

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 IN COOPERATION WITH PRINEVILLE CHAMBER OF COMMERCE
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 35

LATITUDE 44° 21' N
 LONGITUDE 120° 54' W
 ELEV. (GROUND) 2,840 Ft.

CLIMATOLOGICAL SUMMARY

STATION PRINEVILLE, OREGON

MEANS AND EXTREMES FOR PERIOD 1933-1962

Month	Temperature (°F)								** Mean degree days	Precipitation Totals (Inches)							Mean number of days					Month			
	Means				Extremes					Mean	Greatest daily	Year	Snow, Sleet				Precip. .10 inch or more	Temperatures							
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean					Maximum monthly	Year	Greatest daily	Year		90° and above	32° and below	32° and below	0° and below				
																							Max.	Min.	
(a)																									
Jan.	41.3	19.2	30.3	68	1934	-27	1962	1076	1.03	0.76	1942	6.3	29.4	1950	11.0	1950	3	0	5	27	3	Jan.			
Feb.	46.3	24.5	35.4	69	1958	-24	1933	843	0.84	0.75	1938	2.7	12.7	1938	5.0	1944+	3	0	1	24	1	Feb.			
Mar.	52.9	25.6	39.3	79	1939+	4	1955+	797	0.66	0.96	1940	1.4	8.9	1951	5.0	1960	2	0	*	26	0	Mar.			
Apr.	61.7	29.5	45.6	88	1962	7	1936	588	0.66	0.59	1950	0.4	3.0	1950	3.0	1950+	3	0	0	20	0	Apr.			
May	67.9	35.2	51.6	91	1941+	13	1954	409	1.28	1.28	1956	*	1.0	1962	1.0	1962	4	*	0	11	0	May			
June	74.3	40.1	57.2	100	1948	25	1949+	243	1.18	1.54	1934	*	0.5	1934	0.5	1934	3	2	0	4	0	June			
July	74.3	42.2	58.3	102	1959+	28	1948+	90	0.29	0.78	1940	0	0	T	1951	1	9	0	1	0	July				
Aug.	82.9	39.5	61.2	102	1961	25	1935	133	0.40	1.05	1941	0	0	0	0	1	6	0	3	0	Aug.				
Sep.	76.6	34.5	55.6	100	1955	17	1954	282	0.53	1.17	1957	0.1	2.0	1934	2.0	1934	2	2	0	12	0	Sep.			
Oct.	65.3	29.6	47.5	91	1934	7	1935	543	0.90	1.12	1950	0.3	5.5	1935	3.5	1935	3	0	*	20	0	Oct.			
Nov.	51.7	25.1	38.4	78	1949	-15	1935	798	1.18	1.50	1960	0.9	5.3	1961	4.5	1958	3	0	1	23	*	Nov.			
Dec.	44.6	23.5	34.1	69	1939	-5	1956	973	1.18	1.05	1945	2.5	8.0	1948	4.0	1953+	4	0	3	26	*	Dec.			
Year	61.7	30.7	41.4	102	Aug. 1961+	-27	Jan. 1962	6775	10.14	1.54	June 1934	14.6	29.4	Jan. 1950	11.0	Jan. 1950	32	20	10	198	4	Year			

(a) Average length of record, years.

+ Also on earlier dates, months, or years.

T Trace, an amount too small to measure.

* Less than one half.

** Base 65°F

CLIMATE OF PRINEVILLE, OREGON

Prineville is located in the fairly broad, shallow valley of the Crooked River, only a few miles north-northwest of the geographical center of the State. This is in central Oregon's high plateau area on the southwestern border of the Columbia Basin and near the extreme northwestern edge of the Great Basin. Only about forty miles to the west the Cascade Mountains, extending the full north-south length of Oregon, begin their ascent to a crest ridge of between 5,000 and 6,000 feet above sea level. Occasional peaks tower several thousand feet higher. It is predominately modified marine air masses from the Pacific Ocean that cross this region. Much of their precipitable moisture has been condensed out by their passage over the Coastal and Cascade ranges. Occasionally, however, in winter an outbreak of polar continental air pushes west of the Rocky Mountains and moves southward across this region. It is on these occasions that the more extreme low temperatures occur.

For the most part Prineville has a mild, dry climate. The afternoon average relative humidities during July and August are between 20% and 30%, materially reducing the discomfort of the few abnormally high temperatures that do occur. Like all of Oregon's high plateau area, nights are cool. Below freezing temperatures can occur any month in the year. In the table below are shown the probabilities of occurrence of selected low temperatures after given dates in spring and before given dates in fall. Also, on the reverse is a graphical presentation of the percent of chance that various high and low temperatures will be reached during any one year.

STATISTICAL LIKELIHOOD (IN PERCENT) THAT TEMPERATURES OF 28°, 24°, AND 20° WILL OCCUR IN SPRING AFTER DATES INDICATED									
Temp.	90%	80%	70%	60%	50%	40%	30%	20%	10%
28°	5/15	5/21	5/25	5/29	6/2	6/5	6/9	6/13	6/19
24°	4/22	4/28	5/3	5/7	5/10	5/13	5/17	5/21	5/27
20°	4/7	4/11	4/14	4/17	4/20	4/23	4/26	4/29	5/4

STATISTICAL LIKELIHOOD (IN PERCENT) THAT TEMPERATURES OF 28°, 24°, AND 20° WILL OCCUR IN FALL BEFORE DATES INDICATED									
Temp.	10%	20%	30%	40%	50%	60%	70%	80%	90%
28°	8/25	8/31	9/3	9/7	9/9	9/11	9/15	9/19	9/24
24°	8/31	9/7	9/12	9/17	9/21	9/25	9/29	10/4	10/10
20°	9/20	9/27	10/2	10/6	10/10	10/14	10/18	10/23	10/30

(Since temperatures of 32° or below may occur any day of the year, that temperature was not included in the above table.)

An inch or more of snow will occur on an average of six to seven days a year. This is generally light and melts within two or three days. Few times in the station's history has a snow cover remained for as long as a week. According to a long term average there are only about

twelve days a year with measurable depths on the ground, and these will average 3 inches. Prineville's precipitation is predominately light rain. This may, during late spring and summer thunderstorms, reach moderate to heavy proportions. Only rarely, however, is the rain or the occasional hail that accompanies these storms severe enough to cause significant damage. The table below provides an estimate of the maximum short period precipitation (periods of from 20 minutes to 24 hours) that may be expected once every 2, 5, 10, 25, 50, 75, and 100 years.

SHORT PERIOD MAXIMUM RAINFALL INTENSITIES OF GIVEN RETURN PERIODS 1/

(Amounts Shown in Inches and Tenths; Return Periods in Years)

Return Period	Lengths of Time of Maximum Intensity							
	20 Mins.	30 Mins.	1 Hr.	2 Hrs.	3 Hrs.	6 Hrs.	12 Hrs.	24 Hrs.
2	0.3	0.4	0.4	0.6	0.7	0.9	1.1	1.3
5	0.4	0.5	0.6	0.8	0.9	1.2	1.3	1.6
10	0.5	0.6	0.7	0.9	1.0	1.3	1.5	1.8
25	0.5	0.7	0.8	1.0	1.2	1.5	1.8	2.0
50	0.6	0.7	0.9	1.2	1.3	1.7	1.9	2.3
75	0.7	0.8	0.9	1.2	1.4	1.8	2.1	2.4
100	0.7	0.8	1.0	1.3	1.5	1.9	2.2	2.5

1/ Computed from nomograms contained in U.S. Department of Commerce Weather Bureau Technical Paper No. 28, "Rainfall Intensities for Local Drainage Design in Western United States."

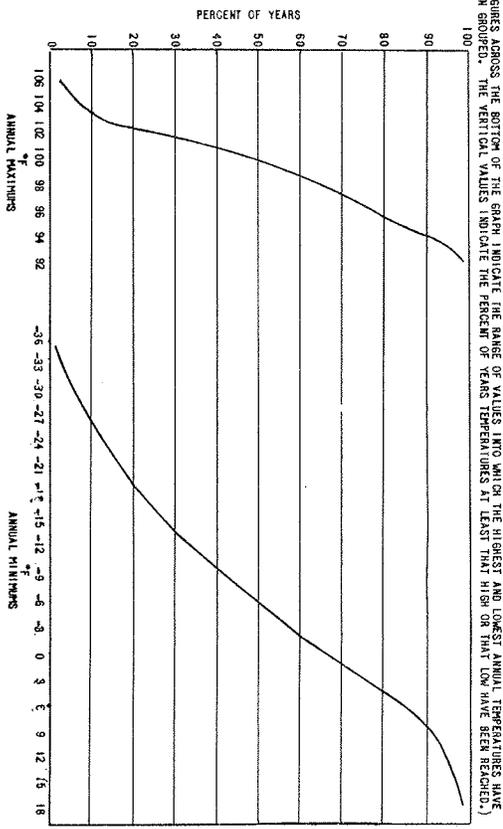
Despite the relatively cool nights and low average annual rainfall, extensive agriculture is carried on in this area. This is partially due to large irrigation projects which water more than 40,000 acres of farm land in Crook County, for which Prineville is the county seat. The principal crops include hay, potatoes, and grain, with livestock production also a major agricultural resource. Much heavier rain and snow falls on the Cascades to the west, and the Ochoco Mountains to the northeast, to support many hundreds of miles of excellent trout fishing streams. These mountainous areas with their dense forests, heavy winter snows, and very dry summers, afford ideal conditions for almost every type of winter sports and for summer hiking, picnicking, and camping out. The forests are the natural habitat for great numbers of deer and other game animals. They are also the source of timber for the extensive lumber industries that contribute substantially to the local economy of Prineville.

Mrs. Goodknight, for over 33 years Prineville's weather observer and for even longer a resident of the community, once summarized Prineville's climate in a letter to a Texas newspaper editor as follows: "Our weather is so normal I can think of few occasions that stand out as interesting. Central Oregon has wonderful weather - no excessive heat; no excessive cold; no cyclones; no earthquakes; no excessive rainfall nor yet desert dryness. All in all it's a good place to live." A professional climatologist can make little improvement on that summary.

Gilbert L. Sternes, State Climatologist
 Weather Bureau Office, Portland, Oregon

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1933	30.6	30.6	40.5	45.2	47.4	61.0	65.2	62.8	52.6	49.9	39.4	40.6	47.2
1934	39.8	39.8	46.6	52.4	56.3	56.8	63.2	63.8	55.0	49.6	42.4	33.2	49.8
1935	31.6	31.6	38.4	43.5	48.2	57.8	61.7	63.0	56.8	43.8	32.6	30.5	44.8
1936	32.2	28.1	35.4	47.5	52.3	55.2	63.8	65.0	54.8	48.6	35.7	34.0	46.0
1937	32.4	32.4	42.2	44.2	52.2	58.7	64.8	60.1	56.4	50.8	43.4	36.3	46.3
1938	33.0	33.1	38.7	42.2	48.2	59.4	65.8	59.8	58.9	47.2	33.9	31.7	46.6
1939	34.4	31.4	42.0	48.2	55.6	55.4	64.3	62.5	56.2	48.2	35.4	33.2	47.0
1940	27.8	37.6	43.2	48.6	53.1	59.5	63.0	61.8	56.2	42.0	35.2	33.2	47.0
1941	46.8	50.4	58.4	59.2	62.1	72.0	85.8	79.6	66.2	68.4	53.2	43.9	46.9
1942	35.7	43.4	53.1	62.1	67.0	70.4	84.8	85.4	78.3	68.4	49.3	45.1	61.5
1943	26.8	36.2	38.0	47.3	47.0	53.6	62.2	58.2	58.0	47.0	38.2	30.4	45.2
1944	29.0	31.8	36.1	41.9	50.0	54.6	62.9	60.4	57.8	52.0	36.8	29.4	45.2
1945	33.4	36.4	37.5	43.3	52.2	55.7	64.8	62.7	53.8	48.5	38.2	33.0	46.6
1946	33.6	35.6	39.0	46.2	52.9	56.6	63.6	62.6	53.8	42.0	36.8	35.4	46.5
1947	28.7	38.8	42.6	46.2	56.8	55.7	62.6	61.0	57.9	50.4	38.8	35.3	47.9
1948	33.6	31.6	37.5	42.4	49.8	61.4	61.8	59.8	53.2	46.7	37.1	27.6	45.2
1949	16.8	32.3	38.0	47.3	55.3	57.0	61.1	60.7	56.1	42.0	42.6	33.3	43.2
1950	21.3	36.3	39.1	43.8	50.2	57.7	63.2	62.7	55.5	49.3	42.4	40.1	46.8
1951	31.7	37.5	36.4	45.7	52.2	58.2	63.9	59.6	56.6	45.4	37.9	28.4	46.1
1952	27.7	34.1	36.9	47.5	52.6	55.3	63.3	62.0	58.7	52.1	31.6	31.4	46.1
1953	40.9	37.1	39.5	44.1	48.3	52.0	62.2	61.5	58.8	47.5	44.6	36.2	47.7
1954	34.1	40.6	40.0	40.0	48.7	58.5	60.8	60.0	56.0	48.9	37.2	33.7	45.3
1955	30.6	33.1	36.1	40.0	48.7	58.5	60.8	60.0	56.0	48.9	37.2	33.7	45.3
1956	34.7	31.8	40.0	45.5	54.1	55.2	64.6	60.4	55.4	45.6	36.9	34.8	46.6
1957	19.4	35.9	41.2	45.4	53.5	58.3	60.5	58.0	57.9	45.3	36.1	37.6	45.8
1958	36.5	48.3	37.7	44.0	57.3	60.5	64.8	65.9	54.6	48.2	38.7	38.1	49.1
1959	34.7	35.8	38.7	44.7	48.2	58.4	58.6	58.6	48.4	38.4	32.3	32.5	46.3
1960	27.6	35.2	41.9	45.8	50.0	58.2	66.7	66.7	55.7	46.4	35.7	33.0	46.4
1961	36.3	40.5	41.5	44.9	50.5	63.6	65.4	66.6	51.7	45.0	33.0	33.3	47.9
1962	29.3	36.4	38.5	49.6	48.7	57.4	62.6	61.0	56.5	47.4	42.7	37.1	47.3

BELOW IS SHOWN GRAPHICALLY THE PERCENT OF YEARS MAXIMUM AND MINIMUM TEMPERATURES WITHIN RANGES OF TWO DEGREES HAVE BEEN REACHED DURING THE PERIOD 1900-1962.



The Pineville cooperative weather station was established January 1, 1897, with Mr. George Summers as the observer. This first installation was located 3 blocks west of the Post Office, and it appears to have continued in downtown Pineville until it was moved to Mrs. Hattie Goodknight's residence, 2 miles north of the Post Office in 1927. Here it remained until August 25, 1960. At that time it was moved to Radio Station KRGO, 4 miles northwest of the city, where it has remained ever since. Throughout its entire history it has been equipped to measure both temperatures and precipitation. Most of the time observations have been very good. This was particularly true during the very long period of Mrs. Goodknight's service. Because of number of missing records in 1963, it was necessary to terminate the records used in preparing this summary with the data for 1962. Observers and their period of service are shown below:

- Mr. George Summers
- Mr. C. I. Winneck
- Mr. George Whitson
- Mrs. Thomas W. Baldwin
- Mrs. William Panckake
- Mr. D. P. Anderson
- Mr. Guy LaFollett
- Mr. Z. E. Hendrickson
- Mr. R. Pytman
- Mr. George F. Hilliard
- Mrs. Hattie Goodknight
- Radio Station KRGO
- Jan. 1897-Feb. 1903; May 1911-June 1912
- June 1903-May 1911
- April 1910-April 1911
- June 1915-Oct. 1915
- Oct. 1915-Oct. 1918
- Nov. 1918-April 1920
- May 1920-July 1920
- Aug. 1921-Aug. 1922
- Sept. 1922-May 1925
- July 1925-Oct. 1927
- Oct. 1927-Aug. 1960
- Aug. 1960-Present

STATION HISTORY