

1998

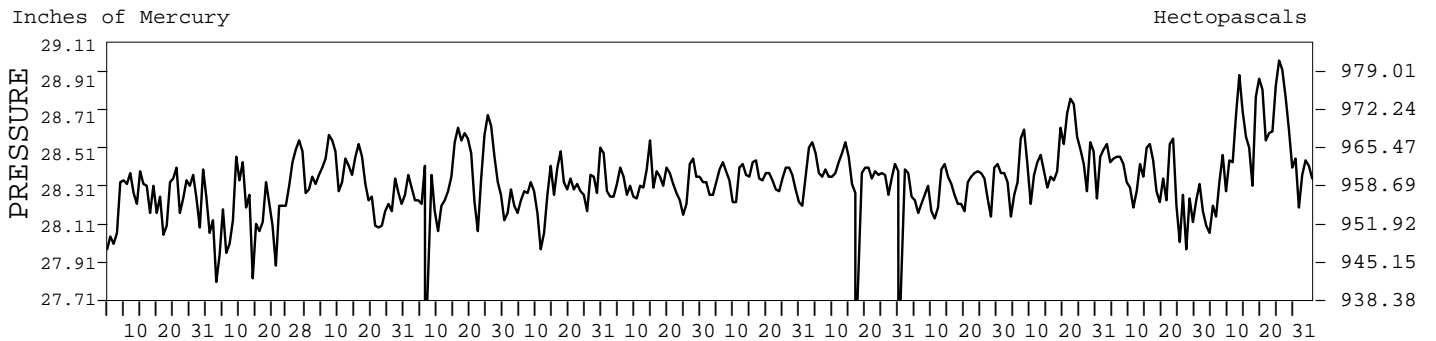
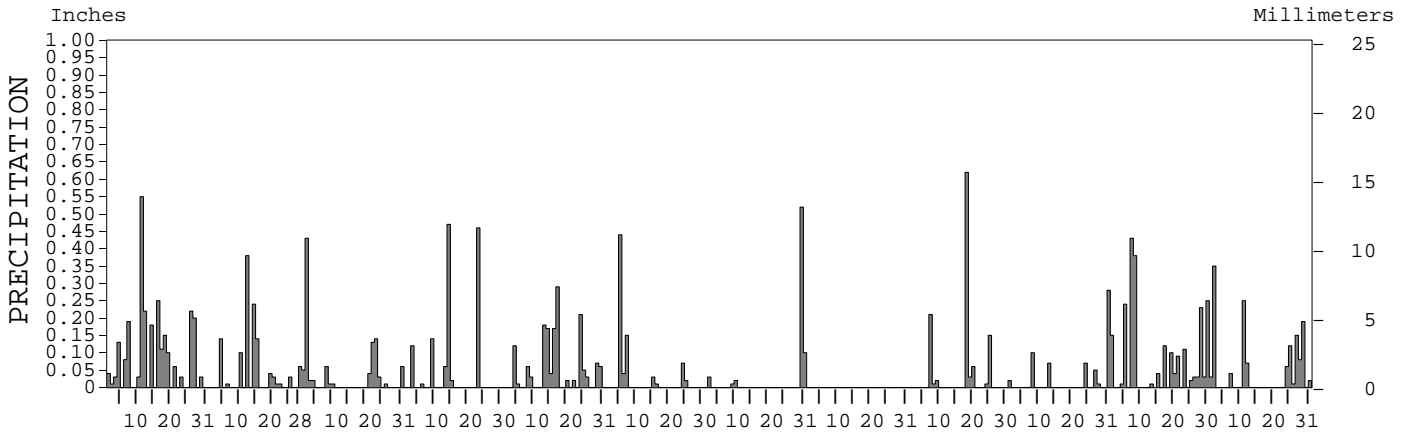
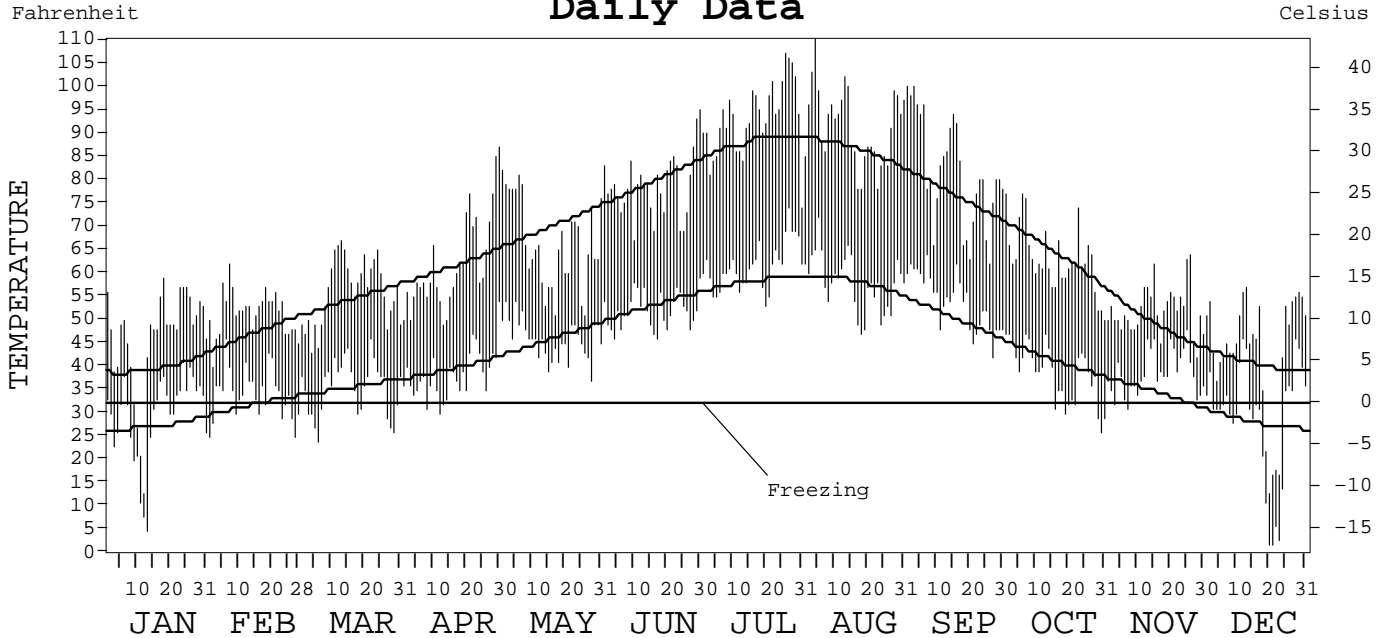
LOCAL CLIMATOLOGICAL DATA  
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4187

PENDLETON,  
OREGON (PDT)

Daily Data



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# METEOROLOGICAL DATA FOR 1998

## PENDLETON, OR (PDT)

LATITUDE: 45° 41' 54" N      LONGITUDE: 118° 50' 03" W      ELEVATION (FT): GRND: 1482      BARO: 1507      TIME ZONE: PACIFIC (UTC+ 8)      WBAN: 24155

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	46.3	51.5	56.2	62.1	66.5	78.8	93.2	91.1	81.5	63.1	52.2	43.1	65.5	
	HIGHEST DAILY MAXIMUM	59	62	67	87	82	95	107	110	100	77	64	57	110	
	DATE OF OCCURRENCE	18	07	13	30	01	30	26	04	03+	06+	26	13	AUG 04	
	MEAN DAILY MINIMUM	29.5	34.3	35.5	38.4	45.9	51.9	61.5	58.0	54.0	38.6	38.7	29.2	43.0	
	LOWEST DAILY MINIMUM	5	25	24	30	37	46	53	47	42	26	31	2	2	
	DATE OF OCCURRENCE	13	27+	06	12	28	17+	20	18	27	30	07	21+	DEC 21+	
	AVERAGE DRY BULB	37.9	42.9	45.9	50.3	56.2	65.4	77.4	74.6	67.8	50.9	45.5	36.2	54.3	
	MEAN WET BULB	34.5	38.7	41.2		50.6	55.1	62.2		57.0	44.7	41.6	32.8		
	MEAN DEW POINT	30.5	33.2	36.0		45.5	46.4	51.3		49.2	38.3	37.5	27.5		
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	2	24	16	9	0	0	0	0	51
	MAXIMUM ≤ 32°	4	0	0	0	0	0	0	0	0	0	0	5	9	
	MINIMUM ≤ 32°	16	10	11	3	0	0	0	0	0	7	2	18	67	
	MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0	
H/C	HEATING DEGREE DAYS	832	611	585	442	273	37	0	3	56	429	578	887	4733	
	COOLING DEGREE DAYS	0	0	0	6	5	56	390	309	144	0	0	0	910	
RH	MEAN (PERCENT)	78	71	73	68	70	53	43	38	57	66	77	72	64	
	HOUR 04 LST	80	74	85	83	85	76	64	56	71	80	78	75	76	
	HOUR 10 LST	77	65	66	60	64	46	37	35	51	59	74	73	59	
	HOUR 16 LST	73	62	57	49	56	35	27	23	41	46	73	67	51	
	HOUR 22 LST	80	78	81	77	77	57	45	40	62	76	80	71	69	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	7	5	1	1	0	0	0	0	0	0	4	2	20	
	THUNDERSTORMS	0	0	1	1	2	5	6	2	5	0	0	0	22	
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.)	28.27	28.20	28.37		28.31	28.36	28.37		28.32	28.49	28.33	28.59		
	MEAN SEA-LEVEL PRESS. (IN.)	29.86	29.78	29.95		29.87	29.90	29.90		29.86	30.06	29.91	30.20		
WINDS	RESULTANT SPEED (MPH)	2.0	2.4	2.2		5.1	3.3	3.6		1.9	2.2	4.6	5.4		
	RES. DIR. (TENS OF DEGS.)	18	16	21		23	23	26		21	22	19	21		
	MEAN SPEED (MPH)	8.0	8.3	7.9	8.4	8.9	10.4	8.7	9.1	7.5	7.6	9.2	10.1	8.7	
	PREVAIL. DIR. (TENS OF DEGS.)	14	12	14	24	23	24	28	26	12	13	15	15	24	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	44	31	41	46	36	41	33	34	32	36	38	54	54	
	DIR. (TENS OF DEGS.)	24	24	24	23	24	25	21	24	23	23	26	22	22	
	DATE OF OCCURRENCE	17	25	23	23	21+	15	27	16	24	27	15	27	DEC 27	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	55	34	46	55	43	51	38	39	37	41	46	66	66	
DIR. (TENS OF DEGS.)	26	17	25	21	22	25	18	25	23	23	14	22	22		
DATE OF OCCURRENCE	14	10	23	23	02	15	30+	16+	24	27	23	27	DEC 27		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	2.61	1.19	1.01	1.28	1.53	0.76	0.68	T	1.11	0.60	2.31	1.37	14.45	
	GREATEST 24-HOUR (IN.)	0.42	0.38	0.43	0.53	0.43	0.48	0.55	T	0.63	0.28	0.77	0.35	0.77	
	DATE OF OCCURRENCE	26-27	14-15	02	13-14	16-17	05-06	30-31	23+	18-19	31	07-08	02	NOV 07-08	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	19	12	13	7	16	7	5	0	8	7	18	12	124	
PRECIPITATION ≥ 0.10	11	5	3	4	6	2	2	0	3	2	9	5	52		
PRECIPITATION ≥ 1.00	0	0	0	0	0	0	0	0	0	0	0	0	0		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)		0.0							0.0	0.0		0.8		
	GREATEST 24-HOUR (IN.)		0.0							0.0	0.0		0.8		
	DATE OF OCCURRENCE												24		
	MAXIMUM SNOW DEPTH (IN.)		0							0	0		T		
	DATE OF OCCURRENCE												24+		
	NUMBER OF DAYS WITH:														
SNOWFALL ≥ 1.0		0							0	0		0			

# NORMALS, MEANS, AND EXTREMES

## PENDLETON, OR (PDT)

LATITUDE: 45° 41' 54" N      LONGITUDE: 118° 50' 03" W      ELEVATION (FT): GRND: 1482      BARO: 1507      TIME ZONE: PACIFIC (UTC+ 8)      WBAN: 24155

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	39.7	46.9	54.2	61.3	70.0	79.5	87.8	86.2	76.3	63.7	48.9	40.5	62.9
	MEAN DAILY MAXIMUM	51	39.4	46.3	53.7	61.5	70.1	78.6	87.7	85.8	76.8	63.5	48.9	40.9	62.8
	HIGHEST DAILY MAXIMUM	63	70	75	79	91	100	108	110	113	102	92	77	67	113
	YEAR OF OCCURRENCE		1995	1996	1964	1977	1986	1961	1939	1961	1955	1980	1975	1980	AUG 1961
	MEAN OF EXTREME MAXS.	51	58.5	62.3	68.2	77.7	87.9	94.6	101.3	99.7	92.5	80.0	65.7	59.5	79.0
	NORMAL DAILY MINIMUM	30	27.2	31.6	35.4	39.4	45.8	52.9	58.0	57.7	49.9	41.0	34.1	27.9	41.7
	MEAN DAILY MINIMUM	51	26.4	30.9	34.8	39.6	46.1	52.5	58.0	57.4	50.3	41.1	33.7	28.4	41.6
	LOWEST DAILY MINIMUM	63	-22	-18	1	18	25	35	42	40	30	11	-12	-19	-22
	YEAR OF OCCURRENCE		1957	1950	1993	1936	1954	1991	1971	1980	1970	1935	1985	1983	JAN 1957
	MEAN OF EXTREME MINS.	51	6.3	14.5	23.6	30.2	35.3	42.5	48.0	47.6	39.0	29.0	20.5	11.3	29.0
	NORMAL DRY BULB	30	33.5	39.2	44.8	50.3	57.9	66.2	72.9	72.0	63.1	52.4	41.5	34.3	52.3
	MEAN DRY BULB	51	32.8	38.6	44.2	50.6	58.1	65.6	72.9	71.6	63.6	52.3	41.3	34.6	52.2
	MEAN WET BULB	15	31.5	33.9	39.7	44.4	49.4	53.5	56.9	55.8	51.8	44.4	37.5	28.0	43.9
	MEAN DEW POINT	15	27.7	29.1	33.2	36.4	40.9	43.0	43.8	42.4	40.7	36.1	32.8	24.7	35.9
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	*	0.8	5.3	14.4	11.7	2.6	0.1	0.0	0.0	34.9	
MAXIMUM ≤ 32°	30	8.6	2.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	8.1	21.7	
MINIMUM ≤ 32°	30	20.1	14.5	8.8	3.2	0.1	0.0	0.0	0.0	0.2	3.1	10.8	19.7	80.5	
MINIMUM ≤ 0°	30	1.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.2	3.1	
H/C	NORMAL HEATING DEG. DAYS	30	977	722	626	441	226	71	15	23	145	391	705	952	5294
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	6	107	260	240	88	0	0	0	701
RH	NORMAL (PERCENT)	30	77	73	63	58	52	46	36	38	47	59	74	78	58
	HOUR 04 LST	30	79	78	73	71	68	63	53	53	61	70	78	80	69
	HOUR 10 LST	30	77	71	60	52	47	41	33	36	42	54	72	78	55
	HOUR 16 LST	30	73	63	49	42	37	31	23	26	32	44	68	76	47
	HOUR 22 LST	30	79	76	68	62	56	49	37	40	51	64	77	80	62
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	61	7.4	4.9	1.9	0.3	0.2	0.1	0.0	0.0	0.2	1.0	6.0	8.4	30.4
	THUNDERSTORMS	61	0.0	0.0	0.2	0.9	1.8	2.0	2.0	2.0	1.2	0.3	0.1	0.0	10.5
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	1					6.4				3.2				
	MIDNIGHT-MIDNIGHT (OKTAS)	1										3.2			
	MEAN NO. DAYS WITH:														
	CLEAR	1	1.0	3.0	4.0		5.0	7.0							
PARTLY CLOUDY	1		3.0	2.0		5.0	3.0								
CLOUDY	1	3.0	2.0	9.0		10.0	3.0								
PR	MEAN STATION PRESSURE (IN)	25	28.52	28.47	28.40	28.42	28.40	28.39	28.40	28.39	28.44	28.49	28.47	28.54	28.44
	MEAN SEA-LEVEL PRES. (IN)	15	30.14	30.11	30.03	30.01	29.96	29.96	29.96	29.95	29.98	30.06	30.09	30.19	30.04
WINDS	MEAN SPEED (MPH)	34	7.3	7.8	8.8	9.5	9.2	9.1	8.8	8.4	8.0	7.4	7.7	7.5	8.3
	PREVAIL. DIR (TENS OF DEGS)	20	16	15	26	26	26	26	27	27	14	14	15	16	26
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	3	44	47	55	48	43	41	33	43	33	40	38	54	55
	DIR. (TENS OF DEGS)		24	25	25	25	24	25	26	23	25	25	26	22	25
	YEAR OF OCCURRENCE		1998	1997	1997	1997	1996	1998	1996	1997	1997	1996	1998	1998	MAR 1997
	MAXIMUM 5-SECOND:														
SPEED (MPH)	3	55	57	63	55	51	51	39	59	40	49	48	66	66	
DIR. (TENS OF DEGS)		26	25	25	21	24	25	25	23	16	24	16	22	22	
YEAR OF OCCURRENCE		1998	1997	1997	1998	1996	1998	1996	1997	1997	1996	1996	1998	DEC 1998	
PRECIPITATION	NORMAL (IN)	30	1.51	1.14	1.16	1.04	0.99	0.64	0.35	0.53	0.59	0.86	1.58	1.63	12.02
	MAXIMUM MONTHLY (IN)	63	3.92	3.03	2.82	2.78	3.18	2.70	1.45	2.58	2.34	2.79	3.76	4.68	4.68
	YEAR OF OCCURRENCE		1970	1940	1983	1978	1991	1947	1993	1977	1941	1947	1973	1973	DEC 1973
	MINIMUM MONTHLY (IN)	63	0.21	0.07	0.24	0.01	0.03	0.03	T	0.00	T	T	0.04	0.21	0.00
	YEAR OF OCCURRENCE		1949	1964	1941	1956	1964	1986	1967	1969	1993	1987	1939	1989	AUG 1969
	MAXIMUM IN 24 HOURS (IN)	63	1.29	1.41	1.33	1.24	1.52	1.49	1.19	2.19	1.23	1.88	1.35	1.25	2.19
	YEAR OF OCCURRENCE		1956	1994	1983	1990	1972	1947	1948	1993	1981	1982	1971	1978	AUG 1993
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	12.0	10.9	10.6	8.7	7.2	5.8	2.9	3.6	4.7	6.1	11.7	12.2	96.4	
PRECIPITATION ≥ 1.00	30	*	0.0	*	0.1	*	0.0	0.0	*	*	*	*	*	0.1	
SNOWFALL	NORMAL (IN)	30	6.1	2.1	1.0	0.1	T	0.0	0.0	0.0	0.2	2.2	5.2	16.9	
	MAXIMUM MONTHLY (IN)	61	41.6	16.8	4.9	2.2	T	T	T	0.0	0.0	3.2	14.9	26.6	41.6
	YEAR OF OCCURRENCE		1950	1994	1971	1975	1993	1994	1993			1973	1985	1983	JAN 1950
	MAXIMUM IN 24 HOURS (IN)	61	13.3	16.1	4.0	2.2	T	T	T	0.0	0.0	3.2	8.0	9.9	16.1
	YEAR OF OCCURRENCE		1950	1994	1970	1975	1993	1994	1993			1973	1977	1948	FEB 1994
	MAXIMUM SNOW DEPTH (IN)	49	16	12	6	0	0	0	0	0	0	2	8	11	16
	YEAR OF OCCURRENCE		1957	1994	1993							1971	1978	1985	JAN 1957
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	2.2	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.9	5.9	

PRECIPITATION (inches) 1998 PENDLETON, OR (PDT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	2.88	0.88	0.57	2.05	1.40	0.86	0.02	0.00	0.42	1.13	0.36	1.88	12.45
1970	3.92	1.48	0.99	0.63	0.32	0.57	0.08	0.03	0.78	0.81	1.78	0.80	12.19
1971	0.84	0.69	1.11	1.15	1.41	1.73	0.32	0.14	1.03	0.70	2.73	2.59	14.44
1972	0.96	1.08	1.47	0.68	1.97	0.80	0.58	0.36	0.16	0.58	0.70	2.31	11.65
1973	0.50	1.09	0.43	0.27	0.67	0.15	0.01	0.08	1.34	1.71	3.76	4.68	14.69
1974	0.79	1.57	0.81	2.13	0.26	0.19	0.90	T	T	0.29	1.00	1.59	9.53
1975	3.53	1.30	0.65	0.97	0.30	0.28	0.73	0.67	0.00	1.80	0.84	1.98	13.05
1976	1.77	1.00	1.65	1.09	0.92	0.33	0.16	1.77	0.18	0.54	0.19	0.44	10.04
1977	0.48	0.64	1.51	0.18	1.87	0.37	0.06	2.58	1.17	0.51	2.00	2.42	13.79
1978	2.82	1.60	1.03	2.78	0.63	0.76	0.77	2.21	0.92	T	2.37	1.86	17.75
1979	1.43	1.72	1.18	1.17	0.39	0.21	0.09	1.40	0.30	1.68	1.83	0.62	12.02
1980	2.48	1.39	1.60	0.59	2.14	1.12	0.77	0.03	0.59	1.22	0.84	1.20	13.97
1981	0.89	1.35	1.43	1.20	1.59	1.53	0.94	0.03	1.31	0.86	1.91	2.31	15.35
1982	1.54	0.77	1.22	0.84	0.31	0.63	0.51	0.24	1.47	2.67	0.34	2.20	12.74
1983	0.86	1.57	2.82	0.70	0.73	1.44	0.52	0.56	0.46	0.84	1.67	3.42	15.59
1984	0.53	1.74	1.83	1.70	1.02	1.13	0.06	0.44	0.39	1.02	2.14	0.92	12.92
1985	0.44	1.33	1.13	0.37	0.44	0.69	0.34	0.26	2.10	0.89	2.11	1.27	11.37
1986	1.66	2.58	1.13	0.43	1.18	0.03	0.48	0.02	1.28	0.80	2.12	0.82	12.53
1987	1.48	0.64	1.39	0.47	0.85	0.38	0.34	0.05	0.03	T	0.76	1.23	7.62
1988	1.86	0.12	0.95	2.47	1.56	0.31	0.01	T	0.31	0.10	2.16	0.37	10.22
1989	1.86	1.36	1.72	1.57	1.47	0.57	0.09	1.25	0.12	0.84	1.27	0.21	12.33
1990	0.77	0.28	1.14	1.54	1.83	0.58	0.18	0.62	T	0.78	0.87	0.84	9.43
1991	0.98	0.57	1.00	0.71	3.18	2.14	0.24	0.42	T	0.92	2.68	0.67	13.51
1992	0.41	1.04	0.26	1.21	0.07	0.94	0.70	0.43	0.42	1.32	1.15	0.73	8.68
1993	1.79	0.80	1.49	1.85	1.51	0.71	1.45	2.19	T	0.22	0.93	0.92	13.86
1994	1.57	1.71	0.56	0.45	2.55	0.77	0.38	T	0.36	1.28	1.98	0.85	12.46
1995	2.53	1.07	1.93	2.28	0.97	2.30	0.24	0.29	0.55	1.21	2.18	1.73	17.28
1996	1.88	1.80	1.00	1.08	2.00	0.47	0.06	0.05	0.61	1.22	1.96	2.32	14.45
1997	1.84	0.39	1.16	1.56	0.33	0.76	0.66	0.07	0.77	1.43	1.64	1.05	11.66
1998	2.61	1.19	1.01	1.28	1.53	0.76	0.68	T	1.11	0.60	2.31	1.37	14.45
POR= 99 YRS	1.57	1.29	1.21	1.08	1.14	0.95	0.30	0.40	0.61	1.00	1.51	1.51	12.57

WBAN : 24155

AVERAGE TEMPERATURE (°F) 1998 PENDLETON, OR (PDT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	22.0	35.5	44.6	49.8	61.7	69.8	72.5	70.1	64.7	49.3	43.2	34.9	51.5
1970	32.3	39.5	43.5	45.8	57.8	68.7	74.8	72.5	56.3	47.4	40.4	35.7	51.2
1971	40.0	39.8	40.5	49.4	60.5	63.3	76.1	76.8	59.1	51.4	43.7	36.9	53.1
1972	34.0	37.4	47.8	47.6	60.9	68.3	74.7	76.2	61.1	51.1	42.6	27.1	52.4
1973	31.3	38.4	45.8	50.3	61.3	66.9	75.3	71.7	64.0	52.8	42.6	41.5	53.5
1974	30.4	43.8	46.4	51.7	57.3	71.1	73.3	75.5	67.5	54.8	44.8	40.6	54.8
1975	37.1	39.0	45.2	47.5	59.3	65.8	78.4	70.1	67.0	54.3	42.3	40.5	53.9
1976	39.2	37.9	42.8	50.2	58.8	63.7	73.4	67.7	67.3	53.1	42.7	35.9	52.7
1977	26.3	41.5	44.2	55.3	55.1	69.1	70.3	74.9	58.5	50.0	38.3	34.8	51.5
1978	32.2	39.3	45.7	48.0	54.4	66.3	72.2	69.4	60.5	51.7	33.5	29.5	50.2
1979	15.3	37.7	46.0	50.4	59.5	66.6	72.8	70.6	65.5	54.3	34.7	38.2	51.0
1980	25.6	36.1	41.3	51.9	56.4	60.4	72.1	66.9	63.3	51.3	42.0	39.2	50.5
1981	36.2	38.9	45.7	50.4	56.0	61.6	69.2	74.3	63.8	50.6	44.2	37.2	52.3
1982	35.0	38.1	43.5	47.6	56.8	67.6	71.1	71.5	60.7	50.7	37.3	35.7	51.3
1983	40.8	43.8	47.8	49.0	58.9	62.7	68.4	72.7	58.9	52.5	45.9	23.2	52.1
1984	34.6	39.7	46.8	48.2	54.7	62.1	72.9	72.2	60.4	49.1	41.8	30.4	51.1
1985	26.3	33.5	43.2	53.1	58.5	65.6	77.4	68.1	57.0	50.3	26.5	19.5	48.3
1986	35.9	39.0	48.8	50.0	58.6	70.0	67.6	75.8	58.9	54.0	42.2	31.5	52.7
1987	30.4	39.1	46.4	53.9	59.7	67.2	68.9	70.6	66.2	54.1	42.6	32.7	52.7
1988	32.4	41.1	44.1	51.9	56.8	63.9	72.0	70.0	63.4	58.4	44.3	33.9	52.7
1989	38.3	25.1	42.5	52.9	55.9	65.9	70.3	68.8	63.6	51.8	44.6	33.2	51.1
1990	39.6	37.9	45.7	54.8	56.4	64.7	75.2	72.2	68.2	51.3	45.4	25.8	53.1
1991	31.2	44.7	42.6	49.6	53.9	59.6	71.5	73.3	64.9	51.6	41.2	36.9	51.8
1992	38.7	42.4	47.7	52.8	62.4	70.4	71.9	72.6	61.9	54.2	39.8	32.0	53.9
1993	25.1	28.2	41.9	50.3	61.8	62.9	65.4	68.0	64.3	54.6	34.6	35.6	49.4
1994	41.0	34.9	46.7	54.4	60.1	64.4	75.3	71.7	67.2	51.6	40.4	35.3	53.6
1995	34.9	41.7	45.3	49.0	57.7	62.1	72.0	67.4	66.0	50.2	46.1	34.5	52.2
1996	34.4	35.7	43.3	52.0	54.5	64.0	74.7	72.1	61.0	51.1	40.3	35.4	51.5
1997	32.6	38.6	45.4	48.6	59.8	63.1	70.4	73.1	64.9	51.4	42.7	34.9	52.1
1998	37.9	42.9	45.9	50.3	56.2	65.4	77.4	74.6	67.8	50.9	45.5	36.2	54.3
POR= 93 YRS	32.7	37.9	44.9	51.3	58.4	65.5	73.1	71.4	63.2	52.5	41.4	35.1	52.3

WBAN : 24155

HEATING DEGREE DAYS (base 65°F) 1998 PENDLETON, OR (PDT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0	11	79	480	646	926	1007	707	660	568	228	83	5395
1970-71	0	1	260	540	731	903	767	698	755	460	169	95	5379
1971-72	11	9	182	428	633	868	955	793	528	515	171	29	5122
1972-73	5	4	165	422	663	1170	1036	738	588	434	169	73	5467
1973-74	1	16	97	372	666	721	1064	589	573	391	241	29	4760
1974-75	8	0	39	313	600	750	857	721	609	517	194	57	4665
1975-76	0	12	43	332	673	751	791	782	679	436	206	89	4794
1976-77	4	42	31	363	660	896	1192	653	639	299	301	26	5106
1977-78	20	35	200	461	792	927	1011	714	593	504	322	46	5625
1978-79	7	41	146	403	936	1094	1533	757	582	432	184	62	6177
1979-80	12	0	43	326	902	823	1210	829	728	388	267	141	5669
1980-81	4	33	88	438	681	794	886	724	593	435	275	126	5077
1981-82	20	1	128	440	617	855	919	747	662	515	256	72	5232
1982-83	22	7	171	435	825	901	741	588	528	470	242	95	5025
1983-84	42	1	180	381	569	1292	935	729	558	496	316	134	5633
1984-85	4	0	182	490	692	1065	1196	876	665	351	224	65	5810
1985-86	4	22	242	452	1149	1402	898	722	497	446	277	25	6136
1986-87	33	0	213	335	675	1031	1065	717	571	332	201	71	5244
1987-88	25	12	65	334	668	995	1004	689	637	387	264	126	5206
1988-89	22	4	120	208	616	957	821	1113	691	354	279	42	5227
1989-90	11	17	76	403	607	978	781	752	591	299	262	89	4866
1990-91	9	13	11	419	583	1211	1039	564	689	454	338	162	5492
1991-92	4	2	52	418	707	865	810	649	527	362	127	36	4559
1992-93	11	28	129	333	752	1015	1231	1025	709	432	153	98	5916
1993-94	27	35	114	318	908	903	736	838	559	321	174	83	5016
1994-95	15	0	30	406	731	915	928	644	602	473	237	126	5107
1995-96	1	26	51	452	560	941	938	840	664	387	321	64	5245
1996-97	8	4	153	423	733	909	998	733	599	488	185	84	5317
1997-98	13	0	73	415	662	927	832	611	585	442	273	37	4870
1998-	0	3	56	429	578	887							

WBAN : 24155

COOLING DEGREE DAYS (base 65°F) 1998 PENDLETON, OR (PDT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	0	0	0	0	45	183	238	177	76	0	0	0	719
1970	0	0	0	0	11	201	313	243	4	0	0	0	772
1971	0	0	0	0	36	50	363	379	12	13	0	0	853
1972	0	0	0	0	50	134	314	358	55	0	0	0	911
1973	0	0	0	0	63	137	327	232	72	0	0	0	831
1974	0	0	0	0	9	219	272	332	122	4	0	0	958
1975	0	0	0	0	27	88	423	179	109	8	0	0	834
1976	0	0	0	0	20	53	270	129	103	3	0	0	578
1977	0	0	0	16	3	152	190	348	16	0	0	0	725
1978	0	0	0	0	1	93	236	182	16	0	0	0	528
1979	0	0	0	0	21	114	261	186	65	3	0	0	650
1980	0	0	0	2	5	13	232	101	44	20	0	0	417
1981	0	0	0	4	2	28	155	297	101	0	0	0	587
1982	0	0	0	0	7	158	219	215	47	0	0	0	646
1983	0	0	0	0	60	32	155	246	6	0	0	0	499
1984	0	0	0	0	7	55	256	231	51	3	0	0	603
1985	0	0	0	0	28	91	394	127	7	0	0	0	647
1986	0	0	0	2	88	184	121	341	35	1	0	0	772
1987	0	0	0	8	41	145	152	194	108	4	0	0	652
1988	0	0	0	0	16	98	246	164	78	9	0	0	611
1989	0	0	0	0	5	76	182	143	41	0	0	0	447
1990	0	0	0	0	4	92	330	245	114	3	0	0	788
1991	0	0	0	0	0	8	214	267	56	9	0	0	554
1992	0	0	0	1	52	204	229	275	45	4	0	0	810
1993	0	0	0	0	59	42	47	136	99	4	0	0	387
1994	0	0	0	8	29	72	341	214	103	0	0	0	767
1995	0	0	0	0	17	44	230	108	89	0	0	0	488
1996	0	0	0	0	0	42	312	230	39	0	0	0	623
1997	0	0	0	0	31	34	191	258	79	5	0	0	598
1998	0	0	0	6	5	56	390	309	144	0	0	0	910

SNOWFALL (inches) 1998 PENDLETON, OR (PDT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0.0	0.0	0.0	0.0	T	3.5	9.9	3.8	1.3	T	T	0.0	18.5
1970-71	0.0	0.0	0.0	0.0	1.6	2.3	4.0	0.6	4.9	T	T	0.0	13.4
1971-72	0.0	0.0	0.0	1.9	T	11.8	3.6	6.2	0.1	1.1	0.0	0.0	24.7
1972-73	0.0	0.0	0.0	T	T	12.6	2.2	5.9	T	0.1	0.0	0.0	20.8
1973-74	0.0	0.0	0.0	3.2	9.1	5.3	2.6	0.5	T	T	0.0	0.0	20.7
1974-75	0.0	0.0	0.0	0.0	T	T	16.6	3.3	T	2.2	T	0.0	22.1
1975-76	0.0	0.0	0.0	0.0	5.2	3.0	0.3	0.3	0.1	0.0	0.0	0.0	8.9
1976-77	0.0	0.0	0.0	0.0	0.0	1.0	3.1	0.5	0.4	0.0	0.0	0.0	5.0
1977-78	0.0	0.0	0.0	0.0	8.5	11.5	6.1	T	3.9	0.0	T	0.0	30.0
1978-79	0.0	0.0	0.0	0.0	9.0	7.4	14.7	2.2	T	0.0	0.0	0.0	33.3
1979-80	0.0	0.0	0.0	0.0	4.3	T	16.6	0.9	3.9	0.0	0.0	0.0	25.7
1980-81	0.0	0.0	0.0	0.0	2.0	2.7	3.6	1.2	0.0	0.0	0.0	0.0	9.5
1981-82	0.0	0.0	0.0	0.0	0.6	5.1	5.7	1.5	1.9	T	0.0	0.0	14.8
1982-83	0.0	0.0	0.0	0.0	T	1.6	0.2	0.9	0.0	0.0	0.0	0.0	2.7
1983-84	0.0	0.0	0.0	0.0	T	26.6	1.0	1.2	T	T	0.0	0.0	28.8
1984-85	0.0	0.0	0.0	0.0	T	6.2	0.8	12.7	0.6	T	0.0	0.0	20.3
1985-86	0.0	0.0	0.0	0.0	14.9	9.1	T	7.6	0.0	0.0	T	0.0	31.6
1986-87	0.0	0.0	0.0	0.0	1.2	6.8	5.8	0.0	T	0.0	0.0	0.0	13.8
1987-88	0.0	0.0	0.0	0.0	0.3	2.3	10.6	0.0	1.5	0.0	0.0	0.0	14.7
1988-89	0.0	0.0	0.0	0.0	T	T	4.3	4.9	4.0	0.0	T	0.0	13.2
1989-90	0.0	0.0	0.0	0.0	0.0	1.0	T	2.0	1.3	0.0	0.0	0.0	4.3
1990-91	0.0	0.0	0.0	0.0	T	6.4	1.6	0.0	0.6	T	0.0	0.0	8.6
1991-92	0.0	0.0	0.0	2.3	1.0	T	0.8	T	0.0	0.0	0.0	0.0	4.1
1992-93	0.0	0.0	0.0	0.0	0.2	7.6	25.1	14.8	1.8	T	T	0.0	49.5
1993-94	T	0.0	0.0	0.0	0.7	0.4	T	16.8	0.2	0.0	0.0	T	18.1
1994-95	0.0	0.0	0.0	0.0	0.6	3.8	2.0	7.2	T	0.0	0.0	0.0	13.6
1995-96	0.0	0.0	0.0	0.0	0.0								
1996-97						10.1	3.2			T			
1997-98						4.2		0.0					
1998-			0.0	0.0		0.8							
POR= 60 YRS	T	0.0	0.0	0.1	1.7	3.9	6.9	3.6	0.9	0.1	T	T	17.2

WBAN : 24155

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  
PENDLETON,  
OREGON (PDT)

Pendleton is located in the southeastern part of the Columbia Basin, that low country of northern Oregon and central and eastern Washington which is almost entirely surrounded by mountains. This Basin is bounded on the south by the high country of central Oregon, on the north by the mountains of western Canada, on the west by the Cascade Range and on the east by the Blue Mountains and the north Idaho plateau. The gorge in the Cascades through which the Columbia River reaches the Pacific is the most important break in the barriers surrounding this basin. These physical features have important influences on the general climate of Pendleton and the surrounding territory.

The Weather Service Office at Pendleton Airport is located in rolling country which slopes generally upward toward the Blue Mountains about 15 miles to the east and southeast. The Columbia River approaches the area from the northwest to its junction with the Walla Walla River at an elevation of 351 feet and some 25 miles north of Pendleton, then turns southwestward to be joined a few miles below by the Umatilla River. Both the Walla Walla and Umatilla Rivers have their sources in the Blue Mountains and flow westward to the Columbia. The observation station is at an elevation of nearly 1,500 feet, about 3 miles northwest of downtown Pendleton. The city of Pendleton lies in the shallow east-west valley of the Umatilla River, approximately 400 feet lower than the airport.

Precipitation in the Pendleton area is definitely seasonal in occurrence with an average of only 10 percent of the annual total occurring in the three-month period, July-September. Most precipitation reaching this area accompanies cyclonic storms moving in from the Pacific Ocean. These storms reach their greatest intensity and frequency from October through April. The Cascade Range west of the Columbia Basin reduces the amount of precipitation received from the Pacific cyclonic storms. This influence is felt, particularly, in the desert area of the central part of the Basin. A gradual rise in elevation from the Columbia River to the foothills of the Blue Mountains again results in increased precipitation. This increase supplies sufficient moisture for productive wheat, pea, and stock raising activity in the area surrounding Pendleton.

The lighter summertime precipitation usually accompanies thunderstorms which often move into the area from the south or southwest. On occasion, these storms are quite intense, causing flash flooding with resultant heavy property damage and even loss of life.

Seasonal temperature extremes are usually quite moderate for the latitude. The last occurrence in spring of temperatures as low as 32 degrees is mid-April, and the average last occurrence in the fall of 32 degrees is late October. At the city station, where cool air settles in the valley on still nights, temperatures of 32 degrees have been recorded later in the spring and earlier in the fall. Under usual atmospheric conditions, air from the Pacific, with moderate temperature characteristics, moves across the Cascades or through the Columbia Gorge resulting in mild temperatures in the Pendleton area. When this flow of air from the west is impeded by slow-moving high pressure systems over the interior of the continent, temperature conditions sometimes become rather severe, hot in summer and cold in winter. During the summer or early fall, if a stagnant high predominates to the north or east of Pendleton, the hot, dry conditions may prove detrimental to crops during late May and June, and cause fire danger in the forest and grassland areas during late summer and early fall. During winter, coldest temperatures occur when air from a cold high pressure system in central Canada moves southwestward across the Rockies and flows down into the Columbia Basin. Under this condition the heavy cold air sometimes remains at low levels in the Basin for several days while warmer air from the Pacific flows above it, causing comparatively mild temperatures at higher elevations. Extreme winter temperatures are not particularly common in the Pendleton area. Below zero readings are recorded in approximately 60 percent of winters. Maximum temperatures usually reach 100 degrees or slightly higher on a few days during the summer.

# STATION LOCATION

PENDLETON, OREGON

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											* Type	REMARKS
						SEA LEVEL	GROUND											
							WIND	EMERSON	EMERSON	EMERSON	EMERSON	EMERSON	EMERSON	EMERSON	EMERSON	EMERSON		
<u>COOPERATIVE</u>																		
Unknown	2/1866	2/1886		45°40'	118°46'	1070												
P. Zahner to 3/91 then J.H. Zahner	11/14/89	1892		45°40'	118°46'	1122												Station at home east of Woolen Mills.
W.H. Hilton, south of St. Joseph's Academy	6/01/93	11/30/02		45°40'	118°40'	1074												
R.S. Bryson near Hawthorne School	12/01/02	7/31/03		45°40'	118°47'	1070												
F.G. Mitchell 203 Jackson Street	3/01/04	6/01/04		45°40'	118°47'	1070												
H.F. Johnson	6/01/04	12/31/08	Same	45°40'	118°47'	1070												
Ralph Howland 405 NW 5th	1/01/09	2/28/10		45°40'	118°47'	1070												
E.F. Averill 401 Aura Street	3/20/10	3/31/12		45°40'	118°50'	1070												
E.F. Averill 109 Jackson Street	3/31/12	6/30/13		45°44'	118°45'	1070		4										
E.F. Averill 305 Perkins Avenue	6/30/13	1/01/14		45°44'	118°45'	1070		4										
Laura C. Averill	1/01/14	10/19/19	Same	45°44'	118°45'	1070		4										1/4 mile north of river.
Major Lee Moorehouse SE Third and Byers	10/19/19	4/30/26		45°44'	118°45'	1070		4										
U.S. Forest Service on roof of Post Office	7/01/26	6/30/30		45°40'	118°47'	1100												
Mrs. Anna Perkins 314 South Blaine	7/01/30	6/30/35	1 mi. NE	45°40'	118°46'	1488		4										
<u>AIRPORT</u>																		
Old Municipal Airport 3.8 miles east of Post Office	1/01/28	2/02/34		45°40'	118°43'	1200	58		5									
Municipal Airport Pendleton Field UAL Building 2.3 miles NW of Post Office	6/02/34	4/02/35	5 mi. WNW	45°41'	118°51'	1492	53		16									
Municipal Airport Bureau of Air Commerce Building	4/02/35	2/10/43	50 yds. SE	45°41'	118°51'	1489	35	7	7			3	3					
Municipal Airport Building T-107	2/10/43	5/17/54	1/4 mi. WSW	45°41'	118°51'	1489	37	6	5			4	3					
Municipal Airport Air Terminal Building	5/18/54	10/01/60	850 ft. ENE	45°41'	118°51'	1492	53	6				4	3	*				Wind system at 20 feet in field location, 4/9/58 to 2/3/59. * - Telesychrometer (6") 5/18/54-10/1/60.
Municipal Airport Pendleton Field Air Terminal Building	10/01/60	Present	No Change	45°41'	118°51'	1482	20	6	6	NA	NA	4	3	6 a	NA			Hygrothermometer 1300 feet north of thermometer site. Wind system moved to field location, 1100 feet north on 9/21/60. a - Hygrothermometer decommissioned 6/1/80. M - AMOS commissioned 6/1/80. RAMOS commissioned 2/83. ASOS Commissioned 06/01/95

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. INQUIRIES/COMMENTS CALL: (828) 271-4800

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