The Oregon Weather Book

A State of Extremes

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Temperature

Seasonal and Diurnal Characteristics

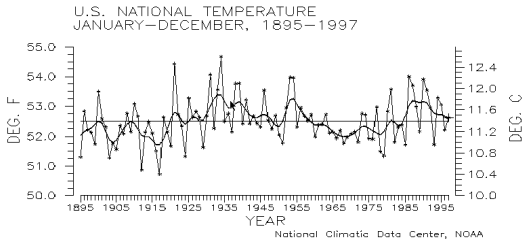
The strong marine influence near the coast causes the seasonal and diurnal temperatures to be mild and relatively uniform compared with inland areas. In Oregon there is a gradual transition from the mild, wet coastal sites to the drier, milder inland valleys. The biggest climatic transition occurs at the Cascade crest. The cascades effectively divide Oregon into two states: the generally wet, relatively mild western third and the generally dry, more extreme eastern two-thirds. The table below lists temperature parameters for three Oregon sites at the same latitude: Newport, on the coast; Corvallis, in the Willamette Valley between the coast range and Cascades; and Madras, east of the Cascades. The Coast Range causes temperatures in Corvallis to be more extreme than those at Newport, while the additional barrier of the Cascade Mountains causes Madras to be even more extreme than Corvallis.

Parameter	Newport	Corvallis	Madras
Mean maximum in warmest month	65.1	81.2	87.2
Mean minimum in coldest month	50.0	33.0	21.1
Days with maximum 90°F or more	0.5	13.5	33.3
Days with maximum 32°F or less	0.6	2.7	13.8
Record high temperature	100	108	112
Record low temperature	1	-14	-40
Annual heating degree days @ 65°F	5132	4818	6444
Annual cooling degree days @ 65°F	0	203	277

Long-Term Characteristics

Like precipitation, temperature shows significant year-to-year variations as well as noticeable longer-term trends. Figure 8 shows annual average temperatures in Corvallis since 1889. This location has several distinct advantages for evaluation of long-term temperature trends: there has been very little urban development near the station; data records are seldom missing; and there have been very few station relocations.

Corvallis data show a trend that is commonly seen in U.S. stations that are not subject to local biases, such as urban growth: the warmest temperatures of the century occurred in the late 1930s and early 1940s. This was followed by a cooler period in the next several decades, and warming in the last twenty years; however, temperatures have remained below those observed sixty years ago.


U.S. NATIONAL TEMPERATURE
JANUARY–DECEMBER, 1895–1997
DEG. F
55.0
54.0
53.0
52.0
51.0
50.0
DEG. C
12.4
12.0
11.6
11.2
10.8
10.4
10.0
1895 1905 1915 1925 1935 1945 1955 1965 1975 1985 1995
YEAR
National Climatic Data Center, NOAA