.1	7.7	**1971**	33	228.4	6.9	**1971**	9	52.4	5.8									
1972	23	180.8	7.9	**1972**	11	77.6	7.1	**1972**	2	11.9	6.0									
1973	23	188.8	8.2	**1973**	6	45.0	7.5	**1973**	0	0.0										
1974	42	308.1	7.3	**1974**	24	160.1	6.7	**1974**	5	23.9	4.8									
1975	31	228.5	7.4	**1975**	19	126.3	6.6	**1975**	6	31.1	5.2									
1976	44	312.9	7.1	**1976**	25	154.2	6.2	**1976**	8	33.0	4.1									
1977	49	354.8	7.2	**1977**	31	203.9	6.6	**1977**	8	38.5	4.8									
1978	50	352.7	7.1	**1978**	29	176.1	6.1	**1978**	15	79.3	5.3									
1979	32	240.9	7.5	**1979**	18	125.0	6.9	**1979**	1	6.1	6.1									
1980	21	167.3	8.0	**1980**	6	40.6	6.8	**1980**	2	9.8	4.9									
1981	35	257.9	7.4	**1981**	22	149.1	6.8	**1981**	2	11.1	5.6									
1982	38	301.1	7.9	**1982**	14	99.5	7.1	**1982**	2	10.0	5.0									
1983	38	283.3	7.5	**1983**	23	156.7	6.8	**1983**	5	28.8	5.8									
1984	31	244.4	7.9	**1984**	13	91.3	7.0	**1984**	1	5.0	5.0									
1985	33	250.3	7.6	**1985**	18	126.1	7.0	**1985**	0	0.0										
1986	39	292.0	7.5	**1986**	22	150.3	6.8	**1986**	3	15.3	5.1									
1987	26	196.8	7.6	**1987**	14	96.1	6.9	**1987**	2	10.9	5.5									
1988	14	107.2	7.7	**1988**	5	31.6	6.3	**1988**	1	4.2	4.2									
1989	44	336.3	7.6	**1989**	22	146.9	6.7	**1989**	4	17.7	4.4									
1990	43	343.1	8.0	**1990**	16	114.6	7.2	**1990**	1	5.0	5.0									
1991	31	234.4	7.6	**1991**	18	125.4	7.0	**1991**	1	4.2	4.2									
1992	34	262.4	7.7	**1992**	17	121.4	7.1	**1992**	1	6.1	6.1									
1993	19	143.1	7.5	**1993**	9	59.3	6.6	**1993**	2	10.7	5.4									
1994	51	374.3	7.3	**1994**	33	222.5	6.7	**1994**	4	20.3	5.1									
1995	48	346.9	7.2	**1995**	33	219.9	6.7	**1995**	10	56.5	5.7	20 years	29.8	7.6	20 years	14.4	6.7	20 years	3.4	4.9
1996	38	264.9	7.0	**1996**	20	114.1	5.7	**1996**	7	23.4	3.3	19 years	28.8	7.6	19 years	13.4	6.7	19 years	3.0	4.9
1997	44	325.4	7.4	**1997**	18	106.5	5.9	**1997**	6	19.7	3.3	18 years	28.3	7.7	18 years	13.1	6.8	18 years	2.8	5.0
1998	32	216.8	6.8	**1998**	19	106.0	5.6	**1998**	8	29.0	3.6	17 years	27.4	7.7	17 years	12.8	6.8	17 years	2.6	5.1
1999	21	155.8	7.4	**1999**	8	46.8	5.9	**1999**	3	11.6	3.9	16 years	27.1	7.7	16 years	12.4	6.9	16 years	2.3	5.3
2000	52	386.9	7.4	**2000**	25	160.1	6.4	**2000**	6	25.8	4.3	15 years	27.5	7.8	15 years	12.7	7.0	15 years	2.2	5.4
2001	30	196.8	6.6	**2001**	20	111.7	5.6	**2001**	11	47.4	4.3	14 years	25.8	7.8	14 years	11.8	7.0	14 years	1.9	5.5
2002	22	158.0	7.2	**2002**	15	102.0	6.8	**2002**	3	18.0	6.0	13 years	25.5	7.9	13 years	11.2	7.1	13 years	1.2	5.7
2003	25	192.8	7.7	**2003**	11	76.7	7.0	**2003**	1	5.8	5.8	12 years	25.8	7.9	12 years	10.8	7.2	12 years	1.1	5.6
2004	34	270.8	8.0	**2004**	13	96.2	7.4	**2004**	0	0.0		11 years	25.8	7.9	11 years	10.8	7.2	11 years	1.1	5.6
2005	31	248.6	8.0	**2005**	9	62.2	6.9	**2005**	1	4.7	4.7	10 years	25.0	7.9	10 years	10.6	7.2	10 years	1.2	5.6
2006	26	204.2	7.9	**2006**	10	70.2	7.0	**2006**	1	5.8	5.8	9 years	24.3	7.9	9 years	10.8	7.2	9 years	1.2	5.8
2007	27	212.1	7.9	**2007**	12	82.4	6.9	**2007**	3	16.4	5.5	8 years	24.1	7.9	8 years	10.9	7.2	8 years	1.3	5.8
2008	40	311.4	7.8	**2008**	20	139.4	7.0	**2008**	4	23.1	5.8	7 years	23.7	8.0	7 years	10.7	7.3	7 years	1.0	5.9
2009	19	148.6	7.8	**2009**	8	56.8	7.1	**2009**	1	6.1	6.1	6 years	21.0	8.0	6 years	9.2	7.3	6 years	0.5	6.0
2010	21	165.8	7.9	**2010**	9	64.9	7.2	**2010**	0	0.0		5 years	21.4	8.0	5 years	9.4	7.3	5 years	0.4	5.8
2011	23	184.3	8.0	**2011**	9	66.0	7.3	**2011**	0	0.0		4 years	21.5	8.0	4 years	9.5	7.4	4 years	0.5	5.8
2012	30	231.2	7.7	**2012**	18	129.2	7.2	**2012**	2	11.6	5.8	3 years	21.0	8.1	3 years	9.7	7.4	3 years	0.7	5.8
2013	18	149.4	8.3	**2013**	6	45.3	7.6	**2013**	0	0.0		2 years	16.5	8.2	2 years	5.5	7.5	2 years	0.0	
2014	15	122.7	8.2	**2014**	5	37.1	7.4	**2014**	0	0.0		1 years	15.0	8.2	1 years	5.0	7.4	1 years	0.0	
2015	38	293.9	7.7	**2015**	17	118.4	7.0	**2015**	2	11.8	5.9	0 years	38.0	7.7	0 years	17.0	7.0	0 years	2.0	5.9
2016	24	191.2	8.0	**2016**	8	58.5	7.3	**2016**	0	0.0		1 years	24.0	8.0	1 years	8.0	7.3	1 years	0.0	
2017	19	150.0	7.9	**2017**	10	74.2	7.4	**2017**	0	0.0		2 years	21.5	7.9	2 years	9.0	7.4	2 years	0.0	
2018	30	237.3	7.9	**2018**	12	86.4	7.2	**2018**	0	0.0		3 years	24.3	7.9	3 years	10.0	7.3	3 years	0.0	
2019	17	139.3	8.2	**2019**	6	45.8	7.6	**2019**	0	0.0		4 years	22.5	8.0	4 years	9.0	7.4	4 years	0.0	
2020	10	79.2	7.9	**2020**	5	36.9	7.4	**2020**	0	0.0		5 years	20.0	8.0	5 years	8.2	7.4	5 years	0.0	
2021	19	152.2	8.0	**2021**	8	56.5	7.1	**2021**	1	5.9	5.9	6 years	19.8	8.0	6 years	8.2	7.3	6 years	0.2	5.9
2022	16	132.7	8.3	**2022**	2	15.0	7.5	**2022**	0	0.0		7 years	19.3	8.0	7 years	7.3	7.4	7 years	0.1	5.9

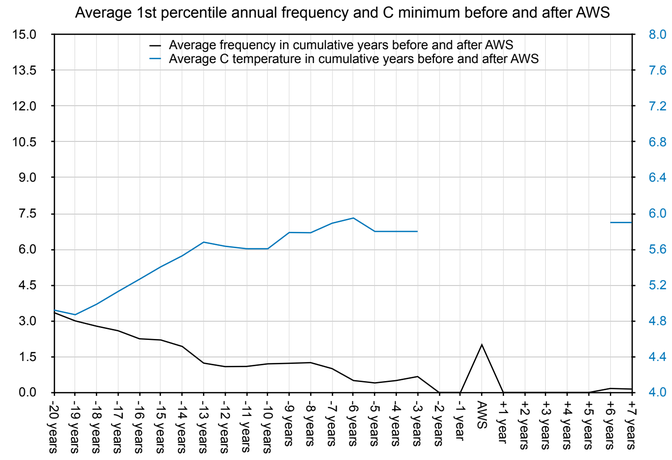
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	21.0	167.0	8.0	**Pre**	9.2	66.6	7.3	**Pre**	0.5	3.0	6.0									
Post	19.8	158.2	8.0	**Post**	8.2	59.7	7.3	**Post**	0.2	1.0	5.9									

		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										





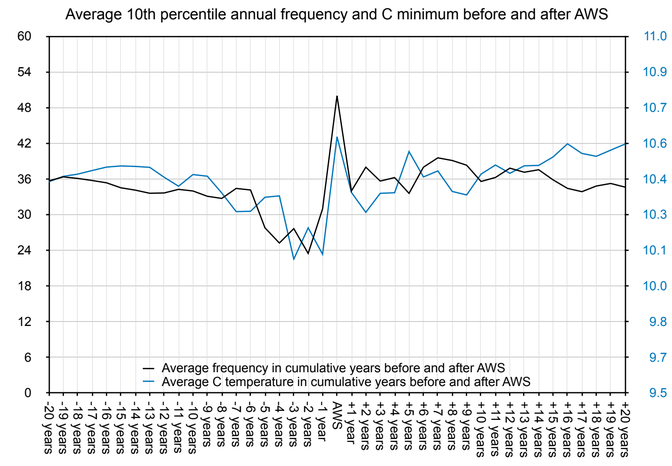


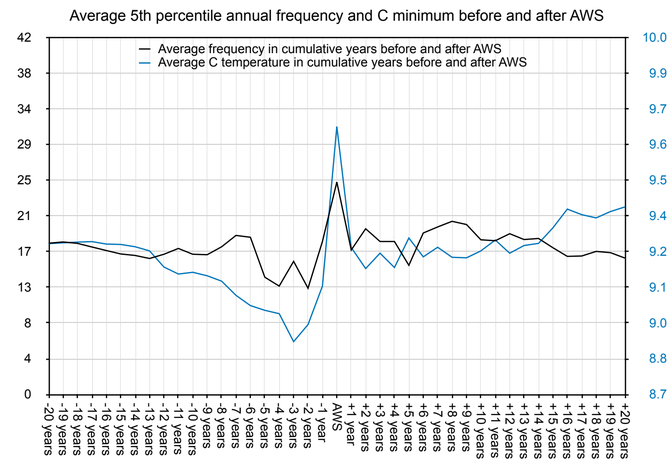
10th 12.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 10.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 8.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1913	35	380.9	10.9	**1913**	14	138.6	9.9	**1913**	0	0.0										
1914	23	245.4	10.7	**1914**	11	106.9	9.7	**1914**	0	0.0										
1915	25	288.7	11.5	**1915**	2	19.4	9.7	**1915**	0	0.0										
1916	37	369.6	10.0	**1916**	21	182.9	8.7	**1916**	8	54.9	6.9									
1917	34	365.3	10.7	**1917**	16	156.6	9.8	**1917**	0	0.0										
1918	26	279.5	10.8	**1918**	13	129.8	10.0	**1918**	0	0.0										
1919	19	208.7	11.0	**1919**	6	56.3	9.4	**1919**	0	0.0										
1920	29	307.5	10.6	**1920**	13	121.3	9.3	**1920**	3	23.8	7.9									
1921	15	169.3	11.3	**1921**	5	50.3	10.1	**1921**	0	0.0										
1922	39	401.0	10.3	**1922**	19	171.4	9.0	**1922**	5	39.6	7.9									
1923	22	240.9	11.0	**1923**	7	66.4	9.5	**1923**	0	0.0										
1924	14	162.4	11.6	**1924**	1	10.6	10.6	**1924**	0	0.0										
1925	49	548.3	11.2	**1925**	12	113.0	9.4	**1925**	3	21.7	7.2									
1926	39	415.4	10.7	**1926**	18	168.1	9.3	**1926**	4	29.0	7.3									
1927	27	285.4	10.6	**1927**	14	131.1	9.4	**1927**	1	7.8	7.8									
1928	42	464.8	11.1	**1928**	13	126.3	9.7	**1928**	1	7.8	7.8									
1929	41	439.3	10.7	**1929**	19	186.3	9.8	**1929**	1	7.8	7.8									
1930	7	83.9	12.0	**1930**	0	0.0		**1930**	0	0.0										
1931	26	299.6	11.5	**1931**	3	31.4	10.5	**1931**	0	0.0										
1932	22	252.6	11.5	**1932**	2	20.3	10.2	**1932**	0	0.0										
1933	35	374.5	10.7	**1933**	15	144.8	9.7	**1933**	1	7.3	7.3									
1934	29	313.7	10.8	**1934**	15	149.8	10.0	**1934**	0	0.0										
1935	40	419.5	10.5	**1935**	18	165.0	9.2	**1935**	3	22.0	7.3									
1936	33	351.0	10.6	**1936**	11	100.6	9.1	**1936**	1	7.2	7.2									
1937	47	501.9	10.7	**1937**	17	155.8	9.2	**1937**	1	7.2	7.2									
1938	25	280.1	11.2	**1938**	6	58.7	9.8	**1938**	0	0.0										
1939	48	504.8	10.5	**1939**	28	272.0	9.7	**1939**	1	7.8	7.8									
1940	29	329.0	11.3	**1940**	5	51.8	10.4	**1940**	0	0.0										
1941	13	144.0	11.1	**1941**	4	40.1	10.0	**1941**	0	0.0										
1942	11	121.9	11.1	**1942**	4	41.4	10.4	**1942**	0	0.0										
1943	46	480.9	10.5	**1943**	23	210.1	9.1	**1943**	5	37.4	7.5									
1944	37	376.0	10.2	**1944**	19	170.3	9.0	**1944**	2	13.9	7.0									
1945	36	374.0	10.4	**1945**	22	208.9	9.5	**1945**	1	7.8	7.8									
1946	14	129.0	9.2	**1946**	11	95.3	8.7	**1946**	3	18.9	6.3									
1947	10	115.9	11.6	**1947**	0	0.0		**1947**	0	0.0										
1948	0	0.0		**1948**	0	0.0		**1948**	0	0.0										
1949	58	562.9	9.7	**1949**	36	312.6	8.7	**1949**	13	93.5	7.2									
1950	61	551.4	9.0	**1950**	45	372.2	8.3	**1950**	18	123.6	6.9									
1951	47	470.9	10.0	**1951**	24	207.9	8.7	**1951**	7	45.5	6.5									
1952	70	688.6	9.8	**1952**	45	397.1	8.8	**1952**	13	93.2	7.2									
1953	55	523.8	9.5	**1953**	33	267.6	8.1	**1953**	15	97.8	6.5									
1954	44	445.3	10.1	**1954**	26	237.1	9.1	**1954**	6	46.7	7.8									
1955	36	345.9	9.6	**1955**	23	193.3	8.4	**1955**	9	59.3	6.6									
1956	63	620.3	9.8	**1956**	32	265.7	8.3	**1956**	12	76.5	6.4									
1957	56	534.9	9.6	**1957**	38	327.6	8.6	**1957**	15	98.6	6.6									
1958	40	413.8	10.3	**1958**	21	196.3	9.3	**1958**	1	6.7	6.7									
1959	37	391.7	10.6	**1959**	19	182.8	9.6	**1959**	1	8.0	8.0									
1960	45	446.8	9.9	**1960**	25	211.7	8.5	**1960**	7	47.0	6.7									
1961	72	675.5	9.4	**1961**	48	397.3	8.3	**1961**	16	98.2	6.1									
1962	54	558.3	10.3	**1962**	25	228.6	9.1	**1962**	5	35.6	7.1									
1963	62	636.6	10.3	**1963**	30	269.4	9.0	**1963**	6	43.3	7.2									
1964	41	426.5	10.4	**1964**	16	139.6	8.7	**1964**	4	25.3	6.3									
1965	34	344.8	10.1	**1965**	15	127.1	8.5	**1965**	5	28.9	5.8									
1966	64	637.1	10.0	**1966**	34	293.9	8.6	**1966**	10	73.1	7.3									
1967	70	670.1	9.6	**1967**	44	374.0	8.5	**1967**	19	127.4	6.7									
1968	43	431.5	10.0	**1968**	23	200.9	8.7	**1968**	7	51.9	7.4									
1969	67	667.7	10.0	**1969**	41	370.9	9.0	**1969**	9	60.0	6.7									
1970	43	439.3	10.2	**1970**	26	241.6	9.3	**1970**	3	22.1	7.4									
1971	71	693.1	9.8	**1971**	49	440.0	9.0	**1971**	12	88.7	7.4									
1972	29	305.8	10.5	**1972**	11	99.5	9.0	**1972**	3	21.1	7.0									
1973	13	147.6	11.4	**1973**	2	20.3	10.2	**1973**	0	0.0										
1974	36	379.1	10.5	**1974**	17	160.7	9.5	**1974**	3	21.7	7.2									
1975	31	314.3	10.1	**1975**	18	162.2	9.0	**1975**	4	29.5	7.4									
1976	62	634.9	10.2	**1976**	38	354.4	9.3	**1976**	5	37.2	7.4									
1977	52	532.3	10.2	**1977**	34	326.1	9.6	**1977**	4	31.6	7.9									
1978	55	555.2	10.1	**1978**	27	234.1	8.7	**1978**	7	46.0	6.6									
1979	41	398.5	9.7	**1979**	29	262.5	9.1	**1979**	4	27.9	7.0									
1980	23	229.0	10.0	**1980**	15	137.9	9.2	**1980**	2	14.7	7.4	20 years	35.7	10.4	20 years	17.8	9.2	20 years	2.8	7.1
1981	41	420.0	10.2	**1981**	21	193.3	9.2	**1981**	5	35.6	7.1	19 years	36.4	10.4	19 years	17.9	9.3	19 years	2.8	7.1
1982	42	426.9	10.2	**1982**	25	230.6	9.2	**1982**	5	37.6	7.5	18 years	36.1	10.4	18 years	17.8	9.3	18 years	2.7	7.1
1983	42	428.6	10.2	**1983**	24	225.6	9.4	**1983**	2	13.1	6.6	17 years	35.8	10.4	17 years	17.4	9.3	17 years	2.6	7.1
1984	48	498.1	10.4	**1984**	23	213.2	9.3	**1984**	4	28.9	7.2	16 years	35.4	10.5	16 years	16.9	9.2	16 years	2.6	7.1
1985	40	419.3	10.5	**1985**	19	177.9	9.4	**1985**	4	31.0	7.8	15 years	34.5	10.5	15 years	16.5	9.2	15 years	2.5	7.1
1986	41	430.7	10.5	**1986**	21	198.1	9.4	**1986**	2	15.6	7.8	14 years	34.1	10.5	14 years	16.4	9.2	14 years	2.4	7.1
1987	33	361.3	10.9	**1987**	10	99.3	9.9	**1987**	0	0.0		13 years	33.6	10.4	13 years	16.0	9.2	13 years	2.5	7.0
1988	27	292.2	10.8	**1988**	9	85.0	9.4	**1988**	0	0.0		12 years	33.7	10.4	12 years	16.5	9.2	12 years	2.7	7.0
1989	37	365.6	9.9	**1989**	24	217.8	9.1	**1989**	3	21.2	7.1	11 years	34.3	10.4	11 years	17.2	9.1	11 years	2.9	7.0
1990	42	440.2	10.5	**1990**	17	157.4	9.3	**1990**	2	9.2	4.6	10 years	34.0	10.4	10 years	16.5	9.1	10 years	2.9	7.0
1991	36	395.1	11.0	**1991**	9	83.6	9.3	**1991**	1	7.2	7.2	9 years	33.1	10.4	9 years	16.4	9.1	9 years	3.0	7.3
1992	21	228.7	10.9	**1992**	8	75.8	9.5	**1992**	1	7.4	7.4	8 years	32.8	10.3	8 years	17.4	9.1	8 years	3.3	7.3
1993	36	369.2	10.3	**1993**	20	185.7	9.3	**1993**	3	22.2	7.4	7 years	34.4	10.3	7 years	18.7	9.1	7 years	3.6	7.3
1994	66	658.0	10.0	**1994**	42	382.6	9.1	**1994**	7	52.0	7.4	6 years	34.2	10.3	6 years	18.5	9.0	6 years	3.7	7.3
1995	38	391.4	10.3	**1995**	18	163.0	9.1	**1995**	3	21.3	7.1	5 years	27.8	10.3	5 years	13.8	9.0	5 years	3.0	7.3
1996	18	200.3	11.1	**1996**	4	37.2	9.3	**1996**	0	0.0		4 years	25.3	10.3	4 years	12.8	9.0	4 years	3.0	7.3
1997	36	352.8	9.8	**1997**	22	192.9	8.8	**1997**	5	36.5	7.3	3 years	27.7	10.1	3 years	15.7	8.9	3 years	4.0	7.3
1998	16	164.9	10.3	**1998**	7	61.7	8.8	**1998**	2	13.9	7.0	2 years	23.5	10.2	2 years	12.5	9.0	2 years	3.5	7.3
1999	31	312.6	10.1	**1999**	18	163.7	9.1	**1999**	5	38.5	7.7	1 years	31.0	10.1	1 years	18.0	9.1	1 years	5.0	7.7
2000	50	528.9	10.6	**2000**	25	241.9	9.7	**2000**	1	7.5	7.5	0 years	50.0	10.6	0 years	25.0	9.7	0 years	1.0	7.5
2001	34	351.7	10.3	**2001**	17	157.0	9.2	**2001**	3	23.3	7.8	1 years	34.0	10.3	1 years	17.0	9.2	1 years	3.0	7.8
2002	42	427.4	10.2	**2002**	22	199.8	9.1	**2002**	5	37.4	7.5	2 years	38.0	10.3	2 years	19.5	9.2	2 years	4.0	7.6
2003	31	325.5	10.5	**2003**	15	139.9	9.3	**2003**	1	6.7	6.7	3 years	35.7	10.3	3 years	18.0	9.2	3 years	3.0	7.3
2004	38	393.3	10.4	**2004**	18	162.1	9.0	**2004**	4	29.7	7.4	4 years	36.3	10.3	4 years	18.0	9.2	4 years	3.3	7.3
2005	23	257.8	11.2	**2005**	4	38.8	9.7	**2005**	0	0.0		5 years	33.6	10.5	5 years	15.2	9.3	5 years	2.6	7.3
2006	60	592.5	9.9	**2006**	38	336.6	8.9	**2006**	11	78.3	7.1	6 years	38.0	10.4	6 years	19.0	9.2	6 years	4.0	7.3
2007	49	518.7	10.6	**2007**	24	226.7	9.4	**2007**	2	15.8	7.9	7 years	39.6	10.4	7 years	19.7	9.2	7 years	3.7	7.4
2008	36	350.8	9.7	**2008**	25	223.6	8.9	**2008**	6	42.6	7.1	8 years	39.1	10.3	8 years	20.4	9.2	8 years	4.0	7.4
2009	32	326.9	10.2	**2009**	17	156.1	9.2	**2009**	4	29.4	7.4	9 years	38.3	10.3	9 years	20.0	9.2	9 years	4.0	7.4
2010	11	123.3	11.2	**2010**	2	18.9	9.5	**2010**	0	0.0		10 years	35.6	10.4	10 years	18.2	9.2	10 years	3.6	7.4
2011	43	466.2	10.8	**2011**	17	164.2	9.7	**2011**	2	13.4	6.7	11 years	36.3	10.5	11 years	18.1	9.3	11 years	3.5	7.3
2012	55	552.2	10.0	**2012**	28	243.2	8.7	**2012**	8	53.9	6.7	12 years	37.8	10.4	12 years	18.9	9.2	12 years	3.8	7.2
2013	29	314.2	10.8	**2013**	10	95.8	9.6	**2013**	0	0.0		13 years	37.2	10.5	13 years	18.2	9.2	13 years	3.5	7.2
2014	43	450.6	10.5	**2014**	20	187.0	9.4	**2014**	1	7.0	7.0	14 years	37.6	10.5	14 years	18.4	9.3	14 years	3.4	7.2
2015	12	131.9	11.0	**2015**	2	20.2	10.1	**2015**	0	0.0		15 years	35.9	10.5	15 years	17.3	9.3	15 years	3.1	7.2
2016	13	147.9	11.4	**2016**	1	10.4	10.4	**2016**	0	0.0		16 years	34.4	10.5	16 years	16.3	9.4	16 years	2.9	7.2
2017	25	246.5	9.9	**2017**	17	153.5	9.0	**2017**	5	34.8	7.0	17 years	33.9	10.5	17 years	16.3	9.4	17 years	3.1	7.2
2018	51	524.8	10.3	**2018**	26	237.7	9.1	**2018**	7	53.2	7.6	18 years	34.8	10.5	18 years	16.8	9.3	18 years	3.3	7.2
2019	43	472.5	11.0	**2019**	14	137.0	9.8	**2019**	0	0.0		19 years	35.3	10.5	19 years	16.7	9.4	19 years	3.1	7.2
2020	23	253.8	11.0	**2020**	4	38.8	9.7	**2020**	0	0.0		20 years	34.7	10.5	20 years	16.1	9.4	20 years	3.0	7.2
2021	15	154.1	10.3	**2021**	8	73.5	9.2	**2021**	1	6.9	6.9									
2022	27	275.3	10.2	**2022**	15	140.1	9.3	**2022**	3	23.0	7.7									

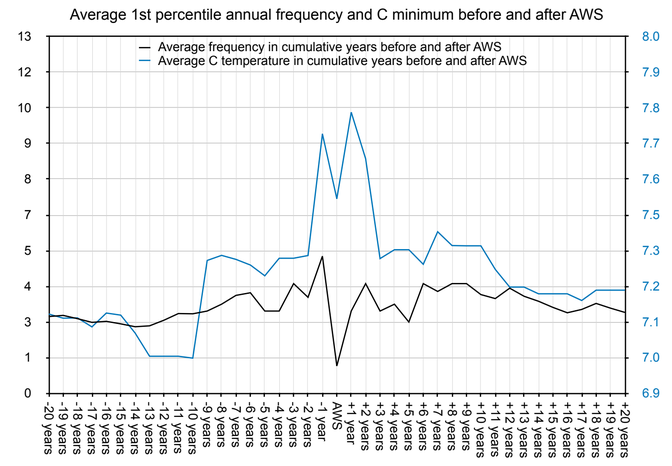
Original AWS probe type unknown

6 years				**6 years**				**6 years**			
Pre	34.2	346.7	10.3	**Pre**	18.5	166.9	9.0	**Pre**	3.7	27.0	7.3
Post	38.0	391.4	10.4	**Post**	19.0	172.4	9.2	**Post**	4.0	29.2	7.3

		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	







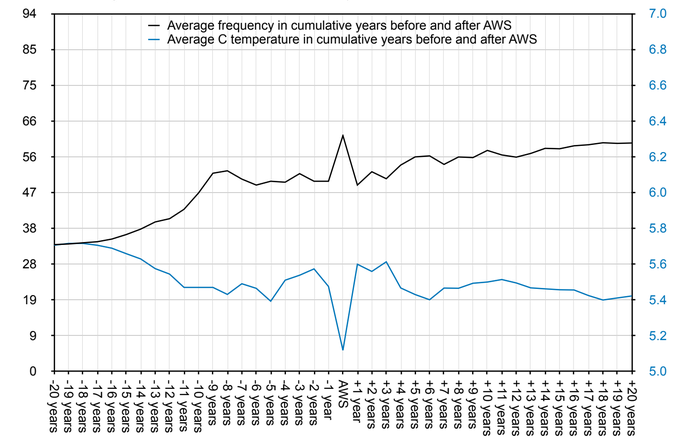
10th 6.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	32	181.5	5.7	**1910**	17	83.1	4.9	**1910**	2	6.8	3.4									
1911	37	223.1	6.0	**1911**	15	79.5	5.3	**1911**	1	3.3	3.3									
1912	35	187.0	5.3	**1912**	23	109.2	4.7	**1912**	5	14.7	2.9									
1913	40	199.7	5.0	**1913**	27	116.1	4.3	**1913**	12	37.7	3.1									
1914	45	254.1	5.6	**1914**	22	102.8	4.7	**1914**	5	16.1	3.2									
1915	21	128.2	6.1	**1915**	5	25.5	5.1	**1915**	0	0.0										
1916	43	248.6	5.8	**1916**	21	106.1	5.1	**1916**	2	6.5	3.3									
1917	52	297.2	5.7	**1917**	26	126.7	4.9	**1917**	3	10.8	3.6									
1918	49	260.6	5.3	**1918**	27	116.4	4.3	**1918**	9	22.7	2.5									
1919	90	422.4	4.7	**1919**	67	275.5	4.1	**1919**	30	85.1	2.8									
1920	43	237.0	5.5	**1920**	26	128.3	4.9	**1920**	5	16.7	3.3									
1921	39	209.7	5.4	**1921**	23	107.8	4.7	**1921**	4	13.7	3.4									
1922	46	255.5	5.6	**1922**	25	120.6	4.8	**1922**	3	10.1	3.4									
1923	26	144.7	5.6	**1923**	13	62.4	4.8	**1923**	1	2.9	2.9									
1924	52	288.2	5.5	**1924**	28	133.4	4.8	**1924**	6	20.1	3.4									
1925	40	223.8	5.6	**1925**	18	83.7	4.7	**1925**	4	14.1	3.5									
1926	33	178.7	5.4	**1926**	21	101.3	4.8	**1926**	2	7.2	3.6									
1927	36	194.3	5.4	**1927**	20	90.7	4.5	**1927**	7	23.9	3.4									
1928	38	208.5	5.5	**1928**	18	81.1	4.5	**1928**	5	15.5	3.1									
1929	50	277.6	5.6	**1929**	26	123.9	4.8	**1929**	3	8.3	2.8									
1930	23	141.5	6.2	**1930**	5	25.7	5.1	**1930**	1	3.9	3.9									
1931	33	207.3	6.3	**1931**	5	25.7	5.1	**1931**	1	3.9	3.9									
1932	27	159.3	5.9	**1932**	9	42.9	4.8	**1932**	2	6.1	3.1									
1933	23	135.4	5.9	**1933**	10	50.1	5.0	**1933**	1	3.9	3.9									
1934	21	121.4	5.8	**1934**	9	44.0	4.9	**1934**	2	7.8	3.9									
1935	20	110.8	5.5	**1935**	11	52.9	4.8	**1935**	3	11.1	3.7									
1936	21	119.2	5.7	**1936**	12	61.3	5.1	**1936**	1	3.9	3.9									
1937	26	154.9	6.0	**1937**	11	59.2	5.4	**1937**	0	0.0										
1938	31	186.4	6.0	**1938**	6	27.3	4.6	**1938**	2	6.1	3.1									
1939	21	117.8	5.6	**1939**	11	53.2	4.8	**1939**	2	6.4	3.2									
1940	29	164.8	5.7	**1940**	17	86.2	5.1	**1940**	0	0.0										
1941	29	171.1	5.9	**1941**	10	50.7	5.1	**1941**	1	3.9	3.9									
1942	26	157.0	6.0	**1942**	11	59.2	5.4	**1942**	0	0.0										
1943	39	237.3	6.1	**1943**	13	67.8	5.2	**1943**	1	3.9	3.9									
1944	43	256.3	6.0	**1944**	17	83.8	4.9	**1944**	2	7.0	3.5									
1945	26	142.1	5.5	**1945**	13	58.1	4.5	**1945**	2	3.4	1.7									
1946	23	131.5	5.7	**1946**	11	52.2	4.7	**1946**	3	10.2	3.4									
1947	27	154.2	5.7	**1947**	14	70.7	5.1	**1947**	1	3.9	3.9									
1948	24	145.9	6.1	**1948**	7	36.2	5.2	**1948**	0	0.0										
1949	30	175.9	5.9	**1949**	12	60.7	5.1	**1949**	1	3.9	3.9									
1950	21	125.7	6.0	**1950**	6	30.6	5.1	**1950**	0	0.0										
1951	26	151.5	5.8	**1951**	13	69.2	5.3	**1951**	0	0.0										
1952	36	194.2	5.4	**1952**	22	103.4	4.7	**1952**	5	17.8	3.6									
1953	30	185.8	6.2	**1953**	6	31.0	5.2	**1953**	1	3.9	3.9									
1954	26	154.5	5.9	**1954**	8	37.9	4.7	**1954**	3	11.1	3.7									
1955	10	56.7	5.7	**1955**	4	19.5	4.9	**1955**	1	3.9	3.9									
1956	28	167.4	6.0	**1956**	8	40.6	5.1	**1956**	0	0.0										
1957	28	173.8	6.2	**1957**	6	31.8	5.3	**1957**	0	0.0										
1958	22	128.6	5.8	**1958**	10	50.0	5.0	**1958**	0	0.0										
1959	7	44.6	6.4	**1959**	1	5.0	5.0	**1959**	0	0.0										
1960	33	191.4	5.8	**1960**	15	75.6	5.0	**1960**	0	0.0										
1961	8	47.3	5.9	**1961**	3	16.2	5.4	**1961**	0	0.0										
1962	10	60.4	6.0	**1962**	5	27.5	5.5	**1962**	0	0.0										
1963	17	93.4	5.5	**1963**	8	35.5	4.4	**1963**	2	5.5	2.8									
1964	28	162.4	5.8	**1964**	12	59.1	4.9	**1964**	3	11.1	3.7									
1965	33	193.1	5.9	**1965**	13	63.6	4.9	**1965**	3	11.0	3.7									
1966	28	170.4	6.1	**1966**	8	40.0	5.0	**1966**	1	3.3	3.3									
1967	24	142.2	5.9	**1967**	8	40.4	5.1	**1967**	1	3.9	3.9									
1968	29	177.8	6.1	**1968**	7	36.9	5.3	**1968**	0	0.0										
1969	28	162.9	5.8	**1969**	13	66.2	5.1	**1969**	1	2.8	2.8									
1970	27	153.9	5.7	**1970**	12	56.7	4.7	**1970**	2	6.8	3.4									
1971	35	211.2	6.0	**1971**	13	66.9	5.1	**1971**	0	0.0										
1972	31	183.8	5.9	**1972**	14	73.7	5.3	**1972**	0	0.0										
1973	20	117.7	5.9	**1973**	9	47.2	5.2	**1973**	0	0.0										
1974	14	87.8	6.3	**1974**	3	16.9	5.6	**1974**	0	0.0										
1975	19	108.1	5.7	**1975**	12	64.6	5.4	**1975**	0	0.0										
1976	27	139.1	5.2	**1976**	15	62.5	4.2	**1976**	5	12.2	2.4									
1977	19	114.0	6.0	**1977**	7	37.1	5.3	**1977**	0	0.0										
1978	15	91.1	6.1	**1978**	4	20.8	5.2	**1978**	0	0.0										
1979	20	118.9	5.9	**1979**	9	48.0	5.3	**1979**	0	0.0										
1980	19	115.4	6.1	**1980**	6	32.4	5.4	**1980**	0	0.0										
1981	23	127.6	5.5	**1981**	13	65.2	5.0	**1981**	1	3.4	3.4									
1982	30	166.0	5.5	**1982**	17	82.4	4.8	**1982**	3	10.6	3.5	20 years	33.4	5.7	20 years	16.8	4.9	20 years	3.1	3.2
1983	28	160.0	5.7	**1983**	12	56.1	4.7	**1983**	3	10.7	3.6	19 years	33.5	5.7	19 years	16.7	4.9	19 years	3.1	3.2
1984	29	170.3	5.9	**1984**	10	49.1	4.9	**1984**	0	0.0		18 years	33.8	5.7	18 years	17.0	4.9	18 years	3.1	3.1
1985	23	136.5	5.9	**1985**	10	50.7	5.1	**1985**	0	0.0		17 years	34.1	5.7	17 years	17.4	4.9	17 years	3.2	3.1
1986	17	103.5	6.1	**1986**	8	44.3	5.5	**1986**	0	0.0		16 years	34.8	5.7	16 years	17.9	4.9	16 years	3.4	3.1
1987	16	96.2	6.0	**1987**	6	31.6	5.3	**1987**	0	0.0		15 years	36.0	5.7	15 years	18.5	4.9	15 years	3.7	3.1
1988	13	80.9	6.2	**1988**	3	16.8	5.6	**1988**	0	0.0		14 years	37.4	5.6	14 years	19.4	4.8	14 years	3.9	3.1
1989	29	170.6	5.9	**1989**	12	61.6	5.1	**1989**	0	0.0		13 years	39.3	5.6	13 years	20.7	4.8	13 years	4.2	3.1
1990	13	80.8	6.2	**1990**	1	5.0	5.0	**1990**	0	0.0		12 years	40.2	5.5	12 years	21.4	4.7	12 years	4.6	3.1
1991	0	0.0		**1991**	0	0.0		**1991**	0	0.0		11 years	42.6	5.5	11 years	23.3	4.7	11 years	5.0	3.1
1992	0	0.0		**1992**	0	0.0		**1992**	0	0.0		10 years	46.9	5.5	10 years	25.6	4.7	10 years	5.5	3.1
1993	47	271.8	5.8	**1993**	25	130.6	5.2	**1993**	1	3.9	3.9	9 years	52.1	5.5	9 years	28.4	4.7	9 years	6.1	3.1
1994	68	341.0	5.0	**1994**	41	166.6	4.1	**1994**	16	41.5	2.6	8 years	52.8	5.4	8 years	28.9	4.6	8 years	6.8	3.0
1995	60	338.7	5.6	**1995**	32	158.4	5.0	**1995**	3	9.7	3.2	7 years	50.6	5.5	7 years	27.1	4.7	7 years	5.4	3.1
1996	44	256.3	5.8	**1996**	18	89.6	5.0	**1996**	2	6.6	3.3	6 years	49.0	5.5	6 years	26.3	4.7	6 years	5.8	3.1
1997	51	251.1	4.9	**1997**	34	140.7	4.1	**1997**	13	37.1	2.9	5 years	50.0	5.4	5 years	28.0	4.6	5 years	6.6	3.1
1998	43	233.4	5.4	**1998**	25	120.6	4.8	**1998**	4	10.8	2.7	4 years	49.8	5.5	4 years	26.5	4.7	4 years	5.0	3.1
1999	56	306.2	5.5	**1999**	29	132.1	4.6	**1999**	8	25.0	3.1	3 years	52.0	5.5	3 years	27.0	4.7	3 years	5.3	3.2
2000	50	283.6	5.7	**2000**	23	109.8	4.8	**2000**	5	17.3	3.5	2 years	50.0	5.6	2 years	26.0	4.8	2 years	4.0	3.3
2001	50	273.8	5.5	**2001**	29	138.1	4.8	**2001**	3	9.4	3.1	1 years	50.0	5.5	1 years	29.0	4.8	1 years	3.0	3.1
2002	62	317.4	5.1	**2002**	39	168.8	4.3	**2002**	12	36.6	3.1	0 years	62.0	5.1	0 years	39.0	4.3	0 years	12.0	3.1
2003	49	274.4	5.6	**2003**	25	119.6	4.8	**2003**	6	18.4	3.1	1 years	49.0	5.6	1 years	25.0	4.8	1 years	6.0	3.1
2004	56	309.1	5.5	**2004**	30	143.2	4.8	**2004**	4	12.1	3.0	2 years	52.5	5.6	2 years	27.5	4.8	2 years	5.0	3.0
2005	47	268.9	5.7	**2005**	19	90.0	4.7	**2005**	2	6.0	3.0	3 years	50.7	5.6	3 years	24.7	4.8	3 years	4.0	3.0
2006	65	326.9	5.0	**2006**	45	197.5	4.4	**2006**	15	45.5	3.0	4 years	54.3	5.5	4 years	29.8	4.7	4 years	6.8	3.0
2007	65	343.4	5.3	**2007**	37	165.2	4.5	**2007**	12	37.8	3.2	5 years	56.4	5.4	5 years	31.2	4.6	5 years	7.8	3.1
2008	58	304.9	5.3	**2008**	40	188.8	4.7	**2008**	8	28.5	3.6	6 years	56.7	5.4	6 years	32.7	4.6	6 years	7.8	3.1
2009	41	240.2	5.9	**2009**	15	71.6	4.8	**2009**	3	10.9	3.6	7 years	54.4	5.5	7 years	30.1	4.7	7 years	7.1	3.2
2010	70	382.0	5.5	**2010**	35	159.4	4.6	**2010**	10	34.5	3.5	8 years	56.4	5.5	8 years	30.8	4.6	8 years	7.5	3.2
2011	55	314.5	5.7	**2011**	25	120.9	4.8	**2011**	4	13.6	3.4	9 years	56.2	5.5	9 years	30.1	4.7	9 years	7.1	3.3
2012	75	417.2	5.6	**2012**	39	185.8	4.8	**2012**	9	30.3	3.4	10 years	58.1	5.5	10 years	31.0	4.7	10 years	7.3	3.3
2013	45	254.4	5.7	**2013**	21	102.4	4.9	**2013**	3	11.5	3.8	11 years	56.9	5.5	11 years	30.1	4.7	11 years	6.9	3.3
2014	50	264.3	5.3	**2014**	29	130.1	4.5	**2014**	10	34.7	3.5	12 years	56.3	5.5	12 years	30.0	4.7	12 years	7.2	3.3
2015	69	354.6	5.1	**2015**	45	201.2	4.5	**2015**	15	50.7	3.4	13 years	57.3	5.5	13 years	31.2	4.7	13 years	7.8	3.3
2016	76	409.7	5.4	**2016**	43	198.4	4.6	**2016**	9	24.4	2.7	14 years	58.6	5.5	14 years	32.0	4.7	14 years	7.9	3.3
2017	57	307.0	5.4	**2017**	31	138.3	4.5	**2017**	9	26.5	2.9	15 years	58.5	5.5	15 years	31.9	4.6	15 years	7.9	3.3
2018	71	386.1	5.4	**2018**	35	155.0	4.4	**2018**	10	29.0	2.9	16 years	59.3	5.5	16 years	32.1	4.6	16 years	8.1	3.2
2019	64	315.3	4.9	**2019**	44	186.8	4.2	**2019**	18	55.8	3.1	17 years	59.6	5.4	17 years	32.8	4.6	17 years	8.6	3.2
2020	69	343.4	5.0	**2020**	44	182.6	4.2	**2020**	15	41.2	2.7	18 years	60.1	5.4	18 years	33.4	4.6	18 years	9.0	3.2
2021	57	320.3	5.6	**2021**	32	160.4	5.0	**2021**	3	8.5	2.8	19 years	59.9	5.4	19 years	33.4	4.6	19 years	8.7	3.2
2022	62	349.3	5.6	**2022**	26	118.9	4.6	**2022**	5	15.6	3.1	20 years	60.1	5.4	20 years	33.0	4.6	20 years	8.5	3.2

Original AWS probe Rosemount

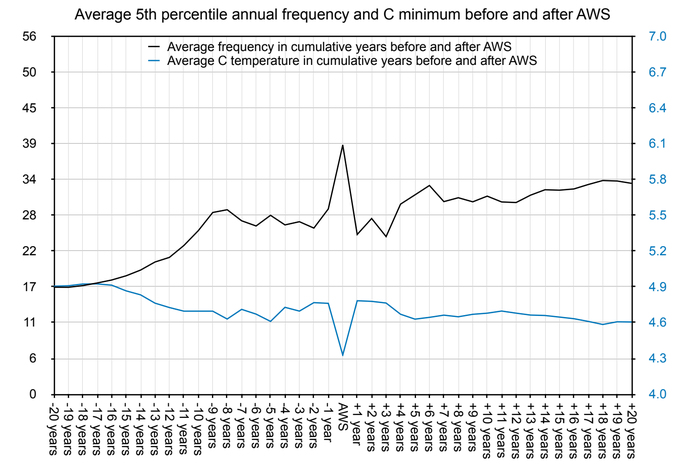
6 years				**6 years**				**6 years**			
Pre	49.0	267.4	5.5	**Pre**	26.3	121.8	4.7	**Pre**	5.8	17.7	3.1
Post	56.7	304.6	5.4	**Post**	32.7	150.7	4.6	**Post**	7.8	24.7	3.1

		AWS introduction
		Probe replacement
		Small screen introduction

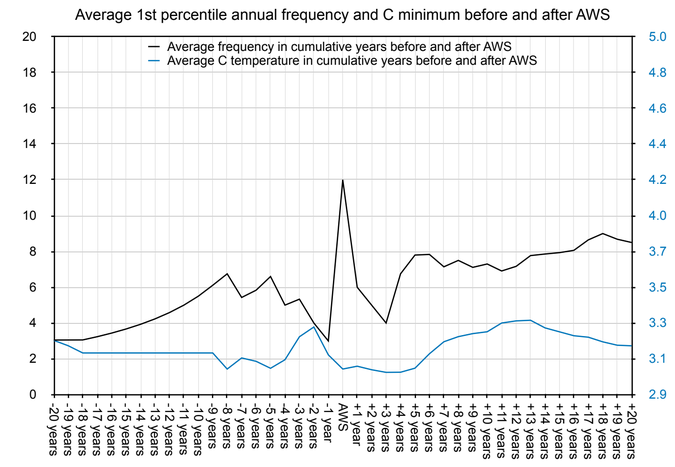
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS

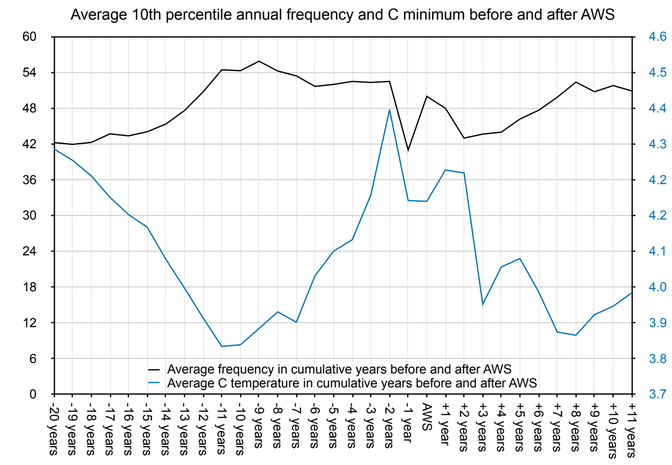


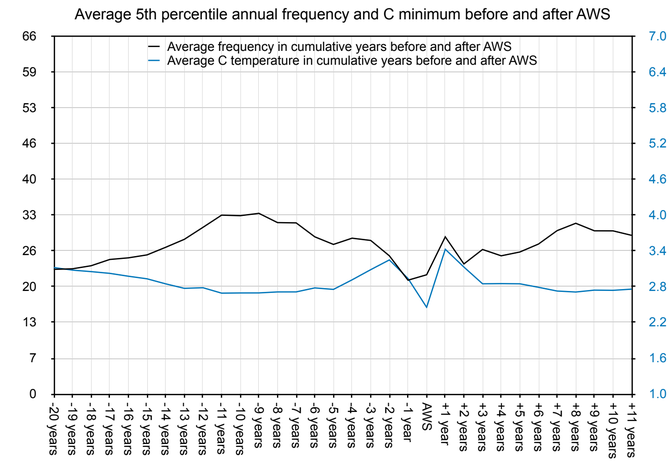
10th 6.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1957	38	185.6	4.9	1957	15	54.2	3.6	1957	0	0.0										
1958	24	118.2	4.9	1958	10	39.8	4.0	1958	0	0.0										
1959	23	118.8	5.2	1959	5	19.8	4.0	1959	0	0.0										
1960	55	264.4	4.8	1960	20	68.0	3.4	1960	1	1.4	1.4									
1961	40	182.4	4.6	1961	20	72.8	3.6	1961	0	0.0										
1962	34	171.9	5.1	1962	10	40.4	4.0	1962	0	0.0										
1963	31	161.5	5.2	1963	7	25.5	3.6	1963	0	0.0										
1964	44	200.7	4.6	1964	22	75.3	3.4	1964	2	1.7	0.9									
1965	32	154.7	4.8	1965	14	51.9	3.7	1965	1	1.7	1.7									
1966	37	172.2	4.7	1966	16	54.8	3.4	1966	2	2.8	1.4									
1967	27	131.1	4.9	1967	13	54.2	4.2	1967	0	0.0										
1968	48	213.8	4.5	1968	22	68.6	3.1	1968	3	5.5	1.8									
1969	26	140.1	5.4	1969	5	17.8	3.6	1969	1	1.9	1.9									
1970	50	208.3	4.2	1970	31	104.4	3.4	1970	4	4.7	1.2									
1971	33	160.9	4.9	1971	14	54.3	3.9	1971	0	0.0										
1972	28	124.0	4.4	1972	17	61.1	3.6	1972	1	1.7	1.7									
1973	3	16.0	5.3	1973	0	0.0		1973	0	0.0										
1974	26	141.0	5.4	1974	2	8.0	4.0	1974	0	0.0										
1975	17	88.5	5.2	1975	3	11.0	3.7	1975	0	0.0										
1976	15	72.0	4.8	1976	6	22.0	3.7	1976	1	2.0	2.0									
1977	39	189.9	4.9	1977	13	45.7	3.5	1977	2	3.0	1.5									
1978	21	101.4	4.8	1978	8	30.0	3.8	1978	1	2.0	2.0									
1979	18	97.3	5.4	1979	2	8.0	4.0	1979	0	0.0										
1980	11	60.5	5.5	1980	0	0.0		1980	0	0.0										
1981	19	95.0	5.0	1981	7	29.5	4.2	1981	0	0.0										
1982	12	61.5	5.1	1982	4	16.7	4.2	1982	0	0.0										
1983	7	32.1	4.6	1983	4	15.1	3.8	1983	1	2.0	2.0									
1984	38	199.9	5.3	1984	9	35.2	3.9	1984	1	1.8	1.8									
1985	39	191.9	4.9	1985	17	63.5	3.7	1985	1	2.0	2.0									
1986	41	186.8	4.6	1986	20	68.9	3.4	1986	3	2.9	1.0									
1987	39	199.2	5.1	1987	14	56.9	4.1	1987	0	0.0										
1988	14	70.3	5.0	1988	5	19.5	3.9	1988	0	0.0										
1989	35	151.6	4.3	1989	21	73.5	3.5	1989	0	0.0										
1990	33	152.9	4.6	1990	15	51.9	3.5	1990	0	0.0										
1991	48	233.5	4.9	1991	21	83.1	4.0	1991	2	3.4	1.7	20 years	42.3	4.3	20 years	23.0	3.1	20 years	6.0	1.0
1992	36	179.6	5.0	1992	13	45.8	3.5	1992	0	0.0		19 years	41.9	4.3	19 years	23.1	3.1	19 years	6.2	1.0
1993	18	93.0	5.2	1993	4	14.2	3.6	1993	1	0.9	0.9	18 years	42.3	4.2	18 years	23.7	3.1	18 years	6.5	1.0
1994	49	239.8	4.9	1994	20	75.9	3.8	1994	2	3.8	1.9	17 years	43.7	4.2	17 years	24.8	3.0	17 years	6.8	1.0
1995	33	152.7	4.6	1995	17	61.6	3.6	1995	2	3.6	1.8	16 years	43.4	4.2	16 years	25.1	3.0	16 years	7.1	0.9
1996	26	136.5	5.3	1996	6	24.7	4.1	1996	0	0.0		15 years	44.1	4.1	15 years	25.7	2.9	15 years	7.5	0.8
1997	16	79.7	5.0	1997	8	30.6	3.8	1997	0	0.0		14 years	45.4	4.0	14 years	27.1	2.8	14 years	8.0	0.8
1998	10	48.7	4.9	1998	2	5.3	2.7	1998	0	0.0		13 years	47.6	4.0	13 years	28.5	2.8	13 years	8.6	0.8
1999	10	46.8	4.7	1999	6	22.7	3.8	1999	0	0.0		12 years	50.8	3.9	12 years	30.8	2.8	12 years	9.3	0.8
2000	56	211.6	3.8	2000	34	90.4	2.7	2000	9	7.8	0.9	11 years	54.5	3.8	11 years	33.0	2.7	11 years	10.2	0.8
2001	40	138.3	3.5	2001	29	78.0	2.7	2001	9	6.0	0.7	10 years	54.3	3.8	10 years	32.9	2.7	10 years	10.3	0.8
2002	69	243.7	3.5	2002	47	120.5	2.6	2002	14	9.9	0.7	9 years	55.9	3.9	9 years	33.3	2.7	9 years	10.4	0.8
2003	60	245.3	4.1	2003	32	86.7	2.7	2003	13	13.1	1.0	8 years	54.3	3.9	8 years	31.6	2.7	8 years	10.0	0.9
2004	64	203.7	3.2	2004	47	108.6	2.3	2004	18	5.9	0.3	7 years	53.4	3.9	7 years	31.6	2.7	7 years	9.6	0.8
2005	50	184.4	3.7	2005	36	104.6	2.9	2005	7	2.9	0.4	6 years	51.7	4.0	6 years	29.0	2.8	6 years	8.2	0.9
2006	50	197.3	3.9	2006	23	48.6	2.1	2006	8	-3.9	-0.5	5 years	52.0	4.1	5 years	27.6	2.8	5 years	8.4	1.0
2007	53	198.8	3.8	2007	30	72.1	2.4	2007	12	11.6	1.0	4 years	52.5	4.1	4 years	28.8	2.9	4 years	8.5	1.4
2008	52	196.2	3.8	2008	34	93.8	2.8	2008	12	12.0	1.0	3 years	52.3	4.2	3 years	28.3	3.1	3 years	7.3	1.5
2009	64	297.3	4.6	2009	30	106.8	3.6	2009	2	3.7	1.9	2 years	52.5	4.4	2 years	25.5	3.2	2 years	5.0	1.8
2010	41	171.7	4.2	2010	21	61.7	2.9	2010	8	14.0	1.8	1 years	41.0	4.2	1 years	21.0	2.9	1 years	8.0	1.8
2011	50	209.3	4.2	2011	22	54.0	2.5	2011	9	8.0	0.9	0 years	50.0	4.2	0 years	22.0	2.5	0 years	9.0	0.9
2012	48	204.7	4.3	2012	29	99.4	3.4	2012	2	1.4	0.7	1 years	48.0	4.3	1 years	29.0	3.4	1 years	2.0	0.7
2013	38	161.5	4.3	2013	19	53.8	2.8	2013	3	2.7	0.9	2 years	43.0	4.3	2 years	24.0	3.1	2 years	2.5	0.8
2014	45	147.0	3.3	2014	32	73.2	2.3	2014	15	12.0	0.8	3 years	43.7	3.9	3 years	26.7	2.8	3 years	6.7	0.8
2015	45	193.6	4.3	2015	22	62.9	2.9	2015	6	3.4	0.6	4 years	44.0	4.0	4 years	25.5	2.9	4 years	6.5	0.7
2016	55	226.9	4.1	2016	29	82.3	2.8	2016	8	7.6	1.0	5 years	46.2	4.0	5 years	26.2	2.8	5 years	6.8	0.8
2017	55	194.7	3.5	2017	35	87.4	2.5	2017	14	13.3	1.0	6 years	47.7	4.0	6 years	27.7	2.8	6 years	8.0	0.8
2018	63	204.8	3.3	2018	45	105.8	2.4	2018	17	6.3	0.4	7 years	49.9	3.9	7 years	30.1	2.7	7 years	9.3	0.7
2019	70	265.5	3.8	2019	41	106.4	2.6	2019	11	0.9	0.1	8 years	52.4	3.8	8 years	31.5	2.7	8 years	9.5	0.7
2020	38	164.0	4.3	2020	19	56.9	3.0	2020	4	4.5	1.1	9 years	50.8	3.9	9 years	30.1	2.7	9 years	8.9	0.7
2021	61	250.9	4.1	2021	30	81.3	2.7	2021	9	10.8	1.2	10 years	51.8	3.9	10 years	30.1	2.7	10 years	8.9	0.8
2022	42	180.3	4.3	2022	21	62.1	3.0	2022	6	6.6	1.1	11 years	50.9	4.0	11 years	29.3	2.8	11 years	8.6	0.8

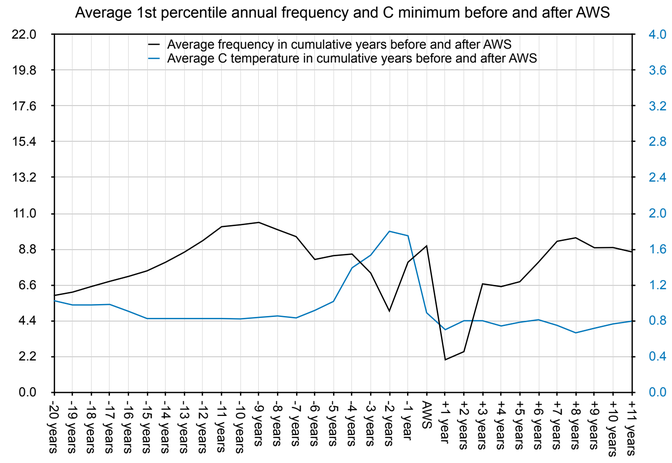
Original AWS probe type unknown

6 years				6 years				6 years			
Pre	51.7	207.6	4.0	Pre	29.0	81.3	2.8	Pre	8.2	6.7	0.9
Post	47.7	188.1	4.0	Post	27.7	76.5	2.8	Post	8.0	6.7	0.8

		AWS introduction
		Probe replacement
		Small screen introduction







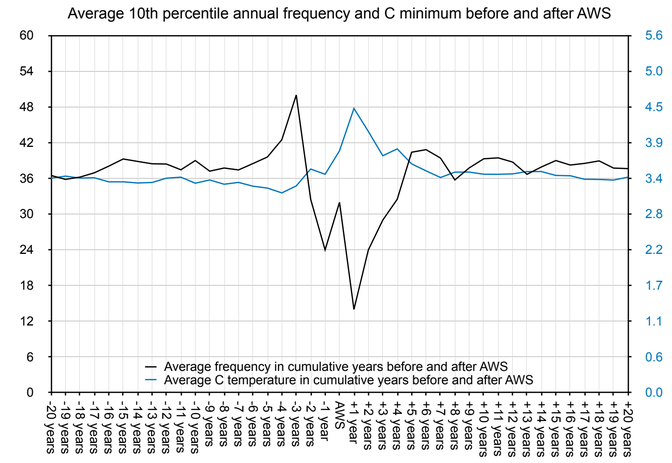
10th 5.7	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 3.5	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1970	46	132.0	2.9	**1970**	27	43.1	1.6	**1970**	9	-3.8	-0.4									
1971	36	92.5	2.6	**1971**	24	32.6	1.4	**1971**	7	-3.8	-0.5									
1972	30	97.2	3.2	**1972**	16	27.3	1.7	**1972**	2	0.0	0.0									
1973	3	12.6	4.2	**1973**	0	0.0		**1973**	0	0.0										
1974	42	153.2	3.6	**1974**	17	31.9	1.9	**1974**	1	-1.4	-1.4									
1975	28	88.5	3.2	**1975**	13	15.5	1.2	**1975**	5	0.2	0.0									
1976	67	202.1	3.0	**1976**	34	54.4	1.6	**1976**	9	-4.8	-0.5									
1977	49	135.3	2.8	**1977**	30	50.5	1.7	**1977**	9	-4.7	-0.5	20 years	36.5	3.4	20 years	18.1	1.9	20 years	4.1	-0.4
1978	29	114.3	3.9	**1978**	14	39.3	2.8	**1978**	0	0.0		19 years	35.8	3.4	19 years	17.5	1.9	19 years	3.8	-0.4
1979	24	79.0	3.3	**1979**	12	23.5	2.0	**1979**	3	0.2	0.1	18 years	36.2	3.4	18 years	17.7	1.9	18 years	4.1	-0.4
1980	19	83.4	4.4	**1980**	4	12.2	3.1	**1980**	0	0.0		17 years	36.9	3.4	17 years	18.0	1.9	17 years	4.1	-0.4
1981	20	66.0	3.3	**1981**	11	21.4	1.9	**1981**	1	-0.6	-0.6	16 years	38.1	3.3	16 years	18.9	1.8	16 years	4.4	-0.4
1982	45	160.5	3.6	**1982**	21	48.2	2.3	**1982**	2	0.2	0.1	15 years	39.3	3.3	15 years	19.4	1.8	15 years	4.6	-0.4
1983	44	140.2	3.2	**1983**	21	27.8	1.3	**1983**	6	-7.3	-1.2	14 years	38.9	3.3	14 years	19.3	1.7	14 years	4.8	-0.5
1984	39	96.9	2.5	**1984**	22	20.1	0.9	**1984**	8	-11.2	-1.4	13 years	38.5	3.3	13 years	19.2	1.8	13 years	4.7	-0.4
1985	49	156.3	3.2	**1985**	25	41.2	1.6	**1985**	8	-2.4	-0.3	12 years	38.4	3.4	12 years	18.9	1.8	12 years	4.4	-0.3
1986	22	95.2	4.3	**1986**	7	18.0	2.6	**1986**	0	0.0		11 years	37.5	3.4	11 years	18.4	1.9	11 years	4.1	-0.3
1987	55	155.5	2.8	**1987**	29	33.9	1.2	**1987**	11	-5.8	-0.5	10 years	39.0	3.3	10 years	19.5	1.8	10 years	4.5	-0.3
1988	33	127.8	3.9	**1988**	12	30.7	2.6	**1988**	1	-0.5	-0.5	9 years	37.2	3.3	9 years	18.4	1.9	9 years	3.8	-0.3
1989	40	122.7	3.1	**1989**	20	27.5	1.4	**1989**	7	-1.0	-0.1	8 years	37.8	3.3	8 years	19.3	1.8	8 years	4.1	-0.2
1990	31	113.3	3.7	**1990**	12	18.0	1.5	**1990**	2	-0.9	-0.5	7 years	37.4	3.3	7 years	19.1	1.8	7 years	3.7	-0.3
1991	33	111.7	3.4	**1991**	14	22.4	1.6	**1991**	3	-1.5	-0.5	6 years	38.5	3.2	6 years	20.3	1.9	6 years	4.0	-0.2
1992	28	98.3	3.5	**1992**	15	36.4	2.4	**1992**	0	0.0		5 years	39.6	3.2	5 years	21.6	1.9	5 years	4.2	-0.1
1993	20	56.1	2.8	**1993**	11	16.5	1.5	**1993**	2	0.0	0.0	4 years	42.5	3.1	4 years	23.3	1.8	4 years	5.3	-0.1
1994	85	230.6	2.7	**1994**	52	79.4	1.5	**1994**	15	-0.4	-0.0	3 years	50.0	3.2	3 years	27.3	1.9	3 years	6.3	-0.2
1995	41	147.2	3.6	**1995**	18	36.5	2.0	**1995**	3	-0.7	-0.2	2 years	32.5	3.5	2 years	15.0	2.1	2 years	2.0	-0.3
1996	24	82.2	3.4	**1996**	12	26.2	2.2	**1996**	1	-0.3	-0.3	1 years	24.0	3.4	1 years	12.0	2.2	1 years	1.0	-0.3
1997	32	121.4	3.8	**1997**	13	32.6	2.5	**1997**	0	0.0		0 years	32.0	3.8	0 years	13.0	2.5	0 years	0.0	
1998	14	62.4	4.5	**1998**	3	9.0	3.0	**1998**	0	0.0		1 years	14.0	4.5	1 years	3.0	3.0	1 years	0.0	
1999	34	127.0	3.7	**1999**	15	33.9	2.3	**1999**	1	-0.7	-0.7	2 years	24.0	4.1	2 years	9.0	2.6	2 years	0.5	-0.7
2000	39	115.2	3.0	**2000**	22	36.3	1.7	**2000**	7	-4.4	-0.6	3 years	29.0	3.7	3 years	13.3	2.3	3 years	2.7	-0.7
2001	43	178.3	4.1	**2001**	14	39.7	2.8	**2001**	0	0.0		4 years	32.5	3.8	4 years	13.5	2.4	4 years	2.0	-0.7
2002	72	190.6	2.6	**2002**	46	69.2	1.5	**2002**	14	-7.5	-0.5	5 years	40.4	3.6	5 years	20.0	2.3	5 years	4.4	-0.6
2003	43	126.1	2.9	**2003**	20	20.3	1.0	**2003**	10	-7.5	-0.8	6 years	40.8	3.5	6 years	20.0	2.0	6 years	5.3	-0.7
2004	31	85.2	2.7	**2004**	21	39.4	1.9	**2004**	2	-1.6	-0.8	7 years	39.4	3.4	7 years	20.1	2.0	7 years	4.9	-0.7
2005	10	40.5	4.1	**2005**	4	9.8	2.5	**2005**	0	0.0		8 years	35.8	3.5	8 years	18.1	2.1	8 years	4.3	-0.7
2006	54	186.9	3.5	**2006**	26	52.5	2.0	**2006**	4	-0.1	-0.0	9 years	37.8	3.5	9 years	19.0	2.1	9 years	4.2	-0.6
2007	53	165.8	3.1	**2007**	31	58.6	1.9	**2007**	6	1.2	0.2	10 years	39.3	3.4	10 years	20.2	2.1	10 years	4.4	-0.5
2008	41	139.9	3.4	**2008**	17	22.9	1.3	**2008**	5	-2.8	-0.6	11 years	39.5	3.4	11 years	19.9	2.0	11 years	4.5	-0.5
2009	31	108.5	3.5	**2009**	13	24.2	1.9	**2009**	1	0.5	0.5	12 years	38.8	3.4	12 years	19.3	2.0	12 years	4.2	-0.4
2010	12	46.9	3.9	**2010**	4	8.5	2.1	**2010**	0	0.0		13 years	36.7	3.5	13 years	18.2	2.0	13 years	3.8	-0.4
2011	54	187.2	3.5	**2011**	24	53.1	2.2	**2011**	0	0.0		14 years	37.9	3.5	14 years	18.6	2.0	14 years	3.6	-0.4
2012	54	138.0	2.6	**2012**	33	41.5	1.3	**2012**	11	-7.5	-0.7	15 years	39.0	3.4	15 years	19.5	2.0	15 years	4.1	-0.4
2013	27	89.9	3.3	**2013**	16	35.2	2.2	**2013**	0	0.0		16 years	38.3	3.4	16 years	19.3	2.0	16 years	3.8	-0.4
2014	43	105.9	2.5	**2014**	28	36.7	1.3	**2014**	8	-3.6	-0.5	17 years	38.5	3.3	17 years	19.8	1.9	17 years	4.1	-0.4
2015	46	151.7	3.3	**2015**	23	45.2	2.0	**2015**	3	-2.7	-0.9	18 years	38.9	3.3	18 years	20.0	1.9	18 years	4.0	-0.4
2016	16	50.6	3.2	**2016**	9	19.2	2.1	**2016**	1	-0.7	-0.7	19 years	37.7	3.3	19 years	19.4	1.9	19 years	3.8	-0.5
2017	36	152.9	4.2	**2017**	10	24.8	2.5	**2017**	0	0.0		20 years	37.7	3.4	20 years	19.0	2.0	20 years	3.7	-0.5
2018	41	138.6	3.4	**2018**	20	40.8	2.0	**2018**	2	-0.8	-0.4									
2019	40	163.9	4.1	**2019**	11	27.7	2.5	**2019**	0	0.0										
2020	22	73.8	3.4	**2020**	12	29.2	2.4	**2020**	0	0.0										
2021	33	121.6	3.7	**2021**	10	14.1	1.4	**2021**	3	-1.6	-0.5									
2022	36	94.2	2.6	**2022**	21	23.5	1.1	**2022**	8	-1.7	-0.2									

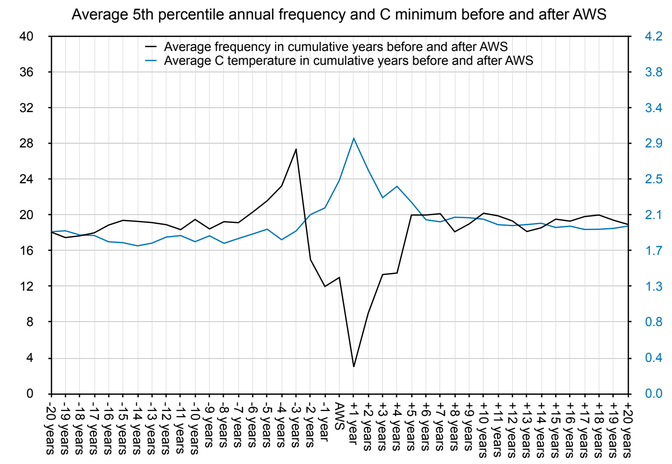
Original AWS probe Rosemount

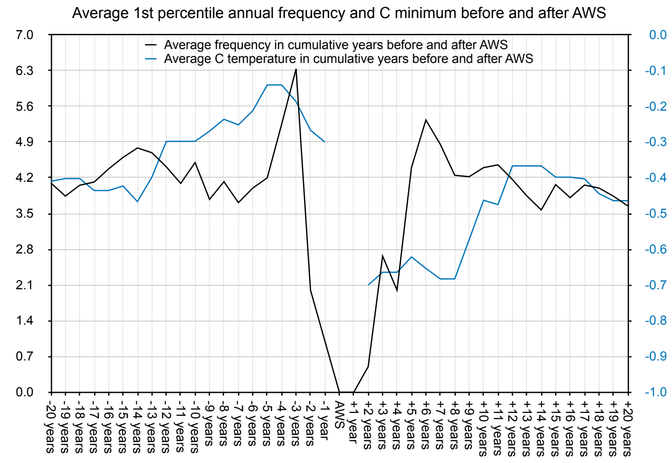
10 years				**10 years**				**10 years**			
Pre AWS	39.0	124.5	3.3	**Pre AWS**	19.5	32.8	1.8	**Pre AWS**	4.5	-1.1	-0.3
Post AWS	39.3	127.8	3.4	**Post AWS**	20.2	36.9	2.1	**Post AWS**	4.4	-2.1	-0.5
Pre small	38.8	125.8	3.4	**Pre small**	19.0	31.9	1.8	**Pre small**	4.4	-1.1	-0.3
Post small	37.2	123.4	3.5	**Post small**	18.4	34.3	2.1	**Post small**	3.8	-2.2	-0.6
5 years				**5 years**				**5 years**			
Pre AWS	39.6	122.9	3.2	**Pre AWS**	21.6	39.0	1.9	**Pre AWS**	4.2	-0.3	-0.1
Post AWS	40.4	134.7	3.6	**Post AWS**	20.0	37.6	2.3	**Post AWS**	4.4	-2.5	-0.6
Pre small	41.4	128.8	3.2	**Pre small**	22.0	38.2	1.8	**Pre small**	4.6	-0.5	-0.2
Post small	32.4	120.9	3.8	**Post small**	13.4	30.3	2.5	**Post small**	1.6	-1.0	-0.7

AWS introduction

Small screen introduction





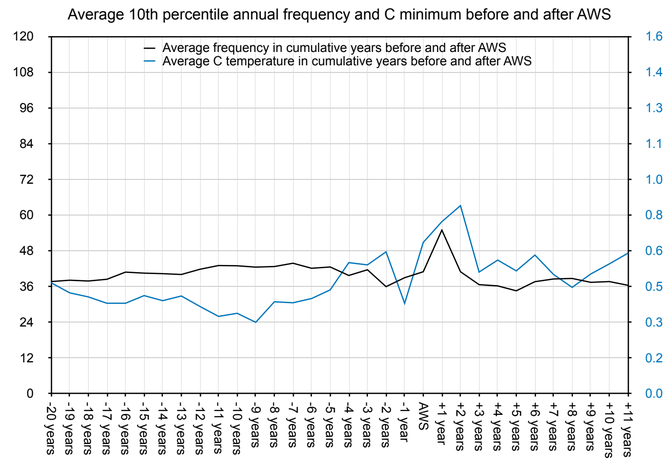


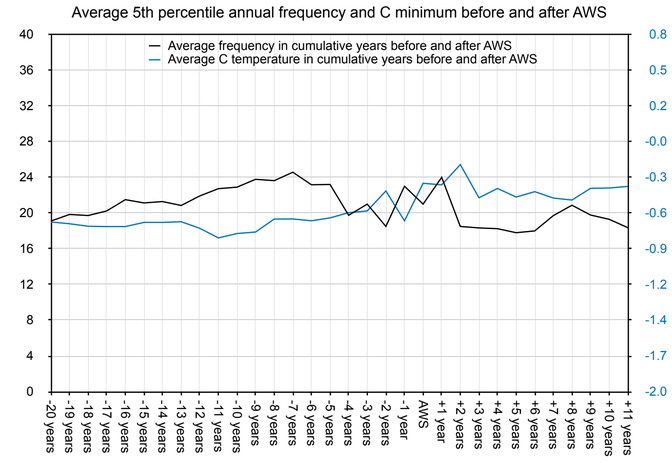
10th 2.5	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1954	44	36.9	0.8	**1954**	20	-7.4	-0.4	**1954**	5	-8.5	-1.7									
1955	28	6.6	0.2	**1955**	18	-11.7	-0.7	**1955**	4	-9.1	-2.3									
1956	29	28.1	1.0	**1956**	15	1.1	0.1	**1956**	0	0.0										
1957	45	27.8	0.6	**1957**	23	-13.5	-0.6	**1957**	3	-7.2	-2.4									
1958	26	19.4	0.7	**1958**	13	-4.9	-0.4	**1958**	1	-1.7	-1.7									
1959	26	22.8	0.9	**1959**	10	-4.0	-0.4	**1959**	2	-4.6	-2.3									
1960	38	29.4	0.8	**1960**	17	-5.3	-0.3	**1960**	2	-3.8	-1.9									
1961	28	6.2	0.2	**1961**	18	-9.3	-0.5	**1961**	4	-7.9	-2.0									
1962	27	24.9	0.9	**1962**	12	-2.1	-0.2	**1962**	2	-3.4	-1.7									
1963	14	21.2	1.5	**1963**	3	0.5	0.2	**1963**	0	0.0										
1964	34	18.6	0.5	**1964**	19	-7.3	-0.4	**1964**	2	-3.3	-1.7									
1965	42	43.9	1.0	**1965**	17	-1.0	-0.1	**1965**	0	0.0										
1966	46	34.6	0.8	**1966**	21	-7.2	-0.3	**1966**	2	-4.4	-2.2									
1967	23	27.8	1.2	**1967**	8	0.7	0.1	**1967**	0	0.0										
1968	37	21.7	0.6	**1968**	17	-12.1	-0.7	**1968**	4	-11.5	-2.9									
1969	33	18.4	0.6	**1969**	19	-7.0	-0.4	**1969**	3	-6.0	-2.0									
1970	65	-27.1	-0.4	**1970**	41	-67.8	-1.7	**1970**	18	-58.9	-3.3									
1971	59	-8.3	-0.1	**1971**	37	-46.1	-1.2	**1971**	12	-36.3	-3.0									
1972	37	17.9	0.5	**1972**	19	-12.3	-0.6	**1972**	4	-7.8	-2.0									
1973	27	19.5	0.7	**1973**	11	-4.6	-0.4	**1973**	2	-4.4	-2.2									
1974	32	14.3	0.4	**1974**	20	-7.5	-0.4	**1974**	2	-5.3	-2.7									
1975	30	38.8	1.3	**1975**	8	1.7	0.2	**1975**	0	0.0										
1976	41	31.2	0.8	**1976**	17	-9.8	-0.6	**1976**	1	-1.6	-1.6									
1977	40	22.0	0.6	**1977**	20	-13.4	-0.7	**1977**	6	-10.3	-1.7									
1978	38	26.2	0.7	**1978**	16	-13.7	-0.9	**1978**	5	-12.4	-2.5									
1979	45	31.4	0.7	**1979**	26	-1.5	-0.1	**1979**	1	-2.0	-2.0									
1980	42	33.2	0.8	**1980**	21	-4.2	-0.2	**1980**	2	-4.3	-2.2									
1981	40	22.6	0.6	**1981**	21	-12.4	-0.6	**1981**	5	-9.0	-1.8									
1982	65	28.9	0.4	**1982**	32	-29.3	-0.9	**1982**	13	-27.3	-2.1									
1983	27	0.3	0.0	**1983**	21	-7.6	-0.4	**1983**	4	-7.7	-1.9									
1984	30	37.0	1.2	**1984**	8	1.3	0.2	**1984**	0	0.0										
1985	31	29.3	0.9	**1985**	13	-3.4	-0.3	**1985**	2	-3.9	-2.0									
1986	40	-26.2	-0.7	**1986**	28	-49.6	-1.8	**1986**	16	-47.3	-3.0									
1987	33	9.6	0.3	**1987**	20	-10.7	-0.5	**1987**	4	-9.1	-2.3									
1988	23	32.4	1.4	**1988**	4	0.1	0.0	**1988**	0	0.0										
1989	24	26.7	1.1	**1989**	10	0.6	0.1	**1989**	1	-1.6	-1.6									
1990	22	21.2	1.0	**1990**	10	-1.0	-0.1	**1990**	1	-1.7	-1.7									
1991	29	38.1	1.3	**1991**	5	-2.1	-0.4	**1991**	0	0.0		20 years	37.7	0.5	20 years	19.1	-0.7	20 years	4.4	-2.4
1992	43	32.7	0.8	**1992**	22	-7.7	-0.4	**1992**	2	-3.9	-2.0	19 years	38.2	0.5	19 years	19.8	-0.7	19 years	4.6	-2.4
1993	28	24.9	0.9	**1993**	11	-7.3	-0.7	**1993**	2	-4.1	-2.1	18 years	37.9	0.4	18 years	19.7	-0.7	18 years	4.7	-2.4
1994	0	0.0		**1994**	0	0.0		**1994**	0	0.0		17 years	38.5	0.4	17 years	20.2	-0.7	17 years	4.9	-2.5
1995	46	-4.9	-0.1	**1995**	27	-32.3	-1.2	**1995**	13	-30.6	-2.4	16 years	40.9	0.4	16 years	21.5	-0.7	16 years	5.2	-2.5
1996	43	32.5	0.8	**1996**	19	-12.8	-0.7	**1996**	3	-6.3	-2.1	15 years	40.5	0.4	15 years	21.1	-0.7	15 years	4.7	-2.5
1997	44	6.4	0.1	**1997**	27	-20.0	-0.7	**1997**	6	-10.4	-1.7	14 years	40.4	0.4	14 years	21.3	-0.7	14 years	4.8	-2.5
1998	19	19.0	1.0	**1998**	8	-0.4	-0.1	**1998**	0	0.0		13 years	40.1	0.4	13 years	20.8	-0.7	13 years	4.7	-2.6
1999	28	24.7	0.9	**1999**	13	1.4	0.1	**1999**	1	-3.0	-3.0	12 years	41.8	0.4	12 years	21.9	-0.7	12 years	5.1	-2.6
2000	44	9.1	0.2	**2000**	21	-23.9	-1.1	**2000**	5	-12.9	-2.6	11 years	43.1	0.3	11 years	22.7	-0.8	11 years	5.5	-2.5
2001	47	34.0	0.7	**2001**	15	-13.0	-0.9	**2001**	4	-9.0	-2.3	10 years	43.0	0.4	10 years	22.9	-0.8	10 years	5.5	-2.5
2002	41	-17.0	-0.4	**2002**	25	-39.0	-1.6	**2002**	11	-32.0	-2.9	9 years	42.6	0.3	9 years	23.8	-0.7	9 years	5.7	-2.5
2003	35	15.5	0.4	**2003**	17	-11.1	-0.7	**2003**	3	-7.3	-2.4	8 years	42.8	0.4	8 years	23.6	-0.6	8 years	5.0	-2.5
2004	54	15.9	0.3	**2004**	33	-18.5	-0.6	**2004**	2	-5.3	-2.7	7 years	43.9	0.4	7 years	24.6	-0.6	7 years	5.3	-2.5
2005	40	9.3	0.2	**2005**	23	-17.8	-0.8	**2005**	5	-13.1	-2.6	6 years	42.2	0.4	6 years	23.2	-0.7	6 years	5.8	-2.5
2006	54	-1.2	-0.0	**2006**	37	-29.7	-0.8	**2006**	12	-26.7	-2.2	5 years	42.6	0.5	5 years	23.2	-0.6	5 years	6.0	-2.4
2007	34	21.0	0.6	**2007**	16	-10.2	-0.6	**2007**	5	-11.4	-2.3	4 years	39.8	0.6	4 years	19.8	-0.6	4 years	4.5	-2.5
2008	53	24.4	0.5	**2008**	26	-23.3	-0.9	**2008**	8	-18.1	-2.3	3 years	41.7	0.6	3 years	21.0	-0.6	3 years	4.3	-2.6
2009	33	28.6	0.9	**2009**	14	-2.7	-0.2	**2009**	1	-2.4	-2.4	2 years	36.0	0.6	2 years	18.5	-0.4	2 years	2.5	-2.7
2010	39	15.8	0.4	**2010**	23	-15.2	-0.7	**2010**	4	-12.2	-3.1	1 years	39.0	0.4	1 years	23.0	-0.7	1 years	4.0	-3.1
2011	41	27.8	0.7	**2011**	21	-7.7	-0.4	**2011**	3	-7.5	-2.5	0 years	41.0	0.7	0 years	21.0	-0.4	0 years	3.0	-2.5
2012	55	42.4	0.8	**2012**	24	-9.1	-0.4	**2012**	1	-2.4	-2.4	1 years	55.0	0.8	1 years	24.0	-0.4	1 years	1.0	-2.4
2013	27	24.7	0.9	**2013**	13	-0.8	-0.1	**2013**	0	0.0		2 years	41.0	0.8	2 years	18.5	-0.2	2 years	0.5	-2.4
2014	28	-1.4	-0.1	**2014**	18	-18.0	-1.0	**2014**	5	-12.0	-2.4	3 years	36.7	0.5	3 years	18.3	-0.5	3 years	2.0	-2.4
2015	35	26.6	0.8	**2015**	18	-3.4	-0.2	**2015**	1	-2.5	-2.5	4 years	36.3	0.6	4 years	18.3	-0.4	4 years	1.8	-2.4
2016	28	10.0	0.4	**2016**	16	-11.9	-0.7	**2016**	3	-5.5	-1.8	5 years	34.6	0.6	5 years	17.8	-0.5	5 years	2.0	-2.3
2017	53	51.7	1.0	**2017**	19	-4.2	-0.2	**2017**	2	-4.2	-2.1	6 years	37.7	0.6	6 years	18.0	-0.4	6 years	2.0	-2.2
2018	44	0.6	0.0	**2018**	30	-23.5	-0.8	**2018**	8	-21.6	-2.7	7 years	38.6	0.5	7 years	19.7	-0.5	7 years	2.9	-2.3
2019	40	2.9	0.1	**2019**	29	-17.6	-0.6	**2019**	7	-15.6	-2.2	8 years	38.8	0.5	8 years	20.9	-0.5	8 years	3.4	-2.3
2020	27	27.4	1.0	**2020**	11	3.6	0.3	**2020**	0	0.0		9 years	37.4	0.5	9 years	19.8	-0.4	9 years	3.0	-2.3
2021	40	39.6	1.0	**2021**	15	-5.7	-0.4	**2021**	3	-6.3	-2.1	10 years	37.7	0.6	10 years	19.3	-0.4	10 years	3.0	-2.3
2022	24	26.6	1.1	**2022**	9	-2.4	-0.3	**2022**	0	0.0		11 years	36.5	0.6	11 years	18.4	-0.4	11 years	2.7	-2.3

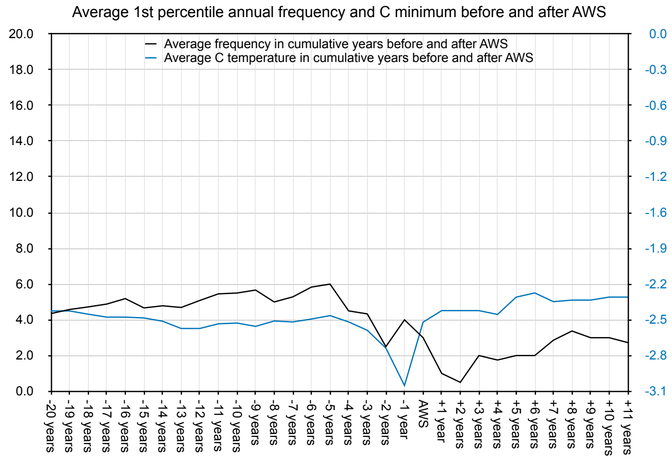
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	42.2	16.3	0.4	**Pre**	23.2	-16.5	-0.7	**Pre**	5.8	-14.0	-2.5
Post	37.7	25.7	0.6	**Post**	18.0	-7.9	-0.4	**Post**	2.0	-4.4	-2.2

		AWS introduction
		Probe replacement
		Small screen introduction



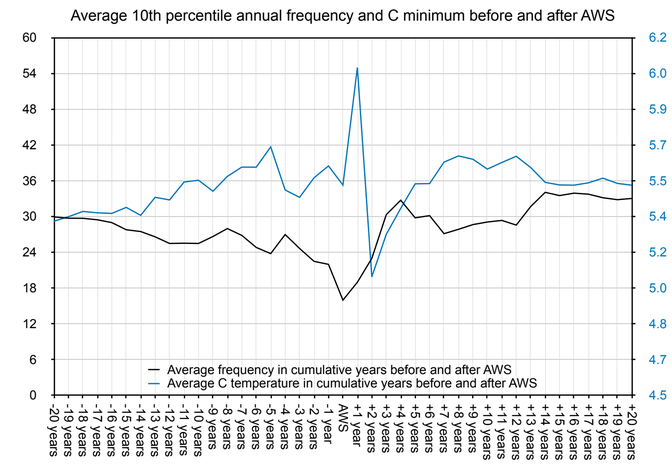


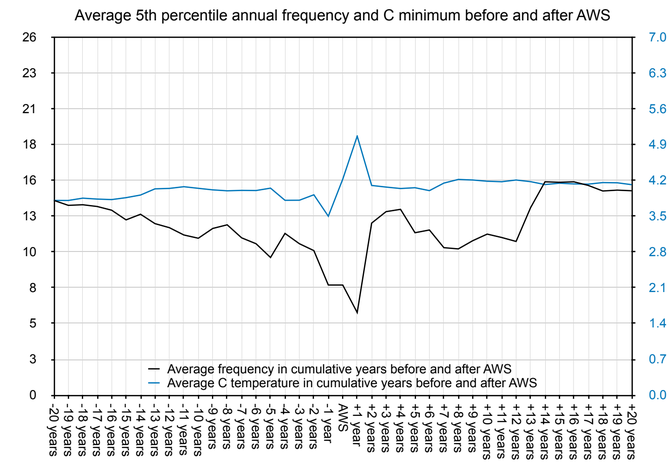


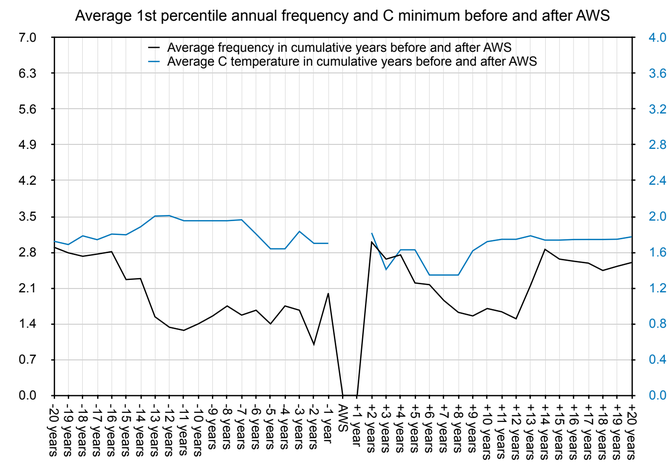
10th 7.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.7	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	33	125.2	3.8	**1910**	20	42.8	2.1	**1910**	10	0.9	0.1									
1911	59	257.5	4.4	**1911**	37	113.2	3.1	**1911**	10	5.0	0.5									
1912	47	247.6	5.3	**1912**	24	99.1	4.1	**1912**	2	4.3	2.2									
1913	70	344.8	4.9	**1913**	34	115.7	3.4	**1913**	11	15.5	1.4									
1914	42	196.0	4.7	**1914**	26	94.5	3.6	**1914**	8	11.7	1.5									
1915	27	140.8	5.2	**1915**	16	72.1	4.5	**1915**	0	0.0										
1916	17	84.5	5.0	**1916**	10	39.0	3.9	**1916**	1	2.2	2.2									
1917	45	244.6	5.4	**1917**	23	100.9	4.4	**1917**	3	4.4	1.5									
1918	57	261.6	4.6	**1918**	35	115.7	3.3	**1918**	9	10.0	1.1									
1919	61	292.7	4.8	**1919**	37	133.7	3.6	**1919**	8	14.6	1.8									
1920	24	144.2	6.0	**1920**	6	24.2	4.0	**1920**	0	0.0										
1921	7	44.3	6.3	**1921**	0	0.0		**1921**	0	0.0										
1922	57	248.6	4.4	**1922**	36	111.1	3.1	**1922**	11	11.3	1.0									
1923	73	356.5	4.9	**1923**	43	162.9	3.8	**1923**	11	20.3	1.8									
1924	48	260.9	5.4	**1924**	20	72.9	3.6	**1924**	3	1.3	0.4									
1925	65	329.7	5.1	**1925**	34	122.4	3.6	**1925**	10	19.9	2.0									
1926	43	221.4	5.1	**1926**	25	103.6	4.1	**1926**	0	0.0										
1927	35	137.6	3.9	**1927**	25	77.1	3.1	**1927**	11	17.1	1.6									
1928	33	147.0	4.5	**1928**	23	83.1	3.6	**1928**	7	13.9	2.0									
1929	53	242.9	4.6	**1929**	32	109.4	3.4	**1929**	8	14.3	1.8									
1930	38	207.6	5.5	**1930**	15	60.3	4.0	**1930**	1	2.5	2.5									
1931	29	153.5	5.3	**1931**	13	52.0	4.0	**1931**	2	3.3	1.7									
1932	40	202.3	5.1	**1932**	20	73.4	3.7	**1932**	2	3.6	1.8									
1933	20	103.6	5.2	**1933**	11	45.5	4.1	**1933**	0	0.0										
1934	34	191.3	5.6	**1934**	14	57.3	4.1	**1934**	1	2.5	2.5									
1935	28	151.4	5.4	**1935**	13	52.7	4.1	**1935**	1	2.2	2.2									
1936	24	128.9	5.4	**1936**	9	34.3	3.8	**1936**	1	1.1	1.1									
1937	44	211.2	4.8	**1937**	31	125.1	4.0	**1937**	3	6.9	2.3									
1938	26	141.4	5.4	**1938**	12	52.0	4.3	**1938**	2	4.1	2.1									
1939	52	258.5	5.0	**1939**	26	92.3	3.6	**1939**	6	9.4	1.6									
1940	37	191.6	5.2	**1940**	17	58.1	3.4	**1940**	5	7.2	1.4									
1941	60	288.0	4.8	**1941**	30	93.6	3.1	**1941**	11	15.3	1.4									
1942	19	107.1	5.6	**1942**	7	26.9	3.8	**1942**	1	2.6	2.6									
1943	47	219.4	4.7	**1943**	27	90.0	3.3	**1943**	7	10.1	1.4									
1944	37	206.2	5.6	**1944**	15	64.6	4.3	**1944**	1	2.2	2.2									
1945	28	148.4	5.3	**1945**	11	42.7	3.9	**1945**	1	1.7	1.7									
1946	61	292.2	4.8	**1946**	31	99.1	3.2	**1946**	9	13.9	1.5									
1947	26	155.7	6.0	**1947**	8	35.0	4.4	**1947**	0	0.0										
1948	31	174.0	5.6	**1948**	10	35.5	3.6	**1948**	2	3.3	1.7									
1949	59	287.8	4.9	**1949**	32	116.4	3.6	**1949**	6	9.4	1.6									
1950	44	240.1	5.5	**1950**	18	73.7	4.1	**1950**	0	0.0										
1951	63	289.5	4.6	**1951**	36	117.9	3.3	**1951**	9	12.2	1.4									
1952	50	260.3	5.2	**1952**	26	100.3	3.9	**1952**	3	5.6	1.9									
1953	61	267.5	4.4	**1953**	46	169.1	3.7	**1953**	5	4.0	0.8									
1954	31	151.1	4.9	**1954**	15	47.6	3.2	**1954**	6	12.7	2.1									
1955	18	98.3	5.5	**1955**	9	37.7	4.2	**1955**	0	0.0										
1956	50	240.9	4.8	**1956**	31	117.9	3.8	**1956**	5	9.4	1.9									
1957	38	214.4	5.6	**1957**	15	63.1	4.2	**1957**	0	0.0										
1958	32	184.7	5.8	**1958**	10	37.5	3.8	**1958**	2	3.3	1.7									
1959	29	152.7	5.3	**1959**	13	49.2	3.8	**1959**	1	2.2	2.2									
1960	43	221.8	5.2	**1960**	18	62.1	3.5	**1960**	4	6.1	1.5									
1961	0	0.0		**1961**	0	0.0		**1961**	0	0.0										
1962	21	120.3	5.7	**1962**	7	32.2	4.6	**1962**	0	0.0										
1963	42	208.3	5.0	**1963**	19	57.6	3.0	**1963**	8	12.2	1.5									
1964	30	166.7	5.6	**1964**	13	57.9	4.5	**1964**	0	0.0										
1965	30	135.4	4.5	**1965**	18	59.9	3.3	**1965**	6	10.3	1.7									
1966	34	179.1	5.3	**1966**	16	62.8	3.9	**1966**	2	3.4	1.7									
1967	34	206.7	6.1	**1967**	9	39.5	4.4	**1967**	0	0.0										
1968	35	183.6	5.2	**1968**	16	57.3	3.6	**1968**	5	9.1	1.8									
1969	17	95.3	5.6	**1969**	8	35.7	4.5	**1969**	1	0.9	0.9									
1970	33	178.8	5.4	**1970**	17	73.6	4.3	**1970**	2	4.0	2.0									
1971	36	175.4	4.9	**1971**	22	81.1	3.7	**1971**	3	4.2	1.4									
1972	37	187.8	5.1	**1972**	23	98.4	4.3	**1972**	3	6.6	2.2									
1973	11	69.7	6.3	**1973**	3	15.7	5.2	**1973**	0	0.0										
1974	58	277.5	4.8	**1974**	32	107.6	3.4	**1974**	10	17.3	1.7									
1975	36	177.6	4.9	**1975**	18	59.4	3.3	**1975**	6	6.8	1.1									
1976	55	244.7	4.4	**1976**	36	117.6	3.3	**1976**	11	16.6	1.5									
1977	54	250.4	4.6	**1977**	33	109.5	3.3	**1977**	12	19.1	1.6									
1978	34	167.5	4.9	**1978**	21	80.3	3.8	**1978**	5	11.2	2.2	20 years	30.0	5.3	20 years	14.2	3.8	20 years	2.9	1.7
1979	30	146.9	4.9	**1979**	13	39.0	3.0	**1979**	4	1.7	0.4	19 years	29.7	5.3	19 years	13.8	3.8	19 years	2.8	1.7
1980	34	186.6	5.5	**1980**	16	66.5	4.2	**1980**	2	4.6	2.3	18 years	29.7	5.4	18 years	13.8	3.9	18 years	2.7	1.8
1981	37	200.3	5.4	**1981**	18	71.9	4.0	**1981**	2	2.1	1.1	17 years	29.5	5.4	17 years	13.7	3.8	17 years	2.8	1.7
1982	47	232.0	4.9	**1982**	24	78.3	3.3	**1982**	11	20.7	1.9	16 years	29.0	5.4	16 years	13.4	3.8	16 years	2.8	1.8
1983	32	189.5	5.9	**1983**	7	22.0	3.1	**1983**	2	2.0	1.0	15 years	27.8	5.4	15 years	12.7	3.9	15 years	2.3	1.8
1984	39	165.5	4.2	**1984**	22	51.5	2.3	**1984**	12	11.0	0.9	14 years	27.5	5.4	14 years	13.1	3.9	14 years	2.3	1.9
1985	40	223.6	5.6	**1985**	16	62.9	3.9	**1985**	4	7.9	2.0	13 years	26.6	5.4	13 years	12.5	4.0	13 years	1.5	2.0
1986	25	112.4	4.5	**1986**	18	66.2	3.7	**1986**	2	4.7	2.4	12 years	25.5	5.4	12 years	12.2	4.0	12 years	1.3	2.0
1987	26	141.1	5.4	**1987**	14	61.5	4.4	**1987**	0	0.0		11 years	25.5	5.5	11 years	11.6	4.1	11 years	1.3	2.0
1988	15	89.9	6.0	**1988**	5	21.6	4.3	**1988**	0	0.0		10 years	25.5	5.5	10 years	11.4	4.0	10 years	1.4	2.0
1989	16	78.5	4.9	**1989**	10	41.6	4.2	**1989**	0	0.0		9 years	26.7	5.5	9 years	12.1	4.0	9 years	1.6	2.0
1990	36	188.4	5.2	**1990**	19	74.9	3.9	**1990**	3	5.7	1.9	8 years	28.0	5.5	8 years	12.4	4.0	8 years	1.8	2.0
1991	39	217.9	5.6	**1991**	14	56.3	4.0	**1991**	1	2.6	2.6	7 years	26.9	5.6	7 years	11.4	4.0	7 years	1.6	2.0
1992	30	153.1	5.1	**1992**	16	60.3	3.8	**1992**	3	6.9	2.3	6 years	24.8	5.6	6 years	11.0	4.0	6 years	1.7	1.8
1993	11	71.5	6.5	**1993**	3	15.0	5.0	**1993**	0	0.0		5 years	23.8	5.7	5 years	10.0	4.0	5 years	1.4	1.6
1994	34	189.8	5.6	**1994**	14	53.3	3.8	**1994**	2	2.5	1.3	4 years	27.0	5.5	4 years	11.8	3.8	4 years	1.8	1.6
1995	29	152.4	5.3	**1995**	12	43.2	3.6	**1995**	3	5.9	2.0	3 years	24.7	5.4	3 years	11.0	3.8	3 years	1.7	1.8
1996	23	126.0	5.5	**1996**	13	56.4	4.3	**1996**	0	0.0		2 years	22.5	5.5	2 years	10.5	3.9	2 years	1.0	1.7
1997	22	123.0	5.6	**1997**	8	28.0	3.5	**1997**	2	3.4	1.7	1 years	22.0	5.6	1 years	8.0	3.5	1 years	2.0	1.7
1998	16	88.0	5.5	**1998**	8	33.8	4.2	**1998**	0	0.0		0 years	16.0	5.5	0 years	8.0	4.2	0 years	0.0	
1999	19	115.1	6.1	**1999**	6	30.4	5.1	**1999**	0	0.0		1 years	19.0	6.1	1 years	6.0	5.1	1 years	0.0	
2000	27	109.9	4.1	**2000**	19	59.6	3.1	**2000**	6	10.9	1.8	2 years	23.0	5.1	2 years	12.5	4.1	2 years	3.0	1.8
2001	45	255.1	5.7	**2001**	15	60.1	4.0	**2001**	2	2.0	1.0	3 years	30.3	5.3	3 years	13.3	4.1	3 years	2.7	1.4
2002	40	230.4	5.8	**2002**	14	55.4	4.0	**2002**	3	6.2	2.1	4 years	32.8	5.4	4 years	13.5	4.0	4 years	2.8	1.6
2003	18	107.5	6.0	**2003**	5	20.6	4.1	**2003**	0	0.0		5 years	29.8	5.5	5 years	11.8	4.1	5 years	2.2	1.6
2004	32	176.4	5.5	**2004**	13	48.3	3.7	**2004**	2	1.0	0.5	6 years	30.2	5.5	6 years	12.0	4.0	6 years	2.2	1.3
2005	9	56.0	6.2	**2005**	3	15.1	5.0	**2005**	0	0.0		7 years	27.1	5.6	7 years	10.7	4.1	7 years	1.9	1.3
2006	33	192.8	5.8	**2006**	10	47.2	4.7	**2006**	0	0.0		8 years	27.9	5.6	8 years	10.6	4.2	8 years	1.6	1.3
2007	35	192.4	5.5	**2007**	16	65.9	4.1	**2007**	1	2.7	2.7	9 years	28.7	5.6	9 years	11.2	4.2	9 years	1.6	1.6
2008	33	170.1	5.2	**2008**	16	63.5	4.0	**2008**	3	6.7	2.2	10 years	29.1	5.6	10 years	11.7	4.2	10 years	1.7	1.7
2009	32	189.5	5.9	**2009**	9	36.7	4.1	**2009**	1	1.9	1.9	11 years	29.4	5.6	11 years	11.5	4.2	11 years	1.6	1.7
2010	20	119.2	6.0	**2010**	8	36.6	4.6	**2010**	0	0.0		12 years	28.6	5.6	12 years	11.2	4.2	12 years	1.5	1.7
2011	69	341.1	4.9	**2011**	43	163.1	3.8	**2011**	10	20.6	2.1	13 years	31.7	5.6	13 years	13.6	4.2	13 years	2.2	1.8
2012	65	298.8	4.6	**2012**	40	135.4	3.4	**2012**	12	16.2	1.4	14 years	34.1	5.5	14 years	15.5	4.1	14 years	2.9	1.7
2013	26	138.5	5.3	**2013**	15	67.7	4.5	**2013**	0	0.0		15 years	33.5	5.5	15 years	15.5	4.1	15 years	2.7	1.7
2014	40	219.4	5.5	**2014**	16	62.8	3.9	**2014**	2	3.6	1.8	16 years	33.9	5.5	16 years	15.5	4.1	16 years	2.6	1.7
2015	31	176.4	5.7	**2015**	11	44.6	4.1	**2015**	2	3.5	1.8	17 years	33.8	5.5	17 years	15.2	4.1	17 years	2.6	1.7
2016	23	135.9	5.9	**2016**	8	37.4	4.7	**2016**	0	0.0		18 years	33.2	5.5	18 years	14.8	4.2	18 years	2.4	1.7
2017	27	136.6	5.1	**2017**	16	65.3	4.1	**2017**	4	7.1	1.8	19 years	32.8	5.5	19 years	14.9	4.2	19 years	2.5	1.7
2018	37	197.4	5.3	**2018**	14	47.9	3.4	**2018**	4	8.4	2.1	20 years	33.1	5.5	20 years	14.9	4.1	20 years	2.6	1.8
2019	35	179.4	5.1	**2019**	20	79.0	4.0	**2019**	5	10.2	2.0									
2020	31	169.5	5.5	**2020**	15	62.6	4.2	**2020**	1	2.7	2.7									
2021	25	149.3	6.0	**2021**	7	31.6	4.5	**2021**	1	1.8	1.8									
2022	34	163.0	4.8	**2022**	23	89.0	3.9	**2022**	3	6.7	2.2									

Original AWS probe Rosemount

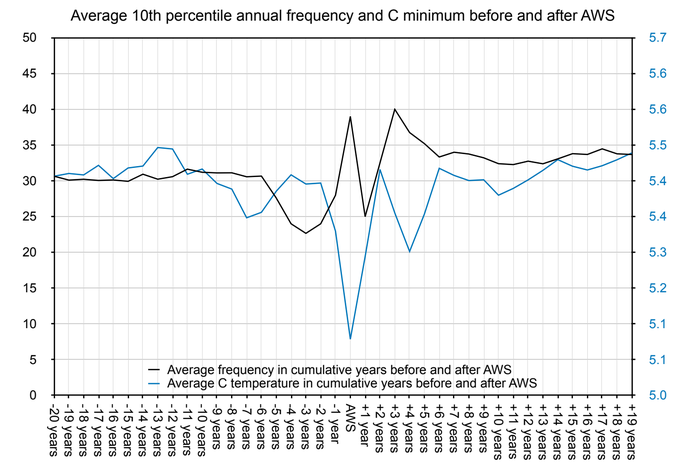
10 years	Always had small screen			**10 years**	Always had small screen			**10 years**	Always had small screen		
Pre AWS	25.5	162.1	5.2	**Pre AWS**	11.4	55.2	3.7	**Pre AWS**	1.4	5.4	1.6
Post AWS	29.1	146.1	5.5	**Post AWS**	11.7	43.5	4.1	**Post AWS**	1.7	3.1	1.6
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
5 years				**5 years**				**5 years**			
Pre AWS	23.8	122.1	5.2	**Pre AWS**	10.0	53.2	4.1	**Pre AWS**	1.4	2.1	2.1
Post AWS	29.8	132.5	5.7	**Post AWS**	11.8	39.2	4.0	**Post AWS**	2.2	2.4	1.6
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
		AWS introduction									
		Small screen introduction									

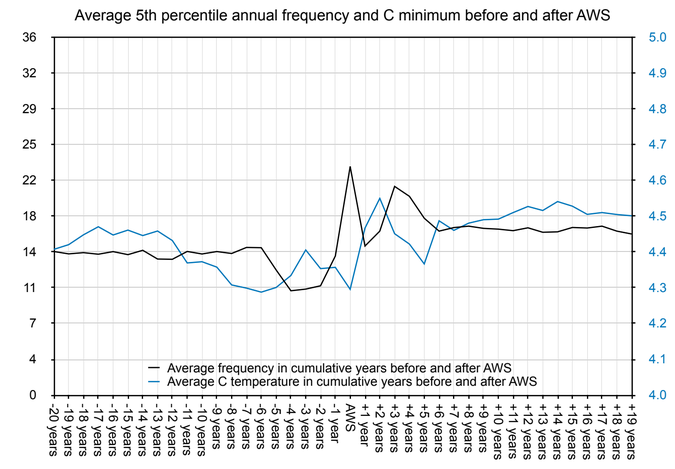


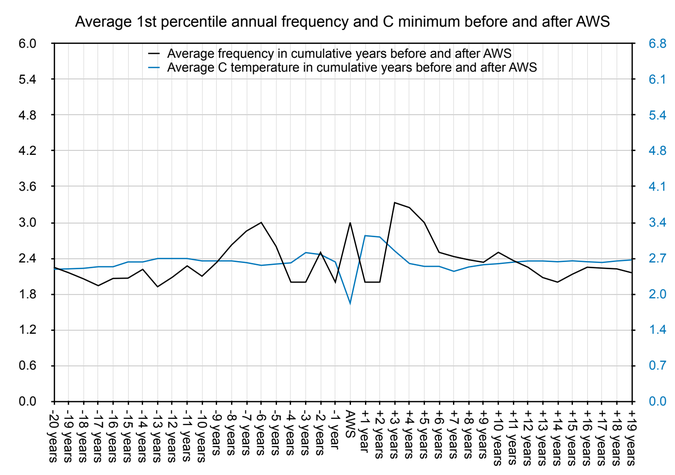




10th 6.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 5.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	24	132.4	5.5	**1910**	11	48.6	4.4	**1910**	1	3.3	3.3									
1911	35	189.6	5.4	**1911**	15	61.2	4.1	**1911**	5	12.5	2.5									
1912	47	255.7	5.4	**1912**	26	120.4	4.6	**1912**	3	8.6	2.9									
1913	45	227.5	5.1	**1913**	25	103.5	4.1	**1913**	6	14.6	2.4									
1914	47	240.7	5.1	**1914**	24	96.0	4.0	**1914**	8	21.5	2.7									
1915	24	135.1	5.6	**1915**	10	45.5	4.6	**1915**	2	5.0	2.5									
1916	29	171.7	5.9	**1916**	10	46.9	4.7	**1916**	1	3.3	3.3									
1917	37	214.4	5.8	**1917**	13	58.3	4.5	**1917**	2	5.6	2.8									
1918	41	234.7	5.7	**1918**	15	65.5	4.4	**1918**	2	6.2	3.1									
1919	33	184.5	5.6	**1919**	13	55.4	4.3	**1919**	2	4.4	2.2									
1920	38	220.6	5.8	**1920**	15	71.9	4.8	**1920**	2	5.5	2.8									
1921	20	120.0	6.0	**1921**	7	36.2	5.2	**1921**	0	0.0										
1922	37	220.9	6.0	**1922**	9	38.5	4.3	**1922**	1	3.3	3.3									
1923	30	181.3	6.0	**1923**	8	38.9	4.9	**1923**	0	0.0										
1924	29	155.6	5.4	**1924**	12	46.5	3.9	**1924**	5	14.8	3.0									
1925	38	209.7	5.5	**1925**	19	87.1	4.6	**1925**	0	0.0										
1926	29	136.8	4.7	**1926**	20	78.1	3.9	**1926**	9	23.2	2.6									
1927	61	315.3	5.2	**1927**	32	130.1	4.1	**1927**	12	33.0	2.8									
1928	42	227.2	5.4	**1928**	23	105.8	4.6	**1928**	1	3.3	3.3									
1929	52	271.2	5.2	**1929**	26	104.9	4.0	**1929**	8	20.0	2.5									
1930	38	200.1	5.3	**1930**	21	92.1	4.4	**1930**	4	10.3	2.6									
1931	36	202.3	5.6	**1931**	18	86.9	4.8	**1931**	2	5.7	2.9									
1932	30	166.0	5.5	**1932**	14	62.9	4.5	**1932**	3	9.4	3.1									
1933	39	211.4	5.4	**1933**	20	90.0	4.5	**1933**	3	9.4	3.1									
1934	38	203.6	5.4	**1934**	19	84.2	4.4	**1934**	5	15.5	3.1									
1935	25	140.0	5.6	**1935**	12	56.5	4.7	**1935**	1	2.8	2.8									
1936	31	179.7	5.8	**1936**	10	48.0	4.8	**1936**	1	2.8	2.8									
1937	37	196.9	5.3	**1937**	20	85.9	4.3	**1937**	4	10.5	2.6									
1938	38	208.5	5.5	**1938**	15	59.3	4.0	**1938**	4	10.5	2.6									
1939	39	199.2	5.1	**1939**	23	96.7	4.2	**1939**	4	9.7	2.4									
1940	42	223.3	5.3	**1940**	21	89.4	4.3	**1940**	4	11.2	2.8									
1941	40	219.7	5.5	**1941**	19	83.9	4.4	**1941**	2	4.1	2.1									
1942	27	151.1	5.6	**1942**	11	50.0	4.5	**1942**	2	4.0	2.0									
1943	79	427.2	5.4	**1943**	38	165.4	4.4	**1943**	8	16.9	2.1									
1944	58	283.9	4.9	**1944**	32	115.8	3.6	**1944**	16	43.1	2.7									
1945	59	297.4	5.0	**1945**	39	170.0	4.4	**1945**	8	20.0	2.5									
1946	41	222.4	5.4	**1946**	22	102.9	4.7	**1946**	2	6.1	3.1									
1947	26	129.8	5.0	**1947**	18	78.6	4.4	**1947**	4	13.2	3.3									
1948	44	227.0	5.2	**1948**	23	92.9	4.0	**1948**	6	14.5	2.4									
1949	56	279.6	5.0	**1949**	39	168.6	4.3	**1949**	12	33.9	2.8									
1950	59	310.9	5.3	**1950**	30	125.2	4.2	**1950**	5	10.3	2.1									
1951	38	199.6	5.3	**1951**	21	88.7	4.2	**1951**	8	24.8	3.1									
1952	46	260.1	5.7	**1952**	22	105.9	4.8	**1952**	3	8.4	2.8									
1953	43	224.8	5.2	**1953**	27	123.0	4.6	**1953**	4	11.1	2.8									
1954	37	187.4	5.1	**1954**	22	89.9	4.1	**1954**	9	27.6	3.1									
1955	38	196.1	5.2	**1955**	22	91.9	4.2	**1955**	7	17.2	2.5									
1956	48	248.0	5.2	**1956**	30	130.4	4.3	**1956**	7	20.4	2.9									
1957	35	196.6	5.6	**1957**	17	77.8	4.6	**1957**	3	8.3	2.8									
1958	49	245.6	5.0	**1958**	24	84.7	3.5	**1958**	13	28.3	2.2									
1959	59	311.6	5.3	**1959**	31	131.8	4.3	**1959**	9	23.8	2.6									
1960	42	205.2	4.9	**1960**	25	96.7	3.9	**1960**	8	16.6	2.1									
1961	38	218.9	5.8	**1961**	14	61.1	4.4	**1961**	4	12.1	3.0									
1962	33	173.9	5.3	**1962**	21	96.4	4.6	**1962**	2	5.6	2.8									
1963	45	242.3	5.4	**1963**	22	95.9	4.4	**1963**	5	11.7	2.3									
1964	26	145.2	5.6	**1964**	9	36.4	4.0	**1964**	2	5.3	2.7									
1965	39	231.1	5.9	**1965**	11	51.5	4.7	**1965**	1	1.3	1.3									
1966	21	114.8	5.5	**1966**	8	32.0	4.0	**1966**	2	3.8	1.9									
1967	52	249.9	4.8	**1967**	32	125.7	3.9	**1967**	11	30.5	2.8									
1968	29	163.3	5.6	**1968**	12	55.3	4.6	**1968**	1	2.8	2.8									
1969	49	242.8	5.0	**1969**	32	134.1	4.2	**1969**	7	17.9	2.6									
1970	43	218.7	5.1	**1970**	28	123.3	4.4	**1970**	5	13.5	2.7									
1971	32	167.2	5.2	**1971**	18	78.7	4.4	**1971**	2	4.7	2.4									
1972	61	279.2	4.6	**1972**	42	160.7	3.8	**1972**	12	29.9	2.5									
1973	31	152.8	4.9	**1973**	20	81.8	4.1	**1973**	4	9.3	2.3									
1974	26	131.5	5.1	**1974**	10	34.5	3.5	**1974**	5	11.5	2.3									
1975	17	87.3	5.1	**1975**	10	42.3	4.2	**1975**	2	4.4	2.2									
1976	39	201.8	5.2	**1976**	17	64.3	3.8	**1976**	4	6.8	1.7									
1977	34	180.0	5.3	**1977**	22	105.0	4.8	**1977**	3	8.0	2.7									
1978	33	182.7	5.5	**1978**	15	70.6	4.7	**1978**	2	6.1	3.1									
1979	27	138.6	5.1	**1979**	19	88.6	4.7	**1979**	0	0.0										
1980	17	92.3	5.4	**1980**	11	55.6	5.1	**1980**	0	0.0										
1981	22	119.6	5.4	**1981**	11	48.6	4.4	**1981**	1	2.9	2.9									
1982	42	175.4	4.2	**1982**	30	99.5	3.3	**1982**	14	27.0	1.9									
1983	41	218.4	5.3	**1983**	19	79.0	4.2	**1983**	4	9.6	2.4	20 years	30.7	5.4	20 years	14.5	4.4	20 years	2.3	2.5
1984	28	153.6	5.5	**1984**	12	47.1	3.9	**1984**	4	9.6	2.4	19 years	30.1	5.4	19 years	14.2	4.4	19 years	2.2	2.5
1985	33	168.7	5.1	**1985**	17	69.1	4.1	**1985**	4	8.8	2.2	18 years	30.2	5.4	18 years	14.3	4.4	18 years	2.1	2.5
1986	29	170.1	5.9	**1986**	10	48.4	4.8	**1986**	0	0.0		17 years	30.1	5.5	17 years	14.2	4.5	17 years	1.9	2.6
1987	33	168.7	5.1	**1987**	19	80.6	4.2	**1987**	2	3.3	1.7	16 years	30.1	5.4	16 years	14.4	4.4	16 years	2.1	2.6
1988	16	86.3	5.4	**1988**	8	37.4	4.7	**1988**	0	0.0		15 years	29.9	5.4	15 years	14.1	4.5	15 years	2.1	2.7
1989	40	199.1	5.0	**1989**	26	111.3	4.3	**1989**	6	12.4	2.1	14 years	30.9	5.4	14 years	14.6	4.4	14 years	2.2	2.7
1990	26	143.5	5.5	**1990**	14	66.9	4.8	**1990**	0	0.0		13 years	30.2	5.5	13 years	13.7	4.5	13 years	1.9	2.7
1991	19	114.5	6.0	**1991**	5	25.6	5.1	**1991**	0	0.0		12 years	30.6	5.5	12 years	13.7	4.4	12 years	2.1	2.7
1992	36	191.9	5.3	**1992**	17	73.7	4.3	**1992**	4	12.3	3.1	11 years	31.6	5.4	11 years	14.5	4.4	11 years	2.3	2.7
1993	32	182.3	5.7	**1993**	12	54.1	4.5	**1993**	0	0.0		10 years	31.2	5.4	10 years	14.2	4.4	10 years	2.1	2.7
1994	31	170.6	5.5	**1994**	16	76.1	4.8	**1994**	0	0.0		9 years	31.1	5.4	9 years	14.4	4.4	9 years	2.3	2.7
1995	35	202.9	5.8	**1995**	10	43.7	4.4	**1995**	1	2.9	2.9	8 years	31.1	5.4	8 years	14.3	4.3	8 years	2.6	2.7
1996	30	158.5	5.3	**1996**	15	65.5	4.4	**1996**	2	5.9	3.0	7 years	30.6	5.3	7 years	14.9	4.3	7 years	2.9	2.6
1997	46	237.0	5.2	**1997**	26	109.8	4.2	**1997**	5	12.3	2.5	6 years	30.7	5.4	6 years	14.8	4.3	6 years	3.0	2.6
1998	42	221.4	5.3	**1998**	21	87.5	4.2	**1998**	5	12.6	2.5	5 years	27.6	5.4	5 years	12.6	4.3	5 years	2.6	2.6
1999	28	153.6	5.5	**1999**	10	41.2	4.1	**1999**	2	4.1	2.1	4 years	24.0	5.4	4 years	10.5	4.3	4 years	2.0	2.6
2000	20	108.2	5.4	**2000**	10	45.1	4.5	**2000**	1	2.9	2.9	3 years	22.7	5.4	3 years	10.7	4.4	3 years	2.0	2.8
2001	20	110.2	5.5	**2001**	8	34.8	4.4	**2001**	3	8.8	2.9	2 years	24.0	5.4	2 years	11.0	4.4	2 years	2.5	2.8
2002	28	149.0	5.3	**2002**	14	61.0	4.4	**2002**	2	5.3	2.7	1 years	28.0	5.3	1 years	14.0	4.4	1 years	2.0	2.7
2003	39	199.3	5.1	**2003**	23	98.8	4.3	**2003**	3	5.6	1.9	0 years	39.0	5.1	0 years	23.0	4.3	0 years	3.0	1.9
2004	25	131.8	5.3	**2004**	15	67.0	4.5	**2004**	2	6.3	3.2	1 years	25.0	5.3	1 years	15.0	4.5	1 years	2.0	3.2
2005	40	224.5	5.6	**2005**	18	83.4	4.6	**2005**	2	6.2	3.1	2 years	32.5	5.4	2 years	16.5	4.6	2 years	2.0	3.1
2006	55	285.3	5.2	**2006**	30	127.6	4.3	**2006**	6	14.0	2.3	3 years	40.0	5.4	3 years	21.0	4.5	3 years	3.3	2.9
2007	27	136.5	5.1	**2007**	17	73.7	4.3	**2007**	3	5.7	1.9	4 years	36.8	5.3	4 years	20.0	4.4	4 years	3.3	2.6
2008	29	163.8	5.6	**2008**	9	37.3	4.1	**2008**	2	4.7	2.4	5 years	35.2	5.4	5 years	17.8	4.4	5 years	3.0	2.6
2009	24	141.4	5.9	**2009**	10	50.9	5.1	**2009**	0	0.0		6 years	33.3	5.4	6 years	16.5	4.5	6 years	2.5	2.6
2010	38	203.2	5.3	**2010**	19	81.7	4.3	**2010**	2	4.0	2.0	7 years	34.0	5.4	7 years	16.9	4.5	7 years	2.4	2.5
2011	32	171.2	5.4	**2011**	18	83.2	4.6	**2011**	2	6.1	3.1	8 years	33.8	5.4	8 years	17.0	4.5	8 years	2.4	2.6
2012	29	157.6	5.4	**2012**	15	68.5	4.6	**2012**	2	5.8	2.9	9 years	33.2	5.4	9 years	16.8	4.5	9 years	2.3	2.6
2013	25	128.0	5.1	**2013**	16	72.1	4.5	**2013**	4	11.1	2.8	10 years	32.4	5.4	10 years	16.7	4.5	10 years	2.5	2.6
2014	31	171.7	5.5	**2014**	15	70.4	4.7	**2014**	1	2.9	2.9	11 years	32.3	5.4	11 years	16.5	4.5	11 years	2.4	2.6
2015	38	213.0	5.6	**2015**	20	94.3	4.7	**2015**	1	2.9	2.9	12 years	32.8	5.4	12 years	16.8	4.5	12 years	2.3	2.7
2016	28	158.6	5.7	**2016**	11	48.2	4.4	**2016**	0	0.0		13 years	32.4	5.4	13 years	16.4	4.5	13 years	2.1	2.7
2017	42	240.8	5.7	**2017**	17	82.7	4.9	**2017**	1	2.5	2.5	14 years	33.1	5.5	14 years	16.4	4.5	14 years	2.0	2.7
2018	44	231.8	5.3	**2018**	23	100.0	4.3	**2018**	4	11.5	2.9	15 years	33.8	5.4	15 years	16.9	4.5	15 years	2.1	2.7
2019	32	170.6	5.3	**2019**	16	66.6	4.2	**2019**	4	9.7	2.4	16 years	33.7	5.4	16 years	16.8	4.5	16 years	2.3	2.7
2020	47	262.4	5.6	**2020**	20	91.8	4.6	**2020**	2	4.9	2.5	17 years	34.5	5.4	17 years	17.0	4.5	17 years	2.2	2.6
2021	22	124.5	5.7	**2021**	8	35.3	4.4	**2021**	2	6.2	3.1	18 years	33.8	5.5	18 years	16.5	4.5	18 years	2.2	2.7
2022	32	182.9	5.7	**2022**	11	48.8	4.4	**2022**	1	3.0	3.0	19 years	33.7	5.5	19 years	16.2	4.5	19 years	2.2	2.7
Original AWS probe Telmet 320																				
10 years				**10 years**				**10 years**												
Pre AWS	31.2	169.4	5.4	**Pre AWS**	14.2	61.9	4.4	**Pre AWS**	2.1	5.5	2.7									
Post AWS	32.4	174.3	5.4	**Post AWS**	16.7	74.5	4.5	**Post AWS**	2.5	6.4	2.6									
Pre small	36.8	199.8	5.5	**Pre small**	18.3	81.7	4.5	**Pre small**	3.2	9.0	2.9									
Post small	45.5	238.1	5.2	**Post small**	24.6	104.6	4.3	**Post small**	5.6	14.3	2.5									
5 years				**5 years**				**5 years**												
Pre AWS	27.6	148.5	5.4	**Pre AWS**	12.6	53.9	4.3	**Pre AWS**	2.6	6.7	2.6									
Post AWS	35.2	188.4	5.4	**Post AWS**	17.8	77.8	4.4	**Post AWS**	3.0	7.4	2.6									
Pre small	34.0	186.3	5.5	**Pre small**	16.2	72.9	4.5	**Pre small**	2.8	8.2	2.9									
Post small	45.4	244.1	5.4	**Post small**	22.4	97.1	4.4	**Post small**	4.0	9.2	2.3									
		AWS introduction																		
		Small screen introduction																		







10th 8.5	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 6.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 3.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1940	25	141.3	5.7	**1940**	14	60.0	4.3	**1940**	4	11.0	2.8									
1941	53	277.1	5.2	**1941**	35	144.6	4.1	**1941**	8	12.6	1.6									
1942	16	101.8	6.4	**1942**	7	36.3	5.2	**1942**	1	3.3	3.3									
1943	51	269.8	5.3	**1943**	36	157.3	4.4	**1943**	10	25.9	2.6									
1944	54	337.1	6.2	**1944**	28	143.0	5.1	**1944**	3	8.3	2.8									
1945	25	164.3	6.6	**1945**	9	43.9	4.9	**1945**	2	6.3	3.2									
1946	66	303.2	4.6	**1946**	46	150.3	3.3	**1946**	24	42.6	1.8									
1947	42	247.8	5.9	**1947**	24	106.6	4.4	**1947**	4	10.7	2.7									
1948	50	336.7	6.7	**1948**	23	124.5	5.4	**1948**	1	3.4	3.4									
1949	54	293.9	5.4	**1949**	35	151.2	4.3	**1949**	10	24.7	2.5									
1950	23	158.1	6.9	**1950**	9	50.1	5.6	**1950**	0	0.0										
1951	64	359.1	5.6	**1951**	39	171.0	4.4	**1951**	11	28.7	2.6									
1952	49	264.7	5.4	**1952**	30	129.8	4.3	**1952**	9	24.8	2.8									
1953	66	348.2	5.3	**1953**	46	196.6	4.3	**1953**	11	27.5	2.5									
1954	19	121.9	6.4	**1954**	8	38.8	4.9	**1954**	1	2.4	2.4									
1955	37	235.7	6.4	**1955**	15	69.8	4.7	**1955**	3	6.5	2.2									
1956	59	350.4	5.9	**1956**	32	152.7	4.8	**1956**	3	8.0	2.7									
1957	48	289.9	6.0	**1957**	26	121.2	4.7	**1957**	8	23.0	2.9									
1958	44	274.0	6.2	**1958**	19	89.3	4.7	**1958**	2	3.4	1.7									
1959	43	237.2	5.5	**1959**	25	104.1	4.2	**1959**	9	24.9	2.8									
1960	66	333.8	5.1	**1960**	43	164.7	3.8	**1960**	16	32.1	2.0									
1961	59	326.7	5.5	**1961**	36	156.1	4.3	**1961**	8	17.7	2.2									
1962	45	270.0	6.0	**1962**	25	119.0	4.8	**1962**	6	15.1	2.5									
1963	52	271.4	5.2	**1963**	37	157.9	4.3	**1963**	10	16.2	1.6									
1964	38	209.7	5.5	**1964**	24	107.0	4.5	**1964**	4	11.1	2.8									
1965	44	222.9	5.1	**1965**	26	96.2	3.7	**1965**	11	20.8	1.9									
1966	43	255.7	5.9	**1966**	22	93.0	4.2	**1966**	6	12.5	2.1									
1967	33	208.9	6.3	**1967**	17	88.9	5.2	**1967**	1	2.9	2.9									
1968	54	320.0	5.9	**1968**	27	121.0	4.5	**1968**	5	11.0	2.2									
1969	27	179.8	6.7	**1969**	11	57.1	5.2	**1969**	1	2.2	2.2									
1970	53	303.9	5.7	**1970**	33	153.9	4.7	**1970**	7	19.3	2.8									
1971	47	299.5	6.4	**1971**	19	89.3	4.7	**1971**	2	4.9	2.5									
1972	47	262.7	5.6	**1972**	28	121.8	4.4	**1972**	7	14.6	2.1									
1973	14	101.7	7.3	**1973**	3	18.3	6.1	**1973**	0	0.0										
1974	51	280.1	5.5	**1974**	29	120.8	4.2	**1974**	9	21.7	2.4									
1975	25	163.6	6.5	**1975**	11	58.9	5.4	**1975**	0	0.0										
1976	46	272.4	5.9	**1976**	28	140.5	5.0	**1976**	2	5.3	2.7	20 years	33.3	6.2	20 years	17.0	4.8	20 years	3.1	2.8
1977	40	232.1	5.8	**1977**	19	75.1	4.0	**1977**	7	18.7	2.7	19 years	32.6	6.2	19 years	16.4	4.8	19 years	3.1	2.8
1978	33	226.3	6.9	**1978**	11	58.0	5.3	**1978**	0	0.0		18 years	32.2	6.2	18 years	16.3	4.8	18 years	2.9	2.8
1979	29	171.7	5.9	**1979**	18	89.8	5.0	**1979**	1	2.8	2.8	17 years	32.2	6.2	17 years	16.6	4.8	17 years	3.1	2.8
1980	36	224.1	6.2	**1980**	18	87.6	4.9	**1980**	2	5.4	2.7	16 years	32.4	6.2	16 years	16.5	4.8	16 years	3.2	2.8
1981	35	224.8	6.4	**1981**	15	77.0	5.1	**1981**	1	3.4	3.4	15 years	32.1	6.2	15 years	16.4	4.8	15 years	3.3	2.8
1982	47	244.2	5.2	**1982**	32	132.9	4.2	**1982**	11	27.3	2.5	14 years	31.9	6.2	14 years	16.5	4.8	14 years	3.4	2.7
1983	20	139.7	7.0	**1983**	8	46.1	5.8	**1983**	0	0.0		13 years	30.8	6.2	13 years	15.3	4.8	13 years	2.8	2.8
1984	40	242.9	6.1	**1984**	16	63.9	4.0	**1984**	8	19.4	2.4	12 years	31.7	6.2	12 years	15.9	4.7	12 years	3.1	2.8
1985	42	259.5	6.2	**1985**	17	71.9	4.2	**1985**	4	8.2	2.1	11 years	30.9	6.2	11 years	15.9	4.8	11 years	2.6	2.8
1986	27	160.6	5.9	**1986**	13	56.7	4.4	**1986**	3	8.7	2.9	10 years	29.8	6.2	10 years	15.8	4.9	10 years	2.5	2.9
1987	30	165.9	5.5	**1987**	21	97.7	4.7	**1987**	5	15.1	3.0	9 years	30.1	6.2	9 years	16.1	4.9	9 years	2.4	2.9
1988	12	84.0	7.0	**1988**	3	16.0	5.3	**1988**	0	0.0		8 years	30.1	6.3	8 years	15.5	5.0	8 years	2.1	2.9
1989	36	219.7	6.1	**1989**	22	110.1	5.0	**1989**	1	2.7	2.7	7 years	32.7	6.2	7 years	17.3	4.9	7 years	2.4	2.9
1990	33	208.1	6.3	**1990**	16	82.7	5.2	**1990**	1	2.9	2.9	6 years	32.2	6.2	6 years	16.5	4.9	6 years	2.7	2.9
1991	33	202.1	6.1	**1991**	14	64.4	4.6	**1991**	3	9.5	3.2	5 years	32.0	6.2	5 years	16.6	4.8	5 years	3.0	2.9
1992	40	247.4	6.2	**1992**	21	101.6	4.8	**1992**	2	6.0	3.0	4 years	31.8	6.2	4 years	17.3	4.9	4 years	3.0	2.8
1993	12	87.6	7.3	**1993**	2	11.6	5.8	**1993**	0	0.0		3 years	29.0	6.2	3 years	16.0	4.9	3 years	3.3	2.7
1994	45	244.1	5.4	**1994**	30	131.1	4.4	**1994**	6	14.7	2.5	2 years	37.5	5.7	2 years	23.0	4.5	2 years	5.0	2.7
1995	30	176.5	5.9	**1995**	16	73.6	4.6	**1995**	4	11.6	2.9	1 years	30.0	5.9	1 years	16.0	4.6	1 years	4.0	2.9
1996	35	214.3	6.1	**1996**	19	95.4	5.0	**1996**	1	3.0	3.0	0 years	35.0	6.1	0 years	19.0	5.0	0 years	1.0	3.0
1997	24	162.4	6.8	**1997**	8	40.4	5.1	**1997**	1	3.4	3.4	1 years	24.0	6.8	1 years	8.0	5.1	1 years	1.0	3.4
1998	24	148.4	6.2	**1998**	13	65.4	5.0	**1998**	2	5.6	2.8	2 years	24.0	6.5	2 years	10.5	5.0	2 years	1.5	3.1
1999	30	182.2	6.1	**1999**	15	69.3	4.6	**1999**	2	5.0	2.5	3 years	26.0	6.3	3 years	12.0	4.9	3 years	1.7	2.9
2000	45	277.5	6.2	**2000**	20	88.9	4.4	**2000**	4	11.1	2.8	4 years	30.8	6.3	4 years	14.0	4.8	4 years	2.3	2.9
2001	29	188.3	6.5	**2001**	15	82.3	5.5	**2001**	0	0.0		5 years	30.4	6.3	5 years	14.2	4.9	5 years	1.8	2.9
2002	32	209.3	6.5	**2002**	14	70.4	5.0	**2002**	1	3.3	3.3	6 years	30.7	6.4	6 years	14.2	4.9	6 years	1.7	3.0
2003	18	112.2	6.2	**2003**	8	36.6	4.6	**2003**	1	1.8	1.8	7 years	28.9	6.4	7 years	13.3	4.9	7 years	1.6	2.8
2004	36	225.1	6.3	**2004**	18	88.0	4.9	**2004**	0	0.0		8 years	29.8	6.3	8 years	13.9	4.9	8 years	1.4	2.8
2005	25	172.4	6.9	**2005**	7	37.2	5.3	**2005**	0	0.0		9 years	29.2	6.4	9 years	13.1	4.9	9 years	1.2	2.8
2006	21	138.8	6.6	**2006**	9	45.4	5.0	**2006**	0	0.0		10 years	28.4	6.4	10 years	12.7	4.9	10 years	1.1	2.8
2007	38	226.6	6.0	**2007**	20	94.3	4.7	**2007**	4	9.2	2.3	11 years	29.3	6.4	11 years	13.4	4.9	11 years	1.4	2.7
2008	34	199.2	5.9	**2008**	19	90.3	4.8	**2008**	2	5.4	2.7	12 years	29.7	6.3	12 years	13.8	4.9	12 years	1.4	2.7
2009	29	190.3	6.6	**2009**	10	48.0	4.8	**2009**	2	5.9	3.0	13 years	29.6	6.4	13 years	13.5	4.9	13 years	1.5	2.7
2010	24	171.4	7.1	**2010**	5	27.3	5.5	**2010**	0	0.0		14 years	29.2	6.4	14 years	12.9	4.9	14 years	1.4	2.7
2011	43	287.0	6.7	**2011**	15	81.4	5.4	**2011**	0	0.0		15 years	30.1	6.4	15 years	13.1	5.0	15 years	1.3	2.7
2012	40	273.7	6.8	**2012**	10	48.1	4.8	**2012**	0	0.0		16 years	30.8	6.5	16 years	12.9	5.0	16 years	1.2	2.7
2013	22	160.8	7.3	**2013**	5	28.9	5.8	**2013**	0	0.0		17 years	30.2	6.5	17 years	12.4	5.0	17 years	1.1	2.7
2014	31	187.0	6.0	**2014**	16	71.6	4.5	**2014**	4	11.9	3.0	18 years	30.3	6.5	18 years	12.6	5.0	18 years	1.3	2.8
2015	23	144.3	6.3	**2015**	11	51.3	4.7	**2015**	2	6.5	3.3	19 years	29.9	6.5	19 years	12.5	5.0	19 years	1.3	2.8
2016	15	107.9	7.2	**2016**	4	23.0	5.8	**2016**	0	0.0		20 years	29.2	6.5	20 years	12.1	5.0	20 years	1.3	2.8
2017	12	83.7	7.0	**2017**	2	11.8	5.9	**2017**	0	0.0										
2018	33	219.0	6.6	**2018**	11	54.6	5.0	**2018**	1	3.4	3.4									
2019	26	172.1	6.6	**2019**	11	59.9	5.4	**2019**	0	0.0										
2020	32	217.4	6.8	**2020**	8	41.4	5.2	**2020**	0	0.0										
2021	31	200.4	6.5	**2021**	12	52.3	4.4	**2021**	2	3.9	2.0									
2022	27	182.6	6.8	**2022**	8	43.0	5.4	**2022**	0	0.0										

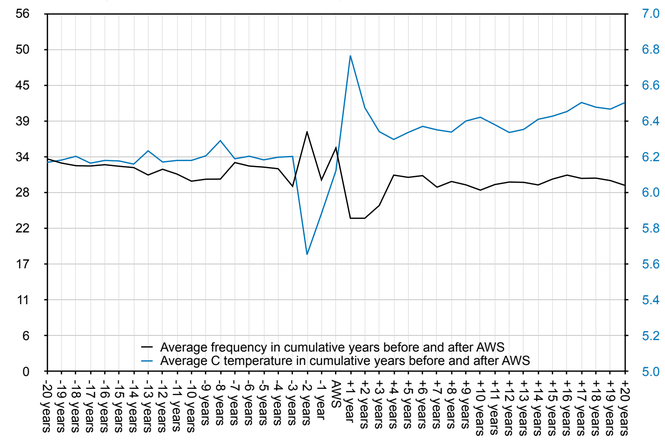
Original AWS probe Rosemount

10 years				**10 years**				**10 years**			
Pre AWS	29.8	179.6	6.2	**Pre AWS**	15.8	74.6	4.9	**Pre AWS**	2.5	7.1	2.9
Post AWS	28.4	181.7	6.4	**Post AWS**	12.7	62.4	4.9	**Post AWS**	1.1	3.0	2.8
*** 1996 earliest**				*** 1996 earliest**				*** 1996 earliest**			
Pre small	30.6	187.3	6.2	**Pre small**	15.4	73.6	4.9	**Pre small**	2.2	6.2	2.9
Post small	28.6	183.4	6.5	**Post small**	12.5	62.0	5.0	**Post small**	1.0	2.6	2.6
5 years				**5 years**				**5 years**			
Pre AWS	32.0	191.5	6.2	**Pre AWS**	16.6	76.5	4.8	**Pre AWS**	3.0	8.4	2.9
Post AWS	30.4	191.8	6.3	**Post AWS**	14.2	69.3	4.9	**Post AWS**	1.8	5.0	2.9
*** 1996 earliest**				*** 1996 earliest**				*** 1996 earliest**			
Pre small	28.6	176.8	6.2	**Pre small**	14.2	68.8	4.9	**Pre small**	2.0	5.7	2.9
Post small	28.0	181.5	6.5	**Post small**	12.4	62.9	5.1	**Post small**	0.4	1.0	2.6

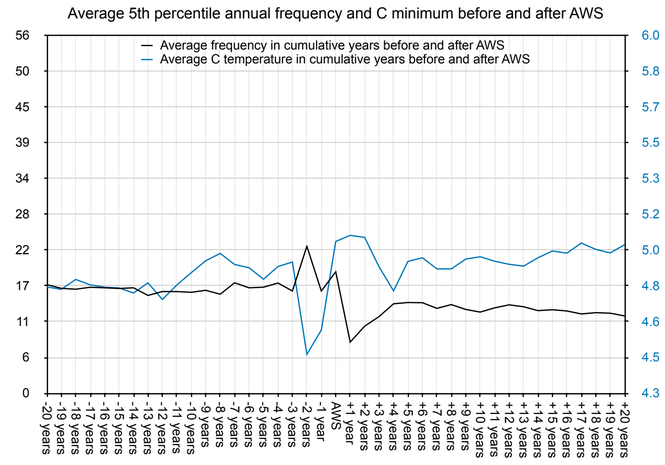
AWS introduction

Small screen introduction

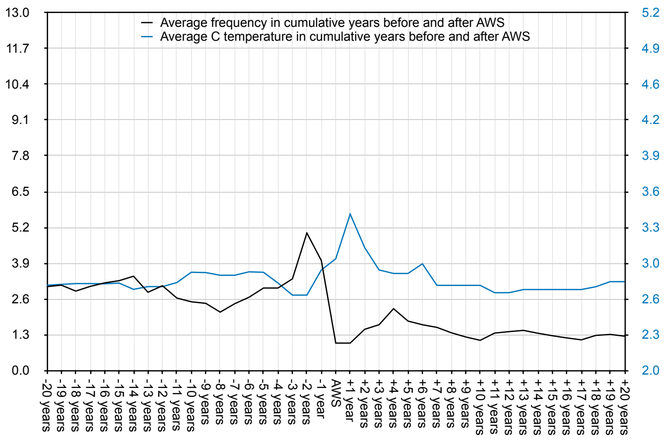
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS



10th -0.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -1.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -3.7	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1913	49	-117.2	-2.4	1913	37	-104.0	-2.8	1913	7	-32.0	-4.6									
1914	57	-99.7	-1.7	1914	29	-72.6	-2.5	1914	4	-16.7	-4.2									
1915	8	-10.8	-1.4	1915	3	-6.9	-2.3	1915	0	0.0										
1916	17	-28.4	-1.7	1916	7	-21.1	-3.0	1916	2	-7.8	-3.9									
1917	12	-15.7	-1.3	1917	4	-9.2	-2.3	1917	0	0.0										
1918	17	-26.1	-1.5	1918	8	-16.9	-2.1	1918	0	0.0										
1919	36	-65.4	-1.8	1919	19	-49.1	-2.6	1919	5	-19.1	-3.8									
1920	2	-1.4	-0.7	1920	0	0.0		1920	0	0.0										
1921	17	-23.8	-1.4	1921	6	-13.3	-2.2	1921	0	0.0										
1922	22	-35.9	-1.6	1922	9	-21.6	-2.4	1922	0	0.0										
1923	13	-12.2	-0.9	1923	1	-1.7	-1.7	1923	0	0.0										
1924	35	-65.3	-1.9	1924	20	-52.3	-2.6	1924	0	0.0										
1925	46	-83.0	-1.8	1925	20	-58.2	-2.9	1925	4	-16.4	-4.1									
1926	14	-18.4	-1.3	1926	3	-7.6	-2.5	1926	1	-4.0	-4.0									
1927	48	-110.4	-2.3	1927	31	-93.5	-3.0	1927	7	-29.5	-4.2									
1928	34	-68.1	-2.0	1928	21	-56.1	-2.7	1928	2	-7.8	-3.9									
1929	57	-146.1	-2.6	1929	33	-120.7	-3.7	1929	16	-76.1	-4.8									
1930	21	-36.7	-1.7	1930	14	-28.9	-2.1	1930	0	0.0										
1931	16	-21.6	-1.4	1931	5	-10.2	-2.0	1931	0	0.0										
1932	34	-69.3	-2.0	1932	16	-50.6	-3.2	1932	7	-29.5	-4.2									
1933	29	-52.6	-1.8	1933	18	-42.9	-2.4	1933	0	0.0										
1934	38	-78.9	-2.1	1934	18	-57.6	-3.2	1934	4	-17.2	-4.3									
1935	33	-53.8	-1.6	1935	13	-36.9	-2.8	1935	3	-12.2	-4.1									
1936	34	-62.6	-1.8	1936	14	-43.7	-3.1	1936	6	-24.9	-4.2									
1937	38	-63.1	-1.7	1937	15	-40.1	-2.7	1937	1	-3.7	-3.7									
1938	20	-35.3	-1.8	1938	14	-29.8	-2.1	1938	0	0.0										
1939	18	-33.8	-1.9	1939	13	-29.0	-2.2	1939	0	0.0										
1940	59	-96.2	-1.6	1940	25	-62.7	-2.5	1940	1	-3.9	-3.9									
1941	41	-67.2	-1.6	1941	18	-44.2	-2.5	1941	1	-3.7	-3.7									
1942	19	-23.4	-1.2	1942	6	-13.2	-2.2	1942	0	0.0										
1943	40	-65.3	-1.6	1943	20	-44.7	-2.2	1943	0	0.0										
1944	61	-166.6	-2.7	1944	47	-153.7	-3.3	1944	17	-73.6	-4.3									
1945	32	-50.0	-1.6	1945	13	-33.0	-2.5	1945	0	0.0										
1946	39	-74.3	-1.9	1946	21	-57.1	-2.7	1946	5	-20.3	-4.1									
1947	19	-23.7	-1.2	1947	5	-11.3	-2.3	1947	0	0.0										
1948	34	-76.3	-2.2	1948	21	-62.8	-3.0	1948	6	-25.7	-4.3									
1949	43	-95.1	-2.2	1949	26	-78.0	-3.0	1949	4	-19.4	-4.9									
1950	48	-77.7	-1.6	1950	25	-57.0	-2.3	1950	1	-3.9	-3.9									
1951	13	-24.4	-1.9	1951	7	-17.8	-2.5	1951	0	0.0										
1952	28	-44.1	-1.6	1952	12	-31.3	-2.6	1952	3	-12.7	-4.2									
1953	38	-73.8	-1.9	1953	21	-57.9	-2.8	1953	4	-17.1	-4.3									
1954	57	-112.6	-2.0	1954	31	-87.5	-2.8	1954	6	-26.3	-4.4									
1955	28	-54.1	-1.9	1955	18	-43.5	-2.4	1955	0	0.0										
1956	19	-38.3	-2.0	1956	13	-34.2	-2.6	1956	0	0.0										
1957	38	-53.3	-1.4	1957	16	-34.6	-2.2	1957	0	0.0										
1958	19	-40.1	-2.1	1958	14	-36.1	-2.6	1958	1	-3.9	-3.9									
1959	35	-61.3	-1.8	1959	18	-42.6	-2.4	1959	0	0.0										
1960	0	0.0		1960	0	0.0		1960	0	0.0										
1961	0	0.0		1961	0	0.0		1961	0	0.0										
1962	0	0.0		1962	0	0.0		1962	0	0.0										
1963	0	0.0		1963	0	0.0		1963	0	0.0										
1964	0	0.0		1964	0	0.0		1964	0	0.0										
1965	32	-73.7	-2.3	1965	20	-61.7	-3.1	1965	6	-26.0	-4.3									
1966	53	-97.6	-1.8	1966	29	-77.4	-2.7	1966	6	-24.5	-4.1									
1967	44	-97.9	-2.2	1967	34	-89.9	-2.6	1967	5	-20.4	-4.1									
1968	20	-27.0	-1.4	1968	9	-18.8	-2.1	1968	0	0.0										
1969	43	-90.8	-2.1	1969	22	-70.6	-3.2	1969	6	-27.0	-4.5									
1970	31	-40.8	-1.3	1970	13	-26.2	-2.0	1970	0	0.0										
1971	47	-96.7	-2.1	1971	31	-83.4	-2.7	1971	5	-21.9	-4.4									
1972	37	-80.0	-2.2	1972	22	-64.5	-2.9	1972	5	-21.2	-4.2									
1973	20	-24.6	-1.2	1973	3	-6.5	-2.2	1973	0	0.0										
1974	13	-26.5	-2.0	1974	6	-18.5	-3.1	1974	2	-9.0	-4.5									
1975	25	-53.0	-2.1	1975	16	-44.5	-2.8	1975	4	-16.5	-4.1									
1976	64	-159.2	-2.5	1976	43	-139.6	-3.2	1976	14	-65.9	-4.7									
1977	47	-86.4	-1.8	1977	25	-68.0	-2.7	1977	1	-4.5	-4.5									
1978	27	-50.2	-1.9	1978	12	-34.3	-2.9	1978	0	0.0		20 years	35.8	-2.0	20 years	20.2	-2.8	20 years	4.8	-4.3
1979	42	-98.0	-2.3	1979	28	-85.5	-3.1	1979	8	-33.5	-4.2	19 years	36.3	-2.0	19 years	20.6	-2.8	19 years	5.0	-4.3
1980	48	-88.2	-1.8	1980	23	-63.1	-2.7	1980	3	-12.6	-4.2	18 years	35.9	-2.0	18 years	20.2	-2.8	18 years	4.8	-4.3
1981	13	-22.6	-1.7	1981	4	-12.8	-3.2	1981	1	-4.1	-4.1	17 years	35.2	-2.0	17 years	20.0	-2.8	17 years	4.9	-4.3
1982	81	-179.6	-2.2	1982	47	-148.4	-3.2	1982	12	-54.7	-4.6	16 years	36.6	-2.0	16 years	21.0	-2.8	16 years	5.2	-4.4
1983	20	-38.3	-1.9	1983	9	-28.2	-3.1	1983	3	-13.9	-4.6	15 years	33.7	-2.0	15 years	19.3	-2.8	15 years	4.7	-4.3
1984	49	-113.4	-2.3	1984	29	-94.6	-3.3	1984	9	-45.2	-5.0	14 years	34.6	-2.0	14 years	20.0	-2.8	14 years	4.9	-4.3
1985	53	-146.1	-2.8	1985	34	-127.4	-3.7	1985	20	-87.9	-4.4	13 years	33.5	-1.9	13 years	19.3	-2.7	13 years	4.5	-4.2
1986	36	-80.2	-2.2	1986	21	-66.7	-3.2	1986	6	-27.7	-4.6	12 years	31.9	-1.9	12 years	18.1	-2.6	12 years	3.3	-4.2
1987	38	-76.4	-2.0	1987	22	-62.6	-2.8	1987	4	-16.6	-4.2	11 years	31.5	-1.8	11 years	17.8	-2.6	11 years	3.0	-4.2
1988	9	-9.8	-1.1	1988	2	-3.5	-1.8	1988	0	0.0		10 years	30.9	-1.8	10 years	17.4	-2.6	10 years	2.9	-4.2
1989	27	-48.5	-1.8	1989	16	-37.8	-2.4	1989	1	-4.5	-4.5	9 years	33.3	-1.9	9 years	19.1	-2.6	9 years	3.2	-4.2
1990	18	-27.3	-1.5	1990	5	-14.0	-2.8	1990	0	0.0		8 years	34.1	-1.9	8 years	19.5	-2.7	8 years	3.5	-4.1
1991	27	-45.3	-1.7	1991	14	-32.6	-2.3	1991	1	-3.7	-3.7	7 years	36.4	-2.0	7 years	21.6	-2.7	7 years	4.0	-4.1
1992	34	-61.5	-1.8	1992	17	-44.9	-2.6	1992	3	-11.7	-3.9	6 years	38.0	-2.0	6 years	22.8	-2.7	6 years	4.5	-4.2
1993	31	-65.4	-2.1	1993	20	-55.1	-2.8	1993	3	-12.3	-4.1	5 years	38.8	-2.0	5 years	24.0	-2.7	5 years	4.8	-4.3
1994	59	-126.1	-2.1	1994	37	-105.3	-2.8	1994	6	-25.9	-4.3	4 years	40.8	-2.0	4 years	25.0	-2.7	4 years	5.3	-4.4
1995	21	-38.8	-1.8	1995	10	-25.8	-2.6	1995	0	0.0		3 years	34.7	-2.0	3 years	21.0	-2.7	3 years	5.0	-4.5
1996	33	-49.8	-1.5	1996	14	-32.8	-2.3	1996	0	0.0		2 years	41.5	-2.1	2 years	26.5	-2.7	2 years	7.5	-4.5
1997	50	-130.6	-2.6	1997	39	-121.3	-3.1	1997	15	-67.6	-4.5	1 years	50.0	-2.6	1 years	39.0	-3.1	1 years	15.0	-4.5
1998	39	-86.9	-2.2	1998	17	-62.4	-3.7	1998	8	-40.5	-5.1	0 years	39.0	-2.2	0 years	17.0	-3.7	0 years	8.0	-5.1
1999	55	-117.6	-2.1	1999	36	-99.3	-2.8	1999	7	-29.1	-4.2	1 years	55.0	-2.1	1 years	36.0	-2.8	1 years	7.0	-4.2
2000	41	-76.2	-1.9	2000	22	-56.1	-2.6	2000	2	-8.1	-4.1	2 years	48.0	-2.0	2 years	29.0	-2.7	2 years	4.5	-4.1
2001	34	-66.1	-1.9	2001	21	-51.9	-2.5	2001	0	0.0		3 years	43.3	-2.0	3 years	26.3	-2.6	3 years	3.0	-4.1
2002	53	-115.1	-2.2	2002	32	-97.3	-3.0	2002	7	-30.6	-4.4	4 years	45.8	-2.0	4 years	27.8	-2.7	4 years	4.0	-4.2
2003	26	-38.3	-1.5	2003	10	-24.2	-2.4	2003	0	0.0		5 years	41.8	-1.9	5 years	24.2	-2.6	5 years	3.2	-4.2
2004	26	-43.4	-1.7	2004	14	-34.4	-2.5	2004	2	-7.4	-3.7	6 years	39.2	-1.9	6 years	22.5	-2.6	6 years	3.0	-4.1
2005	35	-53.2	-1.5	2005	12	-30.3	-2.5	2005	2	-7.9	-4.0	7 years	38.6	-1.8	7 years	21.0	-2.6	7 years	2.9	-4.0
2006	79	-213.8	-2.7	2006	57	-189.0	-3.3	2006	20	-94.5	-4.7	8 years	43.6	-1.9	8 years	25.5	-2.7	8 years	5.0	-4.2
2007	51	-103.8	-2.0	2007	27	-80.5	-3.0	2007	8	-34.1	-4.3	9 years	44.4	-1.9	9 years	25.7	-2.7	9 years	5.3	-4.2
2008	41	-76.0	-1.9	2008	22	-55.3	-2.5	2008	1	-3.7	-3.7	10 years	44.1	-1.9	10 years	25.3	-2.7	10 years	4.9	-4.1
2009	25	-28.2	-1.1	2009	3	-6.0	-2.0	2009	0	0.0		11 years	42.4	-1.9	11 years	23.3	-2.6	11 years	4.5	-4.1
2010	42	-73.1	-1.7	2010	21	-52.8	-2.5	2010	2	-7.6	-3.8	12 years	42.3	-1.9	12 years	23.1	-2.6	12 years	4.3	-4.1
2011	49	-101.9	-2.1	2011	36	-88.0	-2.4	2011	3	-12.2	-4.1	13 years	42.8	-1.9	13 years	24.1	-2.6	13 years	4.2	-4.1
2012	70	-155.3	-2.2	2012	46	-135.8	-3.0	2012	13	-57.2	-4.4	14 years	44.8	-1.9	14 years	25.6	-2.6	14 years	4.8	-4.1
2013	48	-73.2	-1.5	2013	19	-47.9	-2.5	2013	0	0.0		15 years	45.0	-1.9	15 years	25.2	-2.6	15 years	4.5	-4.1
2014	45	-97.9	-2.2	2014	23	-77.3	-3.4	2014	9	-42.1	-4.7	16 years	45.0	-1.9	16 years	25.1	-2.7	16 years	4.8	-4.2
2015	45	-97.8	-2.2	2015	29	-84.0	-2.9	2015	5	-21.9	-4.4	17 years	45.0	-1.9	17 years	25.3	-2.7	17 years	4.8	-4.2
2016	19	-28.2	-1.5	2016	9	-19.2	-2.1	2016	0	0.0		18 years	43.6	-1.9	18 years	24.4	-2.7	18 years	4.5	-4.2
2017	65	-164.1	-2.5	2017	42	-139.8	-3.3	2017	13	-61.9	-4.8	19 years	44.7	-1.9	19 years	25.3	-2.7	19 years	4.9	-4.2
2018	47	-94.3	-2.0	2018	25	-73.7	-2.9	2018	5	-23.2	-4.6	20 years	44.8	-1.9	20 years	25.3	-2.7	20 years	5.0	-4.2
2019	45	-81.8	-1.8	2019	24	-59.6	-2.5	2019	1	-3.8	-3.8									
2020	39	-71.0	-1.8	2020	21	-53.1	-2.5	2020	1	-4.8	-4.8									
2021	40	-73.1	-1.8	2021	20	-55.3	-2.8	2021	4	-18.0	-4.5									
2022	35	-78.0	-2.2	2022	23	-66.7	-2.9	2022	7	-29.5	-4.2									

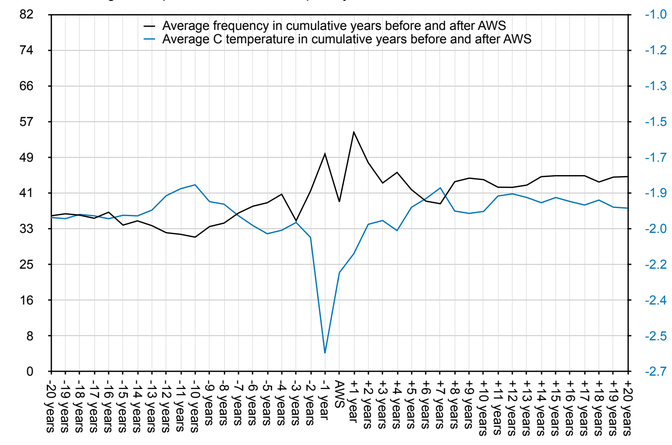
Original AWS probe Rosemount

10 years	Always had small screen			**10 years**	Always had small screen			**10 years**	Always had small screen		
Pre AWS	30.9	-60.3	-1.8	**Pre AWS**	17.4	-47.3	-2.6	**Pre AWS**	2.9	-12.6	-4.2
Post AWS	44.1	-90.4	-1.9	**Post AWS**	25.3	-71.8	-2.7	**Post AWS**	4.9	-21.5	-4.1
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
5 years				**5 years**				**5 years**			
Pre AWS	38.8	-82.1	-2.0	**Pre AWS**	24.0	-68.1	-2.7	**Pre AWS**	4.8	-21.2	-4.3
Post AWS	41.8	-82.7	-1.9	**Post AWS**	24.2	-65.8	-2.6	**Post AWS**	3.2	-13.6	-4.2
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			

AWS introduction

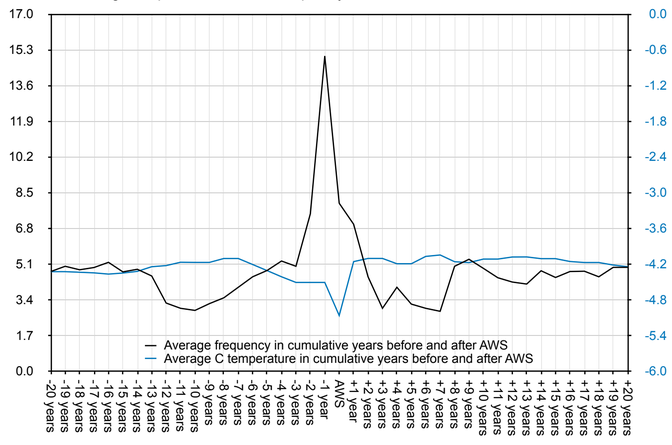
Small screen introduction

Average 10th percentile annual frequency and C minimum before and after AWS

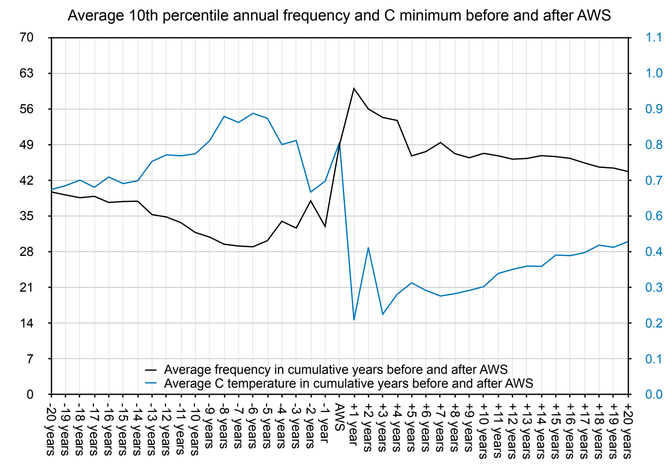


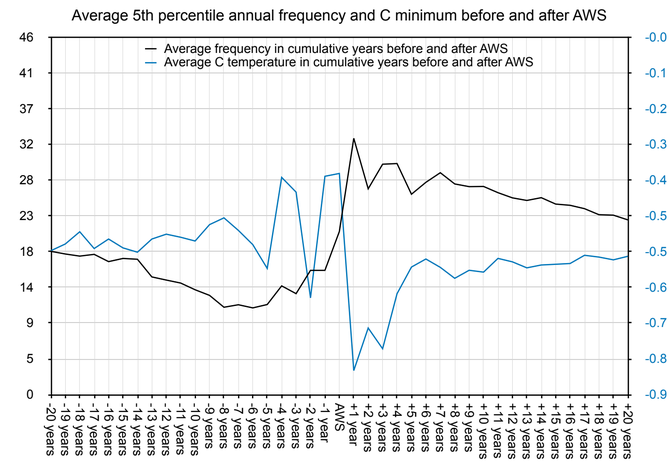
Average 5th percentile annual frequency and C minimum before and after AWS

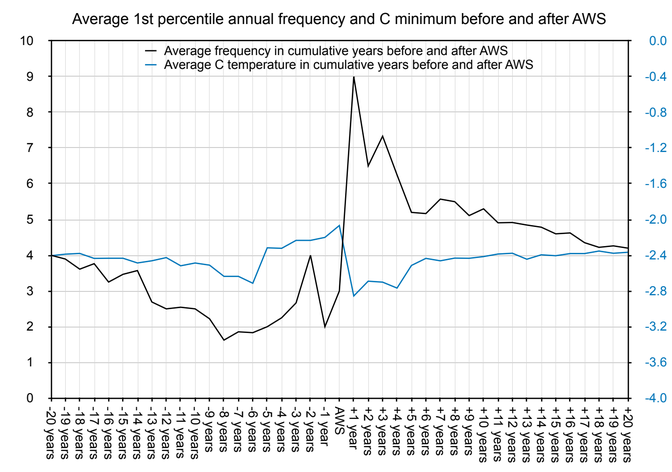
Average 1st percentile annual frequency and C minimum before and after AWS



10th 2.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	22	15.0	0.7	**1910**	10	-4.1	-0.4	**1910**	2	-4.1	-2.1									
1911	30	21.1	0.7	**1911**	13	-6.0	-0.5	**1911**	3	-6.2	-2.1									
1912	45	24.2	0.5	**1912**	22	-9.7	-0.4	**1912**	3	-8.2	-2.7									
1913	24	12.7	0.5	**1913**	11	-10.0	-0.9	**1913**	3	-7.3	-2.4									
1914	39	29.1	0.7	**1914**	18	-2.1	-0.1	**1914**	0	0.0										
1915	20	24.8	1.2	**1915**	5	0.0	0.0	**1915**	0	0.0										
1916	47	42.7	0.9	**1916**	22	0.6	0.0	**1916**	0	0.0										
1917	28	19.1	0.7	**1917**	12	-2.8	-0.2	**1917**	0	0.0										
1918	22	28.9	1.3	**1918**	5	-0.6	-0.1	**1918**	0	0.0										
1919	31	27.1	0.9	**1919**	10	-7.8	-0.8	**1919**	4	-8.4	-2.1									
1920	36	13.4	0.4	**1920**	21	-12.2	-0.6	**1920**	2	-3.7	-1.9									
1921	28	31.9	1.1	**1921**	7	-4.9	-0.7	**1921**	2	-4.2	-2.1									
1922	34	23.0	0.7	**1922**	16	-4.3	-0.3	**1922**	3	-6.2	-2.1									
1923	24	27.1	1.1	**1923**	9	2.4	0.3	**1923**	0	0.0										
1924	42	20.1	0.5	**1924**	20	-19.4	-1.0	**1924**	5	-16.1	-3.2									
1925	44	48.3	1.1	**1925**	14	-6.5	-0.5	**1925**	3	-5.1	-1.7									
1926	48	40.7	0.8	**1926**	24	-3.7	-0.2	**1926**	1	-1.7	-1.7									
1927	50	26.7	0.5	**1927**	20	-29.3	-1.5	**1927**	8	-23.6	-3.0									
1928	41	16.0	0.4	**1928**	25	-12.7	-0.5	**1928**	4	-8.4	-2.1									
1929	62	45.4	0.7	**1929**	29	-10.9	-0.4	**1929**	4	-9.0	-2.3									
1930	30	33.5	1.1	**1930**	8	-2.6	-0.3	**1930**	2	-3.9	-2.0									
1931	44	28.1	0.6	**1931**	19	-18.5	-1.0	**1931**	7	-15.7	-2.2									
1932	51	-13.8	-0.3	**1932**	33	-46.2	-1.4	**1932**	12	-38.6	-3.2									
1933	22	20.8	0.9	**1933**	10	1.1	0.1	**1933**	0	0.0										
1934	56	14.7	0.3	**1934**	35	-20.6	-0.6	**1934**	10	-18.2	-1.8									
1935	29	20.9	0.7	**1935**	14	-6.8	-0.5	**1935**	2	-3.9	-2.0									
1936	38	31.3	0.8	**1936**	14	-6.0	-0.4	**1936**	2	-3.8	-1.9									
1937	29	17.0	0.6	**1937**	14	-5.7	-0.4	**1937**	3	-5.2	-1.7									
1938	48	39.7	0.8	**1938**	21	-8.9	-0.4	**1938**	3	-5.2	-1.7									
1939	30	21.1	0.7	**1939**	14	-5.0	-0.4	**1939**	0	0.0										
1940	39	9.9	0.3	**1940**	26	-11.6	-0.4	**1940**	3	-6.4	-2.1									
1941	23	13.0	0.6	**1941**	13	-2.1	-0.2	**1941**	2	-3.7	-1.9									
1942	17	15.7	0.9	**1942**	5	-5.4	-1.1	**1942**	3	-6.6	-2.2									
1943	37	29.9	0.8	**1943**	16	-2.2	-0.1	**1943**	0	0.0										
1944	34	2.7	0.1	**1944**	24	-12.9	-0.5	**1944**	5	-8.6	-1.7									
1945	59	41.3	0.7	**1945**	27	-6.2	-0.2	**1945**	2	-4.4	-2.2									
1946	49	31.6	0.6	**1946**	22	-11.6	-0.5	**1946**	4	-11.0	-2.8									
1947	33	22.0	0.7	**1947**	13	-12.7	-1.0	**1947**	4	-8.4	-2.1									
1948	45	5.0	0.1	**1948**	27	-23.7	-0.9	**1948**	10	-22.9	-2.3									
1949	57	15.7	0.3	**1949**	31	-24.1	-0.8	**1949**	6	-19.0	-3.2									
1950	45	17.3	0.4	**1950**	23	-16.5	-0.7	**1950**	5	-12.1	-2.4									
1951	30	40.4	1.3	**1951**	7	0.5	0.1	**1951**	0	0.0										
1952	20	18.6	0.9	**1952**	10	1.8	0.2	**1952**	0	0.0										
1953	40	19.1	0.5	**1953**	20	-12.9	-0.6	**1953**	5	-12.4	-2.5									
1954	55	34.3	0.6	**1954**	22	-20.2	-0.9	**1954**	6	-16.5	-2.8									
1955	38	9.1	0.2	**1955**	22	-13.8	-0.6	**1955**	5	-10.0	-2.0									
1956	25	17.6	0.7	**1956**	11	-4.8	-0.4	**1956**	0	0.0										
1957	38	16.0	0.4	**1957**	20	-13.1	-0.7	**1957**	5	-11.6	-2.3									
1958	26	23.7	0.9	**1958**	10	-3.8	-0.4	**1958**	2	-3.7	-1.9									
1959	34	14.8	0.4	**1959**	18	-14.1	-0.8	**1959**	5	-13.1	-2.6									
1960	27	19.6	0.7	**1960**	12	-2.9	-0.2	**1960**	1	-1.7	-1.7									
1961	23	11.6	0.5	**1961**	11	-6.8	-0.6	**1961**	3	-5.9	-2.0									
1962	30	16.9	0.6	**1962**	14	-7.8	-0.6	**1962**	3	-6.8	-2.3									
1963	24	24.9	1.0	**1963**	7	-1.0	-0.1	**1963**	0	0.0										
1964	24	20.3	0.8	**1964**	12	0.7	0.1	**1964**	1	-2.2	-2.2									
1965	34	-29.8	-0.9	**1965**	27	-40.8	-1.5	**1965**	13	-37.0	-2.8									
1966	44	7.9	0.2	**1966**	24	-22.3	-0.9	**1966**	7	-15.3	-2.2									
1967	40	31.1	0.8	**1967**	20	-1.4	-0.1	**1967**	0	0.0										
1968	39	33.9	0.9	**1968**	13	-6.4	-0.5	**1968**	1	-1.5	-1.5									
1969	38	16.9	0.4	**1969**	17	-14.2	-0.8	**1969**	6	-12.6	-2.1									
1970	26	27.5	1.1	**1970**	10	1.1	0.1	**1970**	0	0.0										
1971	70	9.5	0.1	**1971**	37	-42.0	-1.1	**1971**	14	-34.2	-2.4									
1972	47	2.7	0.1	**1972**	29	-24.9	-0.9	**1972**	6	-16.5	-2.8									
1973	56	-12.9	-0.2	**1973**	40	-36.4	-0.9	**1973**	11	-27.7	-2.5									
1974	24	23.3	1.0	**1974**	6	-4.3	-0.7	**1974**	1	-2.8	-2.8									
1975	40	23.8	0.6	**1975**	19	-10.6	-0.6	**1975**	5	-9.0	-1.8									
1976	51	20.6	0.4	**1976**	25	-21.5	-0.9	**1976**	6	-16.1	-2.7	20 years	39.8	0.6	20 years	18.5	-0.5	20 years	4.0	-2.4
1977	49	16.5	0.3	**1977**	23	-24.7	-1.1	**1977**	9	-22.6	-2.5	19 years	39.2	0.6	19 years	18.1	-0.5	19 years	3.9	-2.4
1978	34	35.2	1.0	**1978**	14	3.2	0.2	**1978**	1	-1.6	-1.6	18 years	38.6	0.7	18 years	17.8	-0.5	18 years	3.6	-2.4
1979	58	7.7	0.1	**1979**	33	-30.2	-0.9	**1979**	12	-29.5	-2.5	17 years	38.9	0.6	17 years	18.1	-0.5	17 years	3.8	-2.4
1980	35	34.1	1.0	**1980**	11	-1.9	-0.2	**1980**	0	0.0		16 years	37.7	0.7	16 years	17.1	-0.5	16 years	3.3	-2.4
1981	37	19.6	0.5	**1981**	19	-7.2	-0.4	**1981**	2	-3.6	-1.8	15 years	37.9	0.7	15 years	17.5	-0.5	15 years	3.5	-2.4
1982	72	-8.6	-0.1	**1982**	47	-45.7	-1.0	**1982**	15	-41.3	-2.8	14 years	37.9	0.7	14 years	17.4	-0.5	14 years	3.6	-2.5
1983	41	19.6	0.5	**1983**	20	-13.1	-0.7	**1983**	5	-14.1	-2.8	13 years	35.3	0.7	13 years	15.2	-0.5	13 years	2.7	-2.5
1984	47	36.2	0.8	**1984**	19	-7.8	-0.4	**1984**	2	-3.2	-1.6	12 years	34.8	0.7	12 years	14.8	-0.5	12 years	2.5	-2.4
1985	53	35.9	0.7	**1985**	23	-9.4	-0.4	**1985**	3	-8.3	-2.8	11 years	33.7	0.7	11 years	14.4	-0.5	11 years	2.5	-2.5
1986	40	15.0	0.4	**1986**	20	-17.7	-0.9	**1986**	5	-11.6	-2.3	10 years	31.8	0.7	10 years	13.5	-0.5	10 years	2.5	-2.5
1987	42	7.8	0.2	**1987**	25	-15.2	-0.6	**1987**	7	-12.3	-1.8	9 years	30.9	0.8	9 years	12.8	-0.5	9 years	2.2	-2.5
1988	32	31.6	1.0	**1988**	9	-2.1	-0.2	**1988**	0	0.0		8 years	29.5	0.9	8 years	11.3	-0.5	8 years	1.6	-2.6
1989	30	20.1	0.7	**1989**	14	-3.8	-0.3	**1989**	2	-4.5	-2.3	7 years	29.1	0.8	7 years	11.6	-0.5	7 years	1.9	-2.6
1990	23	21.7	0.9	**1990**	9	-2.0	-0.2	**1990**	1	-4.3	-4.3	6 years	29.0	0.9	6 years	11.2	-0.5	6 years	1.8	-2.7
1991	15	17.6	1.2	**1991**	2	-3.0	-1.5	**1991**	1	-2.3	-2.3	5 years	30.2	0.9	5 years	11.6	-0.6	5 years	2.0	-2.3
1992	38	27.9	0.7	**1992**	17	-4.1	-0.2	**1992**	1	-2.5	-2.5	4 years	34.0	0.8	4 years	14.0	-0.4	4 years	2.3	-2.3
1993	22	24.2	1.1	**1993**	7	1.0	0.1	**1993**	0	0.0		3 years	32.7	0.8	3 years	13.0	-0.4	3 years	2.7	-2.2
1994	43	25.4	0.6	**1994**	16	-15.4	-1.0	**1994**	6	-13.6	-2.3	2 years	38.0	0.6	2 years	16.0	-0.7	2 years	4.0	-2.2
1995	33	21.7	0.7	**1995**	16	-5.6	-0.4	**1995**	2	-4.4	-2.2	1 years	33.0	0.7	1 years	16.0	-0.4	1 years	2.0	-2.2
1996	49	38.1	0.8	**1996**	21	-7.2	-0.3	**1996**	3	-6.2	-2.1	0 years	49.0	0.8	0 years	21.0	-0.3	0 years	3.0	-2.1
1997	60	13.8	0.2	**1997**	33	-27.7	-0.8	**1997**	9	-25.7	-2.9	1 years	60.0	0.2	1 years	33.0	-0.8	1 years	9.0	-2.9
1998	52	35.2	0.7	**1998**	20	-12.5	-0.6	**1998**	4	-10.1	-2.5	2 years	56.0	0.5	2 years	26.5	-0.7	2 years	6.5	-2.7
1999	51	-8.3	-0.2	**1999**	36	-32.0	-0.9	**1999**	9	-24.5	-2.7	3 years	54.3	0.2	3 years	29.7	-0.8	3 years	7.3	-2.7
2000	52	25.7	0.5	**2000**	30	-6.9	-0.2	**2000**	3	-8.9	-3.0	4 years	53.8	0.3	4 years	29.8	-0.6	4 years	6.3	-2.8
2001	19	9.2	0.5	**2001**	10	-3.1	-0.3	**2001**	1	-1.5	-1.5	5 years	46.8	0.3	5 years	25.8	-0.6	5 years	5.2	-2.5
2002	52	10.6	0.2	**2002**	35	-16.0	-0.5	**2002**	5	-10.2	-2.0	6 years	47.7	0.3	6 years	27.3	-0.6	6 years	5.2	-2.4
2003	60	12.1	0.2	**2003**	36	-25.4	-0.7	**2003**	8	-21.0	-2.6	7 years	49.4	0.3	7 years	28.6	-0.6	7 years	5.6	-2.5
2004	32	11.6	0.4	**2004**	17	-13.6	-0.8	**2004**	5	-11.1	-2.2	8 years	47.3	0.3	8 years	27.1	-0.6	8 years	5.5	-2.4
2005	40	16.1	0.4	**2005**	24	-10.2	-0.4	**2005**	2	-4.9	-2.5	9 years	46.4	0.3	9 years	26.8	-0.6	9 years	5.1	-2.4
2006	55	24.0	0.4	**2006**	27	-17.1	-0.6	**2006**	7	-15.7	-2.2	10 years	47.3	0.3	10 years	26.8	-0.6	10 years	5.3	-2.4
2007	42	32.7	0.8	**2007**	18	-3.8	-0.2	**2007**	1	-2.1	-2.1	11 years	46.8	0.4	11 years	26.0	-0.6	11 years	4.9	-2.4
2008	39	20.5	0.5	**2008**	18	-11.9	-0.7	**2008**	5	-11.4	-2.3	12 years	46.2	0.4	12 years	25.3	-0.6	12 years	4.9	-2.4
2009	48	24.9	0.5	**2009**	21	-16.0	-0.8	**2009**	4	-13.0	-3.3	13 years	46.3	0.4	13 years	25.0	-0.6	13 years	4.8	-2.4
2010	54	20.6	0.4	**2010**	30	-14.4	-0.5	**2010**	4	-7.0	-1.8	14 years	46.9	0.4	14 years	25.4	-0.6	14 years	4.8	-2.4
2011	44	40.5	0.9	**2011**	13	-7.1	-0.5	**2011**	2	-5.1	-2.6	15 years	46.7	0.4	15 years	24.5	-0.6	15 years	4.6	-2.4
2012	41	16.4	0.4	**2012**	22	-11.9	-0.5	**2012**	5	-10.1	-2.0	16 years	46.3	0.4	16 years	24.4	-0.6	16 years	4.6	-2.4
2013	31	18.2	0.6	**2013**	17	-3.7	-0.2	**2013**	0	0.0		17 years	45.4	0.4	17 years	23.9	-0.5	17 years	4.4	-2.4
2014	31	26.4	0.9	**2014**	10	-6.3	-0.6	**2014**	2	-3.8	-1.9	18 years	44.6	0.5	18 years	23.2	-0.6	18 years	4.2	-2.4
2015	41	13.7	0.3	**2015**	22	-15.1	-0.7	**2015**	5	-14.0	-2.8	19 years	44.4	0.5	19 years	23.1	-0.6	19 years	4.3	-2.4
2016	31	25.0	0.8	**2016**	11	-4.2	-0.4	**2016**	3	-6.5	-2.2	20 years	43.8	0.5	20 years	22.5	-0.6	20 years	4.2	-2.4
2017	51	0.7	0.0	**2017**	26	-40.3	-1.6	**2017**	10	-34.6	-3.5									
2018	52	22.1	0.4	**2018**	26	-18.7	-0.7	**2018**	6	-16.5	-2.8									
2019	35	13.0	0.4	**2019**	16	-16.9	-1.1	**2019**	5	-13.1	-2.6									
2020	37	29.3	0.8	**2020**	13	-5.9	-0.5	**2020**	1	-1.7	-1.7									
2021	31	19.7	0.6	**2021**	15	-6.5	-0.4	**2021**	2	-3.7	-1.9									
2022	35	21.9	0.6	**2022**	17	-7.5	-0.4	**2022**	2	-6.1	-3.1									
Original AWS probe Rosemount																				
10 years				**10 years**				**10 years**												
Pre AWS	31.8	21.3	0.7	**Pre AWS**	13.5	-6.8	-0.5	**Pre AWS**	2.5	-5.6	-2.5									
Post AWS	47.3	15.0	0.3	**Post AWS**	26.8	-16.5	-0.6	**Post AWS**	5.3	-13.4	-2.4									
Pre small	43.3	19.6	0.5	**Pre small**	22.4	-12.5	-0.5	**Pre small**	4.2	-10.5	-2.3									
Post small	42.6	22.6	0.5	**Post small**	20.7	-11.0	-0.5	**Post small**	3.5	-8.0	-2.3									
5 years				**5 years**				**5 years**												
Pre AWS	30.2	23.4	0.9	**Pre AWS**	11.6	-5.4	-0.6	**Pre AWS**	2.0	-4.6	-2.3									
Post AWS	46.8	15.1	0.3	**Post AWS**	25.8	-16.4	-0.6	**Post AWS**	5.2	-14.1	-2.5									
Pre small	45.2	14.5	0.3	**Pre small**	26.2	-14.1	-0.5	**Pre small**	4.4	-11.0	-2.4									
Post small	41.6	21.0	0.5	**Post small**	20.8	-11.3	-0.5	**Post small**	4.0	-9.0	-2.3									
		AWS introduction																		
		Small screen introduction																		





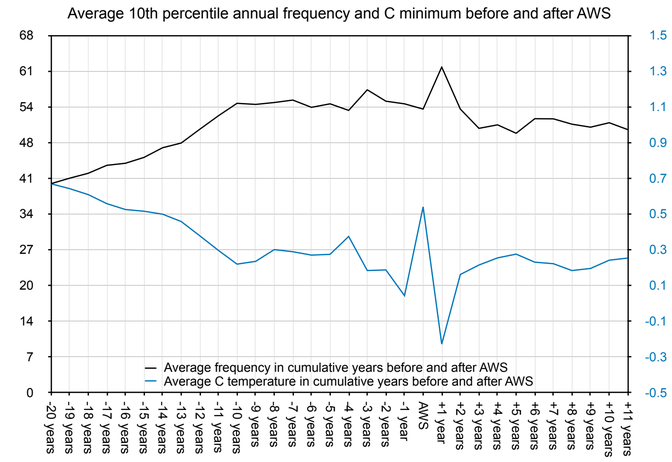


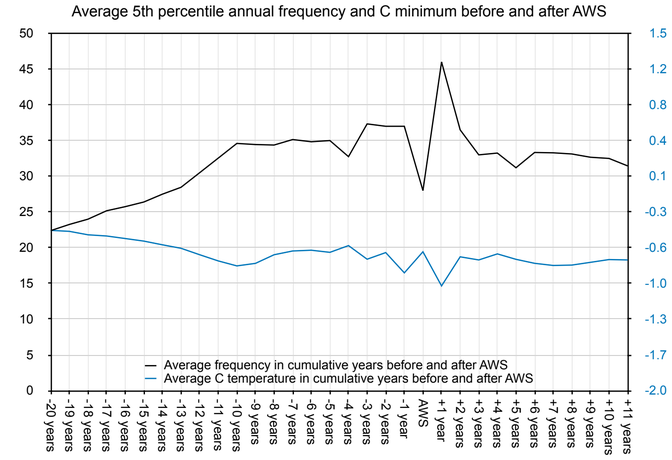
10th 2.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1965	39	49.9	1.3	**1965**	12	0.4	0.0	**1965**	0	0.0										
1966	30	28.0	0.9	**1966**	16	-0.5	-0.0	**1966**	0	0.0										
1967	20	24.0	1.2	**1967**	8	-0.8	-0.1	**1967**	1	-1.7	-1.7									
1968	27	32.4	1.2	**1968**	9	0.7	0.1	**1968**	0	0.0										
1969	24	30.9	1.3	**1969**	8	1.5	0.2	**1969**	1	-1.6	-1.6									
1970	33	42.1	1.3	**1970**	9	-2.5	-0.3	**1970**	0	0.0										
1971	32	8.9	0.3	**1971**	20	-10.8	-0.5	**1971**	5	-10.2	-2.0									
1972	27	33.2	1.2	**1972**	11	2.3	0.2	**1972**	0	0.0										
1973	12	22.0	1.8	**1973**	2	1.8	0.9	**1973**	0	0.0										
1974	30	40.8	1.4	**1974**	8	-1.1	-0.1	**1974**	1	-3.0	-3.0									
1975	24	42.2	1.8	**1975**	3	2.1	0.7	**1975**	0	0.0										
1976	25	30.3	1.2	**1976**	9	1.3	0.1	**1976**	0	0.0										
1977	34	29.3	0.9	**1977**	19	-2.6	-0.1	**1977**	1	-1.6	-1.6									
1978	29	36.1	1.2	**1978**	10	-3.2	-0.3	**1978**	1	-1.8	-1.8									
1979	36	44.0	1.2	**1979**	17	5.3	0.3	**1979**	0	0.0										
1980	22	29.1	1.3	**1980**	7	0.6	0.1	**1980**	0	0.0										
1981	22	31.2	1.4	**1981**	7	3.3	0.5	**1981**	0	0.0										
1982	47	53.6	1.1	**1982**	16	-2.3	-0.1	**1982**	1	-2.2	-2.2									
1983	23	21.2	0.9	**1983**	9	-0.6	-0.1	**1983**	0	0.0										
1984	20	27.9	1.4	**1984**	5	-0.6	-0.1	**1984**	0	0.0										
1985	35	45.0	1.3	**1985**	13	2.3	0.2	**1985**	0	0.0										
1986	42	44.5	1.1	**1986**	17	-6.1	-0.4	**1986**	3	-6.5	-2.2									
1987	24	25.1	1.0	**1987**	8	-2.2	-0.3	**1987**	0	0.0										
1988	16	12.5	0.8	**1988**	9	-0.5	-0.1	**1988**	1	-1.7	-1.7									
1989	28	35.6	1.3	**1989**	9	-2.3	-0.3	**1989**	0	0.0										
1990	19	30.0	1.6	**1990**	5	1.2	0.2	**1990**	0	0.0										
1991	20	23.7	1.2	**1991**	6	-1.5	-0.3	**1991**	1	-1.7	-1.7	20 years	39.8	0.7	20 years	22.4	-0.4	20 years	5.5	-2.3
1992	24	29.9	1.2	**1992**	10	1.7	0.2	**1992**	0	0.0		19 years	40.8	0.6	19 years	23.3	-0.4	19 years	5.7	-2.3
1993	16	23.5	1.5	**1993**	4	-1.1	-0.3	**1993**	0	0.0		18 years	41.8	0.6	18 years	24.0	-0.5	18 years	6.1	-2.3
1994	37	40.2	1.1	**1994**	16	-1.4	-0.1	**1994**	2	-4.1	-2.1	17 years	43.3	0.6	17 years	25.2	-0.5	17 years	6.4	-2.3
1995	27	18.1	0.7	**1995**	16	-2.1	-0.1	**1995**	0	0.0		16 years	43.7	0.5	16 years	25.8	-0.5	16 years	6.7	-2.3
1996	19	14.2	0.7	**1996**	11	-0.3	-0.0	**1996**	1	-1.6	-1.6	15 years	44.8	0.5	15 years	26.4	-0.5	15 years	7.1	-2.3
1997	35	36.2	1.0	**1997**	15	-1.9	-0.1	**1997**	0	0.0		14 years	46.6	0.5	14 years	27.5	-0.6	14 years	7.6	-2.4
1998	16	22.7	1.4	**1998**	4	0.6	0.2	**1998**	0	0.0		13 years	47.5	0.5	13 years	28.5	-0.6	13 years	8.2	-2.4
1999	22	28.1	1.3	**1999**	8	0.0	0.0	**1999**	1	-1.8	-1.8	12 years	50.2	0.4	12 years	30.5	-0.7	12 years	8.8	-2.4
2000	29	30.9	1.1	**2000**	12	-2.9	-0.2	**2000**	2	-3.9	-2.0	11 years	52.7	0.3	11 years	32.5	-0.7	11 years	9.5	-2.4
2001	57	4.6	0.1	**2001**	36	-36.0	-1.0	**2001**	16	-34.2	-2.1	10 years	55.1	0.2	10 years	34.6	-0.8	10 years	10.3	-2.5
2002	52	-15.1	-0.3	**2002**	35	-50.0	-1.4	**2002**	15	-44.5	-3.0	9 years	54.9	0.2	9 years	34.4	-0.8	9 years	9.7	-2.5
2003	52	20.0	0.4	**2003**	29	-26.9	-0.9	**2003**	10	-24.6	-2.5	8 years	55.3	0.3	8 years	34.4	-0.7	8 years	9.0	-2.5
2004	64	25.8	0.4	**2004**	37	-25.0	-0.7	**2004**	7	-14.4	-2.1	7 years	55.7	0.3	7 years	35.1	-0.6	7 years	8.9	-2.5
2005	51	12.7	0.2	**2005**	34	-17.7	-0.5	**2005**	6	-18.4	-3.1	6 years	54.3	0.3	6 years	34.8	-0.6	6 years	9.2	-2.5
2006	60	-7.5	-0.1	**2006**	44	-40.0	-0.9	**2006**	15	-36.4	-2.4	5 years	55.0	0.3	5 years	35.0	-0.6	5 years	9.8	-2.4
2007	42	39.8	0.9	**2007**	19	-3.4	-0.2	**2007**	3	-7.9	-2.6	4 years	53.8	0.4	4 years	32.8	-0.6	4 years	8.5	-2.4
2008	62	11.0	0.2	**2008**	38	-32.0	-0.8	**2008**	13	-27.3	-2.1	3 years	57.7	0.2	3 years	37.3	-0.7	3 years	10.3	-2.4
2009	56	18.6	0.3	**2009**	37	-16.6	-0.4	**2009**	7	-16.3	-2.3	2 years	55.5	0.2	2 years	37.0	-0.6	2 years	9.0	-2.5
2010	55	2.4	0.0	**2010**	37	-31.3	-0.8	**2010**	11	-30.0	-2.7	1 years	55.0	0.0	1 years	37.0	-0.8	1 years	11.0	-2.7
2011	54	29.2	0.5	**2011**	28	-17.9	-0.6	**2011**	8	-17.5	-2.2	0 years	54.0	0.5	0 years	28.0	-0.6	0 years	8.0	-2.2
2012	62	-14.1	-0.2	**2012**	46	-44.8	-1.0	**2012**	14	-33.4	-2.4	1 years	62.0	-0.2	1 years	46.0	-1.0	1 years	14.0	-2.4
2013	46	25.4	0.6	**2013**	27	-10.9	-0.4	**2013**	6	-13.5	-2.3	2 years	54.0	0.2	2 years	36.5	-0.7	2 years	10.0	-2.3
2014	43	13.8	0.3	**2014**	26	-20.3	-0.8	**2014**	7	-15.8	-2.3	3 years	50.3	0.2	3 years	33.0	-0.7	3 years	9.0	-2.3
2015	53	19.9	0.4	**2015**	34	-16.4	-0.5	**2015**	6	-11.5	-1.9	4 years	51.0	0.3	4 years	33.3	-0.7	4 years	8.3	-2.2
2016	43	15.5	0.4	**2016**	23	-21.3	-0.9	**2016**	8	-18.8	-2.4	5 years	49.4	0.3	5 years	31.2	-0.7	5 years	8.2	-2.2
2017	66	0.4	0.0	**2017**	44	-41.7	-0.9	**2017**	15	-36.5	-2.4	6 years	52.2	0.2	6 years	33.3	-0.8	6 years	9.3	-2.3
2018	52	8.9	0.2	**2018**	33	-29.7	-0.9	**2018**	8	-25.1	-3.1	7 years	52.1	0.2	7 years	33.3	-0.8	7 years	9.1	-2.4
2019	44	-3.7	-0.1	**2019**	32	-23.8	-0.7	**2019**	6	-18.1	-3.0	8 years	51.1	0.2	8 years	33.1	-0.8	8 years	8.8	-2.5
2020	46	13.4	0.3	**2020**	29	-15.3	-0.5	**2020**	6	-13.3	-2.2	9 years	50.6	0.2	9 years	32.7	-0.7	9 years	8.4	-2.4
2021	59	38.8	0.7	**2021**	31	-14.6	-0.5	**2021**	5	-13.3	-2.7	10 years	51.4	0.2	10 years	32.5	-0.7	10 years	8.1	-2.5
2022	37	13.8	0.4	**2022**	21	-15.9	-0.8	**2022**	7	-16.7	-2.4	11 years	50.1	0.3	11 years	31.5	-0.7	11 years	8.0	-2.5

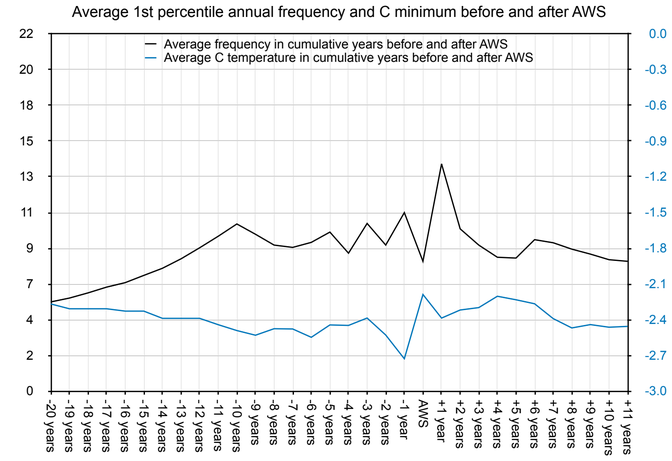
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	54.3	12.8	0.3	**Pre**	34.8	-23.5	-0.6	**Pre**	9.2	-22.7	-2.5
Post	52.2	10.2	0.2	**Post**	33.3	-25.9	-0.8	**Post**	9.3	-21.6	-2.3

		AWS introduction			AWS introduction				AWS introduction		
		Probe replacement			Probe replacement				Probe replacement		
		Small screen introduction			Small screen introduction				Small screen introduction		



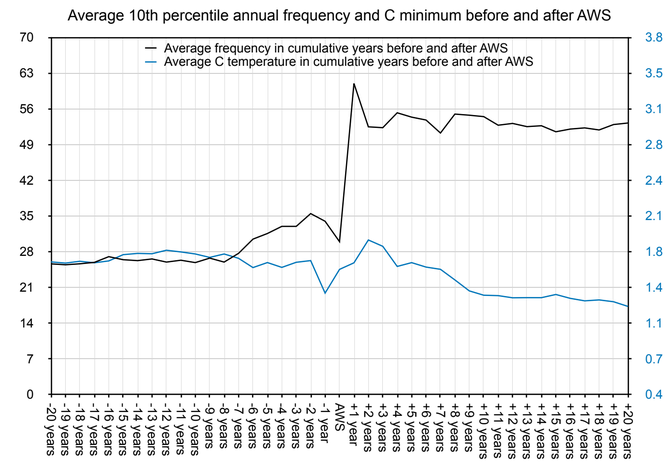


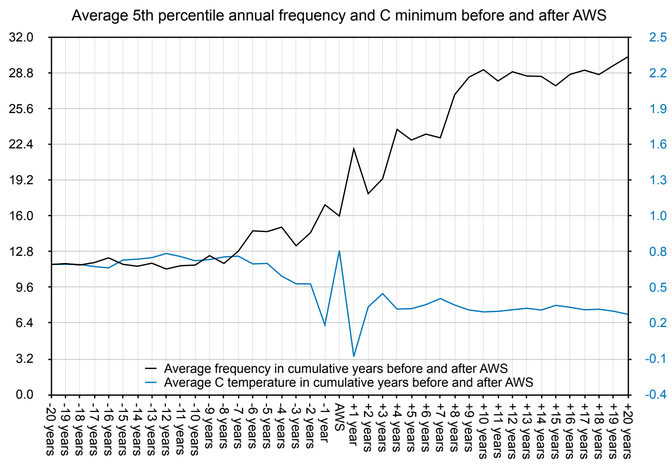


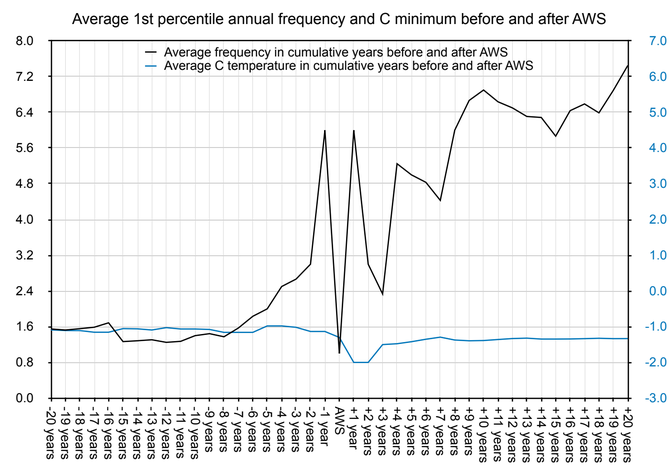
10th 3.1	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	22	38.0	1.7	**1910**	13	15.0	1.2	**1910**	1	-1.6	-1.6									
1911	30	55.9	1.9	**1911**	13	11.2	0.9	**1911**	1	-1.1	-1.1									
1912	25	50.4	2.0	**1912**	9	10.9	1.2	**1912**	0	0.0										
1913	34	20.8	0.6	**1913**	23	-7.1	-0.3	**1913**	8	-17.3	-2.2									
1914	36	52.7	1.5	**1914**	16	0.3	0.0	**1914**	7	-9.5	-1.4									
1915	19	39.9	2.1	**1915**	6	6.6	1.1	**1915**	1	-0.6	-0.6									
1916	23	41.6	1.8	**1916**	11	10.7	1.0	**1916**	1	-1.1	-1.1									
1917	21	45.1	2.1	**1917**	6	6.1	1.0	**1917**	1	-0.6	-0.6									
1918	30	23.1	0.8	**1918**	25	10.7	0.4	**1918**	8	-8.5	-1.1									
1919	32	51.5	1.6	**1919**	18	13.3	0.7	**1919**	2	-1.5	-0.8									
1920	22	34.1	1.6	**1920**	16	19.7	1.2	**1920**	0	0.0										
1921	28	43.8	1.6	**1921**	15	10.8	0.7	**1921**	0	0.0										
1922	44	78.9	1.8	**1922**	24	26.1	1.1	**1922**	1	-0.6	-0.6									
1923	23	38.9	1.7	**1923**	12	10.4	0.9	**1923**	0	0.0										
1924	48	69.7	1.5	**1924**	27	17.1	0.6	**1924**	1	-0.6	-0.6									
1925	45	54.7	1.2	**1925**	24	4.8	0.2	**1925**	9	-11.1	-1.2									
1926	34	44.5	1.3	**1926**	20	8.9	0.4	**1926**	5	-4.6	-0.9									
1927	47	55.2	1.2	**1927**	28	5.6	0.2	**1927**	8	-9.8	-1.2									
1928	37	52.0	1.4	**1928**	23	16.7	0.7	**1928**	3	-3.0	-1.0									
1929	40	40.8	1.0	**1929**	29	11.5	0.4	**1929**	7	-5.8	-0.8									
1930	33	26.3	0.8	**1930**	22	-1.5	-0.1	**1930**	8	-13.4	-1.7									
1931	20	30.3	1.5	**1931**	10	7.0	0.7	**1931**	1	-1.7	-1.7									
1932	24	42.6	1.8	**1932**	12	12.6	1.1	**1932**	0	0.0										
1933	46	61.5	1.3	**1933**	27	15.6	0.6	**1933**	6	-7.2	-1.2									
1934	29	49.2	1.7	**1934**	17	19.2	1.1	**1934**	1	-1.7	-1.7									
1935	28	45.9	1.6	**1935**	15	13.1	0.9	**1935**	1	-1.1	-1.1									
1936	29	46.1	1.6	**1936**	14	10.1	0.7	**1936**	2	-1.2	-0.6									
1937	29	40.3	1.4	**1937**	17	10.6	0.6	**1937**	3	-2.3	-0.8									
1938	33	47.6	1.4	**1938**	18	8.3	0.5	**1938**	5	-8.3	-1.7									
1939	30	44.5	1.5	**1939**	16	9.8	0.6	**1939**	4	-5.1	-1.3									
1940	36	57.3	1.6	**1940**	22	22.6	1.0	**1940**	1	-0.6	-0.6									
1941	28	47.6	1.7	**1941**	17	19.2	1.1	**1941**	0	0.0										
1942	23	33.4	1.5	**1942**	13	7.8	0.6	**1942**	3	-2.3	-0.8									
1943	39	71.3	1.8	**1943**	17	12.1	0.7	**1943**	3	-2.8	-0.9									
1944	48	53.6	1.1	**1944**	29	5.2	0.2	**1944**	11	-14.6	-1.3									
1945	33	41.8	1.3	**1945**	17	1.8	0.1	**1945**	5	-11.7	-2.3									
1946	41	42.9	1.0	**1946**	27	7.9	0.3	**1946**	10	-10.8	-1.1									
1947	22	51.8	2.4	**1947**	4	5.0	1.3	**1947**	0	0.0										
1948	29	57.8	2.0	**1948**	10	9.4	0.9	**1948**	2	-1.4	-0.7									
1949	39	70.1	1.8	**1949**	17	15.7	0.9	**1949**	2	-1.7	-0.9									
1950	33	53.4	1.6	**1950**	18	18.0	1.0	**1950**	2	-1.2	-0.6									
1951	24	37.5	1.6	**1951**	14	12.5	0.9	**1951**	1	-1.1	-1.1									
1952	44	38.5	0.9	**1952**	33	10.7	0.3	**1952**	13	-13.1	-1.0									
1953	33	50.6	1.5	**1953**	17	9.4	0.6	**1953**	3	-3.1	-1.0									
1954	32	48.0	1.5	**1954**	19	15.2	0.8	**1954**	4	-2.4	-0.6									
1955	17	23.9	1.4	**1955**	9	4.5	0.5	**1955**	1	-1.2	-1.2									
1956	33	65.4	2.0	**1956**	16	20.8	1.3	**1956**	0	0.0										
1957	59	24.7	0.4	**1957**	41	-18.5	-0.5	**1957**	21	-36.2	-1.7									
1958	64	56.1	0.9	**1958**	34	-20.7	-0.6	**1958**	17	-32.4	-1.9									
1959	53	42.3	0.8	**1959**	35	-2.7	-0.1	**1959**	12	-22.2	-1.9									
1960	48	50.4	1.1	**1960**	33	13.2	0.4	**1960**	10	-10.1	-1.0									
1961	37	40.2	1.1	**1961**	26	11.2	0.4	**1961**	8	-9.7	-1.2									
1962	38	69.5	1.8	**1962**	12	7.4	0.6	**1962**	2	-2.8	-1.4									
1963	28	48.9	1.7	**1963**	9	1.6	0.2	**1963**	3	-4.5	-1.5									
1964	27	24.3	0.9	**1964**	18	3.7	0.2	**1964**	4	-5.1	-1.3									
1965	28	38.1	1.4	**1965**	17	10.3	0.6	**1965**	4	-3.9	-1.0									
1966	25	36.7	1.5	**1966**	15	11.7	0.8	**1966**	2	-1.7	-0.9									
1967	33	49.9	1.5	**1967**	18	11.7	0.7	**1967**	1	-1.7	-1.7									
1968	31	40.7	1.3	**1968**	17	6.3	0.4	**1968**	4	-4.0	-1.0									
1969	36	63.2	1.8	**1969**	14	10.1	0.7	**1969**	2	-2.1	-1.1									
1970	29	44.6	1.5	**1970**	13	6.1	0.5	**1970**	2	-2.5	-1.3									
1971	21	35.7	1.7	**1971**	11	10.9	1.0	**1971**	0	0.0										
1972	33	38.9	1.2	**1972**	18	1.9	0.1	**1972**	5	-8.0	-1.6									
1973	27	43.6	1.6	**1973**	16	14.8	0.9	**1973**	1	-1.0	-1.0									
1974	20	43.1	2.2	**1974**	5	4.3	0.9	**1974**	0	0.0										
1975	23	34.6	1.5	**1975**	11	5.6	0.5	**1975**	2	-1.4	-0.7									
1976	36	48.3	1.3	**1976**	19	8.3	0.4	**1976**	5	-7.2	-1.4									
1977	19	33.7	1.8	**1977**	7	2.7	0.4	**1977**	1	-2.4	-2.4									
1978	29	54.4	1.9	**1978**	10	6.5	0.7	**1978**	2	-1.7	-0.9	20 years	25.7	1.7	20 years	11.7	0.7	20 years	1.6	-1.1
1979	22	29.5	1.3	**1979**	14	9.6	0.7	**1979**	1	-1.1	-1.1	19 years	25.5	1.7	19 years	11.7	0.7	19 years	1.5	-1.1
1980	21	40.2	1.9	**1980**	8	7.5	0.9	**1980**	1	-0.6	-0.6	18 years	25.7	1.7	18 years	11.6	0.7	18 years	1.6	-1.1
1981	8	11.0	1.4	**1981**	5	4.1	0.8	**1981**	0	0.0		17 years	25.9	1.7	17 years	11.8	0.6	17 years	1.6	-1.2
1982	36	28.0	0.8	**1982**	21	-6.9	-0.3	**1982**	8	-17.3	-2.2	16 years	27.1	1.7	16 years	12.3	0.6	16 years	1.7	-1.2
1983	29	45.5	1.6	**1983**	14	8.3	0.6	**1983**	1	-1.0	-1.0	15 years	26.5	1.7	15 years	11.7	0.7	15 years	1.3	-1.1
1984	22	39.3	1.8	**1984**	8	4.3	0.5	**1984**	1	-0.8	-0.8	14 years	26.3	1.7	14 years	11.5	0.7	14 years	1.3	-1.1
1985	34	45.6	1.3	**1985**	18	5.5	0.3	**1985**	2	-3.1	-1.6	13 years	26.6	1.7	13 years	11.8	0.7	13 years	1.3	-1.1
1986	22	43.0	2.0	**1986**	8	8.2	1.0	**1986**	1	-0.8	-0.8	12 years	26.0	1.8	12 years	11.3	0.7	12 years	1.3	-1.0
1987	31	60.5	2.0	**1987**	11	11.6	1.1	**1987**	0	0.0		11 years	26.4	1.8	11 years	11.5	0.7	11 years	1.3	-1.1
1988	18	36.6	2.0	**1988**	4	2.4	0.6	**1988**	1	-1.0	-1.0	10 years	25.9	1.7	10 years	11.6	0.7	10 years	1.4	-1.1
1989	33	47.8	1.4	**1989**	18	9.5	0.5	**1989**	2	-1.5	-0.8	9 years	26.8	1.7	9 years	12.4	0.7	9 years	1.4	-1.1
1990	14	28.4	2.0	**1990**	4	2.7	0.7	**1990**	0	0.0		8 years	26.0	1.7	8 years	11.8	0.7	8 years	1.4	-1.2
1991	11	24.5	2.2	**1991**	2	2.2	1.1	**1991**	0	0.0		7 years	27.7	1.7	7 years	12.9	0.7	7 years	1.6	-1.2
1992	25	34.3	1.4	**1992**	15	9.6	0.6	**1992**	1	-1.7	-1.7	6 years	30.5	1.6	6 years	14.7	0.7	6 years	1.8	-1.2
1993	26	47.9	1.8	**1993**	13	14.0	1.1	**1993**	0	0.0		5 years	31.6	1.7	5 years	14.6	0.7	5 years	2.0	-1.0
1994	33	48.4	1.5	**1994**	20	15.0	0.8	**1994**	2	-1.8	-0.9	4 years	33.0	1.6	4 years	15.0	0.6	4 years	2.5	-1.0
1995	28	45.6	1.6	**1995**	11	5.5	0.5	**1995**	2	-1.8	-0.9	3 years	33.0	1.7	3 years	13.3	0.5	3 years	2.7	-1.0
1996	37	73.5	2.0	**1996**	12	10.0	0.8	**1996**	0	0.0		2 years	35.5	1.7	2 years	14.5	0.5	2 years	3.0	-1.1
1997	34	46.5	1.4	**1997**	17	2.8	0.2	**1997**	6	-6.8	-1.1	1 years	34.0	1.4	1 years	17.0	0.2	1 years	6.0	-1.1
1998	30	47.8	1.6	**1998**	16	12.3	0.8	**1998**	1	-1.3	-1.3	0 years	30.0	1.6	0 years	16.0	0.8	0 years	1.0	-1.3
1999	61	101.0	1.7	**1999**	22	-2.0	-0.1	**1999**	6	-12.0	-2.0	1 years	61.0	1.7	1 years	22.0	-0.1	1 years	6.0	-2.0
2000	44	92.0	2.1	**2000**	14	10.0	0.7	**2000**	0	0.0		2 years	52.5	1.9	2 years	18.0	0.3	2 years	3.0	-2.0
2001	52	88.0	1.7	**2001**	22	14.0	0.6	**2001**	1	-1.0	-1.0	3 years	52.3	1.8	3 years	19.3	0.4	3 years	2.3	-1.5
2002	64	67.0	1.0	**2002**	37	-3.0	-0.1	**2002**	14	-20.0	-1.4	4 years	55.3	1.6	4 years	23.8	0.3	4 years	5.3	-1.5
2003	51	91.9	1.8	**2003**	19	5.9	0.3	**2003**	4	-5.0	-1.3	5 years	54.4	1.7	5 years	22.8	0.3	5 years	5.0	-1.4
2004	51	71.6	1.4	**2004**	26	12.8	0.5	**2004**	4	-4.3	-1.1	6 years	53.8	1.6	6 years	23.3	0.3	6 years	4.8	-1.4
2005	36	52.8	1.5	**2005**	21	14.2	0.7	**2005**	2	-2.0	-1.0	7 years	51.3	1.6	7 years	23.0	0.4	7 years	4.4	-1.3
2006	81	63.7	0.8	**2006**	54	-2.2	-0.0	**2006**	17	-31.5	-1.9	8 years	55.0	1.5	8 years	26.9	0.3	8 years	6.0	-1.4
2007	53	29.3	0.6	**2007**	41	-1.5	-0.0	**2007**	12	-18.5	-1.5	9 years	54.8	1.4	9 years	28.4	0.3	9 years	6.7	-1.4
2008	52	50.8	1.0	**2008**	35	4.7	0.1	**2008**	9	-12.0	-1.3	10 years	54.5	1.3	10 years	29.1	0.3	10 years	6.9	-1.4
2009	36	47.0	1.3	**2009**	18	5.8	0.3	**2009**	4	-4.4	-1.1	11 years	52.8	1.3	11 years	28.1	0.3	11 years	6.6	-1.4
2010	57	62.5	1.1	**2010**	38	16.2	0.4	**2010**	5	-5.3	-1.1	12 years	53.2	1.3	12 years	28.9	0.3	12 years	6.5	-1.3
2011	45	60.3	1.3	**2011**	24	10.8	0.5	**2011**	4	-4.8	-1.2	13 years	52.5	1.3	13 years	28.5	0.3	13 years	6.3	-1.3
2012	55	72.7	1.3	**2012**	28	2.7	0.1	**2012**	6	-9.9	-1.7	14 years	52.7	1.3	14 years	28.5	0.3	14 years	6.3	-1.3
2013	35	62.3	1.8	**2013**	16	13.7	0.9	**2013**	0	0.0		15 years	51.5	1.4	15 years	27.7	0.3	15 years	5.9	-1.3
2014	60	45.9	0.8	**2014**	44	3.3	0.1	**2014**	15	-19.6	-1.3	16 years	52.1	1.3	16 years	28.7	0.3	16 years	6.4	-1.3
2015	56	51.2	0.9	**2015**	35	-1.2	-0.0	**2015**	9	-10.9	-1.2	17 years	52.3	1.3	17 years	29.1	0.3	17 years	6.6	-1.3
2016	45	65.4	1.5	**2016**	22	8.2	0.4	**2016**	3	-3.5	-1.2	18 years	51.9	1.3	18 years	28.7	0.3	18 years	6.4	-1.3
2017	72	70.1	1.0	**2017**	44	-0.6	-0.0	**2017**	16	-24.0	-1.5	19 years	52.9	1.3	19 years	29.5	0.3	19 years	6.9	-1.3
2018	59	23.3	0.4	**2018**	45	-10.0	-0.2	**2018**	18	-23.6	-1.3	20 years	53.3	1.2	20 years	30.3	0.3	20 years	7.5	-1.3
2019	62	42.7	0.7	**2019**	41	-10.1	-0.2	**2019**	19	-28.3	-1.5									
2020	60	27.6	0.5	**2020**	38	-27.0	-0.7	**2020**	19	-38.5	-2.0									
2021	49	77.5	1.6	**2021**	23	12.8	0.6	**2021**	3	-2.8	-0.9									
2022	43	67.7	1.6	**2022**	22	16.5	0.8	**2022**	1	-1.3	-1.3									

Original AWS probe Rosemount

10 years	Small screen unknown			**10 years**	Small screen unknown			**10 years**	Small screen unknown		
Pre AWS	25.9	43.4	1.7	**Pre AWS**	11.6	7.4	0.7	**Pre AWS**	1.4	-1.5	-1.1
Post AWS	54.5	70.8	1.3	**Post AWS**	29.1	5.3	0.3	**Post AWS**	6.9	-10.6	-1.4
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
5 years				**5 years**				**5 years**			
Pre AWS	31.6	52.4	1.7	**Pre AWS**	14.6	9.5	0.7	**Pre AWS**	2.0	-2.1	-1.0
Post AWS	54.4	88.0	1.7	**Post AWS**	22.8	5.0	0.3	**Post AWS**	5.0	-7.6	-1.4
Pre small				**Pre small**				**Pre small**			
Post small				**Post small**				**Post small**			
		AWS introduction									
		Small screen introduction									





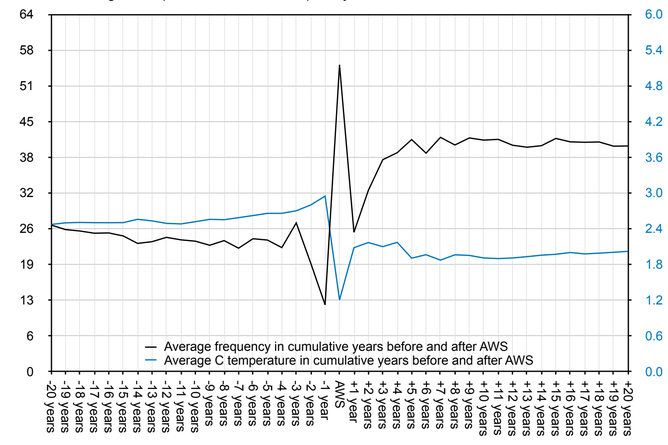


10th 4.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 2.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 0.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1914	39	80.0	2.1	**1914**	24	29.3	1.2	**1914**	2	-2.2	-1.1									
1915	47	74.3	1.6	**1915**	32	26.2	0.8	**1915**	9	-5.4	-0.6									
1916	25	63.3	2.5	**1916**	8	8.1	1.0	**1916**	1	-0.6	-0.6									
1917	58	79.2	1.4	**1917**	42	27.1	0.6	**1917**	12	-14.0	-1.2									
1918	57	83.4	1.5	**1918**	31	-0.3	-0.0	**1918**	16	-24.0	-1.5									
1919	58	75.2	1.3	**1919**	41	20.2	0.5	**1919**	12	-19.0	-1.6									
1920	26	58.8	2.3	**1920**	11	11.3	1.0	**1920**	1	-1.5	-1.5									
1921	18	48.6	2.7	**1921**	5	8.5	1.7	**1921**	0	0.0										
1922	40	64.0	1.6	**1922**	27	21.9	0.8	**1922**	6	-1.9	-0.3									
1923	39	85.5	2.2	**1923**	22	25.6	1.2	**1923**	4	-1.8	-0.5									
1924	35	63.6	1.8	**1924**	22	19.1	0.9	**1924**	8	-1.7	-0.2									
1925	50	88.4	1.8	**1925**	28	15.7	0.6	**1925**	10	-7.4	-0.7									
1926	17	46.9	2.8	**1926**	7	11.8	1.7	**1926**	0	0.0										
1927	4	12.8	3.2	**1927**	1	1.7	1.7	**1927**	0	0.0										
1928	8	26.0	3.3	**1928**	1	2.2	2.2	**1928**	0	0.0										
1929	46	95.4	2.1	**1929**	24	24.0	1.0	**1929**	6	-2.8	-0.5									
1930	31	64.8	2.1	**1930**	17	18.6	1.1	**1930**	4	-3.9	-1.0									
1931	34	59.5	1.8	**1931**	21	15.6	0.7	**1931**	8	-4.7	-0.6									
1932	42	74.4	1.8	**1932**	28	24.3	0.9	**1932**	7	-7.8	-1.1									
1933	37	67.0	1.8	**1933**	22	23.6	1.1	**1933**	2	-0.1	-0.1									
1934	48	90.8	1.9	**1934**	27	23.4	0.9	**1934**	5	-4.4	-0.9									
1935	50	74.5	1.5	**1935**	31	14.3	0.5	**1935**	9	-9.9	-1.1									
1936	35	61.6	1.8	**1936**	20	13.3	0.7	**1936**	5	-3.0	-0.6									
1937	45	77.0	1.7	**1937**	28	20.6	0.7	**1937**	7	-9.4	-1.3									
1938	30	75.5	2.5	**1938**	7	1.6	0.2	**1938**	3	-5.2	-1.7									
1939	28	75.8	2.7	**1939**	7	8.8	1.3	**1939**	1	-2.3	-2.3									
1940	44	56.1	1.3	**1940**	33	20.2	0.6	**1940**	11	-9.2	-0.8									
1941	51	98.0	1.9	**1941**	27	19.3	0.7	**1941**	9	-5.3	-0.6									
1942	21	60.2	2.9	**1942**	5	9.8	2.0	**1942**	0	0.0										
1943	52	79.7	1.5	**1943**	34	23.5	0.7	**1943**	9	-6.5	-0.7									
1944	30	74.3	2.5	**1944**	13	18.1	1.4	**1944**	1	-0.2	-0.2									
1945	28	65.5	2.3	**1945**	11	9.1	0.8	**1945**	3	-3.9	-1.3									
1946	68	105.8	1.6	**1946**	42	19.5	0.5	**1946**	13	-16.2	-1.2									
1947	37	68.2	1.8	**1947**	20	9.7	0.5	**1947**	7	-8.7	-1.2									
1948	51	97.3	1.9	**1948**	27	22.3	0.8	**1948**	8	-3.1	-0.4									
1949	51	84.4	1.7	**1949**	30	18.8	0.6	**1949**	7	-10.0	-1.4									
1950	13	29.0	2.2	**1950**	8	11.7	1.5	**1950**	1	-0.2	-0.2									
1951	50	92.1	1.8	**1951**	27	18.0	0.7	**1951**	8	-13.8	-1.7									
1952	34	56.3	1.7	**1952**	20	13.6	0.7	**1952**	6	-10.1	-1.7									
1953	49	98.5	2.0	**1953**	30	37.9	1.3	**1953**	5	-1.7	-0.3									
1954	28	74.4	2.7	**1954**	9	9.9	1.1	**1954**	3	-1.2	-0.4									
1955	10	25.4	2.5	**1955**	5	7.7	1.5	**1955**	1	0.0	0.0									
1956	34	100.0	2.9	**1956**	9	14.5	1.6	**1956**	0	0.0										
1957	33	71.7	2.2	**1957**	19	24.5	1.3	**1957**	3	-0.6	-0.2									
1958	26	60.7	2.3	**1958**	13	14.5	1.1	**1958**	3	-2.2	-0.7									
1959	27	82.9	3.1	**1959**	5	6.1	1.2	**1959**	1	-1.7	-1.7									
1960	0	0.0		**1960**	0	0.0		**1960**	0	0.0										
1961	0	0.0		**1961**	0	0.0		**1961**	0	0.0										
1962	30	83.4	2.8	**1962**	8	9.4	1.2	**1962**	2	-0.6	-0.3									
1963	28	53.0	1.9	**1963**	19	21.5	1.1	**1963**	5	-3.6	-0.7									
1964	28	72.2	2.6	**1964**	12	19.4	1.6	**1964**	1	-0.3	-0.3									
1965	29	46.1	1.6	**1965**	20	16.4	0.8	**1965**	7	-3.6	-0.5									
1966	33	84.3	2.6	**1966**	12	14.9	1.2	**1966**	1	-0.6	-0.6									
1967	27	64.0	2.4	**1967**	13	18.5	1.4	**1967**	1	0.0	0.0									
1968	36	83.2	2.3	**1968**	16	18.2	1.1	**1968**	3	-3.3	-1.1									
1969	14	44.0	3.1	**1969**	3	5.1	1.7	**1969**	0	0.0										
1970	55	111.9	2.0	**1970**	31	32.0	1.0	**1970**	5	-4.8	-1.0									
1971	37	90.4	2.4	**1971**	17	22.4	1.3	**1971**	3	-1.6	-0.5									
1972	24	56.2	2.3	**1972**	10	10.0	1.0	**1972**	2	-2.2	-1.1									
1973	10	29.8	3.0	**1973**	2	4.2	2.1	**1973**	0	0.0										
1974	37	86.6	2.3	**1974**	14	15.0	1.1	**1974**	2	0.0	0.0									
1975	24	71.0	3.0	**1975**	6	11.0	1.8	**1975**	0	0.0										
1976	34	95.3	2.8	**1976**	8	13.0	1.6	**1976**	0	0.0										
1977	42	82.7	2.0	**1977**	25	27.9	1.1	**1977**	5	-3.0	-0.6	20 years	26.3	2.5	20 years	11.3	1.3	20 years	1.3	-0.5
1978	30	71.1	2.4	**1978**	12	12.8	1.1	**1978**	3	-0.5	-0.2	19 years	25.5	2.5	19 years	10.5	1.3	19 years	1.1	-0.5
1979	32	82.5	2.6	**1979**	12	17.9	1.5	**1979**	0	0.0		18 years	25.2	2.5	18 years	10.4	1.3	18 years	0.9	-0.5
1980	24	60.4	2.5	**1980**	9	11.0	1.2	**1980**	2	-0.3	-0.2	17 years	24.8	2.5	17 years	10.4	1.3	17 years	1.0	-0.5
1981	33	82.0	2.5	**1981**	11	15.0	1.4	**1981**	1	-0.4	-0.4	16 years	24.9	2.5	16 years	10.4	1.3	16 years	0.9	-0.6
1982	43	73.9	1.7	**1982**	28	26.0	0.9	**1982**	3	-2.2	-0.7	15 years	24.3	2.5	15 years	10.4	1.3	15 years	0.9	-0.6
1983	19	55.2	2.9	**1983**	4	6.5	1.6	**1983**	0	0.0		14 years	23.0	2.6	14 years	9.1	1.3	14 years	0.8	-0.6
1984	14	42.5	3.0	**1984**	2	2.6	1.3	**1984**	0	0.0		13 years	23.3	2.5	13 years	9.5	1.3	13 years	0.8	-0.6
1985	29	75.3	2.6	**1985**	11	15.5	1.4	**1985**	2	-1.1	-0.6	12 years	24.1	2.5	12 years	10.2	1.3	12 years	0.9	-0.6
1986	26	54.9	2.1	**1986**	14	14.1	1.0	**1986**	2	-0.8	-0.4	11 years	23.6	2.5	11 years	10.1	1.3	11 years	0.8	-0.6
1987	30	64.9	2.2	**1987**	15	16.1	1.1	**1987**	2	-2.7	-1.4	10 years	23.4	2.5	10 years	9.7	1.3	10 years	0.7	-0.7
1988	16	41.7	2.6	**1988**	6	9.0	1.5	**1988**	0	0.0		9 years	22.7	2.6	9 years	9.1	1.4	9 years	0.6	-0.4
1989	33	76.4	2.3	**1989**	18	24.0	1.3	**1989**	3	-1.0	-0.3	8 years	23.5	2.6	8 years	9.5	1.3	8 years	0.6	-0.4
1990	12	28.5	2.4	**1990**	4	3.1	0.8	**1990**	1	-1.0	-1.0	7 years	22.1	2.6	7 years	8.3	1.3	7 years	0.3	-0.5
1991	25	61.0	2.4	**1991**	12	17.1	1.4	**1991**	0	0.0		6 years	23.8	2.6	6 years	9.0	1.4	6 years	0.2	0.0
1992	29	77.1	2.7	**1992**	11	16.3	1.5	**1992**	0	0.0		5 years	23.6	2.7	5 years	8.4	1.4	5 years	0.2	0.0
1993	9	22.8	2.5	**1993**	4	4.9	1.2	**1993**	0	0.0		4 years	22.3	2.7	4 years	7.8	1.4	4 years	0.3	0.0
1994	41	102.9	2.5	**1994**	16	25.3	1.6	**1994**	0	0.0		3 years	26.7	2.7	3 years	9.0	1.5	3 years	0.3	0.0
1995	27	71.6	2.7	**1995**	9	12.4	1.4	**1995**	1	0.0	0.0	2 years	19.5	2.8	2 years	5.5	1.5	2 years	0.5	0.0
1996	12	35.4	3.0	**1996**	2	3.1	1.6	**1996**	0	0.0		1 years	12.0	3.0	1 years	2.0	1.6	1 years	0.0	
1997	55	66.4	1.2	**1997**	37	8.3	0.2	**1997**	17	-16.9	-1.0	0 years	55.0	1.2	0 years	37.0	0.2	0 years	17.0	-1.0
1998	25	52.1	2.1	**1998**	15	17.2	1.1	**1998**	2	-2.4	-1.2	1 years	25.0	2.1	1 years	15.0	1.1	1 years	2.0	-1.2
1999	40	90.3	2.3	**1999**	16	14.9	0.9	**1999**	3	-1.9	-0.6	2 years	32.5	2.2	2 years	15.5	1.0	2 years	2.5	-0.9
2000	49	96.2	2.0	**2000**	21	5.7	0.3	**2000**	8	-7.1	-0.9	3 years	38.0	2.1	3 years	17.3	0.8	3 years	4.3	-0.9
2001	43	102.8	2.4	**2001**	21	29.7	1.4	**2001**	1	-0.1	-0.1	4 years	39.3	2.2	4 years	18.3	0.9	4 years	3.5	-0.7
2002	51	43.2	0.8	**2002**	37	-2.1	-0.1	**2002**	16	-27.2	-1.7	5 years	41.6	1.9	5 years	22.0	0.7	5 years	6.0	-0.9
2003	27	60.9	2.3	**2003**	11	5.9	0.5	**2003**	3	-2.1	-0.7	6 years	39.2	2.0	6 years	20.2	0.7	6 years	5.5	-0.9
2004	59	78.4	1.3	**2004**	42	23.0	0.5	**2004**	15	-11.0	-0.7	7 years	42.0	1.9	7 years	23.3	0.7	7 years	6.9	-0.9
2005	31	80.3	2.6	**2005**	10	9.4	0.9	**2005**	2	-1.1	-0.6	8 years	40.6	2.0	8 years	21.6	0.7	8 years	6.3	-0.8
2006	52	97.3	1.9	**2006**	29	21.7	0.7	**2006**	5	-6.2	-1.2	9 years	41.9	2.0	9 years	22.4	0.7	9 years	6.1	-0.9
2007	38	58.1	1.5	**2007**	21	3.4	0.2	**2007**	8	-12.5	-1.6	10 years	41.5	1.9	10 years	22.3	0.7	10 years	6.3	-0.9
2008	43	77.1	1.8	**2008**	26	22.6	0.9	**2008**	6	-3.9	-0.7	11 years	41.6	1.9	11 years	22.6	0.7	11 years	6.3	-0.9
2009	29	58.9	2.0	**2009**	16	17.4	1.1	**2009**	2	-1.8	-0.9	12 years	40.6	1.9	12 years	22.1	0.7	12 years	5.9	-0.9
2010	36	79.0	2.2	**2010**	15	12.4	0.8	**2010**	4	-4.0	-1.0	13 years	40.2	1.9	13 years	21.5	0.7	13 years	5.8	-0.9
2011	44	100.4	2.3	**2011**	21	21.8	1.0	**2011**	5	-2.1	-0.4	14 years	40.5	2.0	14 years	21.5	0.7	14 years	5.7	-0.9
2012	60	130.8	2.2	**2012**	31	32.8	1.1	**2012**	7	-2.6	-0.4	15 years	41.8	2.0	15 years	22.1	0.8	15 years	5.8	-0.8
2013	32	78.6	2.5	**2013**	11	10.0	0.9	**2013**	2	-1.3	-0.7	16 years	41.2	2.0	16 years	21.4	0.8	16 years	5.6	-0.8
2014	40	64.1	1.6	**2014**	25	15.5	0.6	**2014**	7	-6.3	-0.9	17 years	41.1	2.0	17 years	21.6	0.8	17 years	5.6	-0.8
2015	42	92.6	2.2	**2015**	20	20.4	1.0	**2015**	4	-2.3	-0.6	18 years	41.2	2.0	18 years	21.6	0.8	18 years	5.6	-0.8
2016	27	61.3	2.3	**2016**	10	11.0	1.1	**2016**	1	0.0	0.0	19 years	40.4	2.0	19 years	20.9	0.8	19 years	5.3	-0.8
2017	41	95.1	2.3	**2017**	18	18.1	1.0	**2017**	4	-2.3	-0.6	20 years	40.5	2.0	20 years	20.8	0.8	20 years	5.3	-0.8
2018	54	102.7	1.9	**2018**	28	19.2	0.7	**2018**	6	-6.2	-1.0									
2019	45	99.3	2.2	**2019**	20	15.1	0.8	**2019**	4	-4.3	-1.1									
2020	36	85.8	2.4	**2020**	15	16.1	1.1	**2020**	3	-0.8	-0.3									
2021	38	92.4	2.4	**2021**	17	19.5	1.1	**2021**	2	-1.5	-0.8									
2022	39	110.3	2.8	**2022**	11	17.6	1.6	**2022**	1	0.0	0.0									

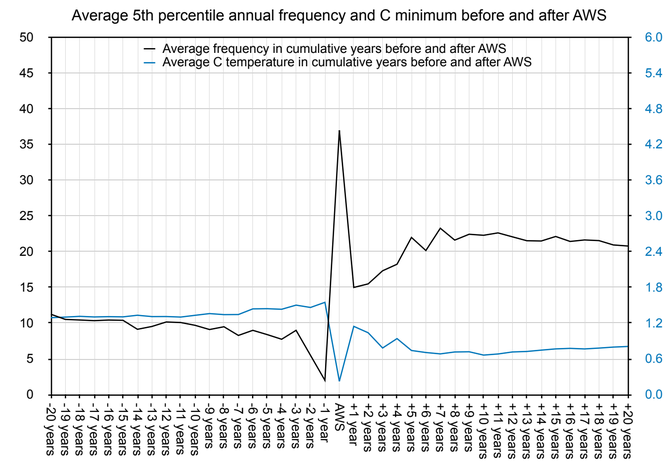
Original AWS probe Rosemount

10 years	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997		
Pre AWS	23.4	58.2	2.5	**Pre AWS**	9.7	13.1	1.3	**Pre AWS**	0.7	-0.5	-0.7
Post AWS	41.5	76.0	1.9	**Post AWS**	22.3	12.9	0.7	**Post AWS**	6.3	-7.2	-0.9
Pre small	23.4	58.2	2.5	**Pre small**	9.7	13.1	1.3	**Pre small**	0.7	-0.5	-0.7
Post small	41.5	76.0	1.9	**Post small**	22.3	12.9	0.7	**Post small**	6.3	-7.2	-0.9
5 years				**5 years**				**5 years**			
Pre AWS	23.6	62.0	2.7	**Pre AWS**	8.4	12.4	1.4	**Pre AWS**	0.2	0.0	0.0
Post AWS	41.6	76.9	1.9	**Post AWS**	22.0	13.1	0.7	**Post AWS**	6.0	-7.7	-0.9
Pre small	23.6	62.0	2.7	**Pre small**	8.4	12.4	1.4	**Pre small**	0.2	0.0	0.0
Post small	41.6	76.9	1.9	**Post small**	22.0	13.1	0.7	**Post small**	6.0	-7.7	-0.9
		AWS introduction									
		Small screen introduction									

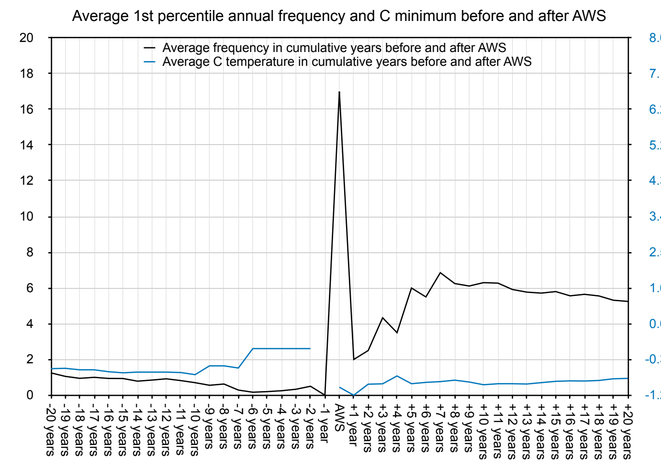
Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS



Average 1st percentile annual frequency and C minimum before and after AWS

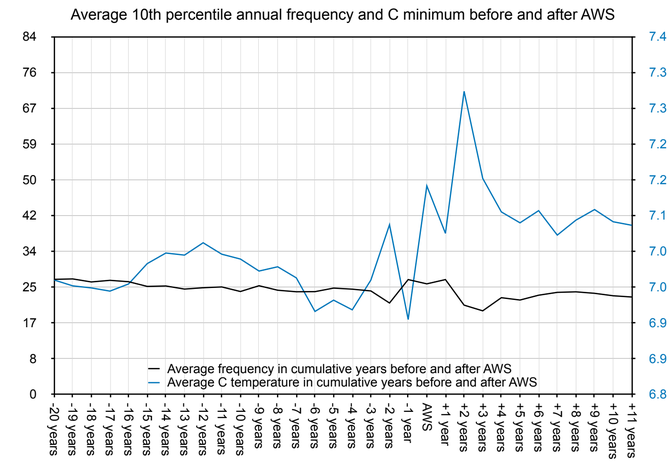


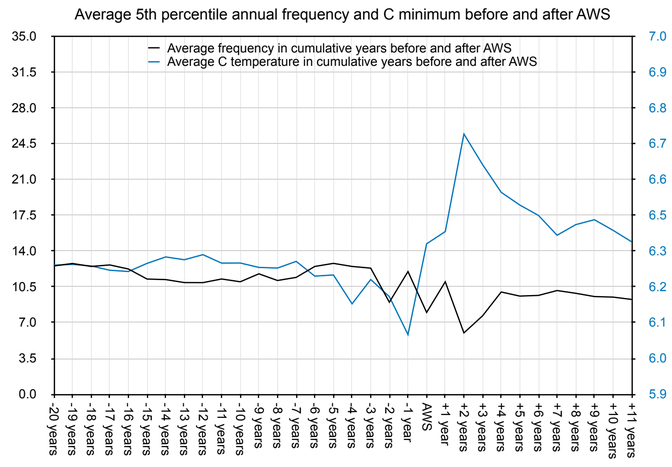
10th 8.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 7.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.4	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	28	201.4	7.2	**1910**	8	50.6	6.3	**1910**	0	0.0										
1911	45	297.2	6.6	**1911**	24	137.0	5.7	**1911**	9	42.6	4.7									
1912	41	287.5	7.0	**1912**	16	99.6	6.2	**1912**	0	0.0										
1913	45	313.8	7.0	**1913**	23	145.9	6.3	**1913**	3	15.6	5.2									
1914	28	199.0	7.1	**1914**	10	62.8	6.3	**1914**	1	4.1	4.1									
1915	45	321.5	7.1	**1915**	17	107.6	6.3	**1915**	1	4.1	4.1									
1916	36	259.1	7.2	**1916**	13	83.6	6.4	**1916**	0	0.0										
1917	42	290.2	6.9	**1917**	19	115.6	6.1	**1917**	3	15.0	5.0									
1918	62	406.8	6.6	**1918**	34	196.5	5.8	**1918**	7	29.8	4.3									
1919	48	300.1	6.3	**1919**	31	171.6	5.5	**1919**	14	64.2	4.6									
1920	59	399.2	6.8	**1920**	31	189.0	6.1	**1920**	7	33.4	4.8									
1921	46	307.4	6.7	**1921**	30	184.7	6.2	**1921**	3	14.5	4.8									
1922	44	294.7	6.7	**1922**	25	151.0	6.0	**1922**	5	24.2	4.8									
1923	37	262.4	7.1	**1923**	13	80.1	6.2	**1923**	2	10.6	5.3									
1924	53	351.0	6.6	**1924**	31	185.9	6.0	**1924**	7	35.0	5.0									
1925	56	384.8	6.9	**1925**	29	178.6	6.2	**1925**	3	15.0	5.0									
1926	40	269.5	6.7	**1926**	23	141.1	6.1	**1926**	1	5.4	5.4									
1927	78	494.6	6.3	**1927**	55	319.8	5.8	**1927**	13	61.1	4.7									
1928	28	192.5	6.9	**1928**	13	79.6	6.1	**1928**	3	15.7	5.2									
1929	64	399.5	6.2	**1929**	44	247.4	5.6	**1929**	18	82.5	4.6									
1930	34	239.4	7.0	**1930**	14	88.1	6.3	**1930**	1	5.1	5.1									
1931	59	382.5	6.5	**1931**	34	192.9	5.7	**1931**	15	72.4	4.8									
1932	57	347.0	6.1	**1932**	42	233.6	5.6	**1932**	17	75.2	4.4									
1933	52	327.4	6.3	**1933**	32	177.1	5.5	**1933**	13	59.7	4.6									
1934	44	307.4	7.0	**1934**	15	88.7	5.9	**1934**	5	24.5	4.9									
1935	61	393.3	6.4	**1935**	38	221.1	5.8	**1935**	11	50.7	4.6									
1936	58	390.0	6.7	**1936**	33	200.7	6.1	**1936**	9	46.6	5.2									
1937	51	351.7	6.9	**1937**	27	170.6	6.3	**1937**	3	15.2	5.1									
1938	59	375.0	6.4	**1938**	40	231.0	5.8	**1938**	8	32.9	4.1									
1939	48	302.5	6.3	**1939**	32	183.3	5.7	**1939**	12	58.5	4.9									
1940	50	345.8	6.9	**1940**	27	169.1	6.3	**1940**	1	4.7	4.7									
1941	48	321.0	6.7	**1941**	25	147.9	5.9	**1941**	7	33.5	4.8									
1942	31	209.6	6.8	**1942**	14	81.0	5.8	**1942**	2	8.3	4.2									
1943	62	398.4	6.4	**1943**	39	223.3	5.7	**1943**	13	57.6	4.4									
1944	50	318.1	6.4	**1944**	35	204.5	5.8	**1944**	10	47.2	4.7									
1945	42	288.5	6.9	**1945**	20	120.9	6.0	**1945**	4	18.6	4.7									
1946	58	401.8	6.9	**1946**	30	187.8	6.3	**1946**	3	15.7	5.2									
1947	41	256.1	6.2	**1947**	29	165.6	5.7	**1947**	13	62.7	4.8									
1948	58	376.7	6.5	**1948**	33	189.5	5.7	**1948**	12	57.2	4.8									
1949	50	330.0	6.6	**1949**	31	185.9	6.0	**1949**	7	32.2	4.6									
1950	22	156.2	7.1	**1950**	8	49.7	6.2	**1950**	2	10.3	5.2									
1951	40	274.8	6.9	**1951**	23	144.5	6.3	**1951**	3	15.9	5.3									
1952	42	286.5	6.8	**1952**	20	119.3	6.0	**1952**	7	35.5	5.1									
1953	43	288.4	6.7	**1953**	22	131.9	6.0	**1953**	6	29.0	4.8									
1954	46	313.1	6.8	**1954**	25	154.1	6.2	**1954**	4	20.4	5.1									
1955	35	237.1	6.8	**1955**	19	115.2	6.1	**1955**	4	19.9	5.0									
1956	52	356.6	6.9	**1956**	26	159.0	6.1	**1956**	6	30.3	5.1									
1957	45	307.1	6.8	**1957**	22	134.8	6.1	**1957**	5	25.0	5.0									
1958	31	202.7	6.5	**1958**	18	105.1	5.8	**1958**	7	34.6	4.9									
1959	30	205.8	6.9	**1959**	15	92.3	6.2	**1959**	4	20.7	5.2									
1960	45	311.1	6.9	**1960**	20	121.7	6.1	**1960**	2	10.0	5.0									
1961	39	263.7	6.8	**1961**	19	113.3	6.0	**1961**	4	20.4	5.1									
1962	31	212.3	6.8	**1962**	14	83.2	5.9	**1962**	4	20.3	5.1									
1963	40	281.7	7.0	**1963**	17	106.1	6.2	**1963**	3	15.4	5.1									
1964	37	251.5	6.8	**1964**	17	98.1	5.8	**1964**	4	19.2	4.8									
1965	33	224.0	6.8	**1965**	20	124.4	6.2	**1965**	4	20.1	5.0									
1966	48	322.4	6.7	**1966**	26	156.4	6.0	**1966**	4	19.7	4.9									
1967	32	225.0	7.0	**1967**	15	94.6	6.3	**1967**	2	10.3	5.2									
1968	43	284.5	6.6	**1968**	28	172.2	6.2	**1968**	4	17.6	4.4									
1969	37	264.7	7.2	**1969**	12	77.1	6.4	**1969**	0	0.0										
1970	55	365.4	6.6	**1970**	33	199.6	6.0	**1970**	6	26.2	4.4									
1971	42	272.5	6.5	**1971**	26	153.1	5.9	**1971**	6	28.6	4.8									
1972	22	155.4	7.1	**1972**	10	64.6	6.5	**1972**	0	0.0										
1973	20	145.5	7.3	**1973**	6	40.7	6.8	**1973**	0	0.0										
1974	42	294.6	7.0	**1974**	18	109.4	6.1	**1974**	3	13.0	4.3									
1975	27	189.4	7.0	**1975**	11	68.5	6.2	**1975**	2	10.3	5.2									
1976	30	215.7	7.2	**1976**	12	78.7	6.6	**1976**	0	0.0										
1977	40	267.5	6.7	**1977**	24	146.6	6.1	**1977**	4	20.1	5.0									
1978	38	248.2	6.5	**1978**	23	135.1	5.9	**1978**	7	32.6	4.7									
1979	36	252.2	7.0	**1979**	19	122.2	6.4	**1979**	2	10.7	5.4									
1980	25	176.0	7.0	**1980**	11	69.5	6.3	**1980**	1	5.4	5.4									
1981	35	243.6	7.0	**1981**	14	83.7	6.0	**1981**	2	8.5	4.3									
1982	44	305.5	6.9	**1982**	22	136.5	6.2	**1982**	3	14.3	4.8									
1983	33	213.8	6.5	**1983**	22	129.4	5.9	**1983**	5	24.0	4.8									
1984	30	209.4	7.0	**1984**	11	67.9	6.2	**1984**	0	0.0										
1985	35	246.3	7.0	**1985**	16	101.7	6.4	**1985**	2	10.5	5.3									
1986	34	217.4	6.4	**1986**	21	120.0	5.7	**1986**	5	20.9	4.2									
1987	25	171.7	6.9	**1987**	12	75.2	6.3	**1987**	3	15.7	5.2									
1988	10	74.4	7.4	**1988**	0	0.0		**1988**	0	0.0										
1989	33	234.5	7.1	**1989**	13	83.0	6.4	**1989**	2	10.6	5.3									
1990	30	216.8	7.2	**1990**	10	63.3	6.3	**1990**	1	5.1	5.1									
1991	25	179.5	7.2	**1991**	8	50.0	6.3	**1991**	1	5.3	5.3	20 years	27.1	7.0	20 years	12.6	6.3	20 years	1.4	5.0
1992	40	281.8	7.0	**1992**	18	114.9	6.4	**1992**	2	10.3	5.2	19 years	27.2	7.0	19 years	12.8	6.3	19 years	1.4	5.0
1993	20	141.4	7.1	**1993**	10	65.2	6.5	**1993**	0	0.0		18 years	26.4	7.0	18 years	12.5	6.3	18 years	1.4	5.0
1994	32	217.0	6.8	**1994**	19	120.5	6.3	**1994**	1	5.1	5.1	17 years	26.8	7.0	17 years	12.6	6.3	17 years	1.5	5.0
1995	43	278.4	6.5	**1995**	27	159.4	5.9	**1995**	9	45.6	5.1	16 years	26.5	7.0	16 years	12.3	6.3	16 years	1.5	5.0
1996	24	162.5	6.8	**1996**	12	72.3	6.0	**1996**	2	10.2	5.1	15 years	25.4	7.0	15 years	11.3	6.3	15 years	1.0	4.9
1997	35	247.9	7.1	**1997**	15	96.5	6.4	**1997**	0	0.0		14 years	25.5	7.0	14 years	11.2	6.3	14 years	0.9	4.9
1998	21	142.5	6.8	**1998**	11	67.4	6.1	**1998**	2	10.2	5.1	13 years	24.8	7.0	13 years	10.9	6.3	13 years	1.0	4.9
1999	23	167.1	7.3	**1999**	7	46.3	6.6	**1999**	0	0.0		12 years	25.1	7.1	12 years	10.9	6.3	12 years	0.9	4.9
2000	36	256.2	7.1	**2000**	14	88.2	6.3	**2000**	0	0.0		11 years	25.3	7.0	11 years	11.3	6.3	11 years	1.0	4.9
2001	12	86.5	7.2	**2001**	4	25.7	6.4	**2001**	0	0.0		10 years	24.2	7.0	10 years	11.0	6.3	10 years	1.1	4.9
2002	34	236.3	7.0	**2002**	17	107.2	6.3	**2002**	2	9.6	4.8	9 years	25.6	7.0	9 years	11.8	6.3	9 years	1.2	4.9
2003	27	192.9	7.1	**2003**	9	55.3	6.1	**2003**	2	10.2	5.1	8 years	24.5	7.0	8 years	11.1	6.3	8 years	1.1	4.9
2004	24	176.0	7.3	**2004**	5	32.9	6.6	**2004**	0	0.0		7 years	24.1	7.0	7 years	11.4	6.3	7 years	1.0	4.9
2005	20	136.9	6.8	**2005**	11	68.7	6.2	**2005**	1	5.1	5.1	6 years	24.2	6.9	6 years	12.5	6.3	6 years	1.2	4.9
2006	26	182.6	7.0	**2006**	14	92.7	6.6	**2006**	0	0.0		5 years	25.0	7.0	5 years	12.8	6.3	5 years	1.2	4.8
2007	26	176.6	6.8	**2007**	13	77.4	6.0	**2007**	3	13.6	4.5	4 years	24.8	6.9	4 years	12.5	6.2	4 years	1.5	4.8
2008	30	204.2	6.8	**2008**	19	120.8	6.4	**2008**	1	5.3	5.3	3 years	24.3	7.0	3 years	12.3	6.3	3 years	1.0	4.9
2009	16	115.9	7.2	**2009**	6	37.9	6.3	**2009**	0	0.0		2 years	21.5	7.1	2 years	9.0	6.2	2 years	1.0	4.5
2010	27	187.0	6.9	**2010**	12	73.0	6.1	**2010**	2	9.0	4.5	1 years	27.0	6.9	1 years	12.0	6.1	1 years	2.0	4.5
2011	26	185.9	7.2	**2011**	8	50.9	6.4	**2011**	0	0.0		0 years	26.0	7.2	0 years	8.0	6.4	0 years	0.0	
2012	27	190.9	7.1	**2012**	11	70.4	6.4	**2012**	0	0.0		1 years	27.0	7.1	1 years	11.0	6.4	1 years	0.0	
2013	15	113.2	7.5	**2013**	1	7.0	7.0	**2013**	0	0.0		2 years	21.0	7.3	2 years	6.0	6.7	2 years	0.0	
2014	17	116.8	6.9	**2014**	11	70.6	6.4	**2014**	0	0.0		3 years	19.7	7.2	3 years	7.7	6.6	3 years	0.0	
2015	32	222.0	6.9	**2015**	17	106.5	6.3	**2015**	1	5.0	5.0	4 years	22.8	7.1	4 years	10.0	6.5	4 years	0.3	5.0
2016	20	140.3	7.0	**2016**	8	50.6	6.3	**2016**	1	5.4	5.4	5 years	22.2	7.1	5 years	9.6	6.5	5 years	0.4	5.2
2017	29	209.1	7.2	**2017**	10	62.9	6.3	**2017**	1	5.4	5.4	6 years	23.3	7.1	6 years	9.7	6.4	6 years	0.5	5.3
2018	28	191.0	6.8	**2018**	13	78.3	6.0	**2018**	4	20.3	5.1	7 years	24.0	7.1	7 years	10.1	6.4	7 years	1.0	5.2
2019	25	181.7	7.3	**2019**	8	53.2	6.7	**2019**	0	0.0		8 years	24.1	7.1	8 years	9.9	6.4	8 years	0.9	5.2
2020	21	152.3	7.3	**2020**	7	45.9	6.6	**2020**	0	0.0		9 years	23.8	7.1	9 years	9.6	6.4	9 years	0.8	5.2
2021	18	124.3	6.9	**2021**	9	55.0	6.1	**2021**	1	5.2	5.2	10 years	23.2	7.1	10 years	9.5	6.4	10 years	0.8	5.2
2022	20	140.5	7.0	**2022**	7	42.1	6.0	**2022**	1	5.0	5.0	11 years	22.9	7.1	11 years	9.3	6.4	11 years	0.8	5.2

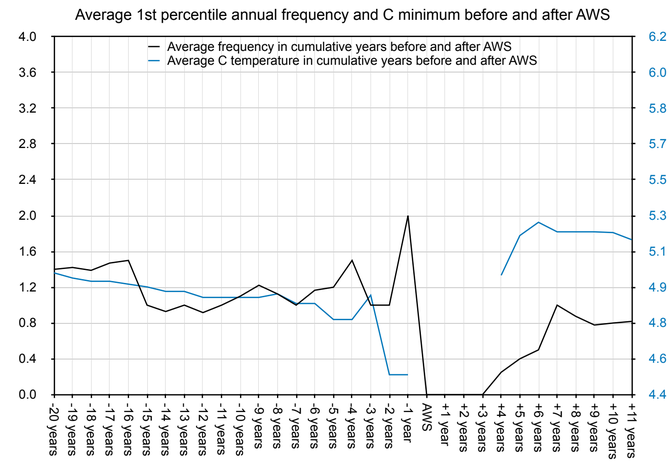
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	24.2	167.2	6.9	**Pre**	12.5	78.4	6.3	**Pre**	1.2	5.5	4.9
Post	23.3	165.4	7.1	**Post**	9.7	61.3	6.4	**Post**	0.5	2.6	5.3

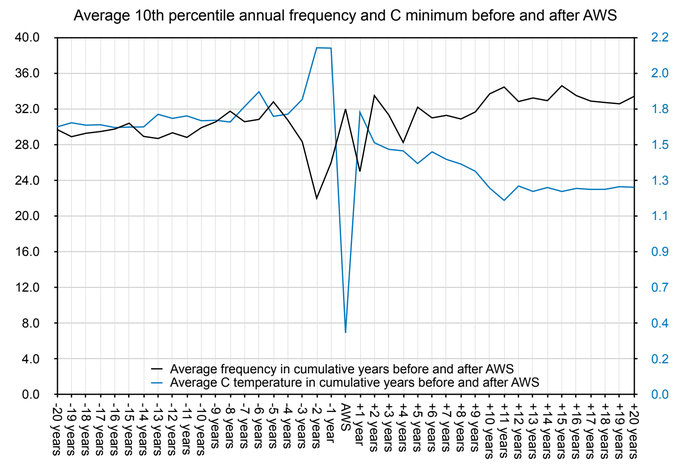
		AWS introduction				AWS introduction				AWS introduction	
		Probe replacement				Probe replacement				Probe replacement	
		Small screen introduction				Small screen introduction				Small screen introduction	

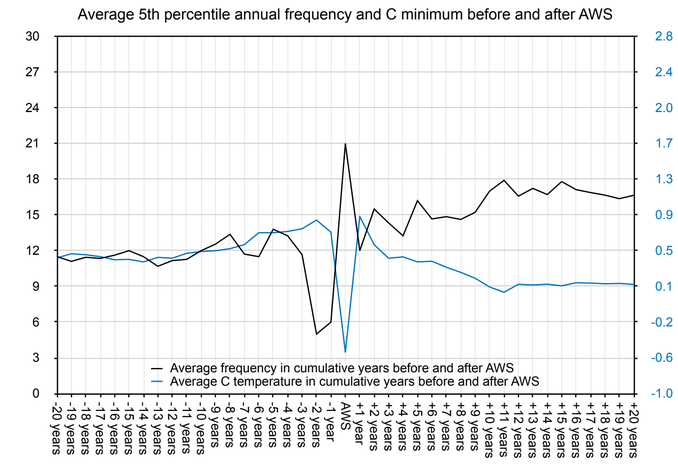


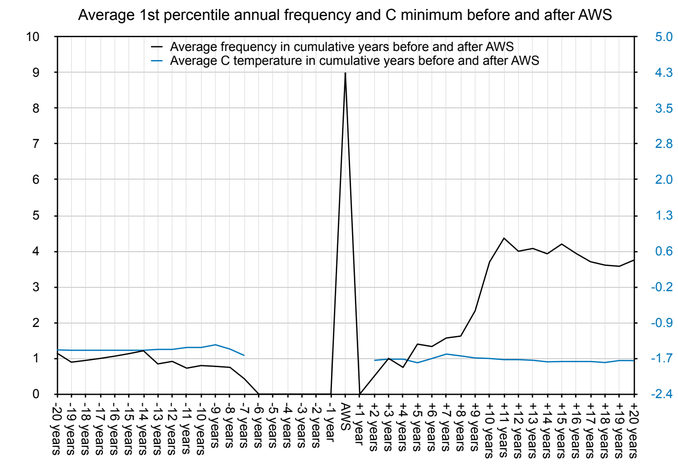




10th 3.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1922	58	62.4	1.1	**1922**	26	-9.4	-0.4	**1922**	9	-14.5	-1.6									
1923	48	59.8	1.2	**1923**	22	5.0	0.2	**1923**	5	-6.7	-1.3									
1924	56	15.2	0.3	**1924**	43	-9.6	-0.2	**1924**	10	-23.3	-2.3									
1925	55	49.3	0.9	**1925**	29	-8.8	-0.3	**1925**	9	-15.5	-1.7									
1926	0	0.0		**1926**	0	0.0		**1926**	0	0.0										
1927	26	40.8	1.6	**1927**	10	6.7	0.7	**1927**	1	-1.1	-1.1									
1928	51	27.9	0.5	**1928**	31	-14.9	-0.5	**1928**	9	-21.6	-2.4									
1929	46	42.9	0.9	**1929**	27	2.8	0.1	**1929**	5	-6.6	-1.3									
1930	32	40.3	1.3	**1930**	12	-3.8	-0.3	**1930**	5	-7.2	-1.4									
1931	47	55.2	1.2	**1931**	26	5.3	0.2	**1931**	3	-4.2	-1.4									
1932	31	28.4	0.9	**1932**	20	4.8	0.2	**1932**	2	-2.2	-1.1									
1933	38	23.5	0.6	**1933**	27	1.4	0.1	**1933**	4	-6.3	-1.6									
1934	37	54.9	1.5	**1934**	15	5.7	0.4	**1934**	2	-2.1	-1.1									
1935	47	41.2	0.9	**1935**	29	0.1	0.0	**1935**	7	-13.0	-1.9									
1936	51	26.9	0.5	**1936**	28	-22.1	-0.8	**1936**	12	-27.7	-2.3									
1937	52	43.2	0.8	**1937**	30	-9.8	-0.3	**1937**	9	-16.3	-1.8									
1938	30	45.0	1.5	**1938**	11	1.7	0.2	**1938**	3	-4.8	-1.6									
1939	34	40.6	1.2	**1939**	19	8.3	0.4	**1939**	2	-4.0	-2.0									
1940	58	61.5	1.1	**1940**	32	5.9	0.2	**1940**	3	-3.7	-1.2									
1941	32	48.7	1.5	**1941**	12	5.9	0.5	**1941**	1	-1.0	-1.0									
1942	32	64.8	2.0	**1942**	7	4.0	0.6	**1942**	0	0.0										
1943	57	71.9	1.3	**1943**	29	3.5	0.1	**1943**	6	-7.9	-1.3									
1944	44	55.5	1.3	**1944**	19	-1.8	-0.1	**1944**	4	-7.1	-1.8									
1945	25	36.3	1.5	**1945**	11	3.3	0.3	**1945**	2	-2.3	-1.2									
1946	57	43.8	0.8	**1946**	35	-7.2	-0.2	**1946**	10	-16.2	-1.6									
1947	36	47.7	1.3	**1947**	17	5.4	0.3	**1947**	1	-1.7	-1.7									
1948	45	38.8	0.9	**1948**	24	-7.1	-0.3	**1948**	7	-14.3	-2.0									
1949	38	44.5	1.2	**1949**	19	2.1	0.1	**1949**	4	-4.7	-1.2									
1950	34	51.9	1.5	**1950**	13	4.0	0.3	**1950**	0	0.0										
1951	34	51.3	1.5	**1951**	13	4.9	0.4	**1951**	0	0.0										
1952	34	47.5	1.4	**1952**	15	4.5	0.3	**1952**	1	-2.2	-2.2									
1953	44	37.3	0.8	**1953**	26	-1.7	-0.1	**1953**	6	-10.0	-1.7									
1954	48	18.0	0.4	**1954**	33	-14.9	-0.5	**1954**	10	-18.8	-1.9									
1955	17	25.7	1.5	**1955**	6	0.5	0.1	**1955**	1	-1.7	-1.7									
1956	29	27.9	1.0	**1956**	16	-3.4	-0.2	**1956**	4	-7.2	-1.8									
1957	0	0.0		**1957**	0	0.0		**1957**	0	0.0										
1958	0	0.0		**1958**	0	0.0		**1958**	0	0.0										
1959	0	0.0		**1959**	0	0.0		**1959**	0	0.0										
1960	0	0.0		**1960**	0	0.0		**1960**	0	0.0										
1961	0	0.0		**1961**	0	0.0		**1961**	0	0.0										
1962	26	30.8	1.2	**1962**	14	2.9	0.2	**1962**	1	-1.1	-1.1									
1963	27	45.3	1.7	**1963**	8	3.4	0.4	**1963**	0	0.0										
1964	28	46.3	1.7	**1964**	11	6.5	0.6	**1964**	0	0.0										
1965	27	24.2	0.9	**1965**	16	-3.7	-0.2	**1965**	5	-8.0	-1.6									
1966	26	37.6	1.4	**1966**	9	2.7	0.3	**1966**	2	-2.2	-1.1									
1967	57	60.4	1.1	**1967**	32	6.2	0.2	**1967**	5	-6.8	-1.4									
1968	38	44.8	1.2	**1968**	23	10.5	0.5	**1968**	2	-2.3	-1.2									
1969	43	52.3	1.2	**1969**	26	7.7	0.3	**1969**	3	-3.7	-1.2									
1970	57	36.1	0.6	**1970**	33	-20.2	-0.6	**1970**	12	-22.8	-1.9									
1971	30	41.3	1.4	**1971**	14	2.7	0.2	**1971**	3	-3.5	-1.2									
1972	41	42.5	1.0	**1972**	17	-13.7	-0.8	**1972**	6	-12.2	-2.0									
1973	19	33.6	1.8	**1973**	7	3.8	0.5	**1973**	1	-1.4	-1.4									
1974	30	40.9	1.4	**1974**	13	0.4	0.0	**1974**	2	-4.5	-2.3									
1975	52	66.0	1.3	**1975**	23	-0.8	-0.0	**1975**	9	-14.7	-1.6									
1976	68	24.5	0.4	**1976**	42	-34.1	-0.8	**1976**	19	-42.6	-2.2									
1977	45	52.6	1.2	**1977**	19	-6.3	-0.3	**1977**	6	-8.6	-1.4	20 years	29.7	1.6	20 years	11.5	0.4	20 years	1.2	-1.5
1978	22	42.7	1.9	**1978**	5	3.3	0.7	**1978**	0	0.0		19 years	28.9	1.7	19 years	11.1	0.5	19 years	0.9	-1.5
1979	26	42.0	1.6	**1979**	13	10.4	0.8	**1979**	0	0.0		18 years	29.3	1.7	18 years	11.4	0.5	18 years	0.9	-1.5
1980	25	48.4	1.9	**1980**	7	6.7	1.0	**1980**	0	0.0		17 years	29.5	1.7	17 years	11.4	0.5	17 years	1.0	-1.5
1981	20	32.1	1.6	**1981**	6	2.2	0.4	**1981**	0	0.0		16 years	29.8	1.6	16 years	11.6	0.4	16 years	1.1	-1.5
1982	51	83.3	1.6	**1982**	19	14.8	0.8	**1982**	0	0.0		15 years	30.4	1.6	15 years	12.0	0.4	15 years	1.1	-1.5
1983	32	20.5	0.6	**1983**	22	-3.9	-0.2	**1983**	6	-9.5	-1.6	14 years	28.9	1.6	14 years	11.5	0.4	14 years	1.2	-1.5
1984	21	42.6	2.0	**1984**	5	2.7	0.5	**1984**	0	0.0		13 years	28.7	1.7	13 years	10.7	0.4	13 years	0.8	-1.5
1985	35	53.6	1.5	**1985**	10	-0.8	-0.1	**1985**	3	-4.9	-1.6	12 years	29.3	1.7	12 years	11.2	0.4	12 years	0.9	-1.5
1986	18	36.3	2.0	**1986**	4	1.3	0.3	**1986**	0	0.0		11 years	28.8	1.7	11 years	11.3	0.5	11 years	0.7	-1.4
1987	24	39.9	1.7	**1987**	7	3.1	0.4	**1987**	1	-1.6	-1.6	10 years	29.9	1.7	10 years	12.0	0.5	10 years	0.8	-1.4
1988	21	37.3	1.8	**1988**	6	2.2	0.4	**1988**	1	-1.2	-1.2	9 years	30.6	1.7	9 years	12.6	0.5	9 years	0.8	-1.4
1989	40	40.5	1.0	**1989**	25	7.0	0.3	**1989**	3	-4.0	-1.3	8 years	31.8	1.7	8 years	13.4	0.5	8 years	0.8	-1.5
1990	29	35.6	1.2	**1990**	13	-0.6	-0.0	**1990**	3	-4.8	-1.6	7 years	30.6	1.8	7 years	11.7	0.6	7 years	0.4	-1.6
1991	21	55.1	2.6	**1991**	0	0.0		**1991**	0	0.0		6 years	30.8	1.9	6 years	11.5	0.7	6 years	0.0	
1992	41	68.1	1.7	**1992**	16	10.5	0.7	**1992**	0	0.0		5 years	32.8	1.7	5 years	13.8	0.7	5 years	0.0	
1993	38	55.3	1.5	**1993**	18	11.5	0.6	**1993**	0	0.0		4 years	30.8	1.7	4 years	13.3	0.7	4 years	0.0	
1994	41	48.5	1.2	**1994**	25	14.2	0.6	**1994**	0	0.0		3 years	28.3	1.8	3 years	11.7	0.8	3 years	0.0	
1995	18	38.5	2.1	**1995**	4	3.9	1.0	**1995**	0	0.0		2 years	22.0	2.1	2 years	5.0	0.8	2 years	0.0	
1996	26	55.5	2.1	**1996**	6	4.3	0.7	**1996**	0	0.0		1 years	26.0	2.1	1 years	6.0	0.7	1 years	0.0	
1997	32	12.2	0.4	**1997**	21	-11.8	-0.6	**1997**	9	-21.5	-2.4	0 years	32.0	0.4	0 years	21.0	-0.6	0 years	9.0	-2.4
1998	25	43.5	1.7	**1998**	12	10.6	0.9	**1998**	0	0.0		1 years	25.0	1.7	1 years	12.0	0.9	1 years	0.0	
1999	42	57.3	1.4	**1999**	19	5.4	0.3	**1999**	1	-1.7	-1.7	2 years	33.5	1.6	2 years	15.5	0.6	2 years	0.5	-1.7
2000	27	38.6	1.4	**2000**	12	1.8	0.2	**2000**	2	-3.3	-1.7	3 years	31.3	1.5	3 years	14.3	0.4	3 years	1.0	-1.7
2001	19	28.0	1.5	**2001**	10	5.0	0.5	**2001**	0	0.0		4 years	28.3	1.5	4 years	13.3	0.5	4 years	0.8	-1.7
2002	48	53.4	1.1	**2002**	28	5.2	0.2	**2002**	4	-7.6	-1.9	5 years	32.2	1.4	5 years	16.2	0.4	5 years	1.4	-1.8
2003	25	46.4	1.9	**2003**	7	3.1	0.4	**2003**	1	-1.4	-1.4	6 years	31.0	1.5	6 years	14.7	0.4	6 years	1.3	-1.7
2004	33	38.6	1.2	**2004**	16	-0.6	-0.0	**2004**	3	-3.6	-1.2	7 years	31.3	1.4	7 years	14.9	0.3	7 years	1.6	-1.6
2005	28	34.2	1.2	**2005**	13	-1.2	-0.1	**2005**	2	-3.6	-1.8	8 years	30.9	1.4	8 years	14.6	0.3	8 years	1.6	-1.6
2006	38	38.8	1.0	**2006**	20	-5.5	-0.3	**2006**	8	-15.2	-1.9	9 years	31.7	1.4	9 years	15.2	0.2	9 years	2.3	-1.7
2007	52	17.4	0.3	**2007**	33	-23.0	-0.7	**2007**	16	-27.9	-1.7	10 years	33.7	1.3	10 years	17.0	0.1	10 years	3.7	-1.7
2008	42	18.7	0.4	**2008**	27	-13.3	-0.5	**2008**	11	-20.6	-1.9	11 years	34.5	1.2	11 years	17.9	0.1	11 years	4.4	-1.7
2009	15	33.9	2.3	**2009**	2	2.2	1.1	**2009**	0	0.0		12 years	32.8	1.3	12 years	16.6	0.2	12 years	4.0	-1.7
2010	38	32.3	0.9	**2010**	25	1.8	0.1	**2010**	5	-9.1	-1.8	13 years	33.2	1.3	13 years	17.2	0.2	13 years	4.1	-1.7
2011	29	46.1	1.6	**2011**	10	2.7	0.3	**2011**	2	-4.1	-2.1	14 years	32.9	1.3	14 years	16.7	0.2	14 years	3.9	-1.7
2012	58	52.8	0.9	**2012**	33	-3.2	-0.1	**2012**	8	-13.2	-1.7	15 years	34.6	1.3	15 years	17.8	0.1	15 years	4.2	-1.7
2013	17	26.4	1.6	**2013**	7	4.7	0.7	**2013**	0	0.0		16 years	33.5	1.3	16 years	17.1	0.2	16 years	3.9	-1.7
2014	23	26.9	1.2	**2014**	13	1.5	0.1	**2014**	0	0.0		17 years	32.9	1.3	17 years	16.9	0.2	17 years	3.7	-1.7
2015	30	38.1	1.3	**2015**	13	0.6	0.0	**2015**	2	-4.0	-2.0	18 years	32.7	1.3	18 years	16.7	0.2	18 years	3.6	-1.7
2016	30	47.3	1.6	**2016**	11	2.6	0.2	**2016**	3	-3.5	-1.2	19 years	32.6	1.3	19 years	16.4	0.2	19 years	3.6	-1.7
2017	49	59.3	1.2	**2017**	22	-1.0	-0.0	**2017**	7	-12.0	-1.7	20 years	33.4	1.3	20 years	16.7	0.2	20 years	3.8	-1.7
2018	38	26.9	0.7	**2018**	23	-4.7	-0.2	**2018**	5	-10.1	-2.0									
2019	45	41.6	0.9	**2019**	27	1.6	0.1	**2019**	6	-10.8	-1.8									
2020	42	56.1	1.3	**2020**	21	8.7	0.4	**2020**	2	-2.8	-1.4									
2021	34	59.3	1.7	**2021**	14	11.2	0.8	**2021**	0	0.0										
2022	44	50.5	1.1	**2022**	23	1.5	0.1	**2022**	4	-10.3	-2.6									
Original AWS probe Rosemount																				
10 years	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997			**10 years**	AWS and small screen both in 1997											
Pre AWS	29.9	47.4	1.7	**Pre AWS**	12.0	5.6	0.5	**Pre AWS**	0.8	-1.2	-1.4									
Post AWS	33.7	39.6	1.3	**Post AWS**	17.0	0.1	0.1	**Post AWS**	3.7	-6.4	-1.7									
Pre small	29.9	47.4	1.7	**Pre small**	12.0	5.6	0.5	**Pre small**	0.8	-1.2	-1.4									
Post small	33.7	39.6	1.3	**Post small**	17.0	0.1	0.1	**Post small**	3.7	-6.4	-1.7									
5 years				**5 years**				**5 years**												
Pre AWS	32.8	53.2	1.7	**Pre AWS**	13.8	8.9	0.7	**Pre AWS**	0.0	0.0										
Post AWS	32.2	44.2	1.4	**Post AWS**	16.2	5.6	0.4	**Post AWS**	1.4	-2.5	-1.8									
Pre small	32.8	53.2	1.7	**Pre small**	13.8	8.9	0.7	**Pre small**	0.0	0.0										
Post small	32.2	44.2	1.4	**Post small**	16.2	5.6	0.4	**Post small**	1.4	-2.5	-1.8									
		AWS introduction																		
		Small screen introduction																		





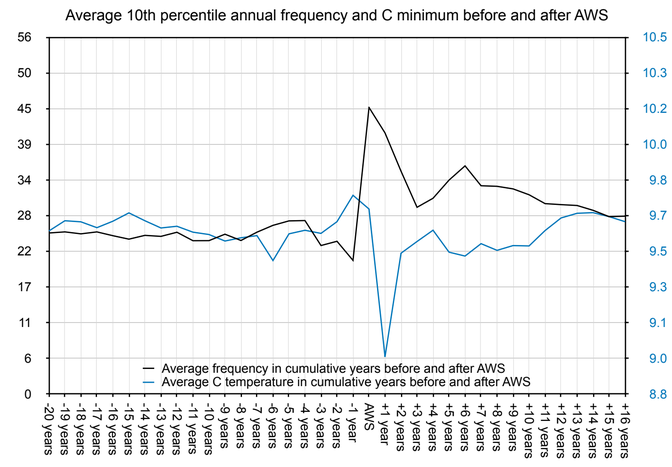


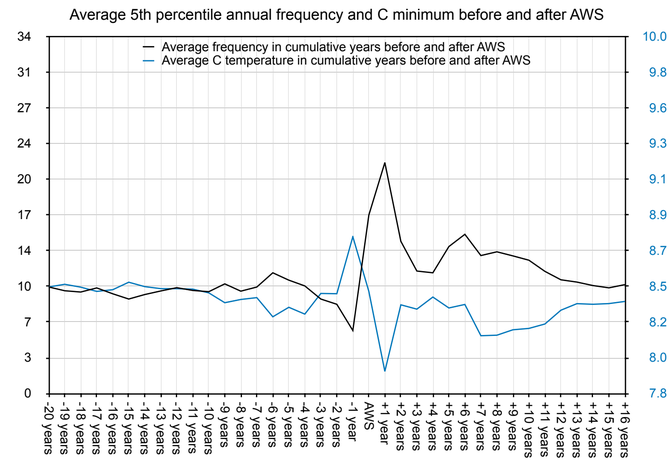
10th 11.1	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 9.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 6.7	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1911	53	454.3	8.6	**1911**	32	233.5	7.3	**1911**	12	66.7	5.6									
1912	49	435.4	8.9	**1912**	33	266.9	8.1	**1912**	7	44.1	6.3									
1913	73	600.8	8.2	**1913**	55	412.4	7.5	**1913**	15	83.6	5.6									
1914	29	250.5	8.6	**1914**	22	176.5	8.0	**1914**	4	25.1	6.3									
1915	46	439.9	9.6	**1915**	20	162.0	8.1	**1915**	4	23.9	6.0									
1916	34	313.3	9.2	**1916**	20	166.3	8.3	**1916**	2	12.2	6.1									
1917	54	486.6	9.0	**1917**	28	213.8	7.6	**1917**	7	38.2	5.5									
1918	53	469.3	8.9	**1918**	29	221.1	7.6	**1918**	9	52.6	5.8									
1919	51	419.8	8.2	**1919**	33	231.2	7.0	**1919**	14	74.0	5.3									
1920	21	196.6	9.4	**1920**	9	75.8	8.4	**1920**	0	0.0										
1921	38	323.6	8.5	**1921**	22	157.6	7.2	**1921**	8	41.2	5.2									
1922	57	470.7	8.3	**1922**	37	261.8	7.1	**1922**	13	72.4	5.6									
1923	63	574.8	9.1	**1923**	32	257.0	8.0	**1923**	2	10.7	5.4									
1924	24	222.0	9.3	**1924**	10	78.4	7.8	**1924**	2	11.8	5.9									
1925	49	435.0	8.9	**1925**	30	238.2	7.9	**1925**	3	18.1	6.0									
1926	60	533.6	8.9	**1926**	33	257.4	7.8	**1926**	9	50.2	5.6									
1927	49	407.9	8.3	**1927**	32	234.9	7.3	**1927**	10	53.1	5.3									
1928	41	343.2	8.4	**1928**	32	251.5	7.9	**1928**	7	44.6	6.4									
1929	81	733.8	9.1	**1929**	52	428.4	8.2	**1929**	7	44.6	6.4									
1930	72	664.6	9.2	**1930**	35	276.6	7.9	**1930**	6	39.0	6.5									
1931	36	308.5	8.6	**1931**	27	213.0	7.9	**1931**	3	15.9	5.3									
1932	59	533.9	9.0	**1932**	41	340.9	8.3	**1932**	3	17.8	5.9									
1933	51	445.2	8.7	**1933**	29	213.6	7.4	**1933**	7	34.0	4.9									
1934	53	515.3	9.7	**1934**	19	162.2	8.5	**1934**	0	0.0										
1935	51	459.6	9.0	**1935**	33	269.2	8.2	**1935**	4	26.2	6.6									
1936	43	374.9	8.7	**1936**	21	142.8	6.8	**1936**	11	58.1	5.3									
1937	47	409.8	8.7	**1937**	31	245.2	7.9	**1937**	6	30.9	5.2									
1938	41	383.6	9.4	**1938**	19	146.4	7.7	**1938**	5	26.7	5.3									
1939	55	460.2	8.4	**1939**	41	310.7	7.6	**1939**	13	75.8	5.8									
1940	50	463.9	9.3	**1940**	23	177.5	7.7	**1940**	7	39.5	5.6									
1941	72	641.2	8.9	**1941**	42	328.4	7.8	**1941**	9	53.4	5.9									
1942	22	203.5	9.3	**1942**	11	90.2	8.2	**1942**	2	13.3	6.7									
1943	52	474.0	9.1	**1943**	25	190.5	7.6	**1943**	8	49.6	6.2									
1944	43	403.9	9.4	**1944**	22	184.9	8.4	**1944**	4	26.8	6.7									
1945	29	250.6	8.6	**1945**	19	146.9	7.7	**1945**	5	29.2	5.8									
1946	49	411.2	8.4	**1946**	31	226.3	7.3	**1946**	11	63.5	5.8									
1947	20	197.1	9.9	**1947**	6	52.4	8.7	**1947**	0	0.0										
1948	42	383.3	9.1	**1948**	28	233.6	8.3	**1948**	3	16.2	5.4									
1949	64	557.8	8.7	**1949**	38	281.4	7.4	**1949**	15	87.3	5.8									
1950	50	463.6	9.3	**1950**	29	240.9	8.3	**1950**	0	0.0										
1951	43	389.3	9.1	**1951**	27	218.8	8.1	**1951**	4	21.8	5.5									
1952	49	436.9	8.9	**1952**	30	239.1	8.0	**1952**	5	31.7	6.3									
1953	57	544.4	9.6	**1953**	27	225.7	8.4	**1953**	4	26.8	6.7									
1954	42	383.4	9.1	**1954**	23	181.0	7.9	**1954**	3	16.2	5.4									
1955	22	217.8	9.9	**1955**	8	67.7	8.5	**1955**	0	0.0										
1956	51	482.1	9.5	**1956**	28	234.6	8.4	**1956**	3	16.7	5.6									
1957	49	438.9	9.0	**1957**	30	237.6	7.9	**1957**	5	29.6	5.9									
1958	38	360.5	9.5	**1958**	16	130.3	8.1	**1958**	2	12.2	6.1									
1959	33	316.7	9.6	**1959**	14	116.0	8.3	**1959**	2	12.8	6.4									
1960	59	532.7	9.0	**1960**	35	278.5	8.0	**1960**	6	34.5	5.8									
1961	52	467.7	9.0	**1961**	28	219.5	7.8	**1961**	7	44.1	6.3									
1962	48	470.9	9.8	**1962**	18	157.8	8.8	**1962**	0	0.0										
1963	41	355.0	8.7	**1963**	24	177.3	7.4	**1963**	9	51.4	5.7									
1964	40	381.7	9.5	**1964**	15	118.4	7.9	**1964**	3	15.6	5.2									
1965	38	307.3	8.1	**1965**	27	191.4	7.1	**1965**	11	62.3	5.7									
1966	56	520.1	9.3	**1966**	30	245.3	8.2	**1966**	2	11.8	5.9									
1967	65	541.4	8.3	**1967**	47	354.1	7.5	**1967**	14	84.8	6.1									
1968	53	448.3	8.5	**1968**	36	270.8	7.5	**1968**	8	40.2	5.0									
1969	41	356.6	8.7	**1969**	21	148.3	7.1	**1969**	8	42.1	5.3									
1970	31	292.0	9.4	**1970**	13	103.8	8.0	**1970**	2	13.3	6.7									
1971	36	323.2	9.0	**1971**	22	180.0	8.2	**1971**	3	19.1	6.4									
1972	25	233.7	9.3	**1972**	12	98.2	8.2	**1972**	1	6.3	6.3									
1973	14	136.9	9.8	**1973**	5	45.1	9.0	**1973**	0	0.0										
1974	48	417.2	8.7	**1974**	31	241.5	7.8	**1974**	5	29.3	5.9									
1975	28	265.9	9.5	**1975**	12	97.4	8.1	**1975**	1	6.6	6.6									
1976	50	469.2	9.4	**1976**	18	137.3	7.6	**1976**	4	25.6	6.4									
1977	55	481.8	8.8	**1977**	32	245.0	7.7	**1977**	5	30.3	6.1									
1978	44	409.0	9.3	**1978**	20	153.0	7.7	**1978**	6	35.9	6.0									
1979	17	159.3	9.4	**1979**	9	75.9	8.4	**1979**	0	0.0										
1980	20	203.5	10.2	**1980**	3	25.6	8.5	**1980**	0	0.0										
1981	19	187.4	9.9	**1981**	4	31.6	7.9	**1981**	1	5.8	5.8									
1982	38	359.6	9.5	**1982**	18	150.8	8.4	**1982**	1	6.1	6.1									
1983	40	384.8	9.6	**1983**	11	85.6	7.8	**1983**	3	17.7	5.9									
1984	31	285.0	9.2	**1984**	14	110.4	7.9	**1984**	3	17.8	5.9									
1985	38	354.4	9.3	**1985**	19	157.7	8.3	**1985**	1	6.5	6.5									
1986	22	190.3	8.7	**1986**	17	138.4	8.1	**1986**	2	12.5	6.3	20 years	25.3	9.6	20 years	10.2	8.5	20 years	0.7	6.2
1987	31	301.3	9.7	**1987**	12	105.5	8.8	**1987**	0	0.0		19 years	25.5	9.6	19 years	9.8	8.5	19 years	0.6	6.2
1988	20	201.9	10.1	**1988**	3	26.7	8.9	**1988**	0	0.0		18 years	25.2	9.6	18 years	9.7	8.5	18 years	0.6	6.2
1989	35	318.5	9.1	**1989**	19	157.0	8.3	**1989**	0	0.0		17 years	25.5	9.6	17 years	10.1	8.4	17 years	0.6	6.2
1990	33	298.0	9.0	**1990**	17	131.7	7.7	**1990**	3	18.4	6.1	16 years	24.9	9.6	16 years	9.5	8.4	16 years	0.7	6.2
1991	16	163.0	10.2	**1991**	3	26.6	8.9	**1991**	0	0.0		15 years	24.3	9.7	15 years	9.0	8.5	15 years	0.5	6.2
1992	27	272.0	10.1	**1992**	5	43.1	8.6	**1992**	0	0.0		14 years	24.9	9.6	14 years	9.4	8.5	14 years	0.6	6.2
1993	17	161.4	9.5	**1993**	6	50.7	8.5	**1993**	0	0.0		13 years	24.8	9.6	13 years	9.8	8.4	13 years	0.6	6.2
1994	40	396.4	9.9	**1994**	13	110.2	8.5	**1994**	0	0.0		12 years	25.4	9.6	12 years	10.1	8.4	12 years	0.7	6.2
1995	24	232.4	9.7	**1995**	11	95.4	8.7	**1995**	0	0.0		11 years	24.1	9.6	11 years	9.8	8.4	11 years	0.7	6.2
1996	15	147.6	9.8	**1996**	3	26.9	9.0	**1996**	0	0.0		10 years	24.1	9.6	10 years	9.7	8.4	10 years	0.8	6.2
1997	33	310.4	9.4	**1997**	16	131.2	8.2	**1997**	1	5.6	5.6	9 years	25.1	9.5	9 years	10.4	8.4	9 years	0.9	6.2
1998	15	142.1	9.5	**1998**	7	58.1	8.3	**1998**	1	6.0	6.0	8 years	24.1	9.5	8 years	9.8	8.4	8 years	0.9	6.3
1999	19	195.1	10.3	**1999**	2	18.2	9.1	**1999**	0	0.0		7 years	25.4	9.6	7 years	10.1	8.4	7 years	0.9	6.4
2000	23	202.4	8.8	**2000**	15	119.7	8.0	**2000**	1	6.0	6.0	6 years	26.5	9.4	6 years	11.5	8.3	6 years	1.0	6.4
2001	27	256.4	9.5	**2001**	13	110.5	8.5	**2001**	1	6.4	6.4	5 years	27.2	9.6	5 years	10.8	8.3	5 years	1.0	6.5
2002	39	375.4	9.6	**2002**	14	110.7	7.9	**2002**	2	13.0	6.5	4 years	27.3	9.6	4 years	10.3	8.3	4 years	1.0	6.6
2003	22	208.0	9.5	**2003**	10	84.2	8.4	**2003**	0	0.0		3 years	23.3	9.6	3 years	9.0	8.4	3 years	0.7	6.7
2004	27	256.4	9.5	**2004**	11	88.7	8.1	**2004**	2	13.3	6.7	2 years	24.0	9.6	2 years	8.5	8.4	2 years	1.0	6.7
2005	21	204.7	9.7	**2005**	6	52.6	8.8	**2005**	0	0.0		1 years	21.0	9.7	1 years	6.0	8.8	1 years	0.0	
2006	45	435.7	9.7	**2006**	17	143.3	8.4	**2006**	1	6.1	6.1	0 years	45.0	9.7	0 years	17.0	8.4	0 years	1.0	6.1
2007	41	368.1	9.0	**2007**	22	174.6	7.9	**2007**	3	18.6	6.2	1 years	41.0	9.0	1 years	22.0	7.9	1 years	3.0	6.2
2008	29	289.0	10.0	**2008**	7	61.3	8.8	**2008**	0	0.0		2 years	35.0	9.5	2 years	14.5	8.3	2 years	1.5	6.2
2009	18	173.5	9.6	**2009**	6	49.6	8.3	**2009**	0	0.0		3 years	29.3	9.5	3 years	11.7	8.3	3 years	1.0	6.2
2010	35	341.0	9.7	**2010**	11	94.8	8.6	**2010**	0	0.0		4 years	30.8	9.6	4 years	11.5	8.4	4 years	0.8	6.2
2011	45	407.6	9.1	**2011**	24	193.4	8.1	**2011**	3	17.8	5.9	5 years	33.6	9.5	5 years	14.0	8.3	5 years	1.2	6.1
2012	47	440.2	9.4	**2012**	21	177.6	8.5	**2012**	1	6.7	6.7	6 years	35.8	9.5	6 years	15.2	8.3	6 years	1.2	6.3
2013	14	138.2	9.9	**2013**	1	7.0	7.0	**2013**	0	0.0		7 years	32.7	9.5	7 years	13.1	8.2	7 years	1.0	6.3
2014	32	296.4	9.3	**2014**	16	130.9	8.2	**2014**	3	19.8	6.6	8 years	32.6	9.5	8 years	13.5	8.2	8 years	1.3	6.4
2015	29	281.0	9.7	**2015**	10	84.6	8.5	**2015**	0	0.0		9 years	32.2	9.5	9 years	13.1	8.2	9 years	1.1	6.4
2016	23	218.3	9.5	**2016**	9	74.5	8.3	**2016**	1	6.2	6.2	10 years	31.3	9.5	10 years	12.7	8.2	10 years	1.1	6.3
2017	16	165.0	10.3	**2017**	1	8.5	8.5	**2017**	0	0.0		11 years	29.9	9.6	11 years	11.6	8.2	11 years	1.0	6.3
2018	28	288.4	10.3	**2018**	2	18.5	9.3	**2018**	0	0.0		12 years	29.8	9.6	12 years	10.8	8.3	12 years	0.9	6.3
2019	28	278.0	9.9	**2019**	8	70.7	8.8	**2019**	0	0.0		13 years	29.6	9.7	13 years	10.6	8.4	13 years	0.8	6.3
2020	19	184.4	9.7	**2020**	6	49.8	8.3	**2020**	1	6.7	6.7	14 years	28.9	9.7	14 years	10.3	8.4	14 years	0.9	6.4
2021	14	131.3	9.4	**2021**	7	58.9	8.4	**2021**	0	0.0		15 years	27.9	9.6	15 years	10.1	8.4	15 years	0.8	6.4
2022	29	268.6	9.3	**2022**	15	128.5	8.6	**2022**	0	0.0		16 years	27.9	9.6	16 years	10.4	8.4	16 years	0.8	6.4

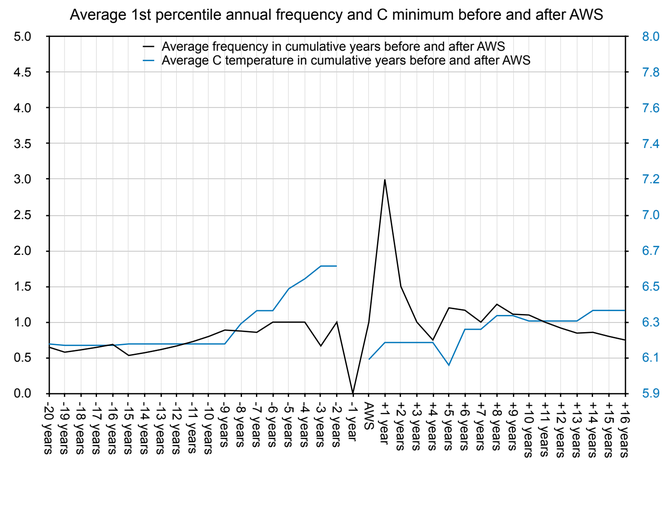
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	26.5	250.6	9.4	**Pre**	11.5	94.4	8.3	**Pre**	1.0	6.5	6.4									
Post	35.8	336.6	9.5	**Post**	15.2	125.2	8.3	**Post**	1.2	7.2	6.3									

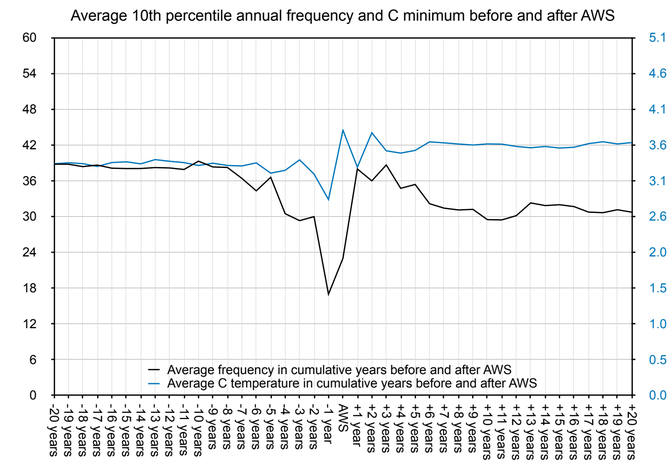
		AWS introduction
		Probe replacement
		Small screen introduction

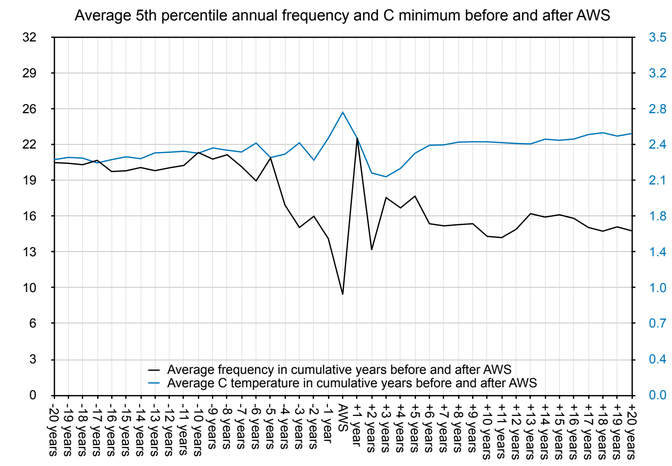


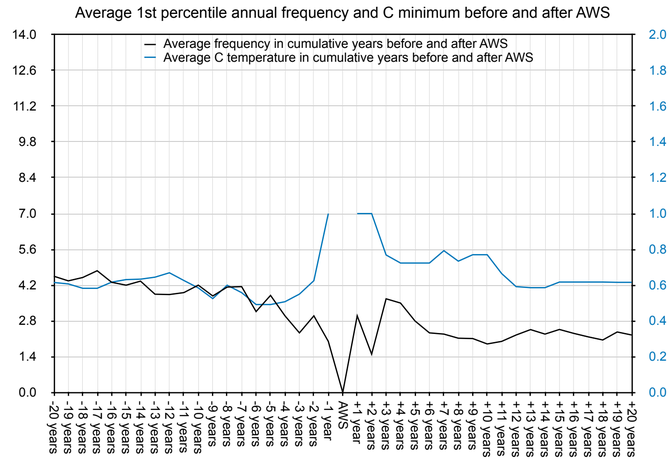




10th 5.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 3.6	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 1.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1957	48	147.5	3.1	**1957**	29	58.9	2.0	**1957**	9	7.3	0.8									
1958	39	129.2	3.3	**1958**	18	34.0	1.9	**1958**	4	0.6	0.2									
1959	33	113.5	3.4	**1959**	12	18.9	1.6	**1959**	3	-2.2	-0.7									
1960	68	227.3	3.3	**1960**	31	57.4	1.9	**1960**	11	5.2	0.5									
1961	50	146.7	2.9	**1961**	32	65.6	2.1	**1961**	9	6.2	0.7									
1962	33	120.0	3.6	**1962**	16	47.4	3.0	**1962**	0	0.0										
1963	42	123.6	2.9	**1963**	25	48.8	2.0	**1963**	8	5.6	0.7									
1964	57	175.5	3.1	**1964**	36	81.5	2.3	**1964**	7	0.5	0.1									
1965	44	143.0	3.3	**1965**	23	51.0	2.2	**1965**	5	2.8	0.6									
1966	34	114.2	3.4	**1966**	17	38.3	2.3	**1966**	3	1.3	0.4									
1967	45	146.8	3.3	**1967**	26	61.1	2.4	**1967**	4	3.1	0.8									
1968	34	97.3	2.9	**1968**	22	44.5	2.0	**1968**	7	0.5	0.1									
1969	35	135.0	3.9	**1969**	14	39.2	2.8	**1969**	0	0.0										
1970	21	65.4	3.1	**1970**	14	31.7	2.3	**1970**	3	2.6	0.9									
1971	42	132.1	3.1	**1971**	24	53.2	2.2	**1971**	4	0.3	0.1									
1972	35	121.9	3.5	**1972**	17	43.4	2.6	**1972**	2	1.8	0.9									
1973	12	54.3	4.5	**1973**	2	6.4	3.2	**1973**	0	0.0										
1974	44	150.1	3.4	**1974**	22	47.8	2.2	**1974**	4	0.6	0.2									
1975	33	121.6	3.7	**1975**	15	42.4	2.8	**1975**	0	0.0										
1976	18	57.9	3.2	**1976**	8	13.4	1.7	**1976**	4	2.8	0.7									
1977	61	187.2	3.1	**1977**	34	66.7	2.0	**1977**	11	6.1	0.6									
1978	37	137.0	3.7	**1978**	18	49.5	2.8	**1978**	0	0.0										
1979	39	118.6	3.0	**1979**	22	41.4	1.9	**1979**	8	6.0	0.8	20 years	38.8	3.3	20 years	20.8	2.3	20 years	4.6	0.6
1980	46	163.0	3.5	**1980**	23	56.5	2.5	**1980**	2	2.0	1.0	19 years	38.8	3.3	19 years	20.7	2.3	19 years	4.4	0.6
1981	34	135.5	4.0	**1981**	14	43.5	3.1	**1981**	0	0.0		18 years	38.4	3.3	18 years	20.6	2.3	18 years	4.5	0.6
1982	47	111.5	2.4	**1982**	37	65.2	1.8	**1982**	12	0.8	0.1	17 years	38.6	3.3	17 years	21.0	2.3	17 years	4.8	0.6
1983	39	123.5	3.2	**1983**	19	35.8	1.9	**1983**	6	2.5	0.4	16 years	38.1	3.3	16 years	20.0	2.3	16 years	4.3	0.6
1984	38	141.9	3.7	**1984**	16	41.5	2.6	**1984**	2	1.2	0.6	15 years	38.1	3.3	15 years	20.1	2.3	15 years	4.2	0.6
1985	36	90.8	2.5	**1985**	24	37.8	1.6	**1985**	11	5.5	0.5	14 years	38.1	3.3	14 years	20.4	2.3	14 years	4.4	0.6
1986	39	142.1	3.6	**1986**	17	38.9	2.3	**1986**	4	1.5	0.4	13 years	38.2	3.4	13 years	20.1	2.4	13 years	3.8	0.6
1987	41	145.5	3.5	**1987**	18	41.0	2.3	**1987**	3	3.3	1.1	12 years	38.2	3.3	12 years	20.3	2.4	12 years	3.8	0.7
1988	24	89.6	3.7	**1988**	9	23.2	2.6	**1988**	1	1.0	1.0	11 years	37.9	3.3	11 years	20.5	2.4	11 years	3.9	0.6
1989	48	143.2	3.0	**1989**	27	51.3	1.9	**1989**	8	8.5	1.1	10 years	39.3	3.3	10 years	21.7	2.4	10 years	4.2	0.6
1990	39	139.2	3.6	**1990**	18	46.7	2.6	**1990**	1	0.0	0.0	9 years	38.3	3.3	9 years	21.1	2.4	9 years	3.8	0.5
1991	51	169.8	3.3	**1991**	29	73.1	2.5	**1991**	4	3.4	0.9	8 years	38.3	3.3	8 years	21.5	2.4	8 years	4.1	0.6
1992	49	147.5	3.0	**1992**	28	51.8	1.9	**1992**	10	8.9	0.9	7 years	36.4	3.3	7 years	20.4	2.4	7 years	4.1	0.6
1993	23	93.1	4.0	**1993**	9	28.6	3.2	**1993**	0	0.0		6 years	34.3	3.3	6 years	19.2	2.5	6 years	3.2	0.5
1994	61	183.6	3.0	**1994**	38	83.2	2.2	**1994**	7	3.0	0.4	5 years	36.6	3.2	5 years	21.2	2.3	5 years	3.8	0.5
1995	34	93.9	2.8	**1995**	23	46.6	2.0	**1995**	5	1.9	0.4	4 years	30.5	3.2	4 years	17.0	2.4	4 years	3.0	0.5
1996	28	105.4	3.8	**1996**	13	36.5	2.8	**1996**	1	0.4	0.4	3 years	29.3	3.4	3 years	15.0	2.5	3 years	2.3	0.6
1997	43	151.4	3.5	**1997**	18	37.5	2.1	**1997**	4	1.0	0.3	2 years	30.0	3.2	2 years	16.0	2.3	2 years	3.0	0.6
1998	17	47.5	2.8	**1998**	14	35.2	2.5	**1998**	2	2.0	1.0	1 years	17.0	2.8	1 years	14.0	2.5	1 years	2.0	1.0
1999	23	87.0	3.8	**1999**	9	24.9	2.8	**1999**	0	0.0		0 years	23.0	3.8	0 years	9.0	2.8	0 years	0.0	
2000	38	123.7	3.3	**2000**	23	57.8	2.5	**2000**	3	3.0	1.0	1 years	38.0	3.3	1 years	23.0	2.5	1 years	3.0	1.0
2001	34	144.0	4.2	**2001**	3	5.5	1.8	**2001**	0	0.0		2 years	36.0	3.7	2 years	13.0	2.2	2 years	1.5	1.0
2002	44	130.9	3.0	**2002**	27	55.7	2.1	**2002**	8	4.3	0.5	3 years	38.7	3.5	3 years	17.7	2.1	3 years	3.7	0.8
2003	23	77.2	3.4	**2003**	14	34.5	2.5	**2003**	3	1.9	0.6	4 years	34.8	3.5	4 years	16.8	2.2	4 years	3.5	0.7
2004	38	138.7	3.7	**2004**	22	65.1	3.0	**2004**	0	0.0		5 years	35.4	3.5	5 years	17.8	2.4	5 years	2.8	0.7
2005	16	67.6	4.2	**2005**	3	8.5	2.8	**2005**	0	0.0		6 years	32.2	3.6	6 years	15.3	2.4	6 years	2.3	0.7
2006	27	94.9	3.5	**2006**	14	34.6	2.5	**2006**	2	2.0	1.0	7 years	31.4	3.6	7 years	15.1	2.4	7 years	2.3	0.8
2007	29	100.6	3.5	**2007**	16	42.6	2.7	**2007**	1	0.5	0.5	8 years	31.1	3.6	8 years	15.3	2.5	8 years	2.1	0.7
2008	32	110.6	3.5	**2008**	16	40.1	2.5	**2008**	2	1.9	1.0	9 years	31.2	3.6	9 years	15.3	2.5	9 years	2.1	0.8
2009	14	52.2	3.7	**2009**	4	9.9	2.5	**2009**	0	0.0		10 years	29.5	3.6	10 years	14.2	2.5	10 years	1.9	0.8
2010	29	103.0	3.6	**2010**	13	31.1	2.4	**2010**	3	0.1	0.0	11 years	29.5	3.6	11 years	14.1	2.5	11 years	2.0	0.7
2011	38	121.4	3.2	**2011**	23	54.5	2.4	**2011**	5	0.4	0.1	12 years	30.2	3.6	12 years	14.8	2.5	12 years	2.3	0.6
2012	58	191.2	3.3	**2012**	33	79.3	2.4	**2012**	5	2.7	0.5	13 years	32.3	3.5	13 years	16.2	2.5	13 years	2.5	0.6
2013	26	98.7	3.8	**2013**	12	37.3	3.1	**2013**	0	0.0		14 years	31.9	3.6	14 years	15.9	2.5	14 years	2.3	0.6
2014	34	109.3	3.2	**2014**	19	44.5	2.3	**2014**	5	4.5	0.9	15 years	32.0	3.5	15 years	16.1	2.5	15 years	2.5	0.6
2015	27	100.2	3.7	**2015**	11	29.6	2.7	**2015**	0	0.0		16 years	31.7	3.5	16 years	15.8	2.5	16 years	2.3	0.6
2016	16	70.5	4.4	**2016**	2	6.5	3.3	**2016**	0	0.0		17 years	30.8	3.6	17 years	15.0	2.5	17 years	2.2	0.6
2017	29	118.2	4.1	**2017**	9	25.8	2.9	**2017**	0	0.0		18 years	30.7	3.6	18 years	14.7	2.6	18 years	2.1	0.6
2018	40	121.2	3.0	**2018**	22	42.8	1.9	**2018**	8	4.8	0.6	19 years	31.2	3.6	19 years	15.1	2.5	19 years	2.4	0.6
2019	23	91.3	4.0	**2019**	8	24.2	3.0	**2019**	0	0.0		20 years	30.8	3.6	20 years	14.7	2.6	20 years	2.3	0.6
2020	24	93.1	3.9	**2020**	8	25.1	3.1	**2020**	0	0.0										
2021	23	94.1	4.1	**2021**	5	15.9	3.2	**2021**	0	0.0										
2022	30	117.1	3.9	**2022**	12	33.2	2.8	**2022**	1	1.0	1.0									
Original AWS probe Rosemount																				
10 years	AWS and small screen both in 1999			**10 years**	AWS and small screen both in 1999			**10 years**	AWS and small screen both in 1999											
Pre AWS	39.3	127.5	3.3	**Pre AWS**	21.7	49.1	2.4	**Pre AWS**	4.2	2.9	0.6									
Post AWS	29.5	104.0	3.6	**Post AWS**	14.2	35.4	2.5	**Post AWS**	1.9	1.4	0.8									
Pre small	39.3	127.5	3.3	**Pre small**	21.7	49.1	2.4	**Pre small**	4.2	2.9	0.6									
Post small	29.5	104.0	3.6	**Post small**	14.2	35.4	2.5	**Post small**	1.9	1.4	0.8									
5 years				**5 years**				**5 years**												
Pre AWS	36.6	116.4	3.2	**Pre AWS**	21.2	47.8	2.3	**Pre AWS**	3.8	1.7	0.5									
Post AWS	35.4	122.9	3.5	**Post AWS**	17.8	43.7	2.4	**Post AWS**	2.8	1.8	0.7									
Pre small	36.6	116.4	3.2	**Pre small**	21.2	47.8	2.3	**Pre small**	3.8	1.7	0.5									
Post small	35.4	122.9	3.5	**Post small**	17.8	43.7	2.4	**Post small**	2.8	1.8	0.7									
		AWS introduction																		
		Small screen introduction																		







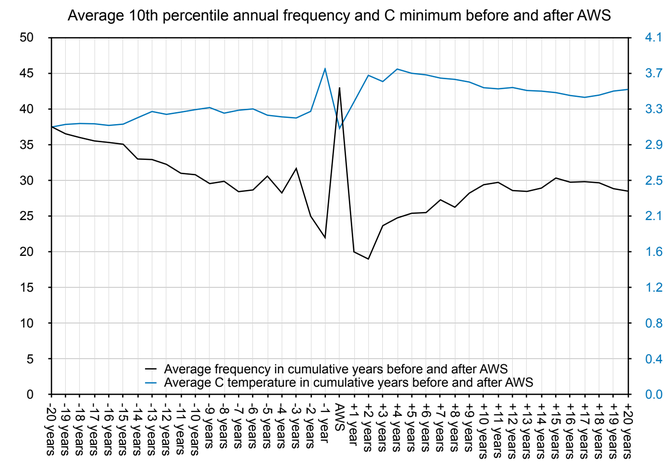
10th 4.9	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 3.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 1.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	18	52.7	2.9	**1910**	9	15.6	1.7	**1910**	5	2.9	0.6									
1911	27	59.7	2.2	**1911**	22	39.2	1.8	**1911**	4	-2.7	-0.7									
1912	21	70.8	3.4	**1912**	11	28.8	2.6	**1912**	1	1.1	1.1									
1913	46	162.1	3.5	**1913**	21	58.1	2.8	**1913**	0	0.0										
1914	20	67.0	3.4	**1914**	12	33.8	2.8	**1914**	0	0.0										
1915	22	86.7	3.9	**1915**	6	19.3	3.2	**1915**	0	0.0										
1916	15	60.1	4.0	**1916**	4	12.7	3.2	**1916**	0	0.0										
1917	38	125.6	3.3	**1917**	15	28.4	1.9	**1917**	4	0.6	0.2									
1918	41	126.8	3.1	**1918**	23	50.6	2.2	**1918**	4	1.7	0.4									
1919	41	108.5	2.6	**1919**	26	46.0	1.8	**1919**	10	2.9	0.3									
1920	31	108.6	3.5	**1920**	14	39.3	2.8	**1920**	0	0.0										
1921	31	92.4	3.0	**1921**	19	42.1	2.2	**1921**	4	2.8	0.7									
1922	52	136.5	2.6	**1922**	33	58.4	1.8	**1922**	11	6.7	0.6									
1923	32	96.8	3.0	**1923**	21	51.4	2.4	**1923**	2	1.7	0.9									
1924	49	134.5	2.7	**1924**	31	59.8	1.9	**1924**	13	6.7	0.5									
1925	67	189.3	2.8	**1925**	44	91.6	2.1	**1925**	10	5.6	0.6									
1926	35	111.7	3.2	**1926**	20	48.2	2.4	**1926**	4	0.6	0.2									
1927	62	152.2	2.5	**1927**	46	84.8	1.8	**1927**	12	3.5	0.3									
1928	26	60.2	2.3	**1928**	20	35.8	1.8	**1928**	7	3.4	0.5									
1929	65	183.2	2.8	**1929**	44	93.8	2.1	**1929**	12	11.6	1.0									
1930	33	115.5	3.5	**1930**	17	48.1	2.8	**1930**	0	0.0										
1931	102	236.3	2.3	**1931**	78	135.6	1.7	**1931**	29	12.4	0.4									
1932	50	113.1	2.3	**1932**	38	62.6	1.6	**1932**	15	6.7	0.4									
1933	46	141.1	3.1	**1933**	27	59.5	2.2	**1933**	6	3.7	0.6									
1934	52	174.7	3.4	**1934**	24	58.5	2.4	**1934**	4	3.4	0.9									
1935	57	183.2	3.2	**1935**	26	55.2	2.1	**1935**	7	5.3	0.8									
1936	44	142.8	3.2	**1936**	20	41.3	2.1	**1936**	5	3.3	0.7									
1937	51	150.1	2.9	**1937**	32	72.1	2.3	**1937**	4	1.5	0.4									
1938	31	101.6	3.3	**1938**	17	42.5	2.5	**1938**	1	1.1	1.1									
1939	51	161.6	3.2	**1939**	26	55.6	2.1	**1939**	6	3.4	0.6									
1940	43	163.8	3.8	**1940**	16	47.0	2.9	**1940**	1	1.1	1.1									
1941	28	86.7	3.1	**1941**	18	45.2	2.5	**1941**	2	1.1	0.6									
1942	0	0.0		**1942**	0	0.0		**1942**	0	0.0										
1943	0	0.0		**1943**	0	0.0		**1943**	0	0.0										
1944	0	0.0		**1944**	0	0.0		**1944**	0	0.0										
1945	0	0.0		**1945**	0	0.0		**1945**	0	0.0										
1946	0	0.0		**1946**	0	0.0		**1946**	0	0.0										
1947	0	0.0		**1947**	0	0.0		**1947**	0	0.0										
1948	0	0.0		**1948**	0	0.0		**1948**	0	0.0										
1949	0	0.0		**1949**	0	0.0		**1949**	0	0.0										
1950	12	51.2	4.3	**1950**	1	3.3	3.3	**1950**	0	0.0										
1951	16	66.7	4.2	**1951**	2	6.6	3.3	**1951**	0	0.0										
1952	10	33.3	3.3	**1952**	7	20.6	2.9	**1952**	0	0.0										
1953	34	100.1	2.9	**1953**	19	38.6	2.0	**1953**	7	3.8	0.5									
1954	25	80.2	3.2	**1954**	13	29.9	2.3	**1954**	3	1.7	0.6									
1955	39	110.3	2.8	**1955**	25	51.2	2.0	**1955**	5	0.6	0.1									
1956	46	144.2	3.1	**1956**	28	68.0	2.4	**1956**	4	3.4	0.9									
1957	34	106.8	3.1	**1957**	21	52.1	2.5	**1957**	4	2.3	0.6									
1958	38	97.2	2.6	**1958**	27	49.3	1.8	**1958**	12	5.1	0.4									
1959	28	91.1	3.3	**1959**	15	36.4	2.4	**1959**	3	0.0	0.0									
1960	45	136.2	3.0	**1960**	26	56.6	2.2	**1960**	8	5.0	0.6									
1961	35	106.1	3.0	**1961**	22	50.6	2.3	**1961**	3	2.3	0.8									
1962	26	86.3	3.3	**1962**	15	40.4	2.7	**1962**	2	2.2	1.1									
1963	31	80.4	2.6	**1963**	20	36.0	1.8	**1963**	9	7.8	0.9									
1964	28	74.7	2.7	**1964**	19	36.7	1.9	**1964**	6	1.1	0.2									
1965	32	89.7	2.8	**1965**	21	43.3	2.1	**1965**	5	2.8	0.6									
1966	39	124.5	3.2	**1966**	23	57.6	2.5	**1966**	4	2.4	0.6									
1967	37	129.5	3.5	**1967**	18	51.2	2.8	**1967**	0	0.0										
1968	37	111.3	3.0	**1968**	17	30.0	1.8	**1968**	6	1.4	0.2									
1969	34	117.5	3.5	**1969**	15	38.5	2.6	**1969**	0	0.0										
1970	43	126.9	3.0	**1970**	24	47.5	2.0	**1970**	7	5.0	0.7									
1971	53	142.9	2.7	**1971**	34	62.5	1.8	**1971**	9	3.5	0.4									
1972	30	110.6	3.7	**1972**	11	30.6	2.8	**1972**	0	0.0										
1973	14	55.1	3.9	**1973**	1	2.0	2.0	**1973**	0	0.0										
1974	40	110.0	2.8	**1974**	21	33.6	1.6	**1974**	7	2.7	0.4									
1975	34	103.3	3.0	**1975**	18	40.6	2.3	**1975**	1	1.0	1.0									
1976	62	175.4	2.8	**1976**	31	52.7	1.7	**1976**	11	3.5	0.3									
1977	57	141.2	2.5	**1977**	33	41.8	1.3	**1977**	14	-3.5	-0.3	20 years	37.6	3.1	20 years	18.8	1.9	20 years	5.0	0.4
1978	46	134.1	2.9	**1978**	24	44.0	1.8	**1978**	3	-1.3	-0.4	19 years	36.5	3.1	19 years	18.0	2.0	19 years	4.5	0.4
1979	44	139.4	3.2	**1979**	24	53.9	2.2	**1979**	2	-0.1	-0.1	18 years	36.0	3.1	18 years	17.7	2.0	18 years	4.6	0.5
1980	39	132.9	3.4	**1980**	15	34.8	2.3	**1980**	1	0.5	0.5	17 years	35.5	3.1	17 years	17.3	2.0	17 years	4.8	0.5
1981	39	112.1	2.9	**1981**	19	29.4	1.5	**1981**	7	2.4	0.3	16 years	35.3	3.1	16 years	17.4	2.0	16 years	5.0	0.5
1982	64	132.7	2.1	**1982**	39	32.3	0.8	**1982**	23	-4.6	-0.2	15 years	35.1	3.1	15 years	17.3	2.0	15 years	4.9	0.5
1983	34	76.6	2.3	**1983**	21	24.4	1.2	**1983**	11	2.3	0.2	14 years	33.0	3.2	14 years	15.8	2.1	14 years	3.6	0.6
1984	41	149.4	3.6	**1984**	13	28.5	2.2	**1984**	0	0.0		13 years	32.9	3.3	13 years	15.4	2.1	13 years	3.0	0.6
1985	46	135.0	2.9	**1985**	24	43.5	1.8	**1985**	7	2.3	0.3	12 years	32.3	3.2	12 years	15.6	2.1	12 years	3.3	0.6
1986	33	97.7	3.0	**1986**	18	33.0	1.8	**1986**	5	2.9	0.6	11 years	31.0	3.2	11 years	14.8	2.2	11 years	2.9	0.6
1987	42	128.4	3.1	**1987**	24	52.1	2.2	**1987**	3	2.6	0.9	10 years	30.8	3.3	10 years	14.5	2.2	10 years	2.7	0.6
1988	27	102.8	3.8	**1988**	6	14.9	2.5	**1988**	0	0.0		9 years	29.6	3.3	9 years	13.4	2.2	9 years	2.7	0.6
1989	40	119.9	3.0	**1989**	21	43.0	2.0	**1989**	4	2.3	0.6	8 years	29.9	3.2	8 years	14.4	2.2	8 years	3.0	0.6
1990	27	85.7	3.2	**1990**	14	33.2	2.4	**1990**	2	1.4	0.7	7 years	28.4	3.3	7 years	13.4	2.2	7 years	2.9	0.6
1991	19	69.2	3.6	**1991**	7	16.8	2.4	**1991**	1	0.9	0.9	6 years	28.7	3.3	6 years	13.3	2.1	6 years	3.0	0.6
1992	40	131.4	3.3	**1992**	21	53.9	2.6	**1992**	1	0.9	0.9	5 years	30.6	3.2	5 years	14.6	2.1	5 years	3.4	0.5
1993	18	58.1	3.2	**1993**	8	15.1	1.9	**1993**	2	1.2	0.6	4 years	28.3	3.2	4 years	13.0	2.0	4 years	4.0	0.4
1994	45	136.1	3.0	**1994**	23	40.7	1.8	**1994**	7	2.3	0.3	3 years	31.7	3.2	3 years	14.7	2.0	3 years	4.7	0.4
1995	28	77.4	2.8	**1995**	15	25.6	1.7	**1995**	6	2.7	0.5	2 years	25.0	3.3	2 years	10.5	2.1	2 years	3.5	0.4
1996	22	82.3	3.7	**1996**	6	15.0	2.5	**1996**	1	0.4	0.4	1 years	22.0	3.7	1 years	6.0	2.5	1 years	1.0	0.4
1997	43	131.5	3.1	**1997**	20	32.8	1.6	**1997**	4	-3.7	-0.9	0 years	43.0	3.1	0 years	20.0	1.6	0 years	4.0	-0.9
1998	20	67.2	3.4	**1998**	8	15.9	2.0	**1998**	1	0.8	0.8	1 years	20.0	3.4	1 years	8.0	2.0	1 years	1.0	0.8
1999	18	71.5	4.0	**1999**	4	11.6	2.9	**1999**	0	0.0		2 years	19.0	3.7	2 years	6.0	2.4	2 years	0.5	0.8
2000	33	113.9	3.5	**2000**	14	34.5	2.5	**2000**	0	0.0		3 years	23.7	3.6	3 years	8.7	2.5	3 years	0.3	0.8
2001	28	116.7	4.2	**2001**	2	5.5	2.8	**2001**	0	0.0		4 years	24.8	3.7	4 years	7.0	2.5	4 years	0.3	0.8
2002	28	97.9	3.5	**2002**	12	28.6	2.4	**2002**	1	-0.5	-0.5	5 years	25.4	3.7	5 years	8.0	2.5	5 years	0.4	0.2
2003	26	93.1	3.6	**2003**	7	11.2	1.6	**2003**	1	-0.4	-0.4	6 years	25.5	3.7	6 years	7.8	2.3	6 years	0.5	-0.0
2004	38	129.6	3.4	**2004**	14	29.0	2.1	**2004**	2	0.1	0.1	7 years	27.3	3.6	7 years	8.7	2.3	7 years	0.7	-0.0
2005	19	66.8	3.5	**2005**	7	15.5	2.2	**2005**	0	0.0		8 years	26.3	3.6	8 years	8.5	2.3	8 years	0.6	-0.0
2006	44	147.2	3.3	**2006**	19	41.9	2.2	**2006**	3	1.0	0.3	9 years	28.2	3.6	9 years	9.7	2.3	9 years	0.9	0.1
2007	40	117.5	2.9	**2007**	22	44.2	2.0	**2007**	6	3.0	0.5	10 years	29.4	3.5	10 years	10.9	2.3	10 years	1.4	0.1
2008	33	111.6	3.4	**2008**	15	35.1	2.3	**2008**	0	0.0		11 years	29.7	3.5	11 years	11.3	2.3	11 years	1.3	0.1
2009	16	59.1	3.7	**2009**	5	11.4	2.3	**2009**	0	0.0		12 years	28.6	3.5	12 years	10.8	2.3	12 years	1.2	0.1
2010	27	83.2	3.1	**2010**	14	27.4	2.0	**2010**	3	0.9	0.3	13 years	28.5	3.5	13 years	11.0	2.2	13 years	1.3	0.2
2011	35	118.6	3.4	**2011**	12	22.5	1.9	**2011**	3	1.9	0.6	14 years	28.9	3.5	14 years	11.1	2.2	14 years	1.4	0.2
2012	50	161.6	3.2	**2012**	26	59.9	2.3	**2012**	2	1.2	0.6	15 years	30.3	3.5	15 years	12.1	2.2	15 years	1.5	0.3
2013	21	61.7	2.9	**2013**	12	23.5	2.0	**2013**	2	1.6	0.8	16 years	29.8	3.4	16 years	12.1	2.2	16 years	1.5	0.3
2014	31	95.2	3.1	**2014**	17	34.5	2.0	**2014**	1	0.4	0.4	17 years	29.8	3.4	17 years	12.4	2.2	17 years	1.5	0.3
2015	27	104.7	3.9	**2015**	7	18.3	2.6	**2015**	0	0.0		18 years	29.7	3.4	18 years	12.1	2.2	18 years	1.4	0.3
2016	14	60.5	4.3	**2016**	0	0.0		**2016**	0	0.0		19 years	28.8	3.5	19 years	11.4	2.2	19 years	1.3	0.3
2017	22	84.9	3.9	**2017**	5	14.1	2.8	**2017**	0	0.0		20 years	28.5	3.5	20 years	11.1	2.3	20 years	1.3	0.3
2018	29	104.9	3.6	**2018**	10	24.7	2.5	**2018**	0	0.0										
2019	21	77.8	3.7	**2019**	7	17.0	2.4	**2019**	0	0.0										
2020	16	63.6	4.0	**2020**	2	3.7	1.9	**2020**	1	1.0	1.0									
2021	17	69.5	4.1	**2021**	2	6.0	3.0	**2021**	0	0.0										
2022	30	102.1	3.4	**2022**	11	27.8	2.5	**2022**	0	0.0										

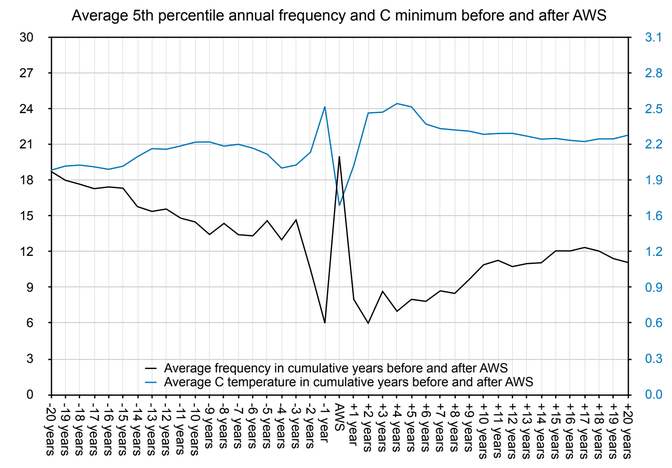
Original AWS probe Rosemount

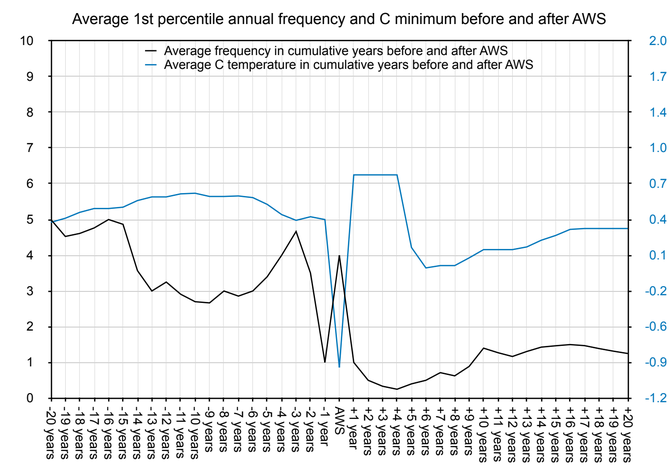
10 years				**10 years**				**10 years**			
Pre AWS	30.8	118.8	3.0	**Pre AWS**	14.5	33.6	1.8	**Pre AWS**	2.7	1.1	0.4
Post AWS	29.4	93.9	3.4	**Post AWS**	10.9	26.2	2.2	**Post AWS**	1.4	0.6	0.4
Pre small	42.3	91.0	3.3	**Pre small**	22.1	26.1	2.2	**Pre small**	5.4	0.7	0.5
Post small	39.3	102.3	3.5	**Post small**	19.9	25.0	2.2	**Post small**	6.2	0.4	0.0
5 years				**5 years**				**5 years**			
Pre AWS	30.6	116.8	3.2	**Pre AWS**	14.6	37.3	2.1	**Pre AWS**	3.4	2.0	0.6
Post AWS	25.4	94.4	3.2	**Post AWS**	8.0	30.4	2.1	**Post AWS**	0.4	1.6	0.6
Pre small	48.6	86.0	3.4	**Pre small**	26.0	20.2	2.1	**Pre small**	6.2	0.0	0.2
Post small	44.8	100.8	3.6	**Post small**	23.2	18.0	2.2	**Post small**	9.6	-0.2	-0.3

AWS introduction

Small screen introduction





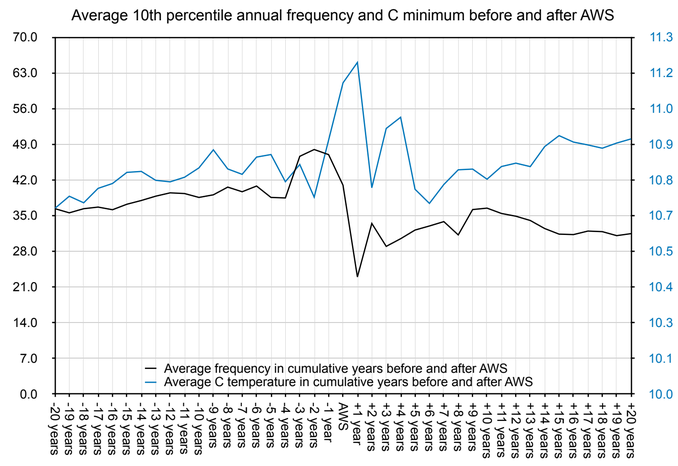


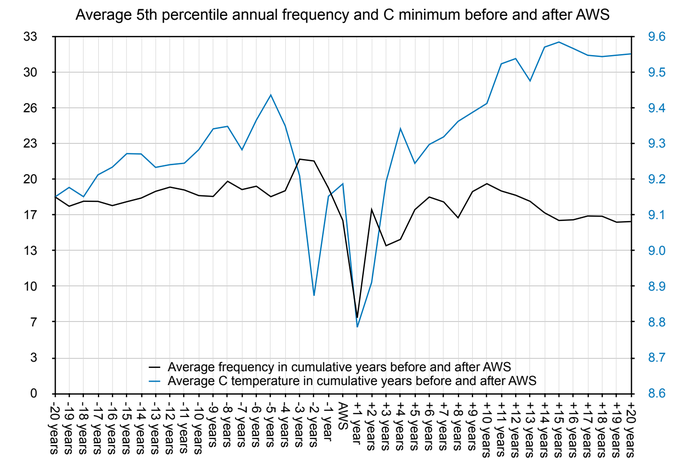
10th 13.1	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 11.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 7.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1941	88	807.5	9.2	**1941**	65	529.2	8.1	**1941**	22	115.1	5.2									
1942	24	240.6	10.0	**1942**	15	127.6	8.5	**1942**	7	46.8	6.7									
1943	23	245.4	10.7	**1943**	11	96.7	8.8	**1943**	3	18.3	6.1									
1944	41	455.1	11.1	**1944**	20	196.3	9.8	**1944**	1	6.6	6.6									
1945	26	299.2	11.5	**1945**	10	100.6	10.1	**1945**	0	0.0										
1946	62	666.2	10.7	**1946**	29	258.8	8.9	**1946**	9	64.2	7.1									
1947	22	257.2	11.7	**1947**	6	60.9	10.2	**1947**	0	0.0										
1948	36	403.3	11.2	**1948**	12	112.6	9.4	**1948**	1	5.6	5.6									
1949	63	610.7	9.7	**1949**	44	374.4	8.5	**1949**	15	93.0	6.2									
1950	43	454.1	10.6	**1950**	23	213.2	9.3	**1950**	4	27.3	6.8									
1951	56	582.8	10.4	**1951**	34	312.1	9.2	**1951**	10	72.3	7.2									
1952	50	545.0	10.9	**1952**	22	205.1	9.3	**1952**	3	22.4	7.5									
1953	60	624.9	10.4	**1953**	35	321.4	9.2	**1953**	6	43.6	7.3									
1954	31	343.2	11.1	**1954**	17	171.7	10.1	**1954**	0	0.0										
1955	26	300.1	11.5	**1955**	11	111.7	10.2	**1955**	0	0.0										
1956	44	461.8	10.5	**1956**	24	218.2	9.1	**1956**	4	27.4	6.9									
1957	25	261.6	10.5	**1957**	15	138.8	9.3	**1957**	5	35.0	7.0									
1958	31	350.0	11.3	**1958**	10	93.0	9.3	**1958**	1	7.0	7.0									
1959	50	508.3	10.2	**1959**	30	262.7	8.8	**1959**	9	58.4	6.5									
1960	55	547.0	9.9	**1960**	34	287.4	8.5	**1960**	12	79.6	6.6									
1961	64	703.3	11.0	**1961**	28	263.8	9.4	**1961**	3	20.8	6.9									
1962	29	313.8	10.8	**1962**	15	142.8	9.5	**1962**	2	15.1	7.6									
1963	49	491.4	10.0	**1963**	28	237.1	8.5	**1963**	8	51.2	6.4									
1964	28	300.1	10.7	**1964**	15	143.2	9.5	**1964**	0	0.0										
1965	47	491.0	10.4	**1965**	26	234.2	9.0	**1965**	7	47.1	6.7									
1966	36	389.7	10.8	**1966**	17	156.5	9.2	**1966**	6	42.4	7.1									
1967	37	394.2	10.7	**1967**	20	185.8	9.3	**1967**	4	29.0	7.3									
1968	40	422.6	10.6	**1968**	24	227.3	9.5	**1968**	3	19.9	6.6									
1969	20	230.1	11.5	**1969**	8	80.7	10.1	**1969**	1	7.7	7.7									
1970	33	365.7	11.1	**1970**	14	134.0	9.6	**1970**	1	6.8	6.8									
1971	45	495.9	11.0	**1971**	19	176.0	9.3	**1971**	3	20.4	6.8									
1972	50	528.9	10.6	**1972**	25	226.1	9.0	**1972**	5	34.8	7.0									
1973	7	81.9	11.7	**1973**	2	21.4	10.7	**1973**	0	0.0										
1974	53	553.4	10.4	**1974**	30	274.1	9.1	**1974**	7	47.0	6.7									
1975	23	257.8	11.2	**1975**	10	94.2	9.4	**1975**	1	4.6	4.6									
1976	59	582.7	9.9	**1976**	35	292.6	8.4	**1976**	13	85.3	6.6									
1977	55	594.9	10.8	**1977**	26	243.2	9.4	**1977**	3	20.4	6.8									
1978	44	487.2	11.1	**1978**	19	185.8	9.8	**1978**	3	21.2	7.1									
1979	33	353.4	10.7	**1979**	13	113.6	8.7	**1979**	3	16.5	5.5									
1980	25	270.4	10.8	**1980**	14	132.0	9.4	**1980**	1	7.3	7.3									
1981	34	381.2	11.2	**1981**	15	146.9	9.8	**1981**	0	0.0										
1982	52	511.4	9.8	**1982**	35	302.2	8.6	**1982**	9	55.2	6.1	20 years	36.4	10.7	20 years	18.2	9.2	20 years	3.8	6.8
1983	21	234.2	11.2	**1983**	9	86.8	9.6	**1983**	1	5.7	5.7	19 years	35.6	10.7	19 years	17.3	9.2	19 years	3.5	6.8
1984	31	303.9	9.8	**1984**	18	146.0	8.1	**1984**	8	50.3	6.3	18 years	36.4	10.7	18 years	17.8	9.2	18 years	3.6	6.9
1985	45	471.0	10.5	**1985**	24	212.8	8.9	**1985**	6	38.3	6.4	17 years	36.7	10.7	17 years	17.8	9.2	17 years	3.4	6.9
1986	20	203.2	10.2	**1986**	12	104.0	8.7	**1986**	3	20.2	6.7	16 years	36.2	10.8	16 years	17.4	9.2	16 years	3.2	7.0
1987	27	290.5	10.8	**1987**	13	120.7	9.3	**1987**	3	21.3	7.1	15 years	37.3	10.8	15 years	17.7	9.3	15 years	3.2	7.0
1988	27	303.3	11.2	**1988**	10	97.6	9.8	**1988**	0	0.0		14 years	38.0	10.8	14 years	18.1	9.3	14 years	3.2	7.0
1989	31	336.2	10.8	**1989**	14	128.0	9.1	**1989**	2	14.5	7.3	13 years	38.8	10.8	13 years	18.7	9.2	13 years	3.5	7.0
1990	41	434.2	10.6	**1990**	22	202.3	9.2	**1990**	2	13.8	6.9	12 years	39.5	10.8	12 years	19.1	9.2	12 years	3.6	7.0
1991	47	491.1	10.4	**1991**	24	212.8	8.9	**1991**	6	38.9	6.5	11 years	39.4	10.8	11 years	18.8	9.2	11 years	3.7	7.0
1992	34	347.9	10.2	**1992**	19	166.4	8.8	**1992**	5	35.4	7.1	10 years	38.6	10.8	10 years	18.3	9.3	10 years	3.5	7.0
1993	27	309.1	11.4	**1993**	7	65.0	9.3	**1993**	2	14.5	7.3	9 years	39.1	10.9	9 years	18.2	9.3	9 years	3.3	7.0
1994	47	515.0	11.0	**1994**	25	245.2	9.8	**1994**	2	14.1	7.1	8 years	40.6	10.8	8 years	19.6	9.3	8 years	3.5	7.0
1995	33	344.0	10.4	**1995**	17	149.3	8.8	**1995**	3	18.1	6.0	7 years	39.7	10.8	7 years	18.9	9.3	7 years	3.7	6.9
1996	52	562.5	10.8	**1996**	24	216.4	9.0	**1996**	7	47.4	6.8	6 years	40.8	10.9	6 years	19.2	9.4	6 years	3.8	7.1
1997	39	439.5	11.3	**1997**	16	156.5	9.8	**1997**	0	0.0		5 years	38.6	10.9	5 years	18.2	9.4	5 years	3.2	7.2
1998	14	148.2	10.6	**1998**	10	97.7	9.8	**1998**	1	7.1	7.1	4 years	38.5	10.8	4 years	18.8	9.4	4 years	4.0	7.2
1999	44	487.3	11.1	**1999**	22	217.4	9.9	**1999**	1	7.3	7.3	3 years	46.7	10.8	3 years	21.7	9.2	3 years	5.0	7.3
2000	49	515.0	10.5	**2000**	24	206.3	8.6	**2000**	11	79.5	7.2	2 years	48.0	10.7	2 years	21.5	8.9	2 years	7.0	7.2
2001	47	513.5	10.9	**2001**	19	173.9	9.2	**2001**	3	21.8	7.3	1 years	47.0	10.9	1 years	19.0	9.2	1 years	3.0	7.3
2002	41	456.5	11.1	**2002**	16	147.0	9.2	**2002**	3	21.2	7.1	0 years	41.0	11.1	0 years	16.0	9.2	0 years	3.0	7.1
2003	23	257.8	11.2	**2003**	7	61.5	8.8	**2003**	2	11.9	6.0	1 years	23.0	11.2	1 years	7.0	8.8	1 years	2.0	6.0
2004	44	453.0	10.3	**2004**	27	244.0	9.0	**2004**	6	39.6	6.6	2 years	33.5	10.8	2 years	17.0	8.9	2 years	4.0	6.3
2005	20	228.0	11.4	**2005**	7	68.3	9.8	**2005**	1	7.8	7.8	3 years	29.0	11.0	3 years	13.7	9.2	3 years	3.0	6.8
2006	35	389.6	11.1	**2006**	16	156.6	9.8	**2006**	0	0.0		4 years	30.5	11.0	4 years	14.3	9.3	4 years	2.3	6.8
2007	39	378.2	9.7	**2007**	28	248.0	8.9	**2007**	8	57.7	7.2	5 years	32.2	10.7	5 years	17.0	9.2	5 years	3.4	6.9
2008	37	386.2	10.4	**2008**	24	229.5	9.6	**2008**	4	28.3	7.1	6 years	33.0	10.7	6 years	18.2	9.3	6 years	3.5	6.9
2009	39	435.9	11.2	**2009**	15	141.7	9.4	**2009**	2	13.6	6.8	7 years	33.9	10.8	7 years	17.7	9.3	7 years	3.3	6.9
2010	13	145.5	11.2	**2010**	6	58.0	9.7	**2010**	1	6.8	6.8	8 years	31.3	10.8	8 years	16.3	9.4	8 years	3.0	6.9
2011	76	823.9	10.8	**2011**	38	364.4	9.6	**2011**	2	14.0	7.0	9 years	36.2	10.8	9 years	18.7	9.4	9 years	2.9	6.9
2012	39	407.6	10.5	**2012**	26	250.6	9.6	**2012**	2	13.6	6.8	10 years	36.5	10.8	10 years	19.4	9.4	10 years	2.8	6.9
2013	25	282.3	11.3	**2013**	12	127.6	10.6	**2013**	0	0.0		11 years	35.5	10.8	11 years	18.7	9.5	11 years	2.5	6.9
2014	29	318.3	11.0	**2014**	14	135.8	9.7	**2014**	1	7.3	7.3	12 years	34.9	10.8	12 years	18.3	9.5	12 years	2.4	6.9
2015	24	256.3	10.7	**2015**	11	96.0	8.7	**2015**	3	21.7	7.2	13 years	34.1	10.8	13 years	17.8	9.5	13 years	2.5	7.0
2016	12	142.2	11.9	**2016**	3	32.4	10.8	**2016**	0	0.0		14 years	32.5	10.9	14 years	16.7	9.6	14 years	2.3	7.0
2017	16	184.0	11.5	**2017**	6	58.7	9.8	**2017**	0	0.0		15 years	31.4	10.9	15 years	16.0	9.6	15 years	2.1	7.0
2018	30	317.0	10.6	**2018**	17	158.0	9.3	**2018**	3	20.4	6.8	16 years	31.3	10.9	16 years	16.1	9.6	16 years	2.2	6.9
2019	43	461.9	10.7	**2019**	22	203.4	9.2	**2019**	3	22.9	7.6	17 years	32.0	10.9	17 years	16.4	9.5	17 years	2.2	7.0
2020	30	320.8	10.7	**2020**	16	151.7	9.5	**2020**	2	13.5	6.8	18 years	31.9	10.9	18 years	16.4	9.5	18 years	2.2	7.0
2021	17	191.3	11.3	**2021**	6	57.7	9.6	**2021**	0	0.0		19 years	31.1	10.9	19 years	15.8	9.5	19 years	2.1	7.0
2022	39	437.5	11.2	**2022**	17	163.6	9.6	**2022**	0	0.0		20 years	31.5	10.9	20 years	15.9	9.6	20 years	2.0	7.0

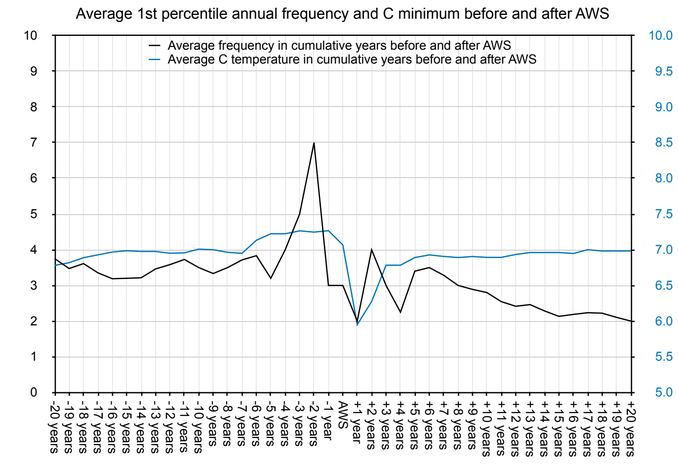
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	40.8	444.3	10.9	**Pre**	19.2	178.0	9.4	**Pre**	3.8	27.2	7.1									
Post	33.0	348.8	10.7	**Post**	18.2	168.0	9.3	**Post**	3.5	24.2	6.9									

		AWS introduction
		Probe replacement
		Small screen introduction





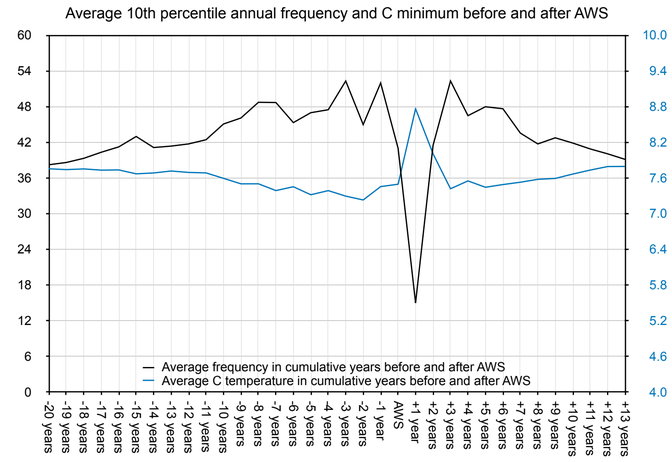


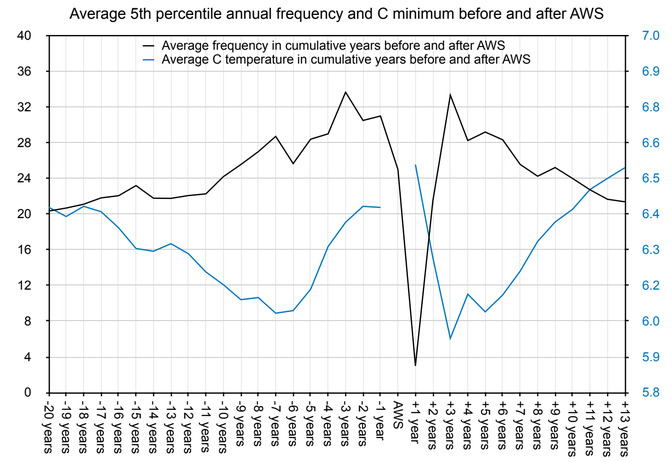
10th 10.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 8.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.2	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1965	35	256.7	7.3	**1965**	23	145.5	6.3	**1965**	4	14.7	3.7									
1966	25	225.0	9.0	**1966**	4	27.3	6.8	**1966**	0	0.0										
1967	51	395.1	7.7	**1967**	29	192.9	6.7	**1967**	3	14.9	5.0									
1968	19	160.0	8.4	**1968**	8	53.2	6.7	**1968**	0	0.0										
1969	28	241.0	8.6	**1969**	7	49.8	7.1	**1969**	0	0.0										
1970	27	216.5	8.0	**1970**	11	70.7	6.4	**1970**	2	8.6	4.3									
1971	27	219.1	8.1	**1971**	12	81.1	6.8	**1971**	0	0.0										
1972	20	161.8	8.1	**1972**	10	72.7	7.3	**1972**	0	0.0										
1973	0	0.0		**1973**	0	0.0		**1973**	0	0.0										
1974	36	282.0	7.8	**1974**	20	138.4	6.9	**1974**	1	3.1	3.1									
1975	0	0.0		**1975**	0	0.0		**1975**	0	0.0										
1976	48	355.9	7.4	**1976**	29	177.1	6.1	**1976**	6	20.9	3.5									
1977	36	263.5	7.3	**1977**	23	142.6	6.2	**1977**	7	33.4	4.8									
1978	20	160.0	8.0	**1978**	10	67.0	6.7	**1978**	2	9.5	4.8									
1979	24	186.5	7.8	**1979**	13	84.0	6.5	**1979**	0	0.0										
1980	22	179.0	8.1	**1980**	11	79.0	7.2	**1980**	0	0.0										
1981	10	89.0	8.9	**1981**	2	15.0	7.5	**1981**	0	0.0										
1982	44	350.5	8.0	**1982**	19	122.0	6.4	**1982**	3	14.5	4.8									
1983	34	276.9	8.1	**1983**	13	88.0	6.8	**1983**	2	7.8	3.9									
1984	32	235.6	7.4	**1984**	18	104.8	5.8	**1984**	7	28.7	4.1									
1985	44	320.7	7.3	**1985**	27	165.8	6.1	**1985**	7	30.9	4.4									
1986	13	96.2	7.4	**1986**	7	43.6	6.2	**1986**	1	5.0	5.0									
1987	33	271.3	8.2	**1987**	14	100.9	7.2	**1987**	0	0.0										
1988	20	181.5	9.1	**1988**	5	38.5	7.7	**1988**	0	0.0										
1989	31	248.5	8.0	**1989**	14	98.2	7.0	**1989**	0	0.0		20 years	38.3	7.8	20 years	20.4	6.4	20 years	4.5	4.3
1990	26	195.9	7.5	**1990**	13	75.1	5.8	**1990**	5	20.2	4.0	19 years	38.6	7.7	19 years	20.7	6.4	19 years	4.7	4.3
1991	22	178.3	8.1	**1991**	9	60.6	6.7	**1991**	0	0.0		18 years	39.3	7.8	18 years	21.1	6.4	18 years	4.7	4.3
1992	26	199.5	7.7	**1992**	18	130.9	7.3	**1992**	0	0.0		17 years	40.4	7.7	17 years	21.8	6.4	17 years	4.9	4.3
1993	15	130.9	8.7	**1993**	5	37.0	7.4	**1993**	0	0.0		16 years	41.3	7.7	16 years	22.1	6.4	16 years	5.3	4.3
1994	69	515.0	7.5	**1994**	43	275.8	6.4	**1994**	9	38.6	4.3	15 years	43.0	7.7	15 years	23.2	6.3	15 years	5.6	4.3
1995	38	276.0	7.3	**1995**	22	130.8	5.9	**1995**	6	21.3	3.6	14 years	41.1	7.7	14 years	21.8	6.3	14 years	5.4	4.3
1996	37	296.1	8.0	**1996**	18	120.7	6.7	**1996**	1	4.7	4.7	13 years	41.4	7.7	13 years	21.8	6.3	13 years	5.3	4.4
1997	34	264.8	7.8	**1997**	20	138.8	6.9	**1997**	1	4.4	4.4	12 years	41.8	7.7	12 years	22.1	6.3	12 years	5.7	4.4
1998	16	137.6	8.6	**1998**	3	19.9	6.6	**1998**	0	0.0		11 years	42.5	7.7	11 years	22.3	6.2	11 years	6.1	4.4
1999	36	303.4	8.4	**1999**	12	79.4	6.6	**1999**	1	5.0	5.0	10 years	45.1	7.6	10 years	24.2	6.2	10 years	6.7	4.4
2000	25	187.5	7.5	**2000**	14	84.8	6.1	**2000**	5	22.6	4.5	9 years	46.1	7.5	9 years	25.6	6.1	9 years	7.3	4.3
2001	49	406.8	8.3	**2001**	15	97.3	6.5	**2001**	4	17.0	4.3	8 years	48.8	7.5	8 years	27.0	6.1	8 years	7.6	4.3
2002	69	483.3	7.0	**2002**	47	282.7	6.0	**2002**	14	60.7	4.3	7 years	48.7	7.4	7 years	28.7	6.1	7 years	8.1	4.3
2003	37	300.7	8.1	**2003**	12	68.6	5.7	**2003**	5	22.3	4.5	6 years	45.3	7.5	6 years	25.7	6.1	6 years	7.2	4.3
2004	45	317.0	7.0	**2004**	26	144.9	5.6	**2004**	12	50.9	4.2	5 years	47.0	7.3	5 years	28.4	6.1	5 years	7.6	4.2
2005	33	253.0	7.7	**2005**	15	90.7	6.0	**2005**	4	16.8	4.2	4 years	47.5	7.4	4 years	29.0	6.3	4 years	6.5	4.2
2006	67	497.6	7.4	**2006**	40	250.6	6.3	**2006**	10	43.8	4.4	3 years	52.3	7.3	3 years	33.7	6.4	3 years	7.3	4.2
2007	38	266.3	7.0	**2007**	30	192.9	6.4	**2007**	6	27.8	4.6	2 years	45.0	7.2	2 years	30.5	6.4	2 years	6.0	4.1
2008	52	387.8	7.5	**2008**	31	199.1	6.4	**2008**	6	21.8	3.6	1 years	52.0	7.5	1 years	31.0	6.4	1 years	6.0	3.6
2009	41	307.4	7.5	**2009**	25	164.0	6.6	**2009**	5	23.1	4.6	0 years	41.0	7.5	0 years	25.0		0 years	5.0	4.6
2010	15	131.5	8.8	**2010**	3	19.7	6.6	**2010**	0	0.0		1 years	15.0	8.8	1 years	3.0	6.6	1 years	0.0	
2011	68	493.2	7.3	**2011**	40	237.6	5.9	**2011**	13	58.8	4.5	2 years	41.5	8.0	2 years	21.5	6.3	2 years	6.5	4.5
2012	74	462.1	6.2	**2012**	57	310.1	5.4	**2012**	26	102.5	3.9	3 years	52.3	7.4	3 years	33.3	6.0	3 years	13.0	4.2
2013	29	230.5	7.9	**2013**	13	85.5	6.6	**2013**	1	4.6	4.6	4 years	46.5	7.6	4 years	28.3	6.1	4 years	10.0	4.4
2014	54	379.1	7.0	**2014**	33	192.5	5.8	**2014**	9	35.6	4.0	5 years	48.0	7.4	5 years	29.2	6.1	5 years	9.8	4.3
2015	46	355.0	7.7	**2015**	24	153.9	6.4	**2015**	4	17.7	4.4	6 years	47.7	7.5	6 years	28.3	6.1	6 years	8.8	4.3
2016	19	147.6	7.8	**2016**	9	60.2	6.7	**2016**	2	9.0	4.5	7 years	43.6	7.5	7 years	25.6	6.2	7 years	7.9	4.3
2017	29	229.6	7.9	**2017**	15	105.1	7.0	**2017**	0	0.0		8 years	41.8	7.6	8 years	24.3	6.3	8 years	6.9	4.3
2018	51	393.6	7.7	**2018**	33	227.6	6.9	**2018**	2	8.8	4.4	9 years	42.8	7.6	9 years	25.2	6.4	9 years	6.3	4.3
2019	34	283.2	8.3	**2019**	13	88.4	6.8	**2019**	1	5.2	5.2	10 years	41.9	7.7	10 years	24.0	6.4	10 years	5.8	4.4
2020	31	260.6	8.4	**2020**	10	71.5	7.2	**2020**	0	0.0		11 years	40.9	7.7	11 years	22.7	6.5	11 years	5.3	4.4
2021	31	261.8	8.4	**2021**	10	69.3	6.9	**2021**	0	0.0		12 years	40.1	7.8	12 years	21.7	6.5	12 years	4.8	4.4
2022	28	219.0	7.8	**2022**	18	125.8	7.0	**2022**	1	4.2	4.2	13 years	39.2	7.8	13 years	21.4	6.6	13 years	4.5	4.4

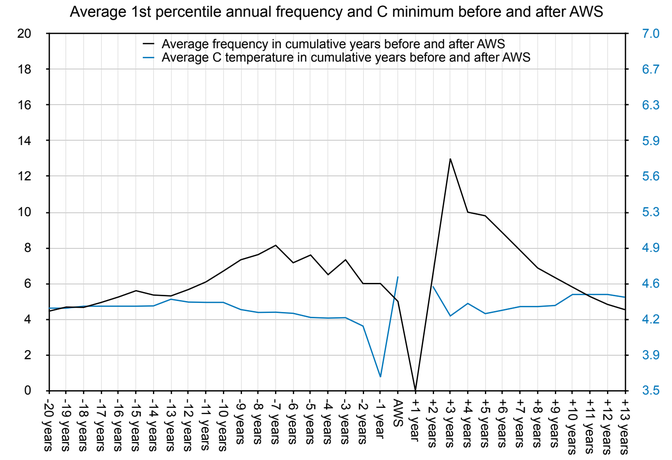
Original AWS probe Rosemount

6 years				**6 years**				**6 years**												
Pre	45.3	337.1	7.5	**Pre**	25.7	157.8	6.1	**Pre**	7.2	30.6	4.3									
Post	47.7	341.9	7.5	**Post**	28.3	166.6	6.1	**Post**	8.8	36.5	4.3									

		AWS introduction
		Probe replacement
		Small screen introduction







10th 1.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th -0.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -2.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	14	0.8	0.1	**1910**	3	-5.6	-1.9	**1910**	1	-3.9	-3.9									
1911	25	-9.3	-0.4	**1911**	12	-14.4	-1.2	**1911**	0	0.0										
1912	31	-5.2	-0.2	**1912**	14	-14.7	-1.1	**1912**	0	0.0										
1913	40	-15.1	-0.4	**1913**	22	-25.1	-1.1	**1913**	1	-3.3	-3.3									
1914	47	-18.6	-0.4	**1914**	25	-30.3	-1.2	**1914**	1	-2.3	-2.3									
1915	27	8.7	0.3	**1915**	6	-4.8	-0.8	**1915**	0	0.0										
1916	28	-6.1	-0.2	**1916**	12	-16.8	-1.4	**1916**	1	-3.3	-3.3									
1917	21	-3.1	-0.1	**1917**	7	-10.1	-1.4	**1917**	0	0.0										
1918	62	-125.4	-2.0	**1918**	40	-145.6	-3.6	**1918**	27	-128.2	-4.7									
1919	39	-19.8	-0.5	**1919**	23	-31.0	-1.3	**1919**	1	-2.8	-2.8									
1920	25	-8.7	-0.3	**1920**	12	-17.0	-1.4	**1920**	1	-2.8	-2.8									
1921	37	-9.7	-0.3	**1921**	16	-19.1	-1.2	**1921**	0	0.0										
1922	26	-11.7	-0.5	**1922**	13	-19.5	-1.5	**1922**	2	-5.9	-3.0									
1923	16	11.1	0.7	**1923**	1	-0.6	-0.6	**1923**	0	0.0										
1924	45	-20.9	-0.5	**1924**	24	-34.5	-1.4	**1924**	2	-5.8	-2.9									
1925	14	-2.0	-0.1	**1925**	7	-6.5	-0.9	**1925**	0	0.0										
1926	22	-1.8	-0.1	**1926**	8	-8.5	-1.1	**1926**	0	0.0										
1927	55	-33.0	-0.6	**1927**	32	-49.3	-1.5	**1927**	4	-13.5	-3.4									
1928	43	-19.9	-0.5	**1928**	24	-31.0	-1.3	**1928**	4	-10.6	-2.7									
1929	49	-59.4	-1.2	**1929**	29	-70.0	-2.4	**1929**	14	-49.2	-3.5									
1930	22	-0.8	-0.0	**1930**	10	-7.9	-0.8	**1930**	0	0.0										
1931	12	8.0	0.7	**1931**	1	-1.1	-1.1	**1931**	0	0.0										
1932	29	-17.4	-0.6	**1932**	15	-26.7	-1.8	**1932**	3	-10.3	-3.4									
1933	29	-4.4	-0.2	**1933**	15	-12.8	-0.9	**1933**	0	0.0										
1934	22	7.1	0.3	**1934**	6	-5.5	-0.9	**1934**	0	0.0										
1935	21	-8.0	-0.4	**1935**	7	-15.4	-2.2	**1935**	2	-5.1	-2.6									
1936	18	-1.5	-0.1	**1936**	8	-9.8	-1.2	**1936**	0	0.0										
1937	39	-17.4	-0.4	**1937**	19	-30.4	-1.6	**1937**	5	-15.7	-3.1									
1938	27	-15.6	-0.6	**1938**	18	-21.8	-1.2	**1938**	1	-2.4	-2.4									
1939	21	-6.4	-0.3	**1939**	11	-12.7	-1.2	**1939**	0	0.0										
1940	61	-10.2	-0.2	**1940**	29	-29.8	-1.0	**1940**	0	0.0										
1941	33	4.5	0.1	**1941**	10	-8.4	-0.8	**1941**	0	0.0										
1942	18	6.1	0.3	**1942**	5	-2.7	-0.5	**1942**	0	0.0										
1943	32	4.2	0.1	**1943**	11	-9.2	-0.8	**1943**	0	0.0										
1944	58	-44.1	-0.8	**1944**	30	-56.9	-1.9	**1944**	10	-31.8	-3.2									
1945	22	-6.2	-0.3	**1945**	11	-14.1	-1.3	**1945**	1	-2.5	-2.5									
1946	36	-0.8	-0.0	**1946**	15	-11.0	-0.7	**1946**	0	0.0										
1947	18	4.5	0.3	**1947**	4	-2.8	-0.7	**1947**	0	0.0										
1948	28	-0.3	-0.0	**1948**	11	-11.6	-1.1	**1948**	0	0.0										
1949	33	4.0	0.1	**1949**	7	-13.6	-1.9	**1949**	2	-6.9	-3.5									
1950	7	2.3	0.3	**1950**	2	-1.6	-0.8	**1950**	0	0.0										
1951	31	4.1	0.1	**1951**	9	-9.9	-1.1	**1951**	0	0.0										
1952	34	-11.4	-0.3	**1952**	13	-21.5	-1.7	**1952**	4	-11.2	-2.8									
1953	40	-15.3	-0.4	**1953**	22	-29.4	-1.3	**1953**	4	-10.5	-2.6									
1954	37	6.1	0.2	**1954**	12	-12.4	-1.0	**1954**	0	0.0										
1955	33	4.3	0.1	**1955**	11	-11.0	-1.0	**1955**	1	-2.8	-2.8									
1956	32	-16.1	-0.5	**1956**	16	-25.8	-1.6	**1956**	5	-15.3	-3.1									
1957	52	-18.5	-0.4	**1957**	22	-37.0	-1.7	**1957**	6	-20.9	-3.5									
1958	31	-37.8	-1.2	**1958**	21	-44.8	-2.1	**1958**	10	-29.9	-3.0									
1959	42	-7.8	-0.2	**1959**	19	-24.5	-1.3	**1959**	2	-6.5	-3.3									
1960	30	-9.5	-0.3	**1960**	16	-16.7	-1.0	**1960**	1	-2.3	-2.3									
1961	35	-0.4	-0.0	**1961**	16	-18.0	-1.1	**1961**	2	-5.5	-2.8									
1962	41	-1.8	-0.0	**1962**	14	-23.5	-1.7	**1962**	4	-12.8	-3.2									
1963	20	-0.4	-0.0	**1963**	8	-7.3	-0.9	**1963**	0	0.0										
1964	26	2.1	0.1	**1964**	8	-8.4	-1.1	**1964**	0	0.0										
1965	53	-20.0	-0.4	**1965**	25	-40.9	-1.6	**1965**	8	-24.9	-3.1									
1966	68	-41.9	-0.6	**1966**	40	-59.4	-1.5	**1966**	8	-24.4	-3.1									
1967	43	-21.5	-0.5	**1967**	24	-36.0	-1.5	**1967**	3	-9.3	-3.1									
1968	32	-3.2	-0.1	**1968**	17	-15.1	-0.9	**1968**	1	-2.8	-2.8									
1969	52	-35.4	-0.7	**1969**	33	-48.1	-1.5	**1969**	4	-12.4	-3.1									
1970	42	-17.6	-0.4	**1970**	24	-26.5	-1.1	**1970**	2	-5.7	-2.9									
1971	71	-82.3	-1.2	**1971**	52	-95.0	-1.8	**1971**	17	-62.1	-3.7									
1972	43	-10.4	-0.2	**1972**	18	-30.5	-1.7	**1972**	3	-9.5	-3.2									
1973	37	-3.4	-0.1	**1973**	18	-15.9	-0.9	**1973**	1	-2.4	-2.4									
1974	40	-36.5	-0.9	**1974**	23	-45.8	-2.0	**1974**	8	-30.4	-3.8									
1975	34	-29.4	-0.9	**1975**	23	-35.8	-1.6	**1975**	3	-11.0	-3.7									
1976	62	-56.7	-0.9	**1976**	37	-73.8	-2.0	**1976**	18	-57.8	-3.2	20 years	40.8	-0.4	20 years	22.5	-1.4	20 years	5.6	-3.0
1977	62	-37.4	-0.6	**1977**	36	-54.1	-1.5	**1977**	5	-16.2	-3.2	19 years	39.7	-0.4	19 years	21.7	-1.4	19 years	4.9	-2.9
1978	23	-4.4	-0.2	**1978**	12	-11.7	-1.0	**1978**	0	0.0		18 years	38.4	-0.4	18 years	20.9	-1.4	18 years	4.9	-2.9
1979	51	-50.0	-1.0	**1979**	33	-62.1	-1.9	**1979**	12	-37.6	-3.1	17 years	39.4	-0.4	17 years	21.5	-1.4	17 years	5.2	-2.9
1980	45	-25.5	-0.6	**1980**	31	-34.1	-1.1	**1980**	3	-8.1	-2.7	16 years	38.6	-0.4	16 years	20.8	-1.4	16 years	4.8	-2.9
1981	28	0.9	0.0	**1981**	10	-12.0	-1.2	**1981**	1	-2.3	-2.3	15 years	38.2	-0.4	15 years	20.1	-1.4	15 years	4.9	-2.9
1982	82	-95.0	-1.2	**1982**	56	-111.7	-2.0	**1982**	20	-69.0	-3.5	14 years	38.9	-0.4	14 years	20.8	-1.4	14 years	5.2	-3.0
1983	27	-19.2	-0.7	**1983**	17	-24.8	-1.5	**1983**	5	-14.8	-3.0	13 years	35.6	-0.3	13 years	18.1	-1.4	13 years	4.1	-2.9
1984	38	-23.6	-0.6	**1984**	24	-32.2	-1.3	**1984**	4	-13.4	-3.4	12 years	36.3	-0.3	12 years	18.2	-1.4	12 years	4.0	-2.9
1985	52	-34.7	-0.7	**1985**	29	-51.0	-1.8	**1985**	10	-31.6	-3.2	11 years	36.2	-0.3	11 years	17.6	-1.4	11 years	4.0	-2.9
1986	45	-27.0	-0.6	**1986**	21	-42.6	-2.0	**1986**	7	-24.2	-3.5	10 years	34.6	-0.3	10 years	16.5	-1.4	10 years	3.4	-2.9
1987	41	-29.2	-0.7	**1987**	29	-36.8	-1.3	**1987**	5	-14.9	-3.0	9 years	33.4	-0.2	9 years	16.0	-1.3	9 years	3.0	-2.8
1988	22	7.4	0.3	**1988**	5	-5.2	-1.0	**1988**	1	-2.7	-2.7	8 years	32.5	-0.2	8 years	14.4	-1.3	8 years	2.8	-2.8
1989	41	-13.7	-0.3	**1989**	19	-26.1	-1.4	**1989**	4	-11.3	-2.8	7 years	34.0	-0.2	7 years	15.7	-1.3	7 years	3.0	-2.8
1990	20	-4.6	-0.2	**1990**	8	-11.2	-1.4	**1990**	1	-3.1	-3.1	6 years	32.8	-0.2	6 years	15.2	-1.3	6 years	2.8	-2.8
1991	26	5.1	0.2	**1991**	8	-7.8	-1.0	**1991**	0	0.0		5 years	35.4	-0.2	5 years	16.6	-1.3	5 years	3.2	-2.7
1992	40	-5.6	-0.1	**1992**	19	-21.0	-1.1	**1992**	2	-4.7	-2.4	4 years	37.8	-0.3	4 years	18.8	-1.4	4 years	4.0	-2.7
1993	26	-3.6	-0.1	**1993**	9	-13.6	-1.5	**1993**	3	-7.6	-2.5	3 years	37.0	-0.3	3 years	18.7	-1.5	3 years	4.7	-2.8
1994	60	-42.5	-0.7	**1994**	35	-58.6	-1.7	**1994**	9	-26.7	-3.0	2 years	42.5	-0.5	2 years	23.5	-1.4	2 years	5.5	-2.9
1995	25	-5.0	-0.2	**1995**	12	-14.2	-1.2	**1995**	2	-5.7	-2.9	1 years	25.0	-0.2	1 years	12.0	-1.2	1 years	2.0	-2.9
1996	30	-3.6	-0.1	**1996**	16	-14.5	-0.9	**1996**	1	-2.4	-2.4	0 years	30.0	-0.1	0 years	16.0	-0.9	0 years	1.0	-2.4
1997	49	-46.6	-1.0	**1997**	33	-57.1	-1.7	**1997**	11	-35.1	-3.2	1 years	49.0	-1.0	1 years	33.0	-1.7	1 years	11.0	-3.2
1998	34	-22.1	-0.7	**1998**	19	-31.5	-1.7	**1998**	6	-19.7	-3.3	2 years	41.5	-0.8	2 years	26.0	-1.7	2 years	8.5	-3.2
1999	44	-34.0	-0.8	**1999**	29	-44.9	-1.5	**1999**	9	-27.6	-3.1	3 years	42.3	-0.8	3 years	27.0	-1.6	3 years	8.7	-3.2
2000	32	6.7	0.2	**2000**	12	-6.3	-0.5	**2000**	0	0.0		4 years	39.8	-0.5	4 years	23.3	-1.4	4 years	6.5	-3.2
2001	39	-18.2	-0.5	**2001**	22	-29.6	-1.3	**2001**	3	-10.0	-3.3	5 years	39.6	-0.5	5 years	23.0	-1.4	5 years	5.8	-3.2
2002	55	-27.7	-0.5	**2002**	29	-46.9	-1.6	**2002**	8	-22.6	-2.8	6 years	42.2	-0.5	6 years	24.0	-1.4	6 years	6.2	-3.1
2003	26	-12.4	-0.5	**2003**	17	-18.3	-1.1	**2003**	1	-2.5	-2.5	7 years	39.9	-0.5	7 years	23.0	-1.4	7 years	5.4	-3.0
2004	37	-2.5	-0.1	**2004**	14	-16.9	-1.2	**2004**	3	-8.6	-2.9	8 years	39.5	-0.5	8 years	21.9	-1.3	8 years	5.1	-3.0
2005	32	0.7	0.0	**2005**	13	-13.2	-1.0	**2005**	0	0.0		9 years	38.7	-0.4	9 years	20.9	-1.3	9 years	4.6	-3.0
2006	70	-81.0	-1.2	**2006**	50	-90.8	-1.8	**2006**	19	-56.5	-3.0	10 years	41.8	-0.5	10 years	23.8	-1.4	10 years	6.0	-3.0
2007	41	-15.6	-0.4	**2007**	21	-28.8	-1.4	**2007**	6	-17.6	-2.9	11 years	41.7	-0.5	11 years	23.5	-1.4	11 years	6.0	-3.0
2008	40	-6.1	-0.2	**2008**	18	-20.8	-1.2	**2008**	2	-6.0	-3.0	12 years	41.6	-0.4	12 years	23.1	-1.3	12 years	5.7	-3.0
2009	29	-15.1	-0.5	**2009**	17	-24.3	-1.4	**2009**	3	-7.5	-2.5	13 years	40.6	-0.5	13 years	22.6	-1.3	13 years	5.5	-3.0
2010	36	-13.6	-0.4	**2010**	19	-23.4	-1.2	**2010**	3	-8.7	-2.9	14 years	40.3	-0.4	14 years	22.4	-1.3	14 years	5.3	-2.9
2011	51	-31.7	-0.6	**2011**	32	-46.3	-1.4	**2011**	6	-18.4	-3.1	15 years	41.0	-0.5	15 years	23.0	-1.3	15 years	5.3	-3.0
2012	58	-27.2	-0.5	**2012**	32	-40.8	-1.3	**2012**	7	-18.2	-2.6	16 years	42.1	-0.5	16 years	23.6	-1.3	16 years	5.4	-2.9
2013	30	12.2	0.4	**2013**	6	-3.6	-0.6	**2013**	0	0.0		17 years	41.4	-0.4	17 years	22.5	-1.3	17 years	5.1	-2.9
2014	35	-18.0	-0.5	**2014**	20	-28.7	-1.4	**2014**	3	-8.9	-3.0	18 years	41.0	-0.4	18 years	22.4	-1.3	18 years	5.0	-2.9
2015	33	-11.6	-0.4	**2015**	16	-22.7	-1.4	**2015**	3	-9.1	-3.0	19 years	40.6	-0.4	19 years	22.1	-1.3	19 years	4.9	-2.9
2016	19	0.9	0.0	**2016**	8	-6.7	-0.8	**2016**	0	0.0		20 years	39.5	-0.4	20 years	21.4	-1.3	20 years	4.7	-2.9
2017	58	-52.6	-0.9	**2017**	39	-67.6	-1.7	**2017**	13	-38.7	-3.0									
2018	46	-16.6	-0.4	**2018**	24	-30.3	-1.3	**2018**	4	-12.5	-3.1									
2019	54	-29.4	-0.5	**2019**	34	-38.8	-1.1	**2019**	7	-19.3	-2.8									
2020	33	-12.3	-0.4	**2020**	19	-21.9	-1.2	**2020**	3	-8.4	-2.8									
2021	43	3.1	0.1	**2021**	14	-17.5	-1.3	**2021**	2	-5.5	-2.8									
2022	24	-5.5	-0.2	**2022**	12	-15.2	-1.3	**2022**	2	-6.1	-3.1									

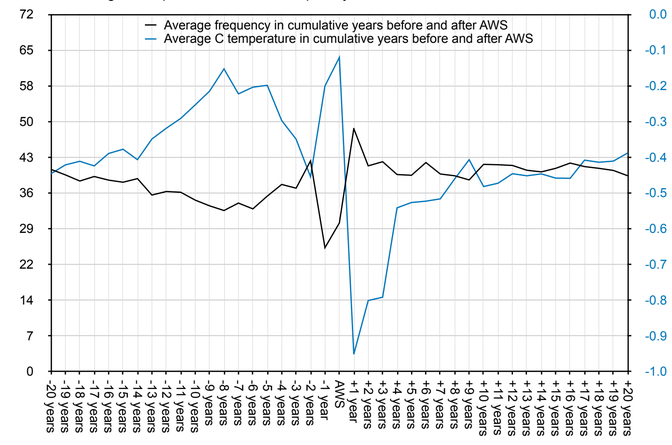
Original AWS probe Rosemount

10 years				**10 years**				**10 years**			
Pre AWS	34.6	-11.9	-0.3	**Pre AWS**	16.5	-23.7	-1.4	**Pre AWS**	3.4	-10.1	-2.9
Post AWS	41.8	-23.7	-0.5	**Post AWS**	23.8	-35.6	-1.4	**Post AWS**	6.0	-18.3	-3.0
*** 1996 earliest**				*** 1996 earliest**							
Pre small	36.6	-15.1	-0.3	**Pre small**	19.2	-27.0	-1.3	**Pre small**	4.3	-13.0	-2.8
Post small	41.7	-20.5	-0.4	**Post small**	23.0	-33.0	-1.3	**Post small**	5.1	-14.8	-2.8
5 years				**5 years**				**5 years**			
Pre AWS	35.4	-10.3	-0.2	**Pre AWS**	16.6	-23.0	-1.3	**Pre AWS**	3.2	-8.9	-2.7
Post AWS	39.6	-22.8	-0.5	**Post AWS**	23.0	-33.9	-1.4	**Post AWS**	5.8	-18.5	-3.2
*** 1996 earliest**				*** 1996 earliest**				*** 1996 earliest**			
Pre small	37.8	-19.9	-0.5	**Pre small**	21.8	-30.9	-1.3	**Pre small**	5.4	-17.0	-3.0
Post small	44.0	-24.6	-0.4	**Post small**	24.6	-37.2	-1.3	**Post small**	6.2	-18.0	-2.8

AWS introduction

Small screen introduction

Average 10th percentile annual frequency and C minimum before and after AWS



Average 5th percentile annual frequency and C minimum before and after AWS

Average 1st percentile annual frequency and C minimum before and after AWS

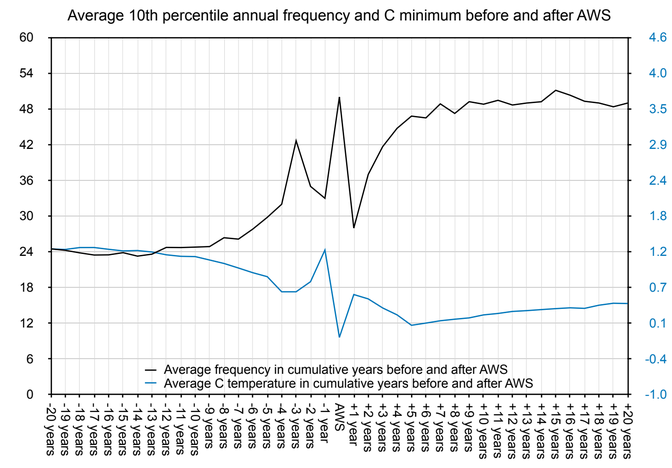
10th 2.8	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.1	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	31	54.7	1.8	**1910**	9	1.7	0.2	**1910**	1	-1.1	-1.1									
1911	43	0.7	0.0	**1911**	27	-35.6	-1.3	**1911**	14	-31.9	-2.3									
1912	30	39.0	1.3	**1912**	15	6.6	0.4	**1912**	2	-2.2	-1.1									
1913	50	84.5	1.7	**1913**	16	7.3	0.5	**1913**	1	-1.1	-1.1									
1914	28	37.8	1.4	**1914**	9	2.3	0.3	**1914**	1	-2.9	-2.9									
1915	23	32.6	1.4	**1915**	7	-1.2	-0.2	**1915**	0	0.0										
1916	32	46.5	1.5	**1916**	11	1.7	0.2	**1916**	3	-4.8	-1.6									
1917	33	38.6	1.2	**1917**	18	4.8	0.3	**1917**	3	-3.9	-1.3									
1918	37	31.3	0.8	**1918**	22	-3.9	-0.2	**1918**	6	-10.6	-1.8									
1919	49	26.1	0.5	**1919**	29	-19.2	-0.7	**1919**	11	-24.7	-2.2									
1920	22	39.0	1.8	**1920**	5	-1.3	-0.3	**1920**	2	-3.0	-1.5									
1921	15	31.3	2.1	**1921**	3	2.8	0.9	**1921**	0	0.0										
1922	42	43.9	1.0	**1922**	23	-0.8	-0.0	**1922**	3	-4.5	-1.5									
1923	30	50.4	1.7	**1923**	11	4.6	0.4	**1923**	1	-1.1	-1.1									
1924	38	56.9	1.5	**1924**	16	5.7	0.4	**1924**	2	-2.2	-1.1									
1925	49	64.3	1.3	**1925**	23	5.1	0.2	**1925**	6	-6.6	-1.1									
1926	31	45.9	1.5	**1926**	11	1.7	0.2	**1926**	1	-1.1	-1.1									
1927	61	10.2	0.2	**1927**	46	-20.0	-0.4	**1927**	13	-25.5	-2.0									
1928	39	46.1	1.2	**1928**	16	-0.7	-0.0	**1928**	4	-6.7	-1.7									
1929	55	3.0	0.1	**1929**	36	-39.4	-1.1	**1929**	17	-47.2	-2.8									
1930	34	56.5	1.7	**1930**	13	3.9	0.3	**1930**	2	-3.9	-2.0									
1931	49	72.5	1.5	**1931**	25	13.7	0.5	**1931**	2	-2.2	-1.1									
1932	37	36.8	1.0	**1932**	22	2.1	0.1	**1932**	3	-9.9	-3.3									
1933	32	32.9	1.0	**1933**	19	3.9	0.2	**1933**	3	-5.0	-1.7									
1934	36	46.3	1.3	**1934**	17	2.8	0.2	**1934**	4	-5.0	-1.3									
1935	44	30.6	0.7	**1935**	28	-7.6	-0.3	**1935**	11	-16.4	-1.5									
1936	31	21.7	0.7	**1936**	16	-9.1	-0.6	**1936**	4	-7.4	-1.9									
1937	44	53.5	1.2	**1937**	17	-0.6	-0.0	**1937**	4	-7.7	-1.9									
1938	30	36.6	1.2	**1938**	10	-4.5	-0.5	**1938**	4	-8.5	-2.1									
1939	27	36.4	1.3	**1939**	10	2.4	0.2	**1939**	1	-1.9	-1.9									
1940	52	22.6	0.4	**1940**	32	-19.2	-0.6	**1940**	10	-24.5	-2.5									
1941	23	27.9	1.2	**1941**	10	0.4	0.0	**1941**	0	0.0										
1942	16	29.9	1.9	**1942**	3	1.1	0.4	**1942**	0	0.0										
1943	58	33.5	0.6	**1943**	36	-14.2	-0.4	**1943**	10	-20.8	-2.1									
1944	38	46.6	1.2	**1944**	15	-0.3	-0.0	**1944**	3	-3.3	-1.1									
1945	29	29.8	1.0	**1945**	14	-2.9	-0.2	**1945**	3	-5.9	-2.0									
1946	47	26.8	0.6	**1946**	26	-13.8	-0.5	**1946**	10	-18.5	-1.9									
1947	33	34.5	1.0	**1947**	18	-0.5	-0.0	**1947**	3	-5.0	-1.7									
1948	47	42.2	0.9	**1948**	22	-8.3	-0.4	**1948**	7	-11.2	-1.6									
1949	53	60.2	1.1	**1949**	25	0.2	0.0	**1949**	4	-7.8	-2.0									
1950	10	18.5	1.9	**1950**	2	0.0	0.0	**1950**	0	0.0										
1951	38	46.4	1.2	**1951**	16	-2.3	-0.1	**1951**	4	-5.6	-1.4									
1952	33	30.8	0.9	**1952**	17	-3.2	-0.2	**1952**	3	-8.4	-2.8									
1953	42	60.2	1.4	**1953**	16	3.6	0.2	**1953**	1	-1.1	-1.1									
1954	26	38.2	1.5	**1954**	10	5.6	0.6	**1954**	0	0.0										
1955	32	34.0	1.1	**1955**	18	2.8	0.2	**1955**	4	-5.0	-1.3									
1956	28	48.6	1.7	**1956**	6	1.6	0.3	**1956**	1	-1.1	-1.1									
1957	41	42.9	1.0	**1957**	19	-5.7	-0.3	**1957**	3	-7.3	-2.4									
1958	39	27.6	0.7	**1958**	23	-8.1	-0.4	**1958**	8	-16.1	-2.0									
1959	53	64.8	1.2	**1959**	24	4.5	0.2	**1959**	5	-8.3	-1.7									
1960	29	31.7	1.1	**1960**	18	3.8	0.2	**1960**	4	-6.1	-1.5									
1961	43	44.6	1.0	**1961**	20	-8.8	-0.4	**1961**	10	-15.1	-1.5									
1962	37	60.1	1.6	**1962**	12	1.1	0.1	**1962**	1	-1.1	-1.1									
1963	32	37.8	1.2	**1963**	17	6.2	0.4	**1963**	1	-1.7	-1.7									
1964	29	35.6	1.2	**1964**	13	-0.1	-0.0	**1964**	2	-4.4	-2.2									
1965	37	51.8	1.4	**1965**	12	-7.3	-0.6	**1965**	6	-8.8	-1.5									
1966	24	29.4	1.2	**1966**	9	-2.5	-0.3	**1966**	4	-6.2	-1.6									
1967	28	46.8	1.7	**1967**	10	9.0	0.9	**1967**	0	0.0										
1968	30	37.6	1.3	**1968**	11	-1.6	-0.1	**1968**	3	-7.1	-2.4									
1969	22	40.3	1.8	**1969**	5	3.5	0.7	**1969**	0	0.0										
1970	49	57.9	1.2	**1970**	22	-0.5	-0.0	**1970**	5	-8.5	-1.7									
1971	36	31.1	0.9	**1971**	19	-8.6	-0.5	**1971**	5	-12.8	-2.6									
1972	38	50.9	1.3	**1972**	14	-1.6	-0.1	**1972**	5	-6.8	-1.4									
1973	9	17.1	1.9	**1973**	2	2.1	1.1	**1973**	0	0.0										
1974	33	41.7	1.3	**1974**	13	-1.1	-0.1	**1974**	3	-4.0	-1.3									
1975	18	34.0	1.9	**1975**	3	2.4	0.8	**1975**	0	0.0										
1976	26	39.0	1.5	**1976**	10	3.7	0.4	**1976**	0	0.0										
1977	29	41.3	1.4	**1977**	11	0.2	0.0	**1977**	0	0.0		20 years	24.5	1.3	20 years	10.7	0.1	20 years	1.3	-1.7
1978	32	24.8	0.8	**1978**	19	-2.3	-0.1	**1978**	2	-3.3	-1.7	19 years	24.3	1.3	19 years	10.6	0.2	19 years	1.4	-1.7
1979	30	39.0	1.3	**1979**	12	4.8	0.4	**1979**	0	0.0		18 years	23.8	1.3	18 years	10.2	0.2	18 years	1.3	-1.7
1980	23	39.7	1.7	**1980**	7	3.2	0.5	**1980**	0	0.0		17 years	23.5	1.3	17 years	10.1	0.2	17 years	1.4	-1.7
1981	18	29.4	1.6	**1981**	6	2.7	0.5	**1981**	1	-1.4	-1.4	16 years	23.5	1.3	16 years	10.3	0.1	16 years	1.5	-1.7
1982	32	37.7	1.2	**1982**	16	5.2	0.3	**1982**	0	0.0		15 years	23.9	1.3	15 years	10.5	0.1	15 years	1.5	-1.7
1983	19	29.2	1.5	**1983**	4	1.5	0.4	**1983**	0	0.0		14 years	23.3	1.3	14 years	10.1	0.1	14 years	1.6	-1.7
1984	10	17.2	1.7	**1984**	2	0.6	0.3	**1984**	0	0.0		13 years	23.6	1.2	13 years	10.6	0.1	13 years	1.8	-1.7
1985	25	35.8	1.4	**1985**	6	-1.3	-0.2	**1985**	1	-2.1	-2.1	12 years	24.8	1.2	12 years	11.3	0.1	12 years	1.9	-1.7
1986	24	29.0	1.2	**1986**	11	3.3	0.3	**1986**	0	0.0		11 years	24.7	1.2	11 years	11.8	0.1	11 years	2.0	-1.7
1987	24	38.3	1.6	**1987**	7	2.4	0.3	**1987**	1	-1.1	-1.1	10 years	24.8	1.2	10 years	11.9	0.1	10 years	2.2	-1.7
1988	13	19.4	1.5	**1988**	6	3.5	0.6	**1988**	0	0.0		9 years	24.9	1.1	9 years	12.4	0.0	9 years	2.3	-1.8
1989	28	41.6	1.5	**1989**	12	5.4	0.5	**1989**	1	-1.5	-1.5	8 years	26.4	1.1	8 years	13.3	-0.1	8 years	2.6	-1.8
1990	16	21.7	1.4	**1990**	6	1.1	0.2	**1990**	0	0.0		7 years	26.1	1.0	7 years	13.4	-0.1	7 years	2.9	-1.9
1991	18	20.9	1.2	**1991**	6	0.1	0.0	**1991**	0	0.0		6 years	27.8	0.9	6 years	14.7	-0.2	6 years	3.3	-1.9
1992	21	32.8	1.6	**1992**	5	0.2	0.0	**1992**	1	-1.4	-1.4	5 years	29.8	0.9	5 years	16.4	-0.3	5 years	4.0	-1.9
1993	0	0.0		**1993**	0	0.0		**1993**	0	0.0		4 years	32.0	0.6	4 years	19.3	-0.4	4 years	4.8	-2.0
1994	58	17.3	0.3	**1994**	39	-19.0	-0.5	**1994**	9	-19.4	-2.2	3 years	42.7	0.6	3 years	25.7	-0.4	3 years	6.3	-2.0
1995	37	10.2	0.3	**1995**	25	-16.9	-0.7	**1995**	9	-16.9	-1.9	2 years	35.0	0.8	2 years	19.0	-0.3	2 years	5.0	-1.9
1996	33	41.9	1.3	**1996**	13	1.3	0.1	**1996**	1	-2.0	-2.0	1 years	33.0	1.3	1 years	13.0	0.1	1 years	1.0	-2.0
1997	50	-5.0	-0.1	**1997**	39	-27.0	-0.7	**1997**	9	-25.0	-2.8	0 years	50.0	-0.1	0 years	39.0	-0.7	0 years	9.0	-2.8
1998	28	16.0	0.6	**1998**	21	2.0	0.1	**1998**	2	-4.0	-2.0	1 years	28.0	0.6	1 years	21.0	0.1	1 years	2.0	-2.0
1999	46	20.0	0.4	**1999**	31	-10.0	-0.3	**1999**	7	-16.0	-2.3	2 years	37.0	0.5	2 years	26.0	-0.1	2 years	4.5	-2.1
2000	51	4.0	0.1	**2000**	42	-14.0	-0.3	**2000**	5	-17.0	-3.4	3 years	41.7	0.4	3 years	31.3	-0.2	3 years	4.7	-2.6
2001	54	-4.0	-0.1	**2001**	43	-26.0	-0.6	**2001**	14	-31.0	-2.2	4 years	44.8	0.3	4 years	34.3	-0.3	4 years	7.0	-2.5
2002	55	-31.0	-0.6	**2002**	51	-39.0	-0.8	**2002**	13	-47.0	-3.6	5 years	46.8	0.1	5 years	37.6	-0.4	5 years	8.2	-2.7
2003	45	13.3	0.3	**2003**	33	-10.5	-0.3	**2003**	7	-18.8	-2.7	6 years	46.5	0.1	6 years	36.8	-0.4	6 years	8.0	-2.7
2004	63	24.0	0.4	**2004**	37	-24.8	-0.7	**2004**	14	-29.8	-2.1	7 years	48.9	0.2	7 years	36.9	-0.4	7 years	8.9	-2.6
2005	36	12.7	0.4	**2005**	25	-10.5	-0.4	**2005**	8	-13.6	-1.7	8 years	47.3	0.2	8 years	35.4	-0.4	8 years	8.8	-2.5
2006	65	24.2	0.4	**2006**	38	-31.3	-0.8	**2006**	14	-31.5	-2.3	9 years	49.2	0.2	9 years	35.7	-0.5	9 years	9.3	-2.5
2007	45	30.3	0.7	**2007**	24	-10.3	-0.4	**2007**	5	-14.7	-2.9	10 years	48.8	0.3	10 years	34.5	-0.5	10 years	8.9	-2.5
2008	56	28.0	0.5	**2008**	37	-8.9	-0.2	**2008**	10	-18.3	-1.8	11 years	49.5	0.3	11 years	34.7	-0.4	11 years	9.0	-2.5
2009	40	26.2	0.7	**2009**	24	-9.8	-0.4	**2009**	4	-10.6	-2.7	12 years	48.7	0.3	12 years	33.8	-0.4	12 years	8.6	-2.5
2010	53	25.0	0.5	**2010**	32	-18.5	-0.6	**2010**	11	-27.0	-2.5	13 years	49.0	0.3	13 years	33.7	-0.4	13 years	8.8	-2.5
2011	52	28.3	0.5	**2011**	30	-16.5	-0.6	**2011**	12	-27.3	-2.3	14 years	49.2	0.3	14 years	33.4	-0.5	14 years	9.0	-2.5
2012	78	43.9	0.6	**2012**	43	-31.7	-0.7	**2012**	15	-32.9	-2.2	15 years	51.1	0.4	15 years	34.1	-0.5	15 years	9.4	-2.4
2013	38	21.2	0.6	**2013**	23	-9.8	-0.4	**2013**	7	-13.1	-1.9	16 years	50.3	0.4	16 years	33.4	-0.5	16 years	9.3	-2.4
2014	33	7.0	0.2	**2014**	25	-8.1	-0.3	**2014**	6	-11.7	-2.0	17 years	49.3	0.4	17 years	32.9	-0.5	17 years	9.1	-2.4
2015	44	54.9	1.2	**2015**	16	-1.5	-0.1	**2015**	1	-1.3	-1.3	18 years	49.0	0.4	18 years	31.9	-0.4	18 years	8.6	-2.3
2016	37	36.6	1.0	**2016**	19	1.0	0.1	**2016**	2	-2.2	-1.1	19 years	48.4	0.4	19 years	31.3	-0.4	19 years	8.3	-2.3
2017	61	20.8	0.3	**2017**	37	-30.3	-0.8	**2017**	15	-31.1	-2.1	20 years	49.0	0.4	20 years	31.6	-0.4	20 years	8.6	-2.2
2018	62	23.0	0.4	**2018**	36	-30.3	-0.8	**2018**	16	-36.7	-2.3									
2019	45	42.2	0.9	**2019**	22	-5.4	-0.2	**2019**	6	-8.6	-1.4									
2020	47	32.7	0.7	**2020**	26	-9.9	-0.4	**2020**	7	-13.6	-1.9									
2021	57	38.8	0.7	**2021**	35	-6.3	-0.2	**2021**	4	-11.3	-2.8									
2022	48	39.3	0.8	**2022**	28	-1.8	-0.1	**2022**	6	-12.6	-2.1									

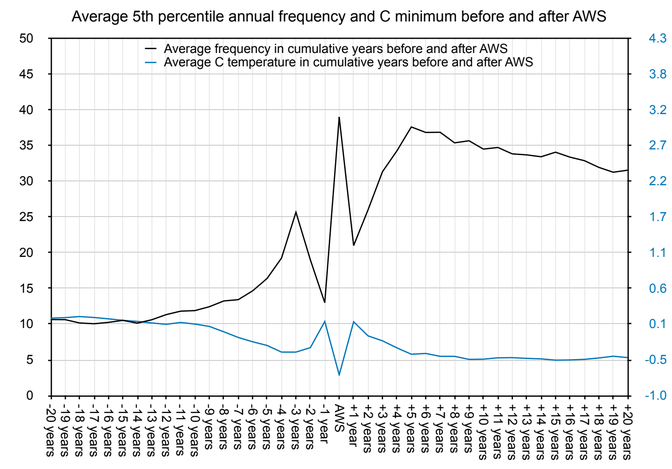
Original AWS probe Rosemount

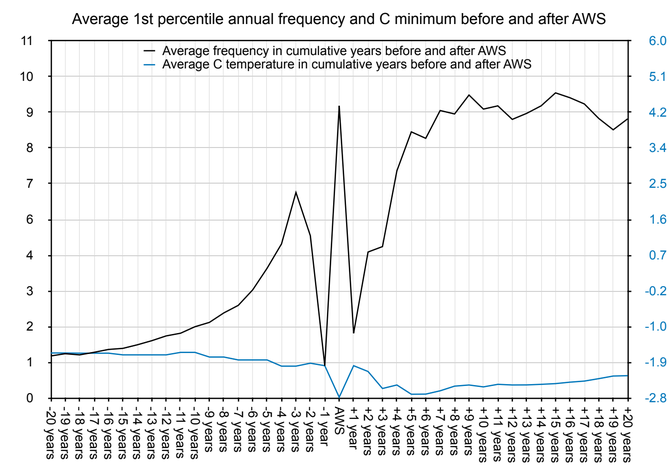
10 years				**10 years**				**10 years**			
Pre AWS	24.8	25.7	1.4	**Pre AWS**	11.9	1.5	0.2	**Pre AWS**	2.2	-0.6	-1.5
Post AWS	48.8	8.9	0.3	**Post AWS**	34.5	-16.5	-0.4	**Post AWS**	8.9	-20.8	-2.5
Pre small	19.8	15.8	0.6	**Pre small**	6.5	-8.3	-0.3	**Pre small**	0.4	-10.2	-2.2
Post small	45.7	18.1	0.4	**Post small**	33.7	-18.0	-0.5	**Post small**	7.6	-23.9	-2.5
5 years				**5 years**				**5 years**			
Pre AWS	29.8	23.4	1.4	**Pre AWS**	16.4	1.4	0.2	**Pre AWS**	4.0	-0.6	-1.5
Post AWS	46.8	16.6	0.5	**Post AWS**	37.6	-10.1	-0.3	**Post AWS**	8.2	-12.8	-2.2
Pre small	19.2	15.4	0.5	**Pre small**	7.0	-9.5	-0.2	**Pre small**	0.4	-12.8	-2.5
Post small	41.2	8.6	0.2	**Post small**	27.4	-23.2	-0.6	**Post small**	6.0	-28.1	-2.5

AWS introduction

Small screen introduction



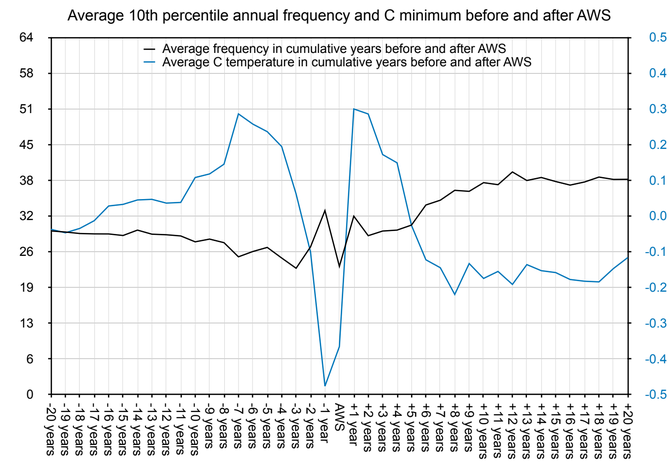


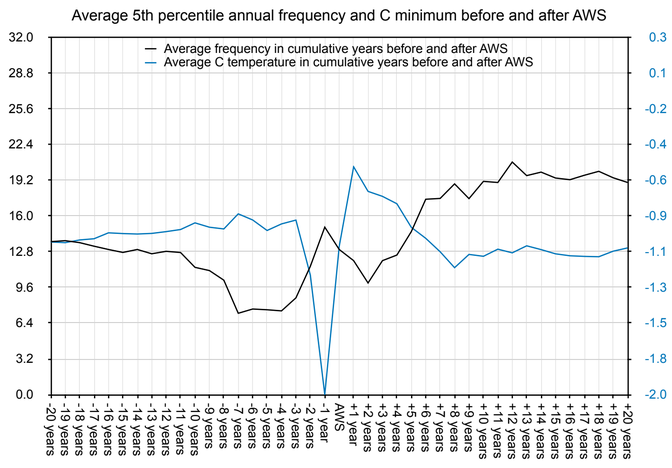


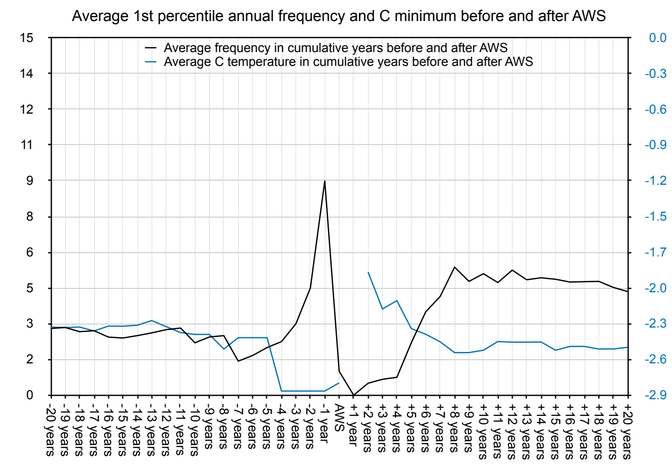
10th 1.4	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.0	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.9	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	40	15.9	0.4	**1910**	13	-6.5	-0.5	**1910**	0	0.0										
1911	40	-4.4	-0.1	**1911**	23	-17.4	-0.8	**1911**	1	-2.3	-2.3									
1912	33	-2.1	-0.1	**1912**	19	-13.6	-0.7	**1912**	2	-4.7	-2.4									
1913	40	8.3	0.2	**1913**	14	-14.7	-1.1	**1913**	4	-9.4	-2.4									
1914	43	-20.7	-0.5	**1914**	28	-31.3	-1.1	**1914**	6	-16.6	-2.8									
1915	18	8.5	0.5	**1915**	4	-3.6	-0.9	**1915**	1	-2.5	-2.5									
1916	41	-22.2	-0.5	**1916**	27	-33.2	-1.2	**1916**	6	-16.6	-2.8									
1917	25	-3.0	-0.1	**1917**	12	-11.8	-1.0	**1917**	1	-2.5	-2.5									
1918	34	7.7	0.2	**1918**	12	-7.8	-0.7	**1918**	0	0.0										
1919	53	2.0	0.0	**1919**	27	-19.0	-0.7	**1919**	2	-4.4	-2.2									
1920	22	-7.7	-0.4	**1920**	9	-15.5	-1.7	**1920**	4	-12.5	-3.1									
1921	23	6.6	0.3	**1921**	8	-6.3	-0.8	**1921**	0	0.0										
1922	36	-4.8	-0.1	**1922**	22	-18.7	-0.9	**1922**	3	-6.1	-2.0									
1923	28	6.2	0.2	**1923**	13	-9.4	-0.7	**1923**	1	-2.5	-2.5									
1924	39	-1.1	-0.0	**1924**	19	-17.7	-0.9	**1924**	3	-7.5	-2.5									
1925	65	-22.3	-0.3	**1925**	36	-45.3	-1.3	**1925**	10	-23.8	-2.4									
1926	31	3.8	0.1	**1926**	13	-10.0	-0.8	**1926**	1	-1.9	-1.9									
1927	36	-22.1	-0.6	**1927**	23	-30.9	-1.3	**1927**	6	-15.3	-2.6									
1928	31	-0.9	-0.0	**1928**	18	-12.6	-0.7	**1928**	2	-4.4	-2.2									
1929	47	-7.7	-0.2	**1929**	24	-26.1	-1.1	**1929**	4	-10.3	-2.6									
1930	22	8.7	0.4	**1930**	5	-3.9	-0.8	**1930**	0	0.0										
1931	52	-38.9	-0.7	**1931**	35	-53.1	-1.5	**1931**	10	-28.0	-2.8									
1932	28	-3.2	-0.1	**1932**	18	-10.7	-0.6	**1932**	0	0.0										
1933	36	-9.0	-0.3	**1933**	23	-21.8	-0.9	**1933**	4	-8.8	-2.2									
1934	33	-4.2	-0.1	**1934**	18	-15.3	-0.9	**1934**	1	-2.2	-2.2									
1935	33	7.3	0.2	**1935**	13	-11.1	-0.9	**1935**	1	-1.9	-1.9									
1936	30	3.2	0.1	**1936**	15	-12.6	-0.8	**1936**	1	-1.9	-1.9									
1937	58	-49.1	-0.8	**1937**	46	-60.7	-1.3	**1937**	16	-42.1	-2.6									
1938	32	-0.8	-0.0	**1938**	16	-13.7	-0.9	**1938**	2	-4.7	-2.4									
1939	36	-7.7	-0.2	**1939**	22	-19.4	-0.9	**1939**	1	-2.8	-2.8									
1940	49	-17.4	-0.4	**1940**	31	-31.6	-1.0	**1940**	5	-14.0	-2.8									
1941	25	5.2	0.2	**1941**	10	-5.8	-0.6	**1941**	1	-2.2	-2.2									
1942	35	-0.1	-0.0	**1942**	16	-17.9	-1.1	**1942**	4	-11.6	-2.9									
1943	52	-10.3	-0.2	**1943**	29	-31.2	-1.1	**1943**	5	-14.0	-2.8									
1944	39	-7.0	-0.2	**1944**	24	-18.2	-0.8	**1944**	1	-2.2	-2.2									
1945	11	4.4	0.4	**1945**	4	-2.3	-0.6	**1945**	0	0.0										
1946	22	1.6	0.1	**1946**	12	-6.9	-0.6	**1946**	1	-2.2	-2.2									
1947	40	-12.8	-0.3	**1947**	28	-22.5	-0.8	**1947**	4	-11.6	-2.9									
1948	38	-10.9	-0.3	**1948**	20	-26.2	-1.3	**1948**	5	-15.0	-3.0									
1949	33	-15.2	-0.5	**1949**	26	-21.4	-0.8	**1949**	2	-4.4	-2.2									
1950	42	-11.3	-0.3	**1950**	24	-28.1	-1.2	**1950**	5	-13.3	-2.7									
1951	56	-33.4	-0.6	**1951**	40	-46.5	-1.2	**1951**	10	-30.5	-3.1									
1952	56	-17.3	-0.3	**1952**	36	-35.3	-1.0	**1952**	4	-8.8	-2.2									
1953	43	-15.7	-0.4	**1953**	27	-29.3	-1.1	**1953**	4	-10.0	-2.5									
1954	56	-29.7	-0.5	**1954**	42	-42.6	-1.0	**1954**	5	-11.6	-2.3									
1955	33	-20.6	-0.6	**1955**	21	-31.3	-1.5	**1955**	7	-21.6	-3.1									
1956	67	-45.7	-0.7	**1956**	51	-59.3	-1.2	**1956**	11	-27.2	-2.5									
1957	33	-18.2	-0.6	**1957**	25	-24.0	-1.0	**1957**	5	-12.2	-2.4									
1958	49	-15.0	-0.3	**1958**	34	-29.0	-0.9	**1958**	2	-4.4	-2.2									
1959	33	-0.5	-0.0	**1959**	19	-11.4	-0.6	**1959**	1	-2.8	-2.8									
1960	56	-16.6	-0.3	**1960**	35	-36.7	-1.0	**1960**	10	-24.9	-2.5									
1961	42	-16.6	-0.4	**1961**	23	-34.0	-1.5	**1961**	7	-20.5	-2.9									
1962	46	-18.7	-0.4	**1962**	30	-33.1	-1.1	**1962**	8	-20.5	-2.6									
1963	13	3.8	0.3	**1963**	5	-2.0	-0.4	**1963**	0	0.0										
1964	34	-28.5	-0.8	**1964**	19	-40.5	-2.1	**1964**	8	-35.2	-4.4									
1965	24	2.7	0.1	**1965**	12	-7.9	-0.7	**1965**	1	-2.2	-2.2									
1966	49	-11.7	-0.2	**1966**	28	-27.2	-1.0	**1966**	5	-12.5	-2.5									
1967	28	-1.0	-0.0	**1967**	14	-11.6	-0.8	**1967**	1	-2.1	-2.1									
1968	65	-35.6	-0.5	**1968**	41	-52.0	-1.3	**1968**	11	-27.6	-2.5									
1969	54	-40.9	-0.8	**1969**	37	-56.6	-1.5	**1969**	17	-42.3	-2.5									
1970	34	6.7	0.2	**1970**	12	-14.5	-1.2	**1970**	2	-4.4	-2.2									
1971	44	-4.0	-0.1	**1971**	25	-19.0	-0.8	**1971**	3	-8.1	-2.7									
1972	30	-11.7	-0.4	**1972**	21	-18.3	-0.9	**1972**	2	-5.2	-2.6									
1973	24	-9.1	-0.4	**1973**	16	-16.6	-1.0	**1973**	3	-9.8	-3.3									
1974	38	-23.7	-0.6	**1974**	26	-32.7	-1.3	**1974**	7	-17.9	-2.6									
1975	47	-10.2	-0.2	**1975**	30	-27.5	-0.9	**1975**	4	-10.2	-2.6									
1976	29	-7.6	-0.3	**1976**	21	-15.5	-0.7	**1976**	2	-4.2	-2.1									
1977	37	-16.7	-0.5	**1977**	21	-29.5	-1.4	**1977**	6	-15.9	-2.7									
1978	33	4.9	0.1	**1978**	12	-11.2	-0.9	**1978**	2	-4.6	-2.3	20 years	29.4	-0.0	20 years	13.7	-1.0	20 years	2.8	-2.3
1979	34	-9.1	-0.3	**1979**	17	-22.7	-1.3	**1979**	6	-14.4	-2.4	19 years	29.2	-0.0	19 years	13.8	-1.0	19 years	2.8	-2.4
1980	30	-12.0	-0.4	**1980**	19	-21.6	-1.1	**1980**	2	-4.0	-2.0	18 years	28.9	-0.0	18 years	13.6	-1.0	18 years	2.7	-2.3
1981	29	-19.5	-0.7	**1981**	18	-28.9	-1.6	**1981**	7	-19.4	-2.8	17 years	28.8	-0.0	17 years	13.3	-1.0	17 years	2.7	-2.4
1982	33	-1.3	-0.0	**1982**	17	-15.1	-0.9	**1982**	3	-7.0	-2.3	16 years	28.8	0.0	16 years	13.0	-1.0	16 years	2.4	-2.3
1983	15	-2.1	-0.1	**1983**	9	-8.3	-0.9	**1983**	1	-2.4	-2.4	15 years	28.5	0.0	15 years	12.7	-1.0	15 years	2.4	-2.3
1984	39	0.9	0.0	**1984**	18	-18.3	-1.0	**1984**	1	-2.6	-2.6	14 years	29.5	0.0	14 years	13.0	-1.0	14 years	2.5	-2.3
1985	30	5.2	0.2	**1985**	10	-11.0	-1.1	**1985**	1	-2.0	-2.0	13 years	28.8	0.0	13 years	12.6	-1.0	13 years	2.6	-2.3
1986	31	0.5	0.0	**1986**	14	-15.4	-1.1	**1986**	2	-4.2	-2.1	12 years	28.7	0.0	12 years	12.8	-1.0	12 years	2.8	-2.3
1987	39	-25.7	-0.7	**1987**	26	-35.5	-1.4	**1987**	9	-21.0	-2.3	11 years	28.5	0.0	11 years	12.7	-0.9	11 years	2.8	-2.4
1988	23	0.4	0.0	**1988**	14	-9.0	-0.6	**1988**	0	0.0		10 years	27.4	0.1	10 years	11.4	-0.9	10 years	2.2	-2.4
1989	33	-3.3	-0.1	**1989**	18	-15.0	-0.8	**1989**	2	-4.1	-2.1	9 years	27.9	0.1	9 years	11.1	-0.9	9 years	2.4	-2.4
1990	45	-37.8	-0.8	**1990**	31	-50.0	-1.6	**1990**	10	-27.1	-2.7	8 years	27.3	0.1	8 years	10.3	-0.9	8 years	2.5	-2.5
1991	19	8.7	0.5	**1991**	5	-3.0	-0.6	**1991**	0	0.0		7 years	24.7	0.3	7 years	7.3	-0.8	7 years	1.4	-2.4
1992	22	8.0	0.4	**1992**	8	-4.3	-0.5	**1992**	0	0.0		6 years	25.7	0.3	6 years	7.7	-0.9	6 years	1.7	-2.4
1993	34	13.7	0.4	**1993**	8	-8.9	-1.1	**1993**	1	-2.0	-2.0	5 years	26.4	0.2	5 years	7.6	-0.9	5 years	2.0	-2.4
1994	30	17.8	0.6	**1994**	4	-3.9	-1.0	**1994**	0	0.0		4 years	24.5	0.2	4 years	7.5	-0.9	4 years	2.3	-2.9
1995	15	5.8	0.4	**1995**	3	-0.5	-0.2	**1995**	0	0.0		3 years	22.7	0.1	3 years	8.7	-0.9	3 years	3.0	-2.9
1996	20	5.5	0.3	**1996**	8	-3.7	-0.5	**1996**	0	0.0		2 years	26.5	-0.1	2 years	11.5	-1.2	2 years	4.5	-2.9
1997	33	-15.7	-0.5	**1997**	15	-30.0	-2.0	**1997**	9	-25.8	-2.9	1 years	33.0	-0.5	1 years	15.0	-2.0	1 years	9.0	-2.9
1998	23	-8.4	-0.4	**1998**	13	-13.6	-1.0	**1998**	1	-2.8	-2.8	0 years	23.0	-0.4	0 years	13.0	-1.0	0 years	1.0	-2.8
1999	32	9.6	0.3	**1999**	12	-6.4	-0.5	**1999**	0	0.0		1 years	32.0	0.3	1 years	12.0	-0.5	1 years	0.0	
2000	25	6.8	0.3	**2000**	8	-6.8	-0.9	**2000**	1	-1.9	-1.9	2 years	28.5	0.3	2 years	10.0	-0.7	2 years	0.5	-1.9
2001	31	-1.7	-0.1	**2001**	16	-12.6	-0.8	**2001**	1	-2.5	-2.5	3 years	29.3	0.2	3 years	12.0	-0.7	3 years	0.7	-2.2
2002	30	2.4	0.1	**2002**	14	-12.8	-0.9	**2002**	1	-2.0	-2.0	4 years	29.5	0.1	4 years	12.5	-0.8	4 years	0.8	-2.1
2003	34	-24.7	-0.7	**2003**	23	-35.2	-1.5	**2003**	8	-24.3	-3.0	5 years	30.4	-0.0	5 years	14.6	-0.9	5 years	2.2	-2.4
2004	52	-31.4	-0.6	**2004**	32	-43.1	-1.3	**2004**	10	-25.9	-2.6	6 years	34.0	-0.1	6 years	17.5	-1.0	6 years	3.5	-2.4
2005	40	-11.1	-0.3	**2005**	18	-28.8	-1.6	**2005**	8	-22.2	-2.8	7 years	34.9	-0.1	7 years	17.6	-1.1	7 years	4.1	-2.5
2006	49	-36.4	-0.7	**2006**	28	-53.2	-1.9	**2006**	14	-43.1	-3.1	8 years	36.6	-0.2	8 years	18.9	-1.2	8 years	5.4	-2.6
2007	35	19.6	0.6	**2007**	7	-2.9	-0.4	**2007**	0	0.0		9 years	36.4	-0.1	9 years	17.6	-1.1	9 years	4.8	-2.6
2008	52	-28.6	-0.6	**2008**	33	-40.2	-1.2	**2008**	8	-19.2	-2.4	10 years	38.0	-0.2	10 years	19.1	-1.1	10 years	5.1	-2.5
2009	34	1.4	0.0	**2009**	18	-10.9	-0.6	**2009**	1	-1.9	-1.9	11 years	37.6	-0.2	11 years	19.0	-1.1	11 years	4.7	-2.5
2010	65	-38.4	-0.6	**2010**	41	-55.2	-1.3	**2010**	11	-27.7	-2.5	12 years	39.9	-0.2	12 years	20.8	-1.1	12 years	5.3	-2.5
2011	20	10.6	0.5	**2011**	5	-2.5	-0.5	**2011**	0	0.0		13 years	38.4	-0.1	13 years	19.6	-1.0	13 years	4.8	-2.5
2012	46	-17.2	-0.4	**2012**	24	-33.2	-1.4	**2012**	6	-14.7	-2.5	14 years	38.9	-0.2	14 years	19.9	-1.1	14 years	4.9	-2.5
2013	28	-6.5	-0.2	**2013**	12	-17.7	-1.5	**2013**	4	-13.1	-3.3	15 years	38.2	-0.2	15 years	19.4	-1.1	15 years	4.9	-2.5
2014	28	-13.1	-0.5	**2014**	17	-22.0	-1.3	**2014**	3	-6.4	-2.1	16 years	37.6	-0.2	16 years	19.3	-1.1	16 years	4.8	-2.5
2015	47	-12.2	-0.3	**2015**	26	-30.5	-1.2	**2015**	5	-12.5	-2.5	17 years	38.1	-0.2	17 years	19.6	-1.1	17 years	4.8	-2.5
2016	54	-11.6	-0.2	**2016**	26	-29.9	-1.2	**2016**	5	-14.1	-2.8	18 years	39.0	-0.2	18 years	20.0	-1.1	18 years	4.8	-2.5
2017	31	16.2	0.5	**2017**	9	-3.9	-0.4	**2017**	0	0.0		19 years	38.6	-0.1	19 years	19.4	-1.1	19 years	4.5	-2.5
2018	39	18.4	0.5	**2018**	11	-7.2	-0.7	**2018**	1	-2.3	-2.3	20 years	38.6	-0.1	20 years	19.0	-1.1	20 years	4.4	-2.5
2019	47	-4.3	-0.1	**2019**	25	-21.7	-0.9	**2019**	3	-6.8	-2.3									
2020	36	7.9	0.2	**2020**	12	-7.2	-0.6	**2020**	0	0.0										
2021	30	10.9	0.4	**2021**	10	-7.2	-0.7	**2021**	1	-1.9	-1.9									
2022	41	8.9	0.2	**2022**	17	-11.7	-0.7	**2022**	2	-4.1	-2.1									

Original AWS probe Rosemount

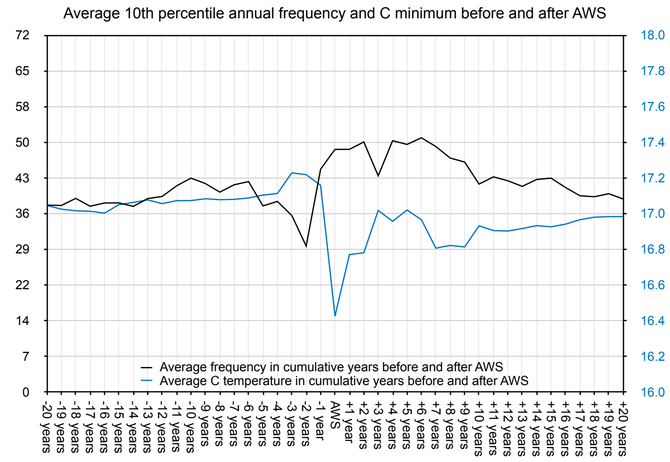
10 years	AWS and small screen both in 1998			**10 years**	AWS and small screen both in 1998			**10 years**	AWS and small screen both in 1998		
Pre AWS	27.4	0.3	0.1	**Pre AWS**	11.4	-12.8	-0.9	**Pre AWS**	2.2	-5.9	-2.4
Post AWS	38.0	-9.6	-0.2	**Post AWS**	19.1	-24.2	-1.1	**Post AWS**	5.1	-14.1	-2.5
Pre small	27.4	0.3	0.1	**Pre small**	11.4	-12.8	-0.9	**Pre small**	2.2	-5.9	-2.4
Post small	38.0	-9.6	-0.2	**Post small**	19.1	-24.2	-1.1	**Post small**	5.1	-14.1	-2.5
5 years				**5 years**				**5 years**			
Pre AWS	26.4	5.4	0.2	**Pre AWS**	7.6	-9.4	-0.9	**Pre AWS**	2.0	-5.6	-2.4
Post AWS	30.4	-1.5	-0.0	**Post AWS**	14.6	-14.8	-0.9	**Post AWS**	2.2	-6.1	-2.4
Pre small	26.4	5.4	0.2	**Pre small**	7.6	-9.4	-0.9	**Pre small**	2.0	-5.6	-2.4
Post small	30.4	-1.5	-0.0	**Post small**	14.6	-14.8	-0.9	**Post small**	2.2	-6.1	-2.4
		AWS introduction									
		Small screen introduction									

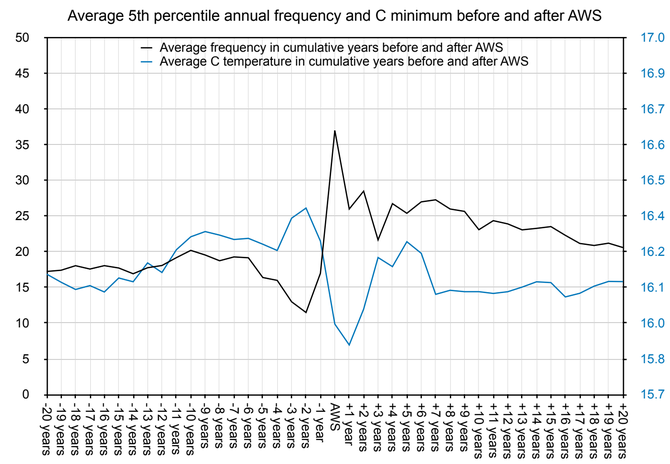


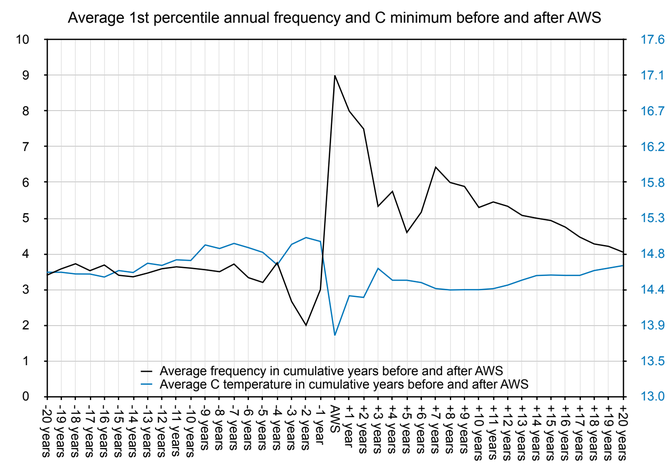




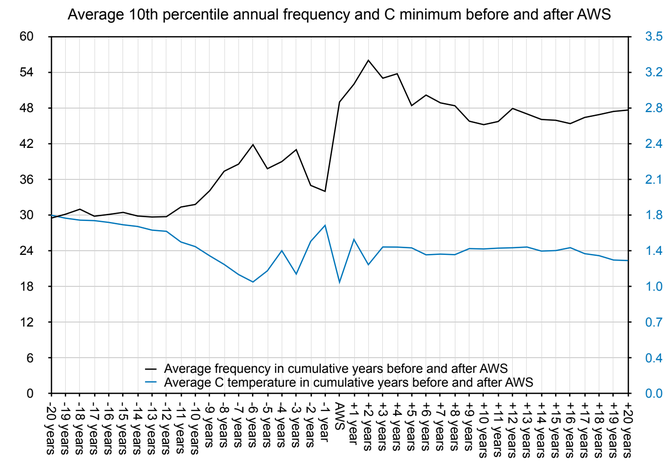
10th 18.2	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 17.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 15.5	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1968	72	1219.4	16.9	**1968**	44	719.4	16.4	**1968**	6	83.8	14.0									
1969	78	1295.2	16.6	**1969**	51	815.6	16.0	**1969**	15	223.9	14.9									
1970	36	615.6	17.1	**1970**	17	277.1	16.3	**1970**	3	43.5	14.5									
1971	27	453.9	16.8	**1971**	17	274.3	16.1	**1971**	5	74.0	14.8									
1972	60	1030.6	17.2	**1972**	26	426.1	16.4	**1972**	3	44.9	15.0									
1973	5	83.4	16.7	**1973**	2	30.6	15.3	**1973**	1	14.0	14.0									
1974	16	270.6	16.9	**1974**	10	164.5	16.5	**1974**	1	15.2	15.2									
1975	7	114.5	16.4	**1975**	5	78.4	15.7	**1975**	2	29.8	14.9									
1976	36	604.5	16.8	**1976**	21	336.3	16.0	**1976**	5	73.9	14.8									
1977	41	699.1	17.1	**1977**	20	324.7	16.2	**1977**	5	74.4	14.9									
1978	18	308.8	17.2	**1978**	7	113.4	16.2	**1978**	2	29.8	14.9									
1979	23	401.2	17.4	**1979**	7	116.2	16.6	**1979**	1	15.5	15.5									
1980	39	680.0	17.4	**1980**	14	233.8	16.7	**1980**	0	0.0		20 years	37.8	17.0	20 years	17.3	16.1	20 years	3.4	14.6
1981	12	206.3	17.2	**1981**	6	99.5	16.6	**1981**	1	15.0	15.0	19 years	37.7	17.0	19 years	17.4	16.1	19 years	3.6	14.6
1982	66	1126.1	17.1	**1982**	26	411.9	15.8	**1982**	7	102.2	14.6	18 years	39.1	17.0	18 years	18.1	16.1	18 years	3.7	14.6
1983	27	463.9	17.2	**1983**	10	164.7	16.5	**1983**	1	15.2	15.2	17 years	37.5	17.0	17 years	17.6	16.1	17 years	3.5	14.6
1984	38	619.2	16.3	**1984**	23	352.1	15.3	**1984**	8	106.3	13.3	16 years	38.2	17.0	16 years	18.1	16.1	16 years	3.7	14.5
1985	48	809.9	16.9	**1985**	29	473.2	16.3	**1985**	4	59.9	15.0	15 years	38.2	17.1	15 years	17.7	16.1	15 years	3.4	14.6
1986	17	287.0	16.9	**1986**	6	91.3	15.2	**1986**	2	26.1	13.1	14 years	37.5	17.1	14 years	16.9	16.1	14 years	3.4	14.6
1987	34	589.1	17.3	**1987**	14	232.4	16.6	**1987**	2	30.1	15.1	13 years	39.1	17.1	13 years	17.8	16.2	13 years	3.5	14.7
1988	16	270.0	16.9	**1988**	6	91.4	15.2	**1988**	3	41.7	13.9	12 years	39.5	17.1	12 years	18.1	16.1	12 years	3.6	14.7
1989	26	443.8	17.1	**1989**	9	141.8	15.8	**1989**	4	59.4	14.9	11 years	41.6	17.1	11 years	19.2	16.2	11 years	3.6	14.8
1990	53	900.1	17.0	**1990**	26	418.7	16.1	**1990**	4	51.8	13.0	10 years	43.2	17.1	10 years	20.2	16.3	10 years	3.6	14.8
1991	56	959.0	17.1	**1991**	26	426.3	16.4	**1991**	4	61.3	15.3	9 years	42.1	17.1	9 years	19.6	16.3	9 years	3.6	15.0
1992	30	512.0	17.1	**1992**	15	245.9	16.4	**1992**	2	28.9	14.5	8 years	40.4	17.1	8 years	18.8	16.3	8 years	3.5	14.9
1993	38	647.3	17.0	**1993**	20	324.8	16.2	**1993**	6	91.8	15.3	7 years	41.9	17.1	7 years	19.3	16.3	7 years	3.7	15.0
1994	67	1139.5	17.0	**1994**	33	540.4	16.4	**1994**	4	60.9	15.2	6 years	42.5	17.1	6 years	19.2	16.3	6 years	3.3	14.9
1995	34	580.4	17.1	**1995**	18	294.1	16.3	**1995**	1	15.5	15.5	5 years	37.6	17.1	5 years	16.4	16.2	5 years	3.2	14.9
1996	47	788.0	16.8	**1996**	25	396.8	15.9	**1996**	7	97.1	13.9	4 years	38.5	17.1	4 years	16.0	16.2	4 years	3.8	14.7
1997	48	828.0	17.3	**1997**	16	260.3	16.3	**1997**	4	59.3	14.8	3 years	35.7	17.2	3 years	13.0	16.3	3 years	2.7	15.0
1998	14	241.9	17.3	**1998**	6	99.0	16.5	**1998**	1	15.1	15.1	2 years	29.5	17.2	2 years	11.5	16.4	2 years	2.0	15.1
1999	45	772.2	17.2	**1999**	17	276.4	16.3	**1999**	3	45.0	15.0	1 years	45.0	17.2	1 years	17.0	16.3	1 years	3.0	15.0
2000	49	804.9	16.4	**2000**	37	590.4	16.0	**2000**	9	124.1	13.8	0 years	49.0	16.4	0 years	37.0	16.0	0 years	9.0	13.8
2001	49	821.8	16.8	**2001**	26	412.9	15.9	**2001**	8	114.4	14.3	1 years	49.0	16.8	1 years	26.0	15.9	1 years	8.0	14.3
2002	52	873.2	16.8	**2002**	31	500.4	16.1	**2002**	7	99.8	14.3	2 years	50.5	16.8	2 years	28.5	16.0	2 years	7.5	14.3
2003	30	524.8	17.5	**2003**	8	132.6	16.6	**2003**	1	15.4	15.4	3 years	43.7	17.0	3 years	21.7	16.2	3 years	5.3	14.7
2004	72	1207.8	16.8	**2004**	42	674.8	16.1	**2004**	7	98.3	14.0	4 years	50.8	17.0	4 years	26.8	16.2	4 years	5.8	14.5
2005	47	811.9	17.3	**2005**	20	332.4	16.6	**2005**	0	0.0		5 years	50.0	17.0	5 years	25.4	16.3	5 years	4.6	14.5
2006	58	968.2	16.7	**2006**	35	560.1	16.0	**2006**	8	114.8	14.4	6 years	51.3	17.0	6 years	27.0	16.2	6 years	5.2	14.5
2007	39	618.3	15.9	**2007**	29	439.9	15.2	**2007**	14	196.1	14.0	7 years	49.6	16.8	7 years	27.3	16.1	7 years	6.4	14.4
2008	31	524.8	16.9	**2008**	17	275.1	16.2	**2008**	3	42.8	14.3	8 years	47.3	16.8	8 years	26.0	16.1	8 years	6.0	14.4
2009	40	669.8	16.7	**2009**	23	368.8	16.0	**2009**	5	72.0	14.4	9 years	46.4	16.8	9 years	25.7	16.1	9 years	5.9	14.4
2010	2	36.0	18.0	**2010**	0	0.0		**2010**	0	0.0		10 years	42.0	16.9	10 years	23.1	16.1	10 years	5.3	14.4
2011	58	965.0	16.6	**2011**	37	592.4	16.0	**2011**	7	101.5	14.5	11 years	43.5	16.9	11 years	24.4	16.1	11 years	5.5	14.4
2012	34	573.8	16.9	**2012**	19	306.6	16.1	**2012**	4	59.4	14.9	12 years	42.7	16.9	12 years	23.9	16.1	12 years	5.3	14.4
2013	28	478.4	17.1	**2013**	13	211.6	16.3	**2013**	2	30.3	15.2	13 years	41.5	16.9	13 years	23.1	16.1	13 years	5.1	14.5
2014	61	1045.9	17.1	**2014**	26	424.9	16.3	**2014**	4	60.8	15.2	14 years	42.9	16.9	14 years	23.3	16.1	14 years	5.0	14.6
2015	47	791.1	16.8	**2015**	27	433.9	16.1	**2015**	4	58.6	14.7	15 years	43.2	16.9	15 years	23.5	16.1	15 years	4.9	14.6
2016	13	223.2	17.2	**2016**	4	61.3	15.3	**2016**	2	29.0	14.5	16 years	41.3	16.9	16 years	22.3	16.1	16 years	4.8	14.6
2017	13	225.7	17.4	**2017**	3	48.8	16.3	**2017**	0	0.0		17 years	39.6	17.0	17 years	21.2	16.1	17 years	4.5	14.6
2018	36	620.0	17.2	**2018**	16	264.2	16.5	**2018**	1	15.5	15.5	18 years	39.4	17.0	18 years	20.9	16.1	18 years	4.3	14.6
2019	51	869.1	17.0	**2019**	27	442.9	16.4	**2019**	3	45.4	15.1	19 years	40.1	17.0	19 years	21.2	16.1	19 years	4.2	14.7
2020	19	322.7	17.0	**2020**	9	144.9	16.1	**2020**	1	15.2	15.2	20 years	39.0	17.0	20 years	20.6	16.1	20 years	4.1	14.7
2021	5	87.6	17.5	**2021**	2	34.0	17.0	**2021**	0	0.0										
2022	13	217.0	16.7	**2022**	7	110.5	15.8	**2022**	2	29.2	14.6									
Original AWS probe Rosemount																				
6 years				**6 years**				**6 years**												
Pre	42.5	725.0	17.1	**Pre**	19.2	311.2	16.3	**Pre**	3.3	48.8	14.9									
Post	51.3	868.0	17.0	**Post**	27.0	435.5	16.2	**Post**	5.2	73.8	14.5									
		AWS introduction				AWS introduction				AWS introduction										
		Probe replacement				Probe replacement				Probe replacement										
		Small screen introduction				Small screen introduction				Small screen introduction										

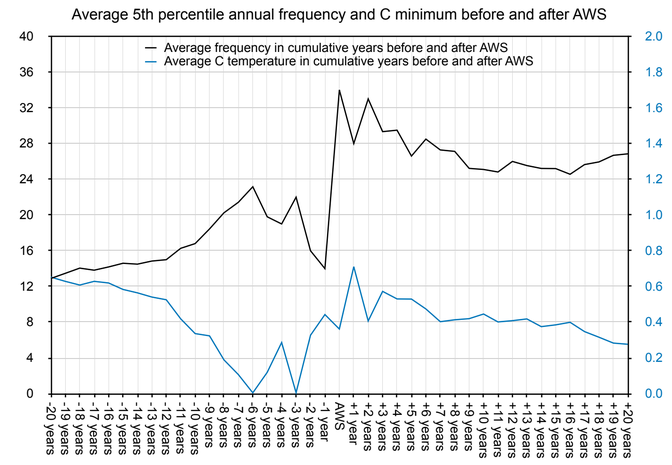


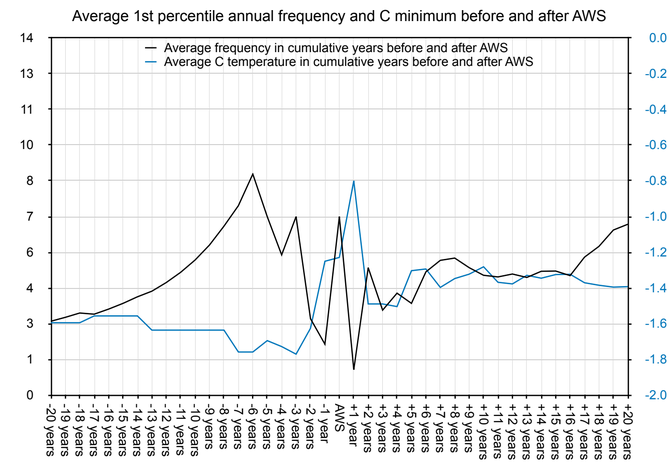




10th 3.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 1.7	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -0.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1957	45	88.5	2.0	**1957**	19	18.1	1.0	**1957**	1	-1.7	-1.7									
1958	33	37.2	1.1	**1958**	22	4.6	0.2	**1958**	6	-5.6	-0.9									
1959	29	64.4	2.2	**1959**	9	7.4	0.8	**1959**	2	-1.7	-0.9									
1960	46	95.9	2.1	**1960**	18	14.7	0.8	**1960**	1	-0.6	-0.6									
1961	28	44.3	1.6	**1961**	13	3.9	0.3	**1961**	2	-2.2	-1.1									
1962	34	61.9	1.8	**1962**	17	9.4	0.6	**1962**	3	-1.8	-0.6									
1963	19	29.3	1.5	**1963**	10	7.2	0.7	**1963**	3	-2.9	-1.0									
1964	37	75.0	2.0	**1964**	15	10.1	0.7	**1964**	3	-2.3	-0.8									
1965	36	71.1	2.0	**1965**	15	11.9	0.8	**1965**	1	-1.1	-1.1									
1966	40	60.4	1.5	**1966**	21	7.8	0.4	**1966**	6	-5.2	-0.9									
1967	38	72.1	1.9	**1967**	18	15.7	0.9	**1967**	2	-1.2	-0.6									
1968	25	38.3	1.5	**1968**	16	12.4	0.8	**1968**	3	-4.5	-1.5									
1969	51	97.6	1.9	**1969**	24	22.2	0.9	**1969**	0	0.0										
1970	56	99.0	1.8	**1970**	30	21.5	0.7	**1970**	4	-6.2	-1.6									
1971	45	67.8	1.5	**1971**	23	6.3	0.3	**1971**	8	-9.0	-1.1									
1972	44	80.1	1.8	**1972**	17	9.4	0.6	**1972**	2	-2.0	-1.0									
1973	10	22.4	2.2	**1973**	4	6.4	1.6	**1973**	0	0.0										
1974	16	25.4	1.6	**1974**	10	8.8	0.9	**1974**	0	0.0										
1975	28	55.8	2.0	**1975**	10	7.3	0.7	**1975**	1	-0.6	-0.6									
1976	35	65.7	1.9	**1976**	13	10.3	0.8	**1976**	2	-2.0	-1.0									
1977	30	43.3	1.4	**1977**	12	-0.7	-0.1	**1977**	4	-10.0	-2.5									
1978	24	36.5	1.5	**1978**	15	13.1	0.9	**1978**	0	0.0										
1979	1	3.0	3.0	**1979**	0	0.0		**1979**	0	0.0										
1980	17	39.2	2.3	**1980**	2	2.2	1.1	**1980**	0	0.0		20 years	29.5	1.7	20 years	12.9	0.7	20 years	2.9	-1.6
1981	15	31.0	2.1	**1981**	3	3.0	1.0	**1981**	0	0.0		19 years	30.2	1.7	19 years	13.5	0.6	19 years	3.1	-1.6
1982	51	90.9	1.8	**1982**	18	4.6	0.3	**1982**	4	-7.6	-1.9	18 years	31.0	1.7	18 years	14.1	0.6	18 years	3.2	-1.6
1983	25	49.4	2.0	**1983**	8	6.2	0.8	**1983**	0	0.0		17 years	29.8	1.7	17 years	13.8	0.6	17 years	3.2	-1.6
1984	25	50.7	2.0	**1984**	8	9.3	1.2	**1984**	0	0.0		16 years	30.1	1.7	16 years	14.2	0.6	16 years	3.4	-1.6
1985	39	73.6	1.9	**1985**	16	13.6	0.9	**1985**	0	0.0		15 years	30.5	1.7	15 years	14.6	0.6	15 years	3.6	-1.6
1986	32	67.4	2.1	**1986**	10	8.7	0.9	**1986**	1	-1.0	-1.0	14 years	29.9	1.6	14 years	14.5	0.6	14 years	3.9	-1.6
1987	29	50.5	1.7	**1987**	13	9.4	0.7	**1987**	0	0.0		13 years	29.7	1.6	13 years	14.8	0.5	13 years	4.1	-1.6
1988	12	32.9	2.7	**1988**	1	1.7	1.7	**1988**	0	0.0		12 years	29.8	1.6	12 years	15.0	0.5	12 years	4.4	-1.6
1989	27	52.4	1.9	**1989**	11	13.7	1.2	**1989**	0	0.0		11 years	31.4	1.5	11 years	16.3	0.4	11 years	4.8	-1.6
1990	11	24.8	2.3	**1990**	2	0.9	0.5	**1990**	0	0.0		10 years	31.8	1.4	10 years	16.8	0.3	10 years	5.3	-1.6
1991	8	16.2	2.0	**1991**	4	5.6	1.4	**1991**	0	0.0		9 years	34.1	1.4	9 years	18.4	0.3	9 years	5.9	-1.6
1992	29	56.9	2.0	**1992**	12	9.2	0.8	**1992**	1	-0.9	-0.9	8 years	37.4	1.3	8 years	20.3	0.2	8 years	6.6	-1.6
1993	19	30.5	1.6	**1993**	11	7.9	0.7	**1993**	0	0.0		7 years	38.6	1.2	7 years	21.4	0.1	7 years	7.4	-1.8
1994	62	33.9	0.5	**1994**	40	-22.8	-0.6	**1994**	17	-35.3	-2.1	6 years	41.8	1.1	6 years	23.2	0.0	6 years	8.7	-1.8
1995	33	13.8	0.4	**1995**	23	-12.6	-0.5	**1995**	13	-20.3	-1.6	5 years	37.8	1.2	5 years	19.8	0.1	5 years	7.0	-1.7
1996	33	68.9	2.1	**1996**	10	11.3	1.1	**1996**	1	-1.6	-1.6	4 years	39.0	1.4	4 years	19.0	0.3	4 years	5.5	-1.7
1997	53	28.3	0.5	**1997**	34	-21.7	-0.6	**1997**	15	-30.9	-2.1	3 years	41.0	1.2	3 years	22.0	0.0	3 years	7.0	-1.8
1998	36	48.1	1.3	**1998**	18	3.8	0.2	**1998**	4	-8.0	-2.0	2 years	35.0	1.5	2 years	16.0	0.3	2 years	3.0	-1.6
1999	34	56.1	1.7	**1999**	14	6.2	0.4	**1999**	2	-2.5	-1.3	1 years	34.0	1.7	1 years	14.0	0.4	1 years	2.0	-1.3
2000	49	53.6	1.1	**2000**	34	12.3	0.4	**2000**	7	-8.6	-1.2	0 years	49.0	1.1	0 years	34.0	0.4	0 years	7.0	-1.2
2001	52	78.6	1.5	**2001**	28	19.9	0.7	**2001**	1	-0.8	-0.8	1 years	52.0	1.5	1 years	28.0	0.7	1 years	1.0	-0.8
2002	60	61.1	1.0	**2002**	38	3.9	0.1	**2002**	9	-19.6	-2.2	2 years	56.0	1.3	2 years	33.0	0.4	2 years	5.0	-1.5
2003	47	83.9	1.8	**2003**	22	19.9	0.9	**2003**	0	0.0		3 years	53.0	1.4	3 years	29.3	0.6	3 years	3.3	-1.5
2004	56	80.3	1.4	**2004**	30	12.1	0.4	**2004**	6	-9.2	-1.5	4 years	53.8	1.4	4 years	29.5	0.5	4 years	4.0	-1.5
2005	27	37.8	1.4	**2005**	15	7.9	0.5	**2005**	2	-1.4	-0.7	5 years	48.4	1.4	5 years	26.6	0.5	5 years	3.6	-1.3
2006	59	60.2	1.0	**2006**	38	7.5	0.2	**2006**	11	-13.8	-1.3	6 years	50.2	1.4	6 years	28.5	0.5	6 years	4.8	-1.3
2007	41	57.8	1.4	**2007**	20	-0.5	-0.0	**2007**	8	-15.3	-1.9	7 years	48.9	1.4	7 years	27.3	0.4	7 years	5.3	-1.4
2008	45	59.7	1.3	**2008**	26	12.7	0.5	**2008**	6	-6.3	-1.1	8 years	48.4	1.4	8 years	27.1	0.4	8 years	5.4	-1.3
2009	25	47.4	1.9	**2009**	10	4.7	0.5	**2009**	2	-2.3	-1.2	9 years	45.8	1.4	9 years	25.2	0.4	9 years	5.0	-1.3
2010	40	55.6	1.4	**2010**	24	16.3	0.7	**2010**	2	-1.9	-1.0	10 years	45.2	1.4	10 years	25.1	0.4	10 years	4.7	-1.3
2011	51	76.7	1.5	**2011**	22	-0.9	-0.0	**2011**	4	-8.6	-2.2	11 years	45.7	1.4	11 years	24.8	0.4	11 years	4.6	-1.4
2012	72	106.1	1.5	**2012**	39	19.0	0.5	**2012**	6	-8.8	-1.5	12 years	47.9	1.4	12 years	26.0	0.4	12 years	4.8	-1.4
2013	36	54.8	1.5	**2013**	20	10.7	0.5	**2013**	3	-2.4	-0.8	13 years	47.0	1.4	13 years	25.5	0.4	13 years	4.6	-1.3
2014	34	30.0	0.9	**2014**	21	-3.9	-0.2	**2014**	8	-12.3	-1.5	14 years	46.1	1.4	14 years	25.2	0.4	14 years	4.9	-1.3
2015	44	64.9	1.5	**2015**	25	13.1	0.5	**2015**	5	-5.3	-1.1	15 years	45.9	1.4	15 years	25.2	0.4	15 years	4.9	-1.3
2016	37	68.7	1.9	**2016**	15	9.2	0.6	**2016**	2	-2.6	-1.3	16 years	45.4	1.4	16 years	24.6	0.4	16 years	4.7	-1.3
2017	63	27.2	0.4	**2017**	43	-20.8	-0.5	**2017**	17	-35.4	-2.1	17 years	46.4	1.4	17 years	25.6	0.3	17 years	5.4	-1.4
2018	55	56.1	1.0	**2018**	31	-6.8	-0.2	**2018**	13	-20.9	-1.6	18 years	46.9	1.4	18 years	25.9	0.3	18 years	5.8	-1.4
2019	57	30.9	0.5	**2019**	40	-12.3	-0.3	**2019**	18	-28.3	-1.6	19 years	47.4	1.3	19 years	26.7	0.3	19 years	6.5	-1.4
2020	52	62.8	1.2	**2020**	30	4.5	0.2	**2020**	11	-14.8	-1.3	20 years	47.7	1.3	20 years	26.9	0.3	20 years	6.7	-1.4
2021	40	66.0	1.7	**2021**	18	7.3	0.4	**2021**	3	-5.8	-1.9									
2022	33	47.2	1.4	**2022**	16	4.8	0.3	**2022**	2	-4.1	-2.1									
Original AWS probe Rosemount																				
10 years	Always had small screen			**10 years**	Always had small screen			**10 years**	Always had small screen											
Pre AWS	31.8	35.9	1.6	**Pre AWS**	16.8	-0.7	0.6	**Pre AWS**	5.3	-8.9	-1.6									
Post AWS	45.2	62.9	1.4	**Post AWS**	25.1	10.2	0.4	**Post AWS**	4.7	-7.8	-1.3									
Pre small				**Pre small**				**Pre small**												
Post small				**Post small**				**Post small**												
5 years				**5 years**				**5 years**												
Pre AWS	37.8	35.1	1.0	**Pre AWS**	19.8	-7.6	0.0	**Pre AWS**	7.0	-17.6	-1.8									
Post AWS	48.4	66.7	1.4	**Post AWS**	26.6	12.4	0.5	**Post AWS**	3.6	-6.3	-1.4									
Pre small				**Pre small**				**Pre small**												
Post small				**Post small**				**Post small**												
		AWS introduction																		
		Small screen introduction																		





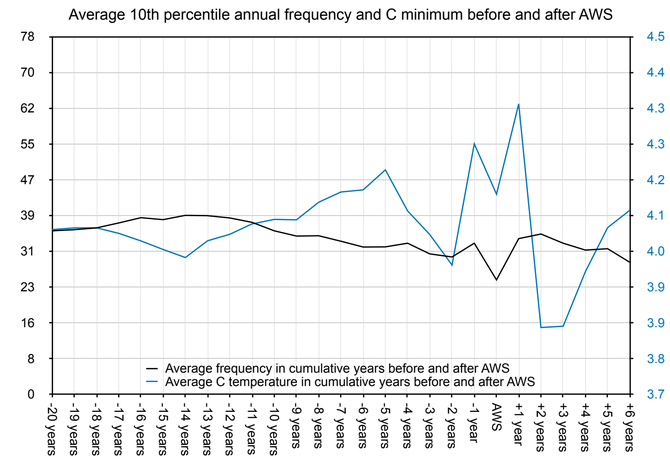


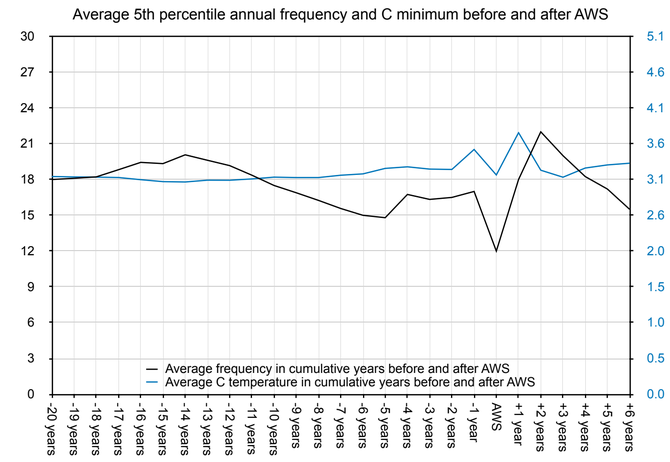
10th 5.6	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.3	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.0	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1951	27	112.5	4.2	**1951**	11	34.5	3.1	**1951**	1	1.2	1.2									
1952	32	133.3	4.2	**1952**	14	40.6	2.9	**1952**	2	0.6	0.3									
1953	44	170.1	3.9	**1953**	26	76.8	3.0	**1953**	5	5.9	1.2									
1954	44	180.2	4.1	**1954**	23	70.8	3.1	**1954**	5	8.3	1.7									
1955	29	123.8	4.3	**1955**	12	36.4	3.0	**1955**	2	2.7	1.4									
1956	48	207.0	4.3	**1956**	21	71.0	3.4	**1956**	3	3.5	1.2									
1957	48	190.6	4.0	**1957**	23	61.4	2.7	**1957**	5	3.6	0.7									
1958	24	97.0	4.0	**1958**	12	36.9	3.1	**1958**	3	3.8	1.3									
1959	19	81.2	4.3	**1959**	6	18.3	3.1	**1959**	1	1.9	1.9									
1960	40	163.0	4.1	**1960**	23	77.3	3.4	**1960**	1	1.7	1.7									
1961	36	129.8	3.6	**1961**	23	65.0	2.8	**1961**	6	8.4	1.4									
1962	35	147.4	4.2	**1962**	15	46.6	3.1	**1962**	3	4.6	1.5									
1963	20	92.6	4.6	**1963**	6	22.3	3.7	**1963**	0	0.0										
1964	33	125.7	3.8	**1964**	17	43.8	2.6	**1964**	5	5.9	1.2									
1965	44	181.6	4.1	**1965**	21	65.1	3.1	**1965**	4	4.1	1.0									
1966	47	193.6	4.1	**1966**	24	81.2	3.4	**1966**	2	3.4	1.7									
1967	26	102.6	3.9	**1967**	14	43.6	3.1	**1967**	0	0.0										
1968	36	148.9	4.1	**1968**	16	48.1	3.0	**1968**	3	3.0	1.0									
1969	43	167.2	3.9	**1969**	22	62.0	2.8	**1969**	3	2.3	0.8									
1970	65	192.0	3.0	**1970**	39	62.7	1.6	**1970**	19	-0.3	-0.0									
1971	74	246.1	3.3	**1971**	49	119.5	2.4	**1971**	16	11.0	0.7									
1972	47	176.2	3.7	**1972**	30	88.6	3.0	**1972**	5	6.8	1.4									
1973	30	124.1	4.1	**1973**	16	53.0	3.3	**1973**	2	2.1	1.1									
1974	40	160.0	4.0	**1974**	20	57.2	2.9	**1974**	5	5.9	1.2									
1975	42	153.1	3.6	**1975**	27	76.9	2.8	**1975**	8	11.1	1.4									
1976	52	229.2	4.4	**1976**	21	69.3	3.3	**1976**	1	1.9	1.9									
1977	50	167.4	3.3	**1977**	29	63.0	2.2	**1977**	13	11.4	0.9									
1978	41	153.9	3.8	**1978**	21	51.5	2.5	**1978**	7	4.2	0.6									
1979	58	232.5	4.0	**1979**	30	92.1	3.1	**1979**	5	4.5	0.9									
1980	36	130.7	3.6	**1980**	23	66.6	2.9	**1980**	4	2.0	0.5									
1981	39	140.4	3.6	**1981**	22	52.6	2.4	**1981**	8	8.8	1.1									
1982	50	193.6	3.9	**1982**	28	83.7	3.0	**1982**	5	3.0	0.6									
1983	32	121.5	3.8	**1983**	20	63.9	3.2	**1983**	1	-0.4	-0.4									
1984	38	157.0	4.1	**1984**	16	47.1	2.9	**1984**	3	2.4	0.8									
1985	39	142.9	3.7	**1985**	23	65.7	2.9	**1985**	4	3.6	0.9									
1986	54	191.8	3.6	**1986**	35	95.4	2.7	**1986**	7	1.5	0.2									
1987	42	162.2	3.9	**1987**	23	66.8	2.9	**1987**	5	8.4	1.7									
1988	25	103.5	4.1	**1988**	13	43.9	3.4	**1988**	2	3.9	2.0									
1989	25	97.7	3.9	**1989**	13	37.3	2.9	**1989**	1	1.7	1.7									
1990	11	48.1	4.4	**1990**	4	12.6	3.2	**1990**	1	1.6	1.6									
1991	31	112.4	3.6	**1991**	21	62.3	3.0	**1991**	2	1.9	1.0									
1992	32	136.1	4.3	**1992**	13	40.1	3.1	**1992**	2	2.4	1.2									
1993	20	83.1	4.2	**1993**	10	34.6	3.5	**1993**	1	1.7	1.7									
1994	47	189.6	4.0	**1994**	23	69.5	3.0	**1994**	5	5.9	1.2									
1995	40	143.9	3.6	**1995**	20	47.1	2.4	**1995**	9	10.2	1.1									
1996	31	123.9	4.0	**1996**	16	51.3	3.2	**1996**	1	1.3	1.3	20 years	35.7	4.1	20 years	18.0	3.1	20 years	3.0	1.2
1997	29	118.0	4.1	**1997**	16	50.4	3.2	**1997**	2	2.8	1.4	19 years	35.9	4.1	19 years	18.1	3.1	19 years	3.1	1.2
1998	18	77.1	4.3	**1998**	8	25.5	3.2	**1998**	3	4.6	1.5	18 years	36.3	4.1	18 years	18.2	3.1	18 years	3.1	1.2
1999	19	82.3	4.3	**1999**	9	32.3	3.6	**1999**	0	0.0		17 years	37.4	4.1	17 years	18.8	3.1	17 years	3.1	1.1
2000	45	194.9	4.3	**2000**	21	72.9	3.5	**2000**	3	4.6	1.5	16 years	38.6	4.0	16 years	19.4	3.1	16 years	3.3	1.1
2001	25	106.9	4.3	**2001**	9	27.9	3.1	**2001**	0	0.0		15 years	38.1	4.0	15 years	19.3	3.0	15 years	3.3	1.1
2002	40	140.8	3.5	**2002**	26	70.0	2.7	**2002**	7	5.3	0.8	14 years	39.1	4.0	14 years	20.1	3.0	14 years	3.6	1.1
2003	45	174.1	3.9	**2003**	25	76.5	3.1	**2003**	4	4.7	1.2	13 years	39.0	4.0	13 years	19.6	3.1	13 years	3.3	1.1
2004	49	186.4	3.8	**2004**	28	79.6	2.8	**2004**	6	6.0	1.0	12 years	38.5	4.1	12 years	19.2	3.0	12 years	3.3	1.1
2005	56	222.9	4.0	**2005**	27	76.0	2.8	**2005**	5	2.9	0.6	11 years	37.5	4.1	11 years	18.4	3.1	11 years	3.0	1.1
2006	46	188.6	4.1	**2006**	23	72.4	3.1	**2006**	3	4.1	1.4	10 years	35.7	4.1	10 years	17.5	3.1	10 years	2.8	1.2
2007	34	128.4	3.8	**2007**	22	67.9	3.1	**2007**	3	3.8	1.3	9 years	34.6	4.1	9 years	16.9	3.1	9 years	2.8	1.2
2008	43	170.7	4.0	**2008**	21	60.0	2.9	**2008**	5	7.4	1.5	8 years	34.6	4.1	8 years	16.3	3.1	8 years	2.8	1.2
2009	41	169.1	4.1	**2009**	19	57.1	3.0	**2009**	3	3.8	1.3	7 years	33.4	4.2	7 years	15.6	3.1	7 years	2.4	1.1
2010	32	125.9	3.9	**2010**	16	44.0	2.8	**2010**	4	2.8	0.7	6 years	32.2	4.2	6 years	15.0	3.1	6 years	2.3	1.1
2011	29	132.5	4.6	**2011**	7	21.9	3.1	**2011**	1	2.0	2.0	5 years	32.2	4.2	5 years	14.8	3.2	5 years	2.0	1.2
2012	40	170.8	4.3	**2012**	18	60.1	3.3	**2012**	2	2.8	1.4	4 years	33.0	4.1	4 years	16.8	3.2	4 years	2.3	1.0
2013	32	134.2	4.2	**2013**	16	51.5	3.2	**2013**	2	1.2	0.6	3 years	30.7	4.1	3 years	16.3	3.2	3 years	2.3	0.8
2014	27	100.4	3.7	**2014**	16	46.7	2.9	**2014**	4	1.6	0.4	2 years	30.0	4.0	2 years	16.5	3.2	2 years	2.5	0.9
2015	33	140.6	4.3	**2015**	17	59.3	3.5	**2015**	1	1.4	1.4	1 years	33.0	4.3	1 years	17.0	3.5	1 years	1.0	1.4
2016	25	103.7	4.1	**2016**	12	37.5	3.1	**2016**	2	3.4	1.7	0 years	25.0	4.1	0 years	12.0	3.1	0 years	2.0	1.7
2017	34	147.9	4.4	**2017**	18	67.1	3.7	**2017**	1	1.8	1.8	1 years	34.0	4.4	1 years	18.0	3.7	1 years	1.0	1.8
2018	36	120.6	3.4	**2018**	26	69.1	2.7	**2018**	9	7.5	0.8	2 years	35.0	3.9	2 years	22.0	3.2	2 years	5.0	1.3
2019	29	111.9	3.9	**2019**	16	46.3	2.9	**2019**	5	7.7	1.5	3 years	33.0	3.9	3 years	20.0	3.1	3 years	5.0	1.4
2020	27	117.2	4.3	**2020**	13	47.0	3.6	**2020**	1	2.0	2.0	4 years	31.5	4.0	4 years	18.3	3.2	4 years	4.0	1.5
2021	33	147.4	4.5	**2021**	13	44.8	3.4	**2021**	1	2.0	2.0	5 years	31.8	4.1	5 years	17.2	3.3	5 years	3.4	1.6
2022	14	60.3	4.3	**2022**	7	23.9	3.4	**2022**	0	0.0		6 years	28.8	4.1	6 years	15.5	3.3	6 years	2.8	1.6

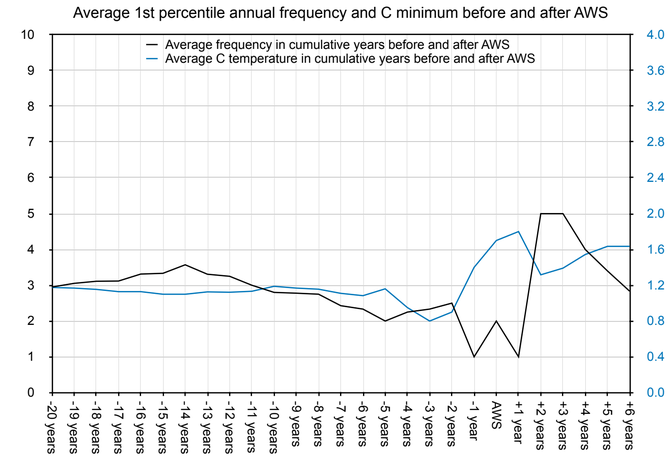
Original AWS probe Rosemount

6 years				**6 years**				**6 years**			
Pre	32.2	134.1	4.2	**Pre**	15.0	47.3	3.1	**Pre**	2.3	2.0	1.1
Post	28.8	117.6	4.1	**Post**	15.5	49.7	3.3	**Post**	2.8	3.5	1.6

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		



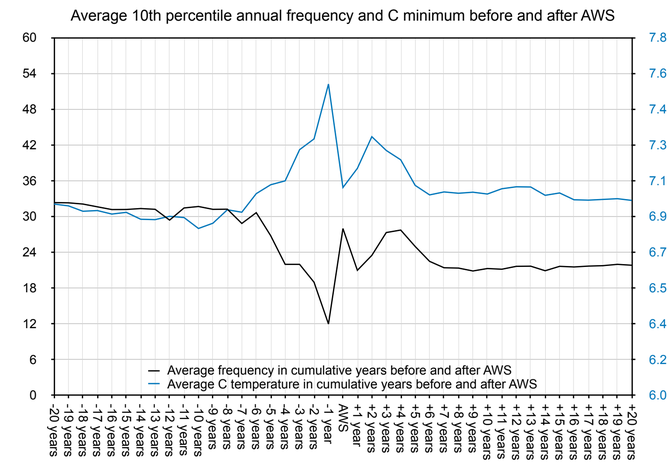


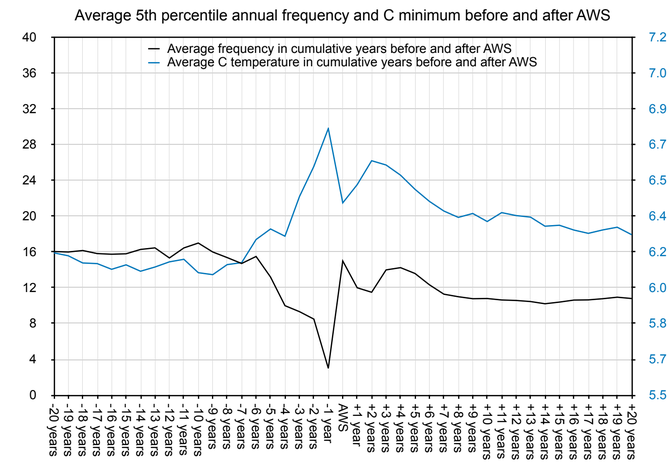


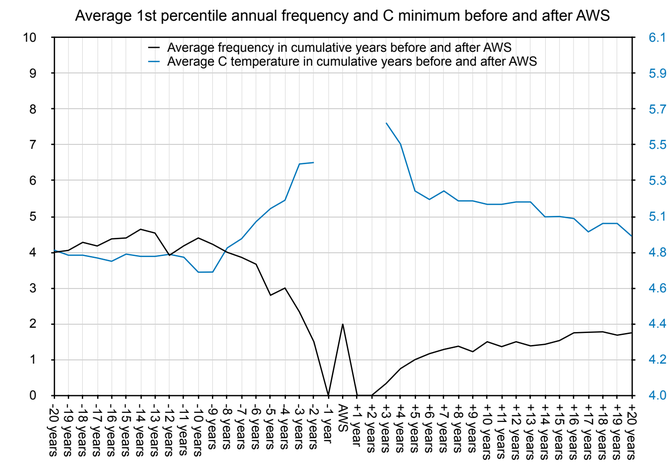
10th 8.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 7.2	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.6	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	18	127.8	7.1	**1910**	8	51.5	6.4	**1910**	1	4.2	4.2									
1911	30	202.7	6.8	**1911**	14	79.8	5.7	**1911**	6	26.6	4.4									
1912	25	170.8	6.8	**1912**	16	101.4	6.3	**1912**	4	20.0	5.0									
1913	50	343.0	6.9	**1913**	33	211.2	6.4	**1913**	7	33.9	4.8									
1914	34	238.9	7.0	**1914**	21	137.7	6.6	**1914**	3	15.0	5.0									
1915	27	182.6	6.8	**1915**	20	128.3	6.4	**1915**	5	26.2	5.2									
1916	40	280.4	7.0	**1916**	29	194.6	6.7	**1916**	4	21.8	5.5									
1917	41	287.0	7.0	**1917**	22	140.8	6.4	**1917**	3	11.9	4.0									
1918	17	113.6	6.7	**1918**	11	66.9	6.1	**1918**	4	20.6	5.2									
1919	34	236.1	6.9	**1919**	22	144.6	6.6	**1919**	1	3.9	3.9									
1920	23	159.1	6.9	**1920**	13	82.3	6.3	**1920**	2	8.1	4.1									
1921	23	153.8	6.7	**1921**	15	91.7	6.1	**1921**	5	23.4	4.7									
1922	39	267.7	6.9	**1922**	25	159.7	6.4	**1922**	5	21.3	4.3									
1923	45	322.3	7.2	**1923**	18	117.0	6.5	**1923**	2	10.1	5.1									
1924	79	543.5	6.9	**1924**	52	334.7	6.4	**1924**	8	37.2	4.7									
1925	68	445.1	6.5	**1925**	51	314.6	6.2	**1925**	13	63.6	4.9									
1926	46	320.2	7.0	**1926**	35	235.5	6.7	**1926**	2	10.6	5.3									
1927	56	405.4	7.2	**1927**	31	210.8	6.8	**1927**	2	10.6	5.3									
1928	42	292.2	7.0	**1928**	25	161.5	6.5	**1928**	5	25.4	5.1									
1929	73	488.8	6.7	**1929**	56	358.0	6.4	**1929**	9	45.0	5.0									
1930	25	173.2	6.9	**1930**	15	95.7	6.4	**1930**	2	10.1	5.1									
1931	41	293.2	7.2	**1931**	30	207.2	6.9	**1931**	1	5.6	5.6									
1932	28	201.8	7.2	**1932**	17	116.0	6.8	**1932**	1	5.0	5.0									
1933	38	275.4	7.2	**1933**	16	105.4	6.6	**1933**	1	3.8	3.8									
1934	20	146.8	7.3	**1934**	6	38.2	6.4	**1934**	1	3.8	3.8									
1935	34	235.8	6.9	**1935**	26	173.4	6.7	**1935**	3	16.2	5.4									
1936	49	356.2	7.3	**1936**	26	177.2	6.8	**1936**	3	16.2	5.4									
1937	22	161.3	7.3	**1937**	14	99.3	7.1	**1937**	0	0.0										
1938	33	225.6	6.8	**1938**	21	132.0	6.3	**1938**	6	29.8	5.0									
1939	29	200.7	6.9	**1939**	24	161.7	6.7	**1939**	3	15.0	5.0									
1940	34	248.0	7.3	**1940**	18	123.2	6.8	**1940**	2	11.2	5.6									
1941	30	210.8	7.0	**1941**	18	117.3	6.5	**1941**	5	27.4	5.5									
1942	36	261.6	7.3	**1942**	21	144.6	6.9	**1942**	0	0.0										
1943	41	280.1	6.8	**1943**	26	163.9	6.3	**1943**	8	39.5	4.9									
1944	48	339.9	7.1	**1944**	30	200.1	6.7	**1944**	2	11.2	5.6									
1945	39	267.8	6.9	**1945**	28	182.0	6.5	**1945**	4	19.5	4.9									
1946	38	259.8	6.8	**1946**	24	151.1	6.3	**1946**	5	23.8	4.8									
1947	34	239.9	7.1	**1947**	23	154.4	6.7	**1947**	1	4.4	4.4									
1948	45	306.2	6.8	**1948**	30	189.2	6.3	**1948**	6	29.5	4.9									
1949	34	246.8	7.3	**1949**	21	145.4	6.9	**1949**	2	11.2	5.6									
1950	23	153.0	6.7	**1950**	16	98.4	6.2	**1950**	4	19.5	4.9									
1951	30	199.9	6.7	**1951**	23	145.3	6.3	**1951**	4	13.3	3.3									
1952	68	461.9	6.8	**1952**	49	313.7	6.4	**1952**	10	51.8	5.2									
1953	57	399.3	7.0	**1953**	38	251.1	6.6	**1953**	5	25.6	5.1									
1954	1	7.2	7.2	**1954**	1	7.2	7.2	**1954**	0	0.0										
1955	61	439.9	7.2	**1955**	30	198.1	6.6	**1955**	3	16.2	5.4									
1956	66	443.6	6.7	**1956**	43	264.2	6.1	**1956**	13	63.6	4.9									
1957	53	352.8	6.7	**1957**	33	196.8	6.0	**1957**	13	60.6	4.7									
1958	125	767.7	6.1	**1958**	101	580.5	5.7	**1958**	52	254.4	4.9									
1959	62	408.3	6.6	**1959**	51	322.5	6.3	**1959**	13	63.6	4.9									
1960	99	649.7	6.6	**1960**	73	446.9	6.1	**1960**	23	105.8	4.6									
1961	28	193.5	6.9	**1961**	18	115.5	6.4	**1961**	5	24.5	4.9									
1962	55	353.3	6.4	**1962**	45	275.3	6.1	**1962**	12	49.2	4.1									
1963	50	357.9	7.2	**1963**	33	225.3	6.8	**1963**	1	4.4	4.4									
1964	56	371.2	6.6	**1964**	37	223.0	6.0	**1964**	12	57.4	4.8									
1965	59	404.1	6.8	**1965**	41	263.7	6.4	**1965**	9	44.8	5.0									
1966	44	234.5	5.3	**1966**	31	133.1	4.3	**1966**	19	52.0	2.7									
1967	26	185.2	7.1	**1967**	13	83.8	6.4	**1967**	3	13.9	4.6									
1968	67	455.1	6.8	**1968**	48	306.9	6.4	**1968**	7	27.3	3.9									
1969	38	256.7	6.8	**1969**	24	147.8	6.2	**1969**	8	37.1	4.6									
1970	55	363.4	6.6	**1970**	35	209.0	6.0	**1970**	15	74.8	5.0									
1971	64	405.6	6.3	**1971**	45	259.0	5.8	**1971**	14	55.0	3.9									
1972	50	326.3	6.5	**1972**	39	241.2	6.2	**1972**	9	40.6	4.5									
1973	28	207.9	7.4	**1973**	10	66.4	6.6	**1973**	1	5.5	5.5									
1974	95	665.5	7.0	**1974**	42	254.9	6.1	**1974**	10	48.4	4.8									
1975	30	215.5	7.2	**1975**	12	75.6	6.3	**1975**	3	15.5	5.2									
1976	29	208.7	7.2	**1976**	13	83.2	6.4	**1976**	2	10.5	5.3									
1977	46	318.8	6.9	**1977**	19	112.5	5.9	**1977**	5	23.0	4.6									
1978	34	226.3	6.7	**1978**	23	143.0	6.2	**1978**	5	25.9	5.2									
1979	38	265.7	7.0	**1979**	17	104.9	6.2	**1979**	5	26.2	5.2									
1980	33	235.5	7.1	**1980**	17	109.5	6.4	**1980**	3	16.1	5.4	20 years	32.4	7.0	20 years	16.1	6.2	20 years	4.0	4.9
1981	36	267.9	7.4	**1981**	13	88.1	6.8	**1981**	0	0.0		19 years	32.3	7.0	19 years	16.0	6.2	19 years	4.1	4.8
1982	40	274.7	6.9	**1982**	22	135.9	6.2	**1982**	6	30.5	5.1	18 years	32.1	6.9	18 years	16.2	6.1	18 years	4.3	4.8
1983	39	281.3	7.2	**1983**	17	111.5	6.6	**1983**	1	5.1	5.1	17 years	31.6	6.9	17 years	15.8	6.1	17 years	4.2	4.8
1984	31	210.3	6.8	**1984**	15	86.7	5.8	**1984**	4	16.8	4.2	16 years	31.2	6.9	16 years	15.8	6.1	16 years	4.4	4.8
1985	29	214.8	7.4	**1985**	9	58.9	6.5	**1985**	1	5.0	5.0	15 years	31.2	6.9	15 years	15.8	6.1	15 years	4.4	4.8
1986	33	228.1	6.9	**1986**	14	81.6	5.8	**1986**	6	28.9	4.8	14 years	31.4	6.9	14 years	16.3	6.1	14 years	4.6	4.8
1987	53	354.2	6.7	**1987**	30	174.4	5.8	**1987**	12	56.2	4.7	13 years	31.2	6.9	13 years	16.5	6.1	13 years	4.5	4.8
1988	7	48.8	7.0	**1988**	3	18.0	6.0	**1988**	1	5.0	5.0	12 years	29.4	6.9	12 years	15.3	6.1	12 years	3.9	4.8
1989	29	215.9	7.4	**1989**	11	74.6	6.8	**1989**	2	11.2	5.6	11 years	31.5	6.9	11 years	16.5	6.1	11 years	4.2	4.8
1990	36	237.7	6.6	**1990**	26	160.3	6.2	**1990**	6	28.3	4.7	10 years	31.7	6.8	10 years	17.0	6.1	10 years	4.4	4.7
1991	31	196.1	6.3	**1991**	21	119.5	5.7	**1991**	6	22.4	3.7	9 years	31.2	6.9	9 years	16.0	6.1	9 years	4.2	4.7
1992	48	337.0	7.0	**1992**	20	121.1	6.1	**1992**	5	22.7	4.5	8 years	31.3	6.9	8 years	15.4	6.1	8 years	4.0	4.9
1993	18	114.5	6.4	**1993**	10	54.7	5.5	**1993**	5	22.1	4.4	7 years	28.9	6.9	7 years	14.7	6.1	7 years	3.9	4.9
1994	50	339.6	6.8	**1994**	27	161.7	6.0	**1994**	8	37.7	4.7	6 years	30.7	7.0	6 years	15.5	6.2	6 years	3.7	5.0
1995	46	321.2	7.0	**1995**	26	167.1	6.4	**1995**	2	9.9	5.0	5 years	26.8	7.1	5 years	13.2	6.3	5 years	2.8	5.1
1996	22	145.4	6.6	**1996**	12	68.3	5.7	**1996**	5	23.6	4.7	4 years	22.0	7.1	4 years	10.0	6.3	4 years	3.0	5.1
1997	28	199.6	7.1	**1997**	11	67.7	6.2	**1997**	4	21.4	5.4	3 years	22.0	7.2	3 years	9.3	6.4	3 years	2.3	5.4
1998	26	182.4	7.0	**1998**	14	89.7	6.4	**1998**	3	16.1	5.4	2 years	19.0	7.3	2 years	8.5	6.6	2 years	1.5	5.4
1999	12	90.8	7.6	**1999**	3	20.3	6.8	**1999**	0	0.0		1 years	12.0	7.6	1 years	3.0	6.8	1 years	0.0	
2000	28	197.3	7.0	**2000**	15	96.2	6.4	**2000**	2	9.9	5.0	0 years	28.0	7.0	0 years	15.0	6.4	0 years	2.0	5.0
2001	21	150.0	7.1	**2001**	12	78.0	6.5	**2001**	0	0.0		1 years	21.0	7.1	1 years	12.0	6.5	1 years	0.0	
2002	26	194.0	7.5	**2002**	11	74.0	6.7	**2002**	0	0.0		2 years	23.5	7.3	2 years	11.5	6.6	2 years	0.0	
2003	35	248.3	7.1	**2003**	19	124.5	6.6	**2003**	1	5.6	5.6	3 years	27.3	7.2	3 years	14.0	6.6	3 years	0.3	5.6
2004	29	204.3	7.0	**2004**	15	96.0	6.4	**2004**	2	10.7	5.4	4 years	27.8	7.2	4 years	14.3	6.5	4 years	0.8	5.5
2005	14	91.6	6.5	**2005**	11	68.3	6.2	**2005**	2	9.3	4.7	5 years	25.0	7.1	5 years	13.6	6.5	5 years	1.0	5.2
2006	10	67.7	6.8	**2006**	6	36.8	6.1	**2006**	2	10.0	5.0	6 years	22.5	7.0	6 years	12.3	6.4	6 years	1.2	5.2
2007	15	106.7	7.1	**2007**	5	30.5	6.1	**2007**	2	10.8	5.4	7 years	21.4	7.0	7 years	11.3	6.4	7 years	1.3	5.2
2008	21	146.4	7.0	**2008**	9	55.2	6.1	**2008**	2	9.7	4.9	8 years	21.4	7.0	8 years	11.0	6.3	8 years	1.4	5.1
2009	17	120.1	7.1	**2009**	9	58.6	6.5	**2009**	0	0.0		9 years	20.9	7.0	9 years	10.8	6.4	9 years	1.2	5.1
2010	25	173.3	6.9	**2010**	11	65.8	6.0	**2010**	4	20.0	5.0	10 years	21.3	7.0	10 years	10.8	6.3	10 years	1.5	5.1
2011	20	146.1	7.3	**2011**	9	61.1	6.8	**2011**	0	0.0		11 years	21.2	7.0	11 years	10.6	6.4	11 years	1.4	5.1
2012	27	193.3	7.2	**2012**	10	62.0	6.2	**2012**	3	15.7	5.2	12 years	21.7	7.1	12 years	10.6	6.4	12 years	1.5	5.1
2013	22	154.8	7.0	**2013**	9	56.3	6.3	**2013**	0	0.0		13 years	21.7	7.0	13 years	10.5	6.3	13 years	1.4	5.1
2014	11	71.1	6.5	**2014**	7	40.2	5.7	**2014**	2	8.7	4.4	14 years	20.9	7.0	14 years	10.2	6.3	14 years	1.4	5.0
2015	32	229.9	7.2	**2015**	13	82.8	6.4	**2015**	3	15.2	5.1	15 years	21.7	7.0	15 years	10.4	6.3	15 years	1.5	5.1
2016	20	129.4	6.5	**2016**	14	83.2	5.9	**2016**	5	24.6	4.9	16 years	21.6	7.0	16 years	10.6	6.3	16 years	1.8	5.0
2017	24	166.9	7.0	**2017**	11	66.2	6.0	**2017**	2	8.2	4.1	17 years	21.7	7.0	17 years	10.6	6.3	17 years	1.8	5.0
2018	23	162.1	7.0	**2018**	13	85.3	6.6	**2018**	2	11.2	5.6	18 years	21.8	7.0	18 years	10.8	6.3	18 years	1.8	5.0
2019	26	183.5	7.1	**2019**	14	91.4	6.5	**2019**	0	0.0		19 years	22.0	7.0	19 years	10.9	6.3	19 years	1.7	5.0
2020	19	129.5	6.8	**2020**	8	44.7	5.6	**2020**	3	11.9	4.0	20 years	21.9	7.0	20 years	10.8	6.3	20 years	1.8	4.9
2021	18	125.9	7.0	**2021**	9	55.9	6.2	**2021**	2	9.3	4.7									
2022	18	132.6	7.4	**2022**	5	32.2	6.4	**2022**	0	0.0										

Original AWS probe Rosemount

10 years	AWS and small screen both in 2000			**10 years**	AWS and small screen both in 2000			**10 years**	AWS and small screen both in 2000		
Pre AWS	31.7	216.4	6.8	**Pre AWS**	17.0	103.0	6.1	**Pre AWS**	4.4	20.4	4.7
Post AWS	21.3	150.2	7.0	**Post AWS**	10.8	68.8	6.3	**Post AWS**	1.5	7.6	5.1
Pre small	31.7	216.4	6.8	**Pre small**	17.0	103.0	6.1	**Pre small**	4.4	20.4	4.7
Post small	21.3	150.2	7.0	**Post small**	10.8	68.8	6.3	**Post small**	1.5	7.6	5.1
5 years				**5 years**				**5 years**			
Pre AWS	26.8	187.9	7.1	**Pre AWS**	13.2	82.6	6.3	**Pre AWS**	2.8	14.2	5.1
Post AWS	25.0	177.6	7.1	**Post AWS**	13.6	88.2	6.5	**Post AWS**	1.0	5.1	5.2
Pre small	26.8	187.9	7.1	**Pre small**	13.2	82.6	6.3	**Pre small**	2.8	14.2	5.1
Post small	25.0	177.6	7.1	**Post small**	13.6	88.2	6.5	**Post small**	1.0	5.1	5.2
		AWS introduction									
		Small screen introduction									





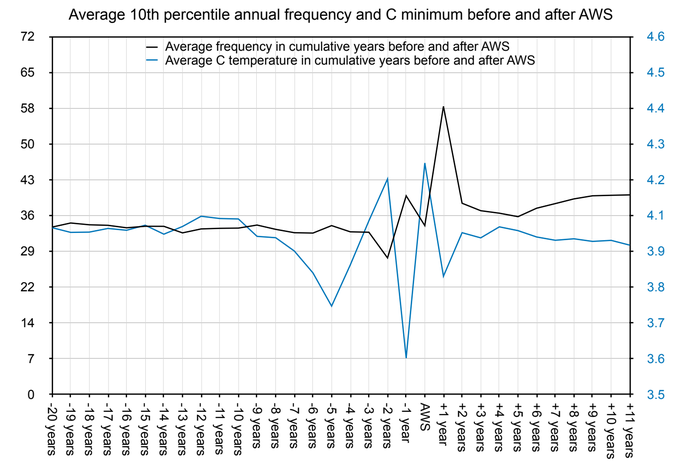


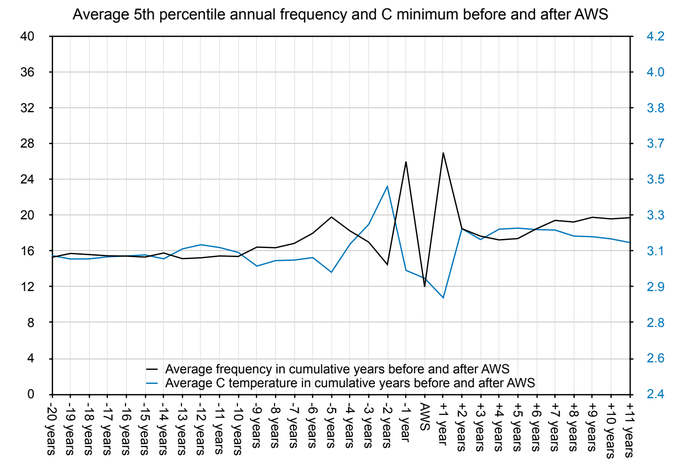
10th 5.3	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 4.1	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 2.3	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1950	46	173.0	3.8	**1950**	25	74.1	3.0	**1950**	4	7.6	1.9									
1951	42	148.1	3.5	**1951**	28	79.3	2.8	**1951**	9	15.8	1.8									
1952	49	175.9	3.6	**1952**	34	102.9	3.0	**1952**	6	7.9	1.3									
1953	48	164.0	3.4	**1953**	32	90.2	2.8	**1953**	9	13.3	1.5									
1954	50	197.1	3.9	**1954**	25	76.9	3.1	**1954**	7	12.8	1.8									
1955	31	132.5	4.3	**1955**	10	34.0	3.4	**1955**	1	2.2	2.2									
1956	46	180.5	3.9	**1956**	23	70.2	3.1	**1956**	4	7.3	1.8									
1957	41	155.3	3.8	**1957**	25	79.4	3.2	**1957**	5	10.0	2.0									
1958	33	109.6	3.3	**1958**	19	41.3	2.2	**1958**	9	8.9	1.0									
1959	37	142.6	3.9	**1959**	17	47.6	2.8	**1959**	7	10.8	1.5									
1960	58	215.9	3.7	**1960**	34	100.8	3.0	**1960**	8	12.5	1.6									
1961	40	144.9	3.6	**1961**	23	67.1	2.9	**1961**	6	10.7	1.8									
1962	31	128.5	4.1	**1962**	13	41.2	3.2	**1962**	2	3.0	1.5									
1963	34	132.1	3.9	**1963**	18	54.8	3.0	**1963**	5	10.0	2.0									
1964	36	139.8	3.9	**1964**	20	63.0	3.2	**1964**	1	2.2	2.2									
1965	38	124.7	3.3	**1965**	25	62.8	2.5	**1965**	13	23.6	1.8									
1966	51	181.7	3.6	**1966**	30	82.8	2.8	**1966**	9	8.8	1.0									
1967	53	188.4	3.6	**1967**	32	88.0	2.8	**1967**	10	14.3	1.4									
1968	43	162.9	3.8	**1968**	21	59.3	2.8	**1968**	8	13.8	1.7									
1969	41	172.3	4.2	**1969**	16	54.1	3.4	**1969**	2	3.4	1.7									
1970	45	165.0	3.7	**1970**	30	93.2	3.1	**1970**	4	7.8	2.0									
1971	37	151.1	4.1	**1971**	18	60.0	3.3	**1971**	0	0.0										
1972	33	131.7	4.0	**1972**	17	56.0	3.3	**1972**	3	5.6	1.9									
1973	14	57.9	4.1	**1973**	6	18.3	3.1	**1973**	1	1.8	1.8									
1974	28	126.4	4.5	**1974**	6	22.9	3.8	**1974**	0	0.0										
1975	38	148.9	3.9	**1975**	17	47.8	2.8	**1975**	5	8.3	1.7									
1976	55	215.0	3.9	**1976**	27	76.7	2.8	**1976**	7	6.0	0.9									
1977	38	143.9	3.8	**1977**	21	61.8	2.9	**1977**	6	10.9	1.8									
1978	35	139.0	4.0	**1978**	17	53.5	3.1	**1978**	3	5.7	1.9									
1979	33	149.9	4.5	**1979**	7	25.8	3.7	**1979**	0	0.0										
1980	30	124.5	4.2	**1980**	13	43.6	3.4	**1980**	1	2.1	2.1									
1981	31	129.4	4.2	**1981**	15	51.0	3.4	**1981**	0	0.0										
1982	46	172.2	3.7	**1982**	27	81.1	3.0	**1982**	5	7.6	1.5									
1983	39	142.5	3.7	**1983**	19	49.7	2.6	**1983**	6	8.3	1.4									
1984	30	116.1	3.9	**1984**	16	48.7	3.0	**1984**	0	0.0										
1985	30	123.4	4.1	**1985**	16	57.2	3.6	**1985**	0	0.0										
1986	28	112.5	4.0	**1986**	15	49.6	3.3	**1986**	2	4.1	2.1									
1987	39	156.0	4.0	**1987**	19	61.0	3.2	**1987**	0	0.0										
1988	28	118.2	4.2	**1988**	11	37.1	3.4	**1988**	0	0.0										
1989	42	151.6	3.6	**1989**	29	89.7	3.1	**1989**	4	6.8	1.7									
1990	30	126.4	4.2	**1990**	14	50.5	3.6	**1990**	0	0.0										
1991	18	77.2	4.3	**1991**	7	24.0	3.4	**1991**	0	0.0		20 years	33.7	4.0	20 years	15.3	3.1	20 years	3.0	1.6
1992	41	163.3	4.0	**1992**	18	55.2	3.1	**1992**	2	3.4	1.7	19 years	34.5	4.0	19 years	15.7	3.1	19 years	3.2	1.6
1993	36	137.1	3.8	**1993**	18	52.3	2.9	**1993**	3	5.3	1.8	18 years	34.2	4.0	18 years	15.6	3.1	18 years	3.2	1.6
1994	42	172.2	4.1	**1994**	16	48.4	3.0	**1994**	3	4.9	1.6	17 years	34.1	4.0	17 years	15.5	3.1	17 years	3.2	1.6
1995	29	109.4	3.8	**1995**	17	51.2	3.0	**1995**	3	2.9	1.0	16 years	33.6	4.0	16 years	15.4	3.1	16 years	3.3	1.5
1996	34	149.8	4.4	**1996**	9	30.4	3.4	**1996**	1	1.7	1.7	15 years	33.9	4.0	15 years	15.3	3.1	15 years	3.3	1.6
1997	51	188.0	3.7	**1997**	24	58.4	2.4	**1997**	11	15.0	1.4	14 years	33.9	4.0	14 years	15.8	3.1	14 years	3.4	1.6
1998	23	83.7	3.6	**1998**	14	40.3	2.9	**1998**	3	6.4	2.1	13 years	32.5	4.0	13 years	15.2	3.1	13 years	2.8	1.6
1999	32	132.0	4.1	**1999**	13	43.0	3.3	**1999**	1	2.0	2.0	12 years	33.3	4.0	12 years	15.3	3.2	12 years	2.8	1.5
2000	33	133.8	4.1	**2000**	16	54.1	3.4	**2000**	0	0.0		11 years	33.5	4.0	11 years	15.5	3.1	11 years	3.0	1.5
2001	28	126.6	4.5	**2001**	6	22.4	3.7	**2001**	0	0.0		10 years	33.5	4.0	10 years	15.4	3.1	10 years	3.3	1.5
2002	41	164.8	4.0	**2002**	17	48.0	2.8	**2002**	4	5.5	1.4	9 years	34.1	4.0	9 years	16.4	3.0	9 years	3.7	1.5
2003	38	162.2	4.3	**2003**	13	39.7	3.1	**2003**	1	1.8	1.8	8 years	33.3	4.0	8 years	16.4	3.1	8 years	3.6	1.5
2004	33	143.4	4.3	**2004**	10	30.0	3.0	**2004**	1	1.4	1.4	7 years	32.6	3.9	7 years	16.9	3.1	7 years	4.0	1.5
2005	25	109.6	4.4	**2005**	9	31.1	3.5	**2005**	1	2.0	2.0	6 years	32.5	3.9	6 years	18.0	3.1	6 years	4.5	1.5
2006	39	127.4	3.3	**2006**	26	63.6	2.4	**2006**	11	14.8	1.3	5 years	34.0	3.8	5 years	19.8	3.0	5 years	5.2	1.3
2007	33	115.2	3.5	**2007**	22	62.9	2.9	**2007**	5	5.9	1.2	4 years	32.8	3.9	4 years	18.3	3.2	4 years	3.8	1.3
2008	43	162.4	3.8	**2008**	22	63.2	2.9	**2008**	5	6.3	1.3	3 years	32.7	4.0	3 years	17.0	3.3	3 years	3.3	1.4
2009	15	70.7	4.7	**2009**	3	11.6	3.9	**2009**	0	0.0		2 years	27.5	4.2	2 years	14.5	3.4	2 years	2.5	1.6
2010	40	144.5	3.6	**2010**	26	78.6	3.0	**2010**	5	7.9	1.6	1 years	40.0	3.6	1 years	26.0	3.0	1 years	5.0	1.6
2011	34	143.2	4.2	**2011**	12	35.8	3.0	**2011**	2	3.7	1.9	0 years	34.0	4.2	0 years	12.0	3.0	0 years	2.0	1.9
2012	58	224.1	3.9	**2012**	27	77.9	2.9	**2012**	7	12.6	1.8	1 years	58.0	3.9	1 years	27.0	2.9	1 years	7.0	1.8
2013	19	78.5	4.1	**2013**	10	35.8	3.6	**2013**	0	0.0		2 years	38.5	4.0	2 years	18.5	3.2	2 years	3.5	1.8
2014	34	134.3	4.0	**2014**	16	49.1	3.1	**2014**	4	7.1	1.8	3 years	37.0	4.0	3 years	17.7	3.2	3 years	3.7	1.8
2015	35	144.1	4.1	**2015**	16	54.2	3.4	**2015**	1	1.0	1.0	4 years	36.5	4.0	4 years	17.3	3.2	4 years	3.0	1.5
2016	33	130.6	4.0	**2016**	18	58.6	3.3	**2016**	3	5.6	1.9	5 years	35.8	4.0	5 years	17.4	3.2	5 years	3.0	1.6
2017	46	178.8	3.9	**2017**	24	76.6	3.2	**2017**	4	8.1	2.0	6 years	37.5	4.0	6 years	18.5	3.2	6 years	3.2	1.7
2018	44	172.2	3.9	**2018**	25	80.3	3.2	**2018**	3	6.0	2.0	7 years	38.4	4.0	7 years	19.4	3.2	7 years	3.1	1.7
2019	46	184.5	4.0	**2019**	18	53.7	3.0	**2019**	4	7.0	1.8	8 years	39.4	4.0	8 years	19.3	3.2	8 years	3.3	1.7
2020	45	175.8	3.9	**2020**	24	76.0	3.2	**2020**	3	5.9	2.0	9 years	40.0	4.0	9 years	19.8	3.2	9 years	3.2	1.8
2021	41	164.1	4.0	**2021**	18	55.5	3.1	**2021**	5	9.8	2.0	10 years	40.1	4.0	10 years	19.6	3.2	10 years	3.4	1.8
2022	41	156.3	3.8	**2022**	21	62.6	3.0	**2022**	5	9.2	1.8	11 years	40.2	4.0	11 years	19.7	3.2	11 years	3.5	1.8

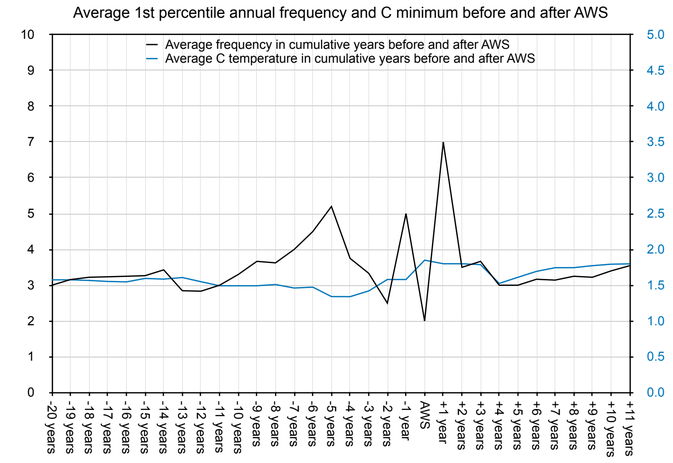
Original AWS probe Rosemount

6 years				6 years				6 years			
Pre	32.5	121.6	3.9	**Pre**	18.0	51.8	3.1	**Pre**	4.5	6.2	1.5
Post	37.5	148.4	4.0	**Post**	18.5	58.7	3.2	**Post**	3.2	5.7	1.7

		AWS introduction			AWS introduction			AWS introduction		
		Probe replacement			Probe replacement			Probe replacement		
		Small screen introduction			Small screen introduction			Small screen introduction		







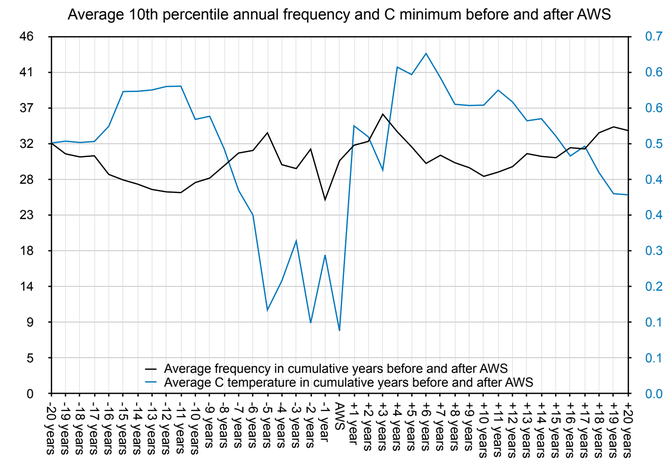
10th 2.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 0.4	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st -1.7	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1965	51	-27.9	-0.5	1965	35	-46.7	-1.3	1965	12	-32.4	-2.7									
1966	52	-5.9	-0.1	1966	28	-34.7	-1.2	1966	13	-28.5	-2.2									
1967	32	2.6	0.1	1967	16	-11.8	-0.7	1967	4	-7.8	-2.0									
1968	51	18.5	0.4	1968	26	-15.9	-0.6	1968	4	-7.9	-2.0									
1969	56	11.4	0.2	1969	26	-23.7	-0.9	1969	5	-10.8	-2.2									
1970	46	3.0	0.1	1970	21	-25.2	-1.2	1970	7	-16.0	-2.3									
1971	67	-9.6	-0.1	1971	39	-45.8	-1.2	1971	13	-38.5	-3.0									
1972	51	23.0	0.5	1972	22	-15.3	-0.7	1972	4	-7.9	-2.0									
1973	32	25.2	0.8	1973	9	-5.3	-0.6	1973	1	-2.2	-2.2									
1974	38	-14.0	-0.4	1974	26	-29.9	-1.2	1974	7	-23.2	-3.3									
1975	39	23.4	0.6	1975	14	-8.2	-0.6	1975	1	-2.0	-2.0									
1976	64	1.9	0.0	1976	31	-39.1	-1.3	1976	10	-21.5	-2.2									
1977	61	2.3	0.0	1977	33	-32.1	-1.0	1977	8	-21.1	-2.6									
1978	32	17.7	0.6	1978	11	-8.9	-0.8	1978	1	-2.0	-2.0									
1979	59	25.0	0.4	1979	20	-18.6	-0.9	1979	2	-5.5	-2.8	20 years	32.3	0.5	20 years	14.9	-0.6	20 years	2.7	-2.6
1980	38	20.5	0.5	1980	17	-7.7	-0.5	1980	1	-2.5	-2.5	19 years	30.9	0.5	19 years	14.6	-0.6	19 years	2.7	-2.6
1981	28	12.9	0.5	1981	13	-8.5	-0.7	1981	0	0.0		18 years	30.5	0.5	18 years	14.4	-0.6	18 years	2.8	-2.6
1982	69	1.2	0.0	1982	35	-46.8	-1.3	1982	14	-34.6	-2.5	17 years	30.6	0.5	17 years	14.5	-0.6	17 years	2.9	-2.6
1983	39	-19.4	-0.5	1983	27	-36.3	-1.3	1983	7	-19.5	-2.8	16 years	28.3	0.5	16 years	13.3	-0.5	16 years	2.3	-2.6
1984	35	20.5	0.6	1984	13	-11.8	-0.9	1984	3	-9.1	-3.0	15 years	27.5	0.6	15 years	12.3	-0.5	15 years	1.9	-2.6
1985	36	20.1	0.6	1985	16	-9.5	-0.6	1985	2	-5.3	-2.7	14 years	27.0	0.6	14 years	12.3	-0.5	14 years	1.9	-2.5
1986	30	15.4	0.5	1986	9	-10.8	-1.2	1986	4	-9.4	-2.4	13 years	26.3	0.6	13 years	12.0	-0.5	13 years	1.8	-2.5
1987	27	16.1	0.6	1987	13	-2.6	-0.2	1987	0	0.0		12 years	26.0	0.6	12 years	12.3	-0.4	12 years	1.7	-2.6
1988	13	16.3	1.3	1988	3	-0.2	-0.1	1988	0	0.0		11 years	25.9	0.6	11 years	12.2	-0.4	11 years	1.8	-2.6
1989	22	10.6	0.5	1989	11	-5.4	-0.5	1989	1	-2.8	-2.8	10 years	27.2	0.5	10 years	13.1	-0.4	10 years	2.0	-2.6
1990	15	15.8	1.1	1990	5	0.2	0.0	1990	0	0.0		9 years	27.8	0.5	9 years	13.3	-0.4	9 years	2.1	-2.5
1991	18	18.9	1.1	1991	6	0.4	0.1	1991	0	0.0		8 years	29.4	0.5	8 years	14.4	-0.5	8 years	2.4	-2.5
1992	29	20.0	0.7	1992	13	-0.8	-0.1	1992	0	0.0		7 years	31.0	0.4	7 years	15.6	-0.6	7 years	2.7	-2.5
1993	20	25.6	1.3	1993	3	0.6	0.2	1993	0	0.0		6 years	31.3	0.4	6 years	16.0	-0.7	6 years	3.2	-2.5
1994	50	-3.2	-0.1	1994	31	-28.2	-0.9	1994	7	-16.6	-2.4	5 years	33.6	0.2	5 years	18.6	-0.8	5 years	3.8	-2.5
1995	31	-0.4	-0.0	1995	19	-16.1	-0.8	1995	3	-7.6	-2.5	4 years	29.5	0.2	4 years	15.5	-0.8	4 years	3.0	-2.6
1996	24	14.9	0.6	1996	10	-2.3	-0.2	1996	0	0.0		3 years	29.0	0.3	3 years	14.3	-0.8	3 years	3.0	-2.6
1997	38	0.2	0.0	1997	21	-21.7	-1.0	1997	5	-12.0	-2.4	2 years	31.5	0.1	2 years	16.5	-1.1	2 years	4.5	-2.6
1998	25	6.8	0.3	1998	12	-13.6	-1.1	1998	4	-10.9	-2.7	1 years	25.0	0.3	1 years	12.0	-1.1	1 years	4.0	-2.7
1999	30	3.7	0.1	1999	19	-10.3	-0.5	1999	4	-9.7	-2.4	0 years	30.0	0.1	0 years	19.0	-0.5	0 years	4.0	-2.4
2000	32	16.8	0.5	2000	14	-8.8	-0.6	2000	2	-4.6	-2.3	1 years	32.0	0.5	1 years	14.0	-0.6	1 years	2.0	-2.3
2001	33	15.9	0.5	2001	18	-6.2	-0.3	2001	1	-1.8	-1.8	2 years	32.5	0.5	2 years	16.0	-0.5	2 years	1.5	-2.1
2002	43	13.3	0.3	2002	20	-19.7	-1.0	2002	5	-15.2	-3.0	3 years	36.0	0.4	3 years	17.3	-0.7	3 years	2.7	-2.4
2003	27	33.6	1.2	2003	5	0.5	0.1	2003	0	0.0		4 years	33.8	0.6	4 years	14.3	-0.5	4 years	2.0	-2.4
2004	24	13.6	0.6	2004	11	-6.2	-0.6	2004	0	0.0		5 years	31.8	0.6	5 years	13.6	-0.5	5 years	1.6	-2.4
2005	19	16.6	0.9	2005	5	0.4	0.1	2005	0	0.0		6 years	29.7	0.7	6 years	12.2	-0.4	6 years	1.3	-2.4
2006	37	12.3	0.3	2006	19	-12.9	-0.7	2006	3	-6.9	-2.3	7 years	30.7	0.6	7 years	13.1	-0.4	7 years	1.6	-2.4
2007	23	4.7	0.2	2007	13	-11.0	-0.8	2007	2	-5.2	-2.6	8 years	29.8	0.6	8 years	13.1	-0.5	8 years	1.6	-2.4
2008	24	13.1	0.5	2008	10	-4.8	-0.5	2008	0	0.0		9 years	29.1	0.6	9 years	12.8	-0.5	9 years	1.4	-2.4
2009	18	10.3	0.6	2009	8	-3.8	-0.5	2009	1	-2.2	-2.2	10 years	28.0	0.6	10 years	12.3	-0.5	10 years	1.4	-2.4
2010	34	30.2	0.9	2010	10	-1.6	-0.2	2010	0	0.0		11 years	28.5	0.6	11 years	12.1	-0.5	11 years	1.3	-2.4
2011	37	11.7	0.3	2011	19	-14.5	-0.8	2011	1	-1.7	-1.7	12 years	29.3	0.6	12 years	12.7	-0.5	12 years	1.3	-2.3
2012	51	4.8	0.1	2012	23	-30.3	-1.3	2012	9	-24.0	-2.7	13 years	30.9	0.5	13 years	13.5	-0.5	13 years	1.8	-2.3
2013	26	15.4	0.6	2013	9	-9.7	-1.1	2013	3	-6.9	-2.3	14 years	30.6	0.5	14 years	13.1	-0.6	14 years	1.9	-2.3
2014	28	0.8	0.0	2014	18	-15.4	-0.9	2014	5	-10.0	-2.0	15 years	30.4	0.5	15 years	13.5	-0.6	15 years	2.1	-2.3
2015	51	-6.1	-0.1	2015	30	-34.9	-1.2	2015	8	-21.4	-2.7	16 years	31.7	0.5	16 years	14.5	-0.6	16 years	2.5	-2.3
2016	29	22.9	0.8	2016	9	-2.0	-0.2	2016	0	0.0		17 years	31.5	0.5	17 years	14.2	-0.6	17 years	2.4	-2.3
2017	69	-31.0	-0.4	2017	47	-61.0	-1.3	2017	15	-46.4	-3.1	18 years	33.6	0.4	18 years	16.0	-0.6	18 years	3.1	-2.4
2018	48	-16.6	-0.3	2018	32	-40.7	-1.3	2018	10	-30.5	-3.1	19 years	34.4	0.4	19 years	16.8	-0.7	19 years	3.4	-2.4
2019	25	8.7	0.3	2019	13	-9.5	-0.7	2019	3	-5.9	-2.0	20 years	33.9	0.4	20 years	16.7	-0.7	20 years	3.4	-2.4
2020	37	18.2	0.5	2020	17	-8.5	-0.5	2020	1	-2.8	-2.8									
2021	60	23.3	0.4	2021	29	-18.3	-0.6	2021	6	-13.8	-2.3									
2022	29	6.6	0.2	2022	11	-14.4	-1.3	2022	3	-8.2	-2.7									

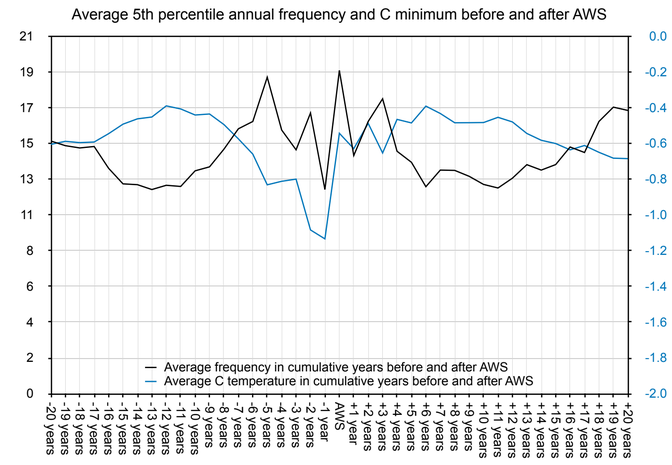
Original AWS probe Rosemount

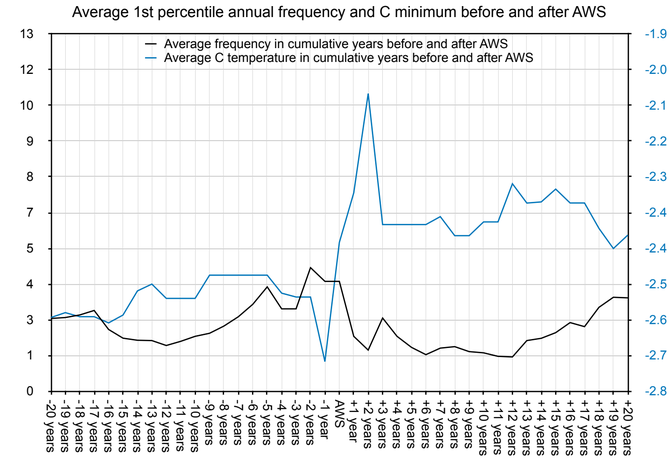
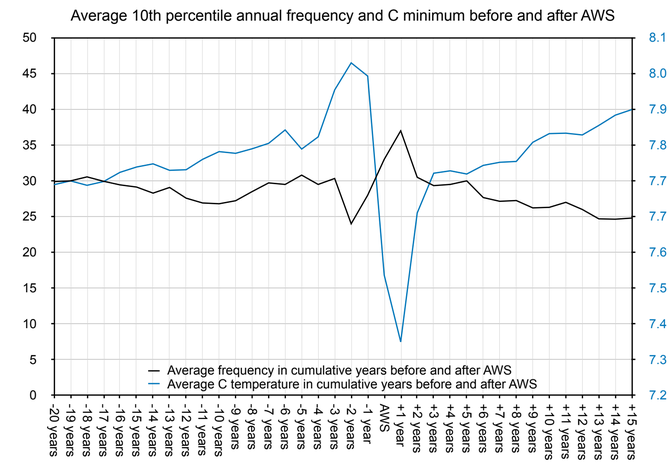
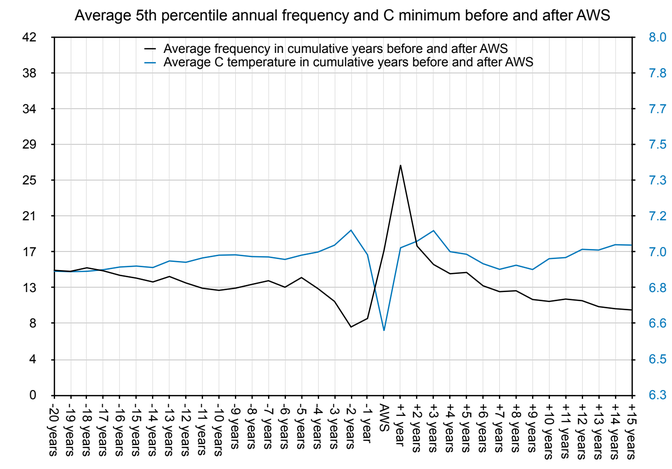
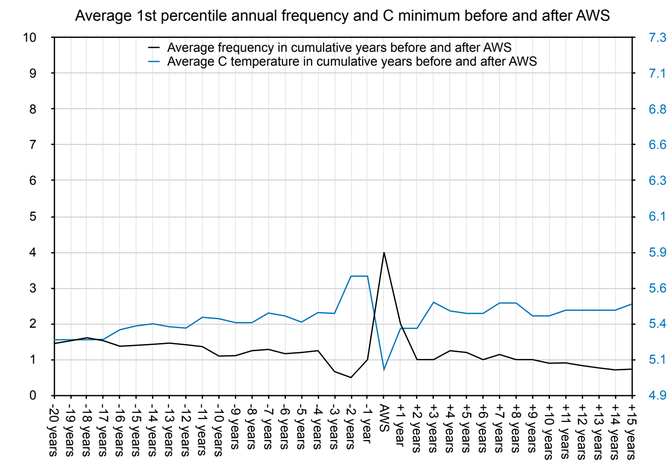
10 years				**10 years**				**10 years**			
Pre AWS	27.2	10.9	0.5	**Pre AWS**	13.1	-8.7	-0.4	**Pre AWS**	2.0	-5.0	-2.6
Post AWS	28.0	15.0	0.6	**Post AWS**	12.3	-7.3	-0.5	**Post AWS**	1.4	-3.6	-2.4
3 years				**3 years**				**3 years**			
Pre small	39.3	13.0	0.4	**Pre small**	17.4	-16.2	-0.8	**Pre small**	3.4	-8.8	-2.6
Post small	27.2	10.9	0.5	**Post small**	13.1	-8.7	-0.4	**Post small**	2.0	-5.0	-2.6
5 years				**5 years**				**5 years**			
Pre AWS	33.6	3.7	0.2	**Pre AWS**	18.6	-16.4	-0.8	**Pre AWS**	3.8	-9.4	-2.5
Post AWS	31.8	18.6	0.6	**Post AWS**	13.6	-8.1	-0.5	**Post AWS**	1.6	-4.3	-2.4
3 years				**3 years**				**3 years**			
Pre small	33.4	10.5	0.4	**Pre small**	15.6	-14.2	-0.8	**Pre small**	3.2	-8.7	-2.7
Post small	20.8	18.2	0.9	**Post small**	7.6	-1.0	-0.0	**Post small**	0.2	-0.6	-2.8

AWS introduction

Small screen introduction







10th 9.0	Annual # days below 10th percentile	Annual total C in days below 10th percentile	Annual average C in days below 10th percentile	5th 7.8	Annual # days below 5th percentile	Annual total C in days below 5th percentile	Annual average C in days below 5th percentile	1st 5.8	Annual # days below 1st percentile	Annual total C in days below 1st percentile	Annual average C in days below 1st percentile	Pre and post cumulative averages	AWS 10th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 5th perentile average in years pre and post AWS		Pre and post cumulative averages	AWS 1st perentile average in years pre and post AWS	
													Av #	Av C		Av #	Av C		Av #	Av C
1910	32	250.0	7.8	**1910**	18	130.2	7.2	**1910**	0	0.0										
1911	44	324.9	7.4	**1911**	29	195.1	6.7	**1911**	5	26.0	5.2									
1912	28	228.4	8.2	**1912**	8	59.5	7.4	**1912**	0	0.0										
1913	29	232.0	8.0	**1913**	11	77.2	7.0	**1913**	0	0.0										
1914	20	148.9	7.4	**1914**	12	80.7	6.7	**1914**	2	11.2	5.6									
1915	33	267.3	8.1	**1915**	16	119.6	7.5	**1915**	0	0.0										
1916	9	74.5	8.3	**1916**	4	30.6	7.7	**1916**	0	0.0										
1917	34	252.3	7.4	**1917**	23	158.6	6.9	**1917**	3	15.6	5.2									
1918	48	364.1	7.6	**1918**	23	150.0	6.5	**1918**	5	23.9	4.8									
1919	34	254.3	7.5	**1919**	22	148.7	6.8	**1919**	5	26.8	5.4									
1920	32	245.8	7.7	**1920**	21	149.1	7.1	**1920**	3	16.8	5.6									
1921	17	128.3	7.5	**1921**	9	60.7	6.7	**1921**	1	5.6	5.6									
1922	33	233.9	7.1	**1922**	28	191.8	6.9	**1922**	4	20.6	5.2									
1923	35	281.0	8.0	**1923**	15	107.2	7.1	**1923**	0	0.0										
1924	30	243.2	8.1	**1924**	11	79.5	7.2	**1924**	0	0.0										
1925	55	425.6	7.7	**1925**	29	202.0	7.0	**1925**	2	10.6	5.3									
1926	40	325.6	8.1	**1926**	14	101.4	7.2	**1926**	1	5.6	5.6									
1927	54	385.1	7.1	**1927**	40	267.1	6.7	**1927**	7	37.4	5.3									
1928	33	258.9	7.8	**1928**	15	104.1	6.9	**1928**	2	11.2	5.6									
1929	49	359.9	7.3	**1929**	32	213.4	6.7	**1929**	6	33.0	5.5									
1930	27	205.8	7.6	**1930**	13	85.4	6.6	**1930**	4	22.4	5.6									
1931	33	236.7	7.2	**1931**	22	141.5	6.4	**1931**	6	33.5	5.6									
1932	44	335.9	7.6	**1932**	27	189.3	7.0	**1932**	4	19.3	4.8									
1933	60	416.6	6.9	**1933**	43	268.9	6.3	**1933**	15	75.0	5.0									
1934	90	607.5	6.8	**1934**	69	428.1	6.2	**1934**	28	138.8	5.0									
1935	36	263.3	7.3	**1935**	23	153.0	6.7	**1935**	5	26.8	5.4									
1936	32	239.8	7.5	**1936**	21	145.5	6.9	**1936**	1	3.9	3.9									
1937	34	265.4	7.8	**1937**	17	118.9	7.0	**1937**	1	5.6	5.6									
1938	44	323.9	7.4	**1938**	27	176.2	6.5	**1938**	8	40.0	5.0									
1939	58	441.0	7.6	**1939**	31	211.9	6.8	**1939**	5	26.8	5.4									
1940	53	358.0	6.8	**1940**	36	211.2	5.9	**1940**	20	94.3	4.7									
1941	45	330.1	7.3	**1941**	31	212.1	6.8	**1941**	5	25.6	5.1									
1942	40	316.2	7.9	**1942**	18	128.5	7.1	**1942**	1	5.0	5.0									
1943	63	424.2	6.7	**1943**	49	304.4	6.2	**1943**	16	76.2	4.8									
1944	56	443.7	7.9	**1944**	20	134.1	6.7	**1944**	5	22.8	4.6									
1945	42	322.6	7.7	**1945**	24	167.8	7.0	**1945**	2	11.2	5.6									
1946	62	435.3	7.0	**1946**	48	313.4	6.5	**1946**	13	66.9	5.1									
1947	79	508.8	6.4	**1947**	64	378.9	5.9	**1947**	27	122.7	4.5									
1948	42	310.1	7.4	**1948**	29	199.2	6.9	**1948**	4	18.3	4.6									
1949	50	379.4	7.6	**1949**	29	199.1	6.9	**1949**	1	5.0	5.0									
1950	0	0.0		**1950**	0	0.0		**1950**	0	0.0										
1951	48	352.4	7.3	**1951**	31	205.9	6.6	**1951**	6	27.8	4.6									
1952	39	287.3	7.4	**1952**	25	166.3	6.7	**1952**	4	20.6	5.2									
1953	61	448.4	7.4	**1953**	37	239.0	6.5	**1953**	9	43.9	4.9									
1954	35	259.0	7.4	**1954**	25	172.4	6.9	**1954**	2	8.9	4.5									
1955	41	306.3	7.5	**1955**	23	154.5	6.7	**1955**	2	11.5	5.8									
1956	62	456.7	7.4	**1956**	43	293.6	6.8	**1956**	8	43.6	5.5									
1957	39	293.4	7.5	**1957**	22	150.0	6.8	**1957**	5	28.7	5.7									
1958	29	219.8	7.6	**1958**	15	102.3	6.8	**1958**	1	5.5	5.5									
1959	26	202.4	7.8	**1959**	13	92.1	7.1	**1959**	0	0.0										
1960	53	383.8	7.2	**1960**	35	232.4	6.6	**1960**	6	30.4	5.1									
1961	51	378.8	7.4	**1961**	26	166.2	6.4	**1961**	9	46.3	5.1									
1962	45	350.9	7.8	**1962**	18	120.5	6.7	**1962**	6	32.1	5.4									
1963	35	258.1	7.4	**1963**	22	146.5	6.7	**1963**	4	22.5	5.6									
1964	41	294.5	7.2	**1964**	27	177.7	6.6	**1964**	5	25.2	5.0									
1965	36	273.9	7.6	**1965**	21	142.9	6.8	**1965**	4	19.4	4.9									
1966	51	389.6	7.6	**1966**	26	175.1	6.7	**1966**	5	23.3	4.7									
1967	38	293.9	7.7	**1967**	20	139.0	7.0	**1967**	1	5.6	5.6									
1968	54	409.1	7.6	**1968**	29	195.3	6.7	**1968**	5	24.9	5.0									
1969	30	242.6	8.1	**1969**	10	71.3	7.1	**1969**	1	5.1	5.1									
1970	63	444.0	7.0	**1970**	41	256.3	6.3	**1970**	17	85.0	5.0									
1971	49	351.3	7.2	**1971**	31	196.7	6.3	**1971**	8	38.2	4.8									
1972	35	255.8	7.3	**1972**	21	138.3	6.6	**1972**	4	21.1	5.3									
1973	16	127.3	8.0	**1973**	6	43.0	7.2	**1973**	0	0.0										
1974	47	347.2	7.4	**1974**	29	196.0	6.8	**1974**	5	27.3	5.5									
1975	33	263.1	8.0	**1975**	10	69.7	7.0	**1975**	0	0.0										
1976	26	203.3	7.8	**1976**	13	91.4	7.0	**1976**	1	5.4	5.4									
1977	50	375.1	7.5	**1977**	30	203.3	6.8	**1977**	5	27.3	5.5									
1978	45	327.9	7.3	**1978**	27	174.6	6.5	**1978**	8	38.6	4.8									
1979	31	240.1	7.7	**1979**	15	105.0	7.0	**1979**	1	5.8	5.8									
1980	33	252.5	7.7	**1980**	17	116.3	6.8	**1980**	2	11.5	5.8									
1981	38	287.4	7.6	**1981**	18	117.0	6.5	**1981**	5	26.2	5.2									
1982	43	316.3	7.4	**1982**	29	196.6	6.8	**1982**	4	21.4	5.4									
1983	26	199.0	7.7	**1983**	15	105.1	7.0	**1983**	2	10.3	5.2									
1984	27	216.6	8.0	**1984**	8	56.5	7.1	**1984**	0	0.0										
1985	44	334.1	7.6	**1985**	23	154.3	6.7	**1985**	5	26.8	5.4									
1986	41	303.2	7.4	**1986**	24	158.3	6.6	**1986**	5	26.1	5.2									
1987	28	211.4	7.6	**1987**	17	117.8	6.9	**1987**	0	0.0		20 years	29.9	7.7	20 years	14.7	6.9	20 years	1.5	5.3
1988	20	158.8	7.9	**1988**	7	48.0	6.9	**1988**	0	0.0		19 years	30.0	7.7	19 years	14.5	6.9	19 years	1.5	5.3
1989	41	310.3	7.6	**1989**	21	141.9	6.8	**1989**	3	15.7	5.2	18 years	30.6	7.7	18 years	14.9	6.9	18 years	1.6	5.3
1990	38	279.9	7.4	**1990**	23	153.9	6.7	**1990**	4	17.5	4.4	17 years	29.9	7.7	17 years	14.6	6.9	17 years	1.5	5.3
1991	34	257.1	7.6	**1991**	19	130.0	6.8	**1991**	1	5.0	5.0	16 years	29.4	7.8	16 years	14.1	6.9	16 years	1.4	5.3
1992	41	314.2	7.7	**1992**	20	140.2	7.0	**1992**	1	5.2	5.2	15 years	29.1	7.8	15 years	13.7	6.9	15 years	1.4	5.4
1993	18	143.9	8.0	**1993**	5	32.5	6.5	**1993**	1	5.6	5.6	14 years	28.3	7.8	14 years	13.3	6.9	14 years	1.4	5.4
1994	47	364.2	7.7	**1994**	23	161.3	7.0	**1994**	2	10.9	5.5	13 years	29.1	7.8	13 years	13.9	6.9	13 years	1.5	5.4
1995	35	261.8	7.5	**1995**	20	134.1	6.7	**1995**	2	9.4	4.7	12 years	27.6	7.8	12 years	13.2	6.9	12 years	1.4	5.4
1996	28	212.8	7.6	**1996**	15	102.3	6.8	**1996**	4	22.0	5.5	11 years	26.9	7.8	11 years	12.5	7.0	11 years	1.4	5.4
1997	23	180.6	7.9	**1997**	10	69.5	7.0	**1997**	1	5.6	5.6	10 years	26.8	7.8	10 years	12.3	7.0	10 years	1.1	5.4
1998	17	131.2	7.7	**1998**	9	63.3	7.0	**1998**	0	0.0		9 years	27.2	7.8	9 years	12.6	7.0	9 years	1.1	5.4
1999	20	154.5	7.7	**1999**	10	69.7	7.0	**1999**	1	5.0	5.0	8 years	28.5	7.8	8 years	13.0	7.0	8 years	1.3	5.4
2000	31	236.6	7.6	**2000**	18	126.5	7.0	**2000**	2	11.1	5.6	7 years	29.7	7.8	7 years	13.4	7.0	7 years	1.3	5.5
2001	23	186.5	8.1	**2001**	7	47.9	6.8	**2001**	1	5.6	5.6	6 years	29.5	7.9	6 years	12.7	6.9	6 years	1.2	5.4
2002	36	277.1	7.7	**2002**	19	131.2	6.9	**2002**	1	5.2	5.2	5 years	30.8	7.8	5 years	13.8	7.0	5 years	1.2	5.4
2003	27	202.4	7.5	**2003**	17	117.0	6.9	**2003**	3	16.4	5.5	4 years	29.5	7.9	4 years	12.5	7.0	4 years	1.3	5.5
2004	43	336.8	7.8	**2004**	17	116.8	6.9	**2004**	1	5.2	5.2	3 years	30.3	8.0	3 years	11.0	7.0	3 years	0.7	5.5
2005	20	161.4	8.1	**2005**	7	50.4	7.2	**2005**	0	0.0		2 years	24.0	8.0	2 years	8.0	7.1	2 years	0.5	5.7
2006	28	224.1	8.0	**2006**	9	62.7	7.0	**2006**	1	5.7	5.7	1 years	28.0	8.0	1 years	9.0	7.0	1 years	1.0	5.7
2007	33	247.6	7.5	**2007**	17	112.3	6.6	**2007**	4	20.3	5.1	0 years	33.0	7.5	0 years	17.0	6.6	0 years	4.0	5.1
2008	37	271.4	7.3	**2008**	27	189.0	7.0	**2008**	2	10.7	5.4	1 years	37.0	7.3	1 years	27.0	7.0	1 years	2.0	5.4
2009	24	191.6	8.0	**2009**	8	56.5	7.1	**2009**	0	0.0		2 years	30.5	7.7	2 years	17.5	7.0	2 years	1.0	5.4
2010	27	214.9	8.0	**2010**	11	79.0	7.2	**2010**	1	5.7	5.7	3 years	29.3	7.8	3 years	15.3	7.1	3 years	1.0	5.5
2011	30	233.5	7.8	**2011**	11	73.5	6.7	**2011**	2	10.7	5.4	4 years	29.5	7.8	4 years	14.3	7.0	4 years	1.3	5.5
2012	32	247.2	7.7	**2012**	15	103.8	6.9	**2012**	1	5.4	5.4	5 years	30.0	7.8	5 years	14.4	7.0	5 years	1.2	5.5
2013	16	126.2	7.9	**2013**	5	33.5	6.7	**2013**	0	0.0		6 years	27.7	7.8	6 years	12.8	6.9	6 years	1.0	5.5
2014	24	188.0	7.8	**2014**	8	53.9	6.7	**2014**	2	11.6	5.8	7 years	27.1	7.8	7 years	12.1	6.9	7 years	1.1	5.5
2015	28	218.5	7.8	**2015**	13	91.7	7.1	**2015**	0	0.0		8 years	27.3	7.8	8 years	12.3	6.9	8 years	1.0	5.5
2016	18	148.0	8.2	**2016**	3	20.2	6.7	**2016**	1	5.0	5.0	9 years	26.2	7.8	9 years	11.2	6.9	9 years	1.0	5.4
2017	27	217.5	8.1	**2017**	9	66.7	7.4	**2017**	0	0.0		10 years	26.3	7.9	10 years	11.0	6.9	10 years	0.9	5.4
2018	34	267.6	7.9	**2018**	14	98.1	7.0	**2018**	1	5.7	5.7	11 years	27.0	7.9	11 years	11.3	7.0	11 years	0.9	5.5
2019	15	117.1	7.8	**2019**	9	66.8	7.4	**2019**	0	0.0		12 years	26.0	7.9	12 years	11.1	7.0	12 years	0.8	5.5
2020	9	73.5	8.2	**2020**	2	13.9	7.0	**2020**	0	0.0		13 years	24.7	7.9	13 years	10.4	7.0	13 years	0.8	5.5
2021	24	197.8	8.2	**2021**	7	51.4	7.3	**2021**	0	0.0		14 years	24.6	7.9	14 years	10.1	7.0	14 years	0.7	5.5
2022	27	219.1	8.1	**2022**	8	55.9	7.0	**2022**	1	5.8	5.8	15 years	24.8	7.9	15 years	10.0	7.0	15 years	0.7	5.5
Original AWS probe Temp Control TCBMP01																				
10 years				**10 years**				**10 years**												
Pre AWS	26.8	209.1	7.8	**Pre AWS**	12.3	85.5	7.0	**Pre AWS**	1.1	6.0	5.4									
Post AWS	26.3	205.7	7.9	**Post AWS**	11.0	76.8	6.9	**Post AWS**	0.9	4.9	5.4									
Pre small	37.8	285.2	7.6	**Pre small**	20.6	138.7	6.8	**Pre small**	3.7	19.4	5.4									
Post small	32.5	248.4	7.7	**Post small**	16.3	111.4	6.8	**Post small**	1.9	9.7	5.2									
5 years				**5 years**				**5 years**												
Pre AWS	30.8	240.4	7.8	**Pre AWS**	13.8	95.6	7.0	**Pre AWS**	1.2	6.5	5.4									
Post AWS	30.0	231.7	7.8	**Post AWS**	14.4	100.4	7.0	**Post AWS**	1.2	6.5	5.5									
Pre small	36.2	273.8	7.6	**Pre small**	19.8	134.2	6.8	**Pre small**	3.2	16.9	5.3									
Post small	34.8	264.1	7.6	**Post small**	18.0	122.8	6.8	**Post small**	1.8	8.7	5.0									
		AWS introduction																		
		Small screen introduction