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# The Climate of Oregon Climate Zone 5 High Plateau

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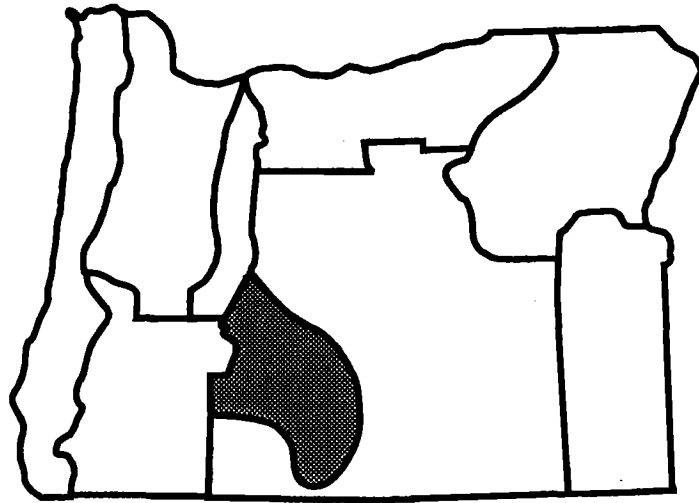
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# The Climate of Oregon



Climate Zone 5  
High Plateau

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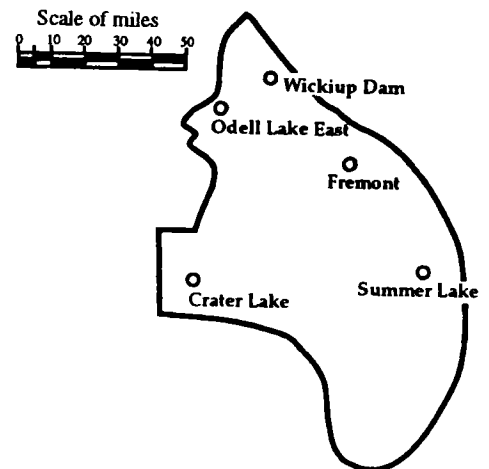
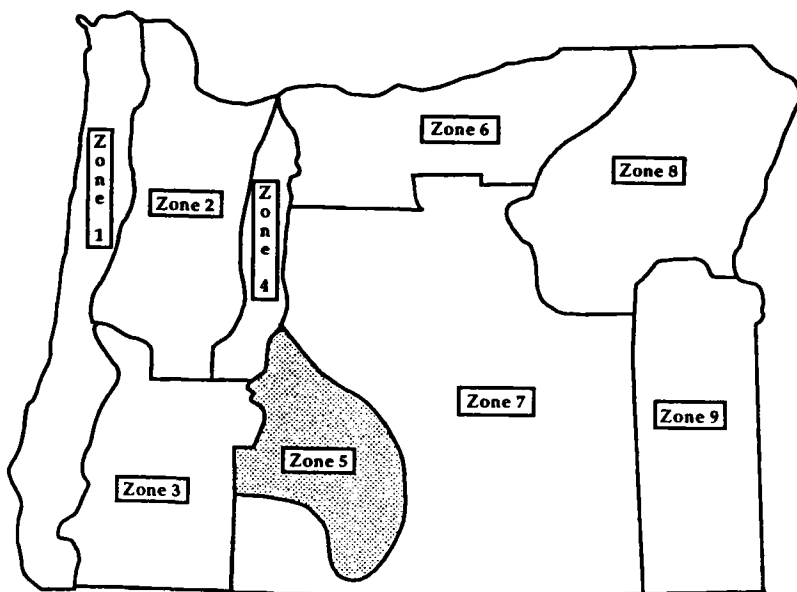
# Oregon Climate Zone Summary

## Zone 5—High Plateau

Oregon's High Plateau, a region bordered by the Cascades on the west and several minor mountain ranges on the south and east, comprises much of Klamath County and parts of Lake and Deschutes Counties. Due to generally high elevations, the Plateau has cool temperatures and receives a significant amount of snow. Its distance from the coast, coupled with its location downwind of the Cascades, causes its annual precipitation to be lower than in the mountainous areas surrounding it.

The Cascade crest, running north-south at a longitude of about 122°W, is lower in elevation in the High Plateau than in most parts of Oregon. Only one peak, Mt. Thielsen, exceeds 9,000 feet. As a result, the 'rain shadow' effect produced by the mountains is less dramatic in this zone than in areas to the north. Another notable difference between the High Plateau and the surrounding zones is its average elevation east of the Cascades. Whereas the places east of the northern and central Oregon Cascade peaks are typically 2,000 - 4,000 feet above sea level, the lower elevations of the High Plateau average about 5,500 feet.

As air moves from west to east over the Cascades in Zone 5, it begins to descend; the greater the descent, the drier the air becomes. While air parcels reaching Bend to the north have descended about 4,000 feet from the crest and are usually quite dry, similar air parcels moving into the High Plateau drop only about 2,000 feet. This difference is reflected in the average annual precipitation total for these two areas. Bend receives only about 12 inches per year, while points in the High Plateau receive more than 20 inches.



The remoteness and ruggedness of the High Plateau has resulted in low area population. Only a few small towns, including Chemult, Silver Lake, and Odell Lake, serve as population centers; none exceeds 1,000 residents, however. Primary economic enterprises in the area include tourism (such as Oregon's only national park, Crater Lake), livestock raising (primarily beef cattle and sheep), and agriculture (includes alfalfa hay, grass and legume seed crops, and wheat).

Normal precipitation values in Zone 5 are dependent upon west-east orientation and elevation. Crater Lake, in the west, receives an average of more than 65 inches per year, while Fremont and Summer Lake to the east receive about 12 inches. Crater Lake's elevation is about 2,000 feet higher than the latter stations. Table 1 lists normal monthly and annual precipitation totals at the Zone 5 climate stations.

Temperatures in Zone 5 vary considerably during each day and throughout the year. The Crater Lake weather station, highest in elevation, has the coolest temperatures. Average maximum temperatures at this point range from the high 60's in summer to the mid 30's in winter; lows are near 40 in summer and high teens in winter (see Table 2). Summer Lake and Fremont are the warmest sites during the summer, and the latter has the coldest average low temperatures in winter.

The combination of high elevation and distance from the coast can produce cold temperatures in any month of the year for the High Plateau. Table 3 shows the area's median dates for specific temperature thresholds in spring and fall, while Table 4 lists the growing season (average number of days between these dates). All Zone 5 sites except Summer Lake have very short seasons (less than 2 months at 32°F). With such a short (and highly variable) season, it is little wonder that Zone 5 is not a major Oregon agricultural area.

## Oregon Climate Zone 5 High Plateau

**Table 1. Monthly and Annual Precipitation (inches)  
1961-1990 Means**

Name	Elevation (feet)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Crater Lake	6480	9.66	7.78	8.09	4.60	3.01	2.01	.68	1.29	2.38	4.75	10.56	10.84	66.28
Fremont	4510	1.63	.92	1.17	.62	.78	1.01	.43	.61	.38	.76	1.63	1.81	11.67
Odell Lake E	4800	4.20	3.54	3.48	1.78	1.37	1.33	.39	1.01	.93	1.50	4.30	5.44	33.35
Summer Lake	4190	1.43	1.06	1.02	.70	.98	.99	.48	.60	.58	.98	1.65	1.89	12.40
Wickiup Dam	4360	3.39	2.41	1.95	1.09	.93	1.00	.65	.79	.80	1.38	3.13	3.68	21.23

**Table 2. Monthly Temperatures (°F)  
1961-1990 Means**

Station	Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Crater Lake	Mean Maximum	34.5	35.2	36.4	41.8	49.2	58.0	67.9	68.5	61.7	51.7	38.5	34.4	48.1
	Mean Minimum	17.5	18.0	18.1	21.2	27.0	33.8	39.7	40.2	35.6	30.1	22.5	18.3	26.8
	Monthly Mean	26.0	26.6	27.2	31.5	38.1	45.9	53.8	54.4	48.6	40.9	30.5	26.3	37.4
Fremont	Mean Maximum	39.0	44.0	48.5	57.4	66.6	74.9	84.4	83.6	75.4	64.4	47.4	38.9	59.5
	Mean Minimum	15.1	18.1	21.3	23.0	27.9	35.1	36.3	35.5	28.4	22.9	20.0	14.6	24.2
	Monthly Mean	27.2	31.1	35.0	40.2	47.3	55.0	60.4	59.6	51.7	43.5	33.9	26.5	41.7
Odell Lake E	Mean Maximum	36.1	38.8	40.7	45.4	54.0	62.5	73.7	73.1	68.4	57.0	41.5	36.2	51.6
	Mean Minimum	19.9	18.4	22.6	25.5	30.8	37.5	41.1	40.8	36.0	30.8	26.3	20.4	29.1
	Monthly Mean	28.0	29.2	31.7	35.5	42.4	50.0	57.4	57.0	52.2	43.9	33.9	28.3	40.3
Summer Lake	Mean Maximum	41.0	46.2	50.6	58.0	67.3	76.2	85.3	84.3	75.9	64.7	48.8	41.3	61.5
	Mean Minimum	22.9	26.6	29.1	32.4	39.3	46.7	51.4	49.9	42.4	34.4	28.6	23.5	35.6
	Monthly Mean	31.9	36.4	39.9	45.2	53.3	61.4	68.3	67.1	59.1	49.6	38.7	32.4	48.5
Wickiup Dam	Mean Maximum	37.8	41.9	46.0	53.6	62.4	71.3	80.0	79.9	71.9	60.9	44.9	38.1	57.6
	Mean Minimum	17.1	20.1	23.5	27.9	33.6	40.3	43.6	42.1	35.1	29.1	25.5	19.0	29.8
	Monthly Mean	27.5	30.9	34.8	40.8	48.0	55.8	61.9	61.0	53.5	45.0	35.2	28.5	43.7

**Oregon Climate Zone 5  
High Plateau**

**Table 3. Median Frost Dates  
1961-1990 Means**

Station	Median Dates of Last Occurrence in Spring of				Median Dates of First Occurrence in Fall of			
	24° F	28° F	32° F	36° F	24° F	28° F	32° F	36° F
Crater Lake N.P.	6-Jun	28-Jun	12-Jul	22-Jul	25-Sep	12-Sep	13-Aug	5-Aug
Fremont 5 NW	30-Jun	12-Jul	23-Jul	29-Jul	30-Aug	14-Aug	6-Aug	3-Aug
Silver Lake RS	23-May	21-Jun	1-Jul	16-Jul	23-Sep	11-Sep	1-Sep	14-Aug
Summer Lake 1 S	19-Apr	5-May	27-May	27-Jun	20-Oct	5-Oct	21-Sep	10-Sep
Wickiup Dam	4-May	30-May	30-Jun	15-Jul	3-Oct	14-Sep	7-Sep	13-Aug

**Table 4. Growing Season  
1961-1990 Means**

Station	Average Days Between Occurrences of			
	24° F	28° F	32° F	36° F
Crater Lake N.P.	112	76	32	15
Fremont 5 NW	61	33	14	5
Silver Lake RS	123	82	62	29
Summer Lake 1 S	184	153	118	75
Wickiup Dam	152	107	70	29

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