

1998

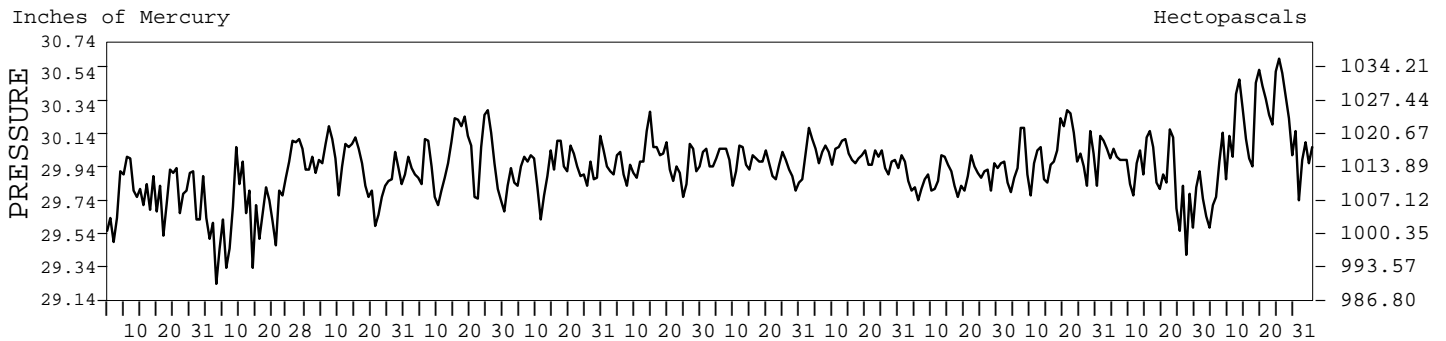
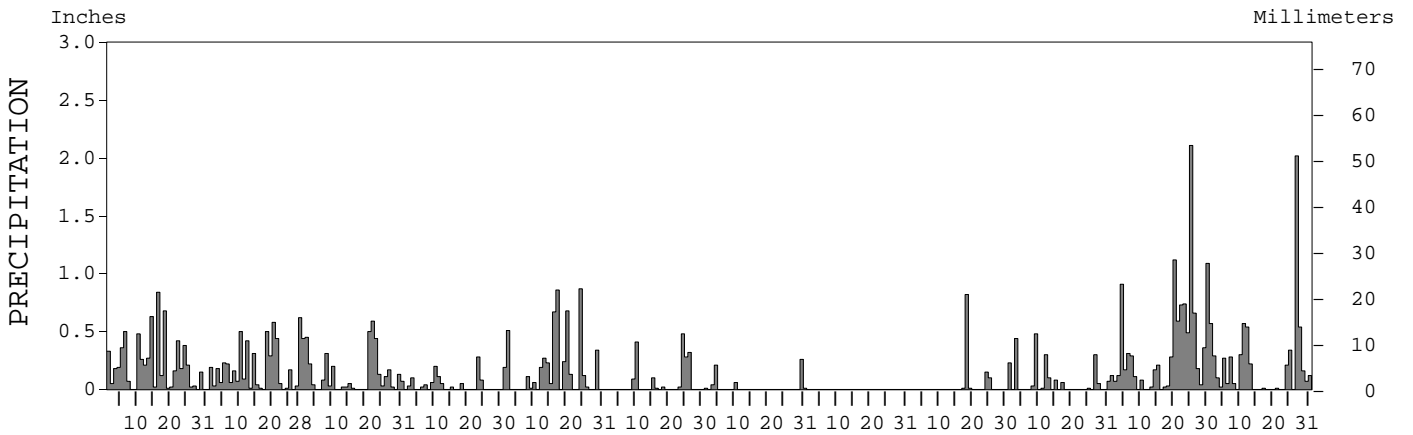
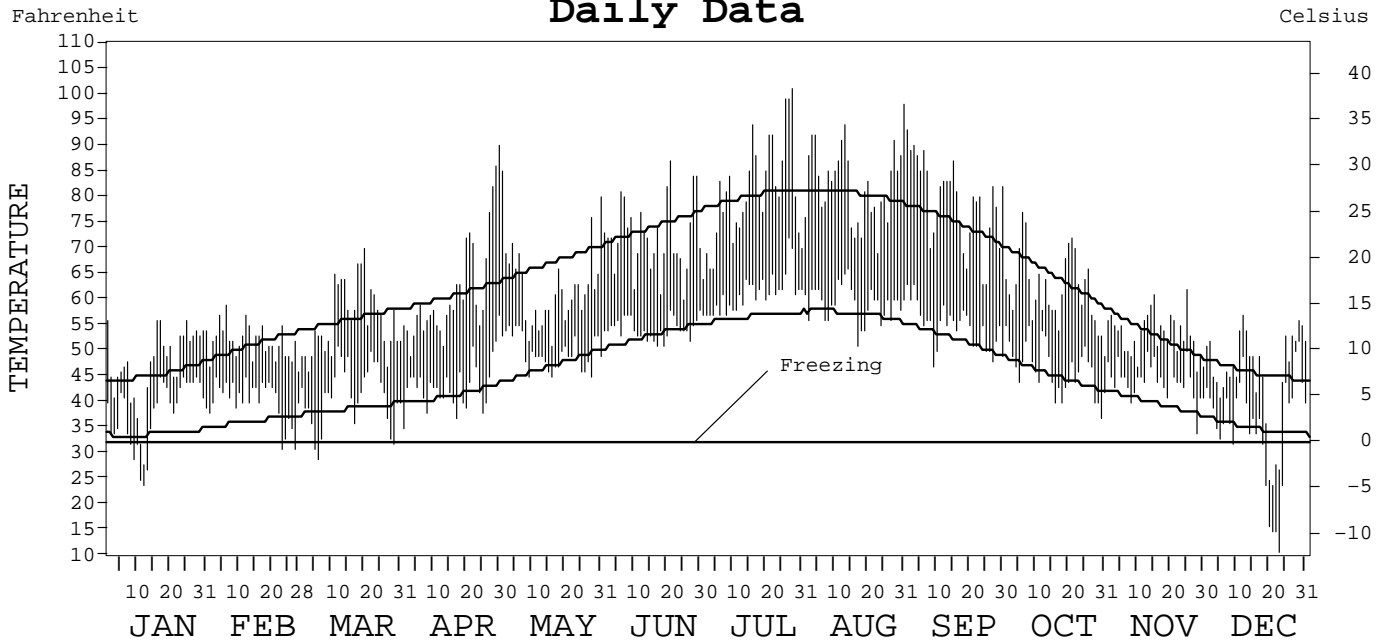
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4209

PORTLAND,
OREGON (PDX)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE	NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE	NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NORTH CAROLINA	DIRECTOR NATIONAL CLIMATIC DATA CENTER
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METEOROLOGICAL DATA FOR 1998

PORTLAND, OR (PDX)

LATITUDE: 45° 35' 27" N LONGITUDE: 122° 36' 01" W ELEVATION (FT): GRND: 21 BARO: 27 TIME ZONE: PACIFIC (UTC+ 8) WBAN: 24229

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	47.8	51.8	56.2	62.1	62.7	72.3	80.7	82.7	79.1	62.1	53.4	45.5	63.0	
	HIGHEST DAILY MAXIMUM	56	59	70	90	85	87	101	98	93	77	62	57	101	
	DATE OF OCCURRENCE	25+	06	20	30	01	21	28	31	01	06	25	12	JUL 28	
	MEAN DAILY MINIMUM	38.1	40.4	41.3	43.4	49.8	54.4	61.2	59.3	54.7	46.5	44.4	35.5	47.4	
	LOWEST DAILY MINIMUM	24	31	29	35	45	51	57	51	47	37	34	11	11	
	DATE OF OCCURRENCE	12	27+	06	01	28+	19+	08+	17	09	30	28	23	DEC 23	
	AVERAGE DRY BULB	43.0	46.1	48.8	52.8	56.3	63.4	71.0	71.0	66.9	54.3	48.9	40.5	55.3	
	MEAN WET BULB	40.7	43.2	45.2	47.6	52.2	57.3		61.3	58.4	50.3	46.6	38.6		
	MEAN DEW POINT	38.4	40.3	41.4	42.6	49.4	53.5		55.4	52.8	46.6	44.2	34.6		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	1	0	0	0	6	6	2	0	0	0	15
	MAXIMUM ≤ 32°	2	0	0	0	0	0	0	0	0	0	0	0	4	6
	MINIMUM ≤ 32°	6	2	3	0	0	0	0	0	0	0	0	0	8	19
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	676	523	498	376	268	72	12	4	32	323	475	753	4012	
	COOLING DEGREE DAYS	0	0	0	14	4	30	206	197	96	0	0	0	547	
RH	MEAN (PERCENT)	85	82	79	72	81	75	71	63	66	78	85	80	76	
	HOUR 04 LST	87	87	91	90	92	86	86	80	84	86	89	84	87	
	HOUR 10 LST	83	83	80	70	80	75	74	63	67	78	85	81	77	
	HOUR 16 LST	85	71	60	53	69	57	52	40	42	62	77	76	62	
	HOUR 22 LST	87	86	81	77	85	78	74	65	68	83	88	80	79	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	2	1	1	1	0	0	0	0	0	5	3	4	17	
	THUNDERSTORMS	0	0	0	3	1	0	2	0	0	0	0	0	8	
CLOUDINESS	SUNRISE-SUNSET: (OKTAS)														
	CEILOMETER (≤ 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
	MIDNIGHT-MIDNIGHT: (OKTAS)														
	CEILOMETER (≤ 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
NUMBER OF DAYS WITH:															
CLEAR															
PARTLY CLOUDY															
CLOUDY															
PR	MEAN STATION PRESS. (IN.)	29.79	29.73	29.96	30.02	29.95	30.00	29.99	30.04	29.91	30.05	29.89	30.20	29.96	
	MEAN SEA-LEVEL PRESS. (IN.)	29.84	29.77	30.00	30.06	29.99	30.04		30.08	29.95		29.94	30.24		
WINDS	RESULTANT SPEED (MPH)	8.4	7.4	1.8	1.2	1.8	3.9	3.9	5.0	4.3	2.9	6.3	5.7	1.2	
	RES. DIR. (TENS OF DEGS.)	14	14	15	30	28	32	33	30	32	16	16	16	17	
	MEAN SPEED (MPH)	11.2	10.8	6.7	5.4	6.1	6.5	6.2	7.2	6.1	6.5	8.9	9.8	7.6	
	PREVAIL. DIR. (TENS OF DEGS.)	12	12	12	29	32	33	33	33	33	11	12	12	12	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	32	34	25	25	30	28	20	22	31	30	43	36	43	
	DIR. (TENS OF DEGS.)	20	19	21	27	19	32	33	32	21	09	20	09	20	
	DATE OF OCCURRENCE	24	20	23	11	01	15	28+	14+	18	20	23	19	NOV 23	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	40	44	33	30	38	31	24	25	36	34	51	44	51	
DIR. (TENS OF DEGS.)	20	18	21	26	19	32	33	32	21	09	21	10	21		
DATE OF OCCURRENCE	24	08	23	11	01	15	21	14	18	20	23	19	NOV 23		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	6.77	5.27	4.06	1.04	5.55	1.73	0.59	T	1.09	2.16	11.02	6.74	46.02	
	GREATEST 24-HOUR (IN.)	0.84	0.96	1.02	0.28	1.45	0.54	0.27	T	0.82	0.50	2.41	2.02	2.41	
	DATE OF OCCURRENCE	16	20-21	21-22	23	16-17	25-26	30-31	23	18	08-09	25-26	27	NOV 25-26	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	26	25	22	12	18	9	6	0	5	13	26	21	183	
PRECIPITATION ≥ 0.10	19	14	12	4	14	5	2	0	3	6	20	15	114		
PRECIPITATION ≥ 1.00	0	0	0	0	0	0	0	0	0	0	3	1	4		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)														
	GREATEST 24-HOUR (IN.)														
	DATE OF OCCURRENCE														
	MAXIMUM SNOW DEPTH (IN.)														
	DATE OF OCCURRENCE														
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0															

NORMALS, MEANS, AND EXTREMES

PORTLAND, OR (PDX)

LATITUDE: 45° 35' 27" N LONGITUDE: 122° 36' 01" W ELEVATION (FT): GRND: 21 BARO: 27 TIME ZONE: PACIFIC (UTC+ 8) WBAN: 24229

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	45.4	51.0	56.0	60.6	67.1	74.0	79.9	80.3	74.6	64.0	52.6	45.6	62.6
	MEAN DAILY MAXIMUM	68	44.7	50.1	55.7	61.3	67.6	73.2	79.6	79.5	74.4	64.0	52.6	46.3	62.4
	HIGHEST DAILY MAXIMUM	58	63	71	80	90	100	100	107	107	105	92	73	65	107
	YEAR OF OCCURRENCE		1986	1988	1947	1998	1983	1992	1965	1981	1988	1987	1975	1993	AUG 1981
	MEAN OF EXTREME MAXS.	68	56.9	60.8	68.7	77.6	85.7	90.4	95.8	94.8	90.3	78.6	63.5	57.7	76.7
	NORMAL DAILY MINIMUM	30	33.7	36.1	38.6	41.3	47.0	52.9	56.5	56.9	52.0	44.9	39.5	34.8	44.5
	MEAN DAILY MINIMUM	68	34.0	36.4	39.0	42.4	47.8	53.1	56.7	56.9	52.4	45.9	39.9	35.9	45.0
	LOWEST DAILY MINIMUM	58	-2	-3	19	29	29	39	43	44	34	26	13	6	-3
	YEAR OF OCCURRENCE		1950	1950	1989	1955	1954	1966	1955	1980	1965	1971	1985	1964	FEB 1950
	MEAN OF EXTREME MINS.	68	21.1	24.4	29.4	33.8	38.4	45.7	49.5	49.1	42.8	34.7	28.5	23.9	35.1
	NORMAL DRY BULB	30	39.6	43.6	47.3	51.0	57.1	63.5	68.2	68.6	63.3	54.5	46.1	40.2	53.6
	MEAN DRY BULB	68	39.4	43.2	47.4	51.9	57.8	63.2	68.2	68.2	63.4	54.9	46.2	41.1	53.7
	MEAN WET BULB	14	38.6	40.0	44.2	47.9	52.4	56.3	55.7	56.5	53.5	50.8	44.1	35.1	47.9
	MEAN DEW POINT	14	35.0	35.6	39.5	43.3	47.5	50.9	50.2	51.1	48.6	46.9	41.2	31.8	43.5
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.0	0.4	1.4	4.0	4.5	1.6	0.1	0.0	0.0	12.0	
MAXIMUM ≤ 32°	30	1.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.4	3.4	
MINIMUM ≤ 32°	30	12.4	7.7	4.2	1.1	0.1	0.0	0.0	0.0	0.0	0.6	4.6	10.4	41.1	
MINIMUM ≤ 0°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
H/C	NORMAL HEATING DEG. DAYS	30	787	599	549	420	249	91	28	35	102	326	567	769	4522
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	0	46	127	147	51	0	0	0	371
RH	NORMAL (PERCENT)	30	81	78	75	72	69	66	63	65	69	78	82	83	73
	HOUR 04 LST	30	85	85	85	85	84	82	80	82	86	90	87	86	85
	HOUR 10 LST	30	82	80	75	70	66	64	61	64	67	78	82	83	73
	HOUR 16 LST	30	74	66	59	55	52	49	44	44	48	60	73	78	58
	HOUR 22 LST	30	82	80	77	74	72	69	66	68	74	82	83	84	76
S	PERCENT POSSIBLE SUNSHINE	46	28	38	48	52	57	56	69	66	62	44	28	23	48
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	56	4.2	3.7	2.3	1.1	0.1	0.1	0.1	0.2	2.6	7.0	5.8	4.7	31.9
	THUNDERSTORMS	58	0.1	0.1	0.5	0.9	1.4	0.9	0.8	1.0	0.7	0.4	0.3	0.1	7.2
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	47	6.7	6.6	6.4	6.2	5.8	5.4	3.8	4.0	4.3	5.6	6.4	6.8	5.7
	MIDNIGHT-MIDNIGHT (OKTAS)	31	6.3	6.0	5.7	5.7	5.3	4.9	3.6	3.6	3.9	5.0	6.3	6.4	5.2
	MEAN NO. DAYS WITH:														
	CLEAR	47	2.9	2.9	3.3	3.5	5.0	6.2	12.6	11.4	10.3	5.4	2.8	2.1	68.4
PARTLY CLOUDY	47	3.6	3.8	4.9	5.8	7.2	7.7	8.5	9.6	8.1	7.6	4.3	3.3	74.4	
CLOUDY	47	24.4	21.5	22.8	20.7	18.9	16.1	9.9	10.1	11.6	18.0	22.9	25.5	222.4	
PR	MEAN STATION PRESSURE (IN)	26	30.09	29.99	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.10	30.02
	MEAN SEA-LEVEL PRES. (IN)	14	30.09	30.06	30.05	30.06	30.03	30.04	30.05	30.02	30.02	30.08	30.08	30.14	30.06
WINDS	MEAN SPEED (MPH)	44	10.0	9.3	8.4	7.5	7.2	7.3	7.6	7.1	6.5	6.6	8.6	9.6	8.0
	PREVAIL. DIR (TENS OF DEGS)	28	12	12	12	30	32	32	33	33	32	12	12	12	12
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	3	38	37	39	37	30	34	24	26	31	33	43	37	43
	DIR. (TENS OF DEGS)		07	18	23	18	19	20	18	18	21	19	20	22	20
	YEAR OF OCCURRENCE		1996	1996	1997	1996	1998	1997	1996	1997	1998	1997	1998	1996	NOV 1998
	MAXIMUM 5-SECOND:														
SPEED (MPH)	3	53	51	48	44	38	40	29	33	37	43	51	51	53	
DIR. (TENS OF DEGS)		20	17	23	16	19	20	18	17	22	19	21	22	20	
YEAR OF OCCURRENCE		1996	1996	1997	1996	1998	1997	1996	1997	1997	1997	1998	1996	JAN 1996	
PRECIPITATION	NORMAL (IN)	30	5.35	3.85	3.56	2.39	2.06	1.48	0.63	1.09	1.75	2.67	5.34	6.13	36.30
	MAXIMUM MONTHLY (IN)	58	12.83	10.03	7.52	5.26	5.55	4.06	2.68	4.53	4.30	8.41	11.57	13.35	13.35
	YEAR OF OCCURRENCE		1953	1996	1957	1993	1998	1984	1983	1968	1986	1994	1942	1996	DEC 1996
	MINIMUM MONTHLY (IN)	58	0.06	0.72	1.10	0.53	0.10	0.03	0.00	T	T	0.19	0.77	1.38	0.00
	YEAR OF OCCURRENCE		1985	1993	1965	1956	1992	1951	1967	1970	1993	1988	1976	1976	JUL 1967
	MAXIMUM IN 24 HOURS (IN)	58	2.61	2.46	1.83	1.47	1.47	1.82	1.09	1.54	2.38	4.44	4.10	2.59	4.44
	YEAR OF OCCURRENCE		1974	1994	1943	1962	1968	1958	1978	1977	1982	1994	1996	1977	OCT 1994
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	17.5	15.5	17.1	14.3	11.8	8.5	4.2	5.3	8.0	12.0	18.5	18.7	151.4	
PRECIPITATION ≥ 1.00	30	1.1	0.4	0.2	0.2	0.1	0.1	0.0	0.1	0.2	0.2	0.8	1.1	4.5	
SNOWFALL	NORMAL (IN)	30	1.8	0.9	0.1	T	T	0.0	0.0	0.0	0.0	0.0	0.5	2.0	5.3
	MAXIMUM MONTHLY (IN)	55	41.4	13.2	12.9	T	0.6	T	0.0	T	T	0.2	8.2	15.7	41.4
	YEAR OF OCCURRENCE		1950	1949	1951	1995	1953	1995		1989	1949	1950	1955	1968	JAN 1950
	MAXIMUM IN 24 HOURS (IN)	55	10.6	6.4	7.7	T	0.5	T	0.0	T	T	0.2	7.4	8.0	10.6
	YEAR OF OCCURRENCE		1950	1993	1951	1995	1953	1995		1989	1949	1950	1977	1964	JAN 1950
	MAXIMUM SNOW DEPTH (IN)	48	15	14	5	0	0	0	0	0	0	0	5	11	15
	YEAR OF OCCURRENCE		1950	1950	1951								1977	1964	JAN 1950
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	0.6	0.3	0.*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	1.7	

PRECIPITATION (inches) 1998 PORTLAND, OR (PDX)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	7.60	3.14	1.13	2.28	1.61	2.99	0.14	0.04	3.86	3.02	3.18	8.12	37.11
1970	11.81	4.77	2.58	2.94	1.55	0.49	0.05	T	1.10	2.85	5.72	7.49	41.35
1971	7.09	3.36	4.87	2.72	1.00	1.76	0.26	0.95	3.53	2.37	5.76	8.05	41.72
1972	5.71	4.08	5.41	2.98	2.23	0.68	0.56	0.67	3.06	0.87	3.78	8.79	38.82
1973	3.69	1.94	2.45	1.33	1.43	1.45	0.06	1.41	3.29	3.14	11.55	9.93	41.67
1974	8.51	4.61	5.65	1.76	1.74	0.80	2.01	0.07	0.21	2.14	6.73	6.05	40.28
1975	8.43	4.75	3.45	1.88	1.35	1.13	0.43	2.10	T	4.76	4.10	6.68	39.06
1976	5.14	4.92	2.93	2.34	2.29	0.78	0.66	3.29	0.73	1.48	0.77	1.38	26.71
1977	1.07	2.49	3.50	1.04	4.30	0.83	0.39	3.26	3.33	2.28	5.56	8.98	37.03
1978	4.85	3.28	1.49	3.96	3.17	1.69	1.36	2.05	2.07	0.36	3.83	2.51	30.62
1979	2.55	6.53	2.51	2.47	2.41	0.64	0.25	1.18	1.75	4.85	3.38	7.23	35.75
1980	8.51	4.01	3.11	2.58	2.19	2.50	0.19	0.39	1.56	1.18	6.47	9.72	42.41
1981	1.47	3.86	2.33	1.79	2.25	3.23	0.24	0.15	1.86	4.12	4.62	8.37	34.29
1982	6.31	5.98	2.38	3.56	0.46	1.66	0.94	1.66	3.98	4.44	3.51	8.16	43.04
1983	6.23	7.78	6.80	1.87	1.30	1.95	2.68	2.29	0.39	1.95	8.65	5.30	47.19
1984	2.01	3.93	3.19	3.20	3.41	4.06	T	0.09	1.46	3.85	9.74	2.56	37.50
1985	0.06	1.79	3.08	1.07	1.52	2.34	0.55	0.48	2.76	2.75	3.89	2.19	22.48
1986	4.65	5.31	2.60	1.91	2.19	0.23	1.20	0.10	4.30	1.99	6.26	4.30	35.04
1987	6.93	2.45	4.91	1.94	1.63	0.14	1.03	0.35	0.30	0.27	1.96	8.00	29.91
1988	4.95	1.17	3.13	4.57	2.53	2.34	0.69	0.10	1.76	0.19	7.92	2.37	31.72
1989	3.30	2.84	6.73	2.08	2.87	0.78	0.91	1.07	1.48	1.73	3.18	3.08	30.05
1990	7.95	3.43	2.52	2.31	2.37	1.94	0.32	0.95	0.34	4.65	3.68	2.40	32.86
1991	2.56	3.65	4.64	4.05	3.34	2.31	0.07	0.70	0.02	1.51	6.36	4.34	33.55
1992	4.31	4.12	1.87	3.82	0.10	0.60	0.67	0.49	1.12	2.87	4.55	4.98	29.50
1993	3.06	0.72	4.39	5.26	4.36	1.69	2.41	0.37	T	1.59	1.50	5.01	30.36
1994	3.56	4.92	1.84	1.91	0.56	1.67	0.07	0.13	1.13	8.41	5.91	4.85	34.96
1995	5.56	3.19	3.82	3.49	1.65	2.62	1.23	0.81	1.31	3.15	11.15	5.35	43.33
1996	7.15	10.03	3.24	5.12	4.88	0.44	0.73	0.25	3.05	5.39	9.58	13.35	63.21
1997	7.32	1.63	7.14	3.73	3.63	2.83	0.52	1.58	1.98	6.40	4.02	3.03	43.81
1998	6.77	5.27	4.06	1.04	5.55	1.73	0.59	T	1.09	2.16	11.02	6.74	46.02
POR= 58 YRS	5.45	4.03	3.68	2.46	2.24	1.59	0.60	0.88	1.63	3.18	5.63	5.89	37.26

WBAN : 24229

AVERAGE TEMPERATURE (°F) 1998 PORTLAND, OR (PDX)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	31.9	39.7	46.5	50.1	59.5	66.5	66.6	66.1	63.4	53.3	47.2	42.9	52.8
1970	40.6	46.0	46.9	48.4	57.0	65.9	69.2	68.2	60.7	53.0	47.1	40.0	53.6
1971	40.4	42.8	43.7	49.6	56.8	60.2	69.2	71.6	60.8	52.4	45.5	40.4	52.8
1972	39.2	43.8	49.8	48.0	60.2	64.0	70.9	71.7	61.2	53.0	48.2	37.4	54.0
1973	39.0	44.9	47.9	52.3	59.4	63.9	70.3	65.9	64.4	54.3	44.2	44.7	54.3
1974	38.0	43.0	47.2	51.3	55.7	64.4	67.1	68.9	67.3	55.2	48.1	44.1	54.2
1975	41.5	41.2	45.0	47.3	57.5	61.9	69.0	65.3	65.7	53.5	46.0	42.7	53.1
1976	42.2	42.1	44.4	50.3	56.6	60.4	67.2	65.5	64.2	54.7	47.0	39.5	52.8
1977	35.7	44.6	45.5	52.9	53.8	63.9	66.3	71.7	60.8	53.8	43.3	42.0	52.9
1978	40.1	44.7	49.1	50.5	54.7	65.1	68.4	67.6	60.9	54.7	39.1	35.3	52.5
1979	30.7	42.9	50.8	53.1	60.1	65.1	70.5	68.6	66.3	58.1	45.0	44.4	54.6
1980	35.1	42.5	46.3	53.8	57.3	60.7	68.9	66.4	63.8	56.0	48.5	44.0	53.6
1981	43.9	44.0	48.8	52.5	57.5	61.8	67.5	72.2	64.9	53.3	48.8	42.7	54.8
1982	39.7	43.6	48.5	49.0	57.6	66.0	67.5	68.6	63.2	54.9	44.4	41.7	53.7
1983	44.4	47.3	50.7	52.7	60.4	62.8	66.5	69.1	61.5	54.2	49.3	36.4	54.6
1984	42.2	45.9	51.1	50.4	56.4	62.2	69.1	69.4	63.7	52.9	46.7	38.3	54.0
1985	36.1	41.1	45.8	53.9	58.3	64.4	74.1	69.3	60.8	52.7	37.3	33.0	52.2
1986	42.5	43.7	51.3	50.2	57.6	66.3	65.3	72.3	61.5	57.0	47.7	40.6	54.7
1987	39.6	45.2	48.7	54.2	60.4	66.5	67.2	70.5	65.5	58.2	48.8	39.1	55.3
1988	39.0	44.7	47.2	52.2	56.4	62.4	68.4	68.0	64.0	58.3	47.5	42.0	54.2
1989	42.2	36.0	45.6	56.0	58.0	64.3	65.5	66.1	65.3	54.9	48.6	40.3	53.6
1990	43.4	41.9	49.4	54.5	56.7	63.6	71.2	70.9	67.0	53.9	48.4	34.7	54.6
1991	38.9	48.8	46.2	50.8	54.7	59.9	69.9	70.1	67.4	55.4	47.5	42.7	54.4
1992	44.5	48.1	52.3	55.4	63.1	67.4	70.2	69.8	62.3	55.9	46.3	39.3	56.2
1993	36.5	40.1	47.9	52.6	61.1	62.5	64.3	68.5	65.7	57.4	41.5	41.4	53.3
1994	44.5	40.9	50.2	54.2	60.7	62.9	71.1	70.2	67.6	54.1	42.7	42.3	55.1
1995	43.4	46.5	48.3	51.3	60.7	63.8	70.6	67.3	67.1	54.5	51.7	42.4	55.6
1996	40.7	41.6	47.7	53.5	55.3	63.6	72.0	70.4	61.8	54.0	45.5	41.6	54.0
1997	41.0	42.9	46.7	51.0	62.2	62.7	68.9	71.6	65.9	53.7	49.8	41.1	54.8
1998	43.0	46.1	48.8	52.8	56.3	63.4	71.0	71.0	66.9	54.3	48.9	40.5	55.3
POR= 58 YRS	39.2	43.3	46.8	51.3	57.4	61.4	66.8	66.9	63.4	54.4	46.0	40.7	53.1

HEATING DEGREE DAYS (base 65°F) 1998 PORTLAND, OR (PDX)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	17	22	85	357	526	678	751	526	553	493	246	71	4325
1970-71	14	14	130	369	530	771	757	615	653	454	253	149	4709
1971-72	33	5	123	388	578	756	793	607	466	501	174	61	4485
1972-73	10	6	153	363	497	848	799	560	525	378	202	89	4430
1973-74	6	47	59	326	618	624	832	610	545	403	282	72	4424
1974-75	32	16	29	301	500	640	722	660	615	523	240	127	4405
1975-76	24	41	48	354	565	686	698	658	632	437	258	155	4556
1976-77	15	41	47	319	536	783	901	564	596	358	340	68	4568
1977-78	40	19	131	339	644	707	764	561	485	430	317	58	4495
1978-79	29	26	134	312	772	915	1058	615	434	351	162	57	4865
1979-80	8	2	19	214	592	631	920	647	575	329	232	125	4294
1980-81	15	25	64	284	485	644	650	583	494	372	229	108	3953
1981-82	23	5	76	355	478	687	780	596	502	472	229	71	4274
1982-83	22	10	99	307	614	715	635	492	435	363	184	81	3957
1983-84	27	2	109	325	463	880	701	546	425	430	269	115	4292
1984-85	9	2	80	377	539	820	893	664	588	327	213	62	4574
1985-86	0	7	124	373	826	982	691	591	417	437	265	43	4756
1986-87	37	0	148	242	510	750	780	550	495	321	173	51	4057
1987-88	22	2	54	214	479	798	801	581	544	380	272	109	4256
1988-89	33	15	91	208	518	705	699	805	594	263	219	77	4227
1989-90	32	27	44	306	486	759	664	641	476	308	251	78	4072
1990-91	10	5	14	336	492	933	802	446	575	420	310	156	4499
1991-92	4	13	25	295	517	685	627	483	387	282	108	35	3461
1992-93	5	9	107	274	556	789	877	692	522	366	135	94	4426
1993-94	37	17	57	231	698	726	630	668	451	316	143	85	4059
1994-95	16	0	23	330	662	696	666	514	510	405	149	95	4066
1995-96	3	15	20	318	392	693	747	671	530	340	294	70	4093
1996-97	16	8	113	340	581	717	737	612	563	413	116	79	4295
1997-98	7	0	42	341	452	734	676	523	498	376	268	72	3989
1998-	12	4	32	323	475	753							

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COOLING DEGREE DAYS (base 65°F) 1998 PORTLAND, OR (PDX)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	0	0	0	0	13	102	74	65	43	0	0	0	297
1970	0	0	0	0	8	106	150	120	8	2	0	0	394
1971	0	0	0	0	5	14	170	217	7	3	0	0	416
1972	0	0	0	0	27	39	200	221	44	0	0	0	531
1973	0	0	0	0	34	65	178	81	45	0	0	0	403
1974	0	0	0	0	1	60	102	144	102	0	0	0	409
1975	0	0	0	0	12	39	157	57	75	2	0	0	342
1976	0	0	0	0	4	23	89	66	30	4	0	0	216
1977	0	0	0	0	0	42	90	233	10	0	0	0	375
1978	0	0	0	0	3	69	141	112	18	0	0	0	343
1979	0	0	0	0	18	65	183	124	65	7	0	0	462
1980	0	0	0	1	0	2	141	75	35	12	0	0	266
1981	0	0	0	3	4	16	109	232	82	0	0	0	446
1982	0	0	0	0	4	107	103	127	50	0	0	0	391
1983	0	0	0	0	48	23	80	137	12	0	0	0	300
1984	0	0	0	0	10	34	140	144	47	6	0	0	381
1985	0	0	0	0	11	53	291	145	5	0	0	0	505
1986	0	0	0	0	40	87	52	235	50	0	0	0	464
1987	0	0	0	4	37	102	95	177	77	12	0	0	504
1988	0	0	0	0	10	39	147	115	67	8	0	0	386
1989	0	0	0	0	9	62	53	66	60	0	0	0	250
1990	0	0	0	2	3	45	206	193	83	0	0	0	532
1991	0	0	0	0	0	7	164	176	102	2	0	0	451
1992	0	0	0	1	57	114	174	164	31	0	0	0	541
1993	0	0	0	0	21	24	22	132	80	3	0	0	282
1994	0	0	0	0	15	31	210	168	109	0	0	0	533
1995	0	0	0	0	23	63	184	92	91	0	0	0	453
1996	0	0	0	0	1	36	240	181	25	7	0	0	490
1997	0	0	0	0	37	16	134	210	75	0	0	0	472
1998	0	0	0	14	4	30	206	197	96	0	0	0	547

SNOWFALL (inches) 1998 PORTLAND, OR (PDX)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0.0	0.0	0.0	0.0	0.0	0.0	T	T	T	T	0.0	0.0	T
1970-71	0.0	0.0	0.0	0.0	T	1.4	6.9	1.7	T	T	0.0	0.0	10.0
1971-72	0.0	0.0	0.0	T	0.0	4.6	0.4	T	T	T	0.0	0.0	5.0
1972-73	0.0	0.0	0.0	0.0	0.0	6.1	0.4	T	T	T	0.0	0.0	6.5
1973-74	0.0	0.0	0.0	0.0	T	0.0	T	T	T	0.0	T	0.0	T
1974-75	0.0	0.0	0.0	0.0	0.0	T	T	0.1	T	T	T	0.0	0.1
1975-76	0.0	0.0	0.0	0.0	T	T	T	T	T	T	T	0.0	T
1976-77	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	T	0.0	T	0.0	T
1977-78	0.0	0.0	0.0	0.0	7.6	T	0.0	0.0	0.1	T	T	0.0	7.7
1978-79	0.0	0.0	0.0	0.0	3.0	2.4	1.9	1.1	T	T	0.0	0.0	8.4
1979-80	0.0	0.0	0.0	0.0	0.0	T	12.4	T	T	T	0.0	T	12.4
1980-81	0.0	0.0	0.0	0.0	T	T	0.0	T	T	T	T	T	T
1981-82	0.0	0.0	0.0	0.0	0.0	2.0	2.1	T	T	T	0.0	0.0	4.1
1982-83	0.0	0.0	0.0	T	T	0.0	0.0	0.0	T	T	T	0.0	T
1983-84	0.0	0.0	0.0	0.0	0.0	2.3	0.1	T	T	0.0	T	0.0	2.4
1984-85	0.0	0.0	0.0	T	0.0	2.8	T	4.8	T	T	0.0	0.0	7.6
1985-86	0.0	0.0	0.0	0.0	3.4	1.6	T	5.8	T	T	T	0.0	10.8
1986-87	0.0	0.0	0.0	0.0	T	0.1	0.0	T	T	T	T	0.0	0.1
1987-88	0.0	0.0	0.0	0.0	0.0	2.9	0.6	0.0	0.0	T	T	0.0	3.5
1988-89	0.0	0.0	0.0	0.0	T	T	0.9	0.3	2.0	T	0.0	0.0	3.2
1989-90	0.0	T	0.0	T	0.0	0.0	T	8.3	T	0.0	0.0	0.0	8.3
1990-91	0.0	0.0	0.0	0.0	0.0	1.3	0.6	0.0	T	T	0.0	0.0	1.9
1991-92	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T	0.0	0.0	T
1992-93	0.0	0.0	0.0	0.0	T	4.6	2.9	6.6	0.0	T	T	0.0	14.1
1993-94	0.0	0.0	0.0	0.0	T	T	0.0	2.6	T	T	0.0	T	2.6
1994-95	0.0	0.0	0.0	0.0	0.3	1.1	T	3.6	0.4	T	0.0	T	5.4
1995-96	0.0	0.0	0.0	0.0	0.0								
1996-97													
1997-98													
1998-													
POR= 55 YRS	0.0	T	T	0.0	0.4	1.4	3.1	1.1	0.4	T	0.0	T	6.4

WBAN : 24229

REFERENCE NOTES:

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1961 - 1990). ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD.</p>	<p>GENERAL CONTINUED: CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED. WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65° F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY.</p> <p>ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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1998
PORTLAND,
OREGON (PDX)

The Portland Weather Service Office is located 6 miles north-northeast of downtown Portland. Portland is situated about 65 miles inland from the Pacific Coast and midway between the northerly oriented low coast range on the west and the higher Cascade range on the east, each about 30 miles distant. The airport lies on the south bank of the Columbia River. The coast range provides limited shielding from the Pacific Ocean. The Cascade range provides a steep slope for orographic lift of moisture-laden westerly winds and consequent moderate rainfall, and also forms a barrier from continental air masses originating over the interior Columbia Basin. Airflow is usually northwesterly in Portland in spring and summer and southeasterly in fall and winter. The Portland Airport location is drier than most surrounding localities.

Portland has a very definite winter rainfall climate. Approximately 88 percent of the annual total occurs in the months of October through May, 9 percent in June and September, while only 3 percent comes in July and August. Precipitation is mostly rain, as on the average there are only five days each year with measurable snow. Snowfalls are seldom more than a couple of inches, and generally last only a few days.

The winter season is marked by relatively mild temperatures, cloudy skies and rain with southeasterly surface winds predominating. Summer produces pleasantly mild temperatures, northwesterly winds and very little precipitation. Fall and spring are transitional in nature. Fall and early winter are times with most frequent fog.

At all times, incursions of marine air are a frequent moderating influence. Outbreaks of continental high pressure from east of the Cascade Mountains produce strong easterly flow through the Columbia Gorge into the Portland area. In winter this brings the coldest weather with the extremes of low temperature registered in the cold air mass. Freezing rain and ice glaze are sometimes transitional effects. Temperatures below zero are very infrequent. In summer, hot, dry continental air brings the highest temperatures. Temperatures above 100 degrees are infrequent, but 90 degrees or higher are reached every year, but seldom persist for more than two or three days.

Destructive storms are infrequent in the Portland area. Surface winds seldom exceed gale force and rarely in the period of record have winds reached higher than 75 mph. Thunderstorms occur about once a month through the spring and summer months. Heavy downpours are infrequent but gentle rains occur almost daily during winter months.

Most rural areas around Portland are farmed for berries, green beans, and vegetables for fresh market and processing. The long growing season with mild temperatures and ample moisture favors local nursery and seed industries.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is November 7 and the average last occurrence in the spring is April 3.

STATION LOCATION

PORTLAND, OREGON

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											REMARKS
						SEA LEVEL	GROUND										
							WIND	TEMPERATURE	RELATIVE HUMIDITY	PRECIPITATION	WIND DIRECTION	WIND SPEED	WIND VELOCITY	WIND DIRECTION	WIND SPEED	WIND VELOCITY	
CITY - - NOTE: For period November 1, 1871 through January 1, 1870, refer to previous editions.																	
Oregon-Washington Trust Building, 48 1st Street	1/1/78	8/1/85	1200 ft. NNW	45°31'	122°40'	28	a68 b86	45						51	a - Anemometer. b - Wind Vane.		
Kamm Building 1st & Pine Street	8/1/85	11/5/92	600 ft. SW	45°31'	122°40'	28	92	84	84	Unk		c76	76	Sunshine records began 1/1/91. c - Added 2/11/90.			
Oregon Building 6th & Adler St.	11/5/92	6/8/02	2000 ft. SW	45°31'	122°40'	40	209	200	200	Unk		197	197				
220 Custom House Davis-Everett on Park	6/8/02	6/8/38	2000 ft. N	45°32'	122°40'	30	96 d106	68	68	95	e63		63	d - Effective 10/30/06. e - Added 6/8/02.			
320 Custom House Davis-Everett on Park	6/8/38	1/1/50	Change in room only	45°32'	122°40'	30	106	68	68	95	63		63				
321 Custom House Davis-Everett on Park	1/1/50	7/1/73	NA	45°32'	122°40'	30		68	68			63	63	Sunshine recorder and wind recording equipment transferred to airport station 1/1/50.			
AIRPORT Temporary Quarters Swan Island Airport	7/14/28	5/7/30	3.3 mi. NW of WBO	45°34'	122°43'	33											
Administration Building Swan Island Airport	5/7/30	10/13/40	NA	45°34'	122°43'	33	46	29	29				25				
UAL Building, Portland-Columbia Airport	10/13/40	9/30/43	6 mi. ENE	45°36'	122°36'	20	62	5	5				4				
Portland Building Portland-Columbia AP	9/30/43	5/31/48	75 ft. E	45°36'	122°36'	20	62	5	5				4				
322 Custom House NW Park and Davis	5/31/48	8/24/48	9 mi. SSW	45°32'	122°40'	30	106	68	68		63		63	Field flooded, operated at city office site.			
UAL Building Portland Airport	8/24/48	2/4/49	9 mi. NNE	45°36'	122°36'	21	62	5	5			4	4	Relocated at airport in UAL Hangar temporarily.			
Administration Building Portland International Airport	2/4/49	5/17/57	0.13 mi. W	45°36'	122°36'	21	33	6	5	f4	f4		4	h			
Administration Building Portland International Airport	5/17/57	Present	NA	45°36'	122°36'	21	g33 f25 m20	g6	g5	j23 n23	4 k3	5	NA	h6 p6	NA		
															i - Installed 1/3/50. g - Not moved 5/17/57. h - Telepsychrometer (4') 2/4/49-10/3/63. Hygro. comm. 0.25 mi. SE of office 10/3/63. j - Relocated 4/19/62. k - Moved to roof 2/26/64. l - Minor move 2/26/64. m - Lowered 3/1973. n - Minor adjustment 1/18/82. p - Type change 9/9/85.		
															S ASOS Commissioned 11/01/95		

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