

The
Climate of
OREGON

From Rain Forest to Desert

George H. Taylor and Chris Hannan



Oregon State University Press

Corvallis

PART 3

Oregon Climate Zones

Zone 1. The Coastal Area

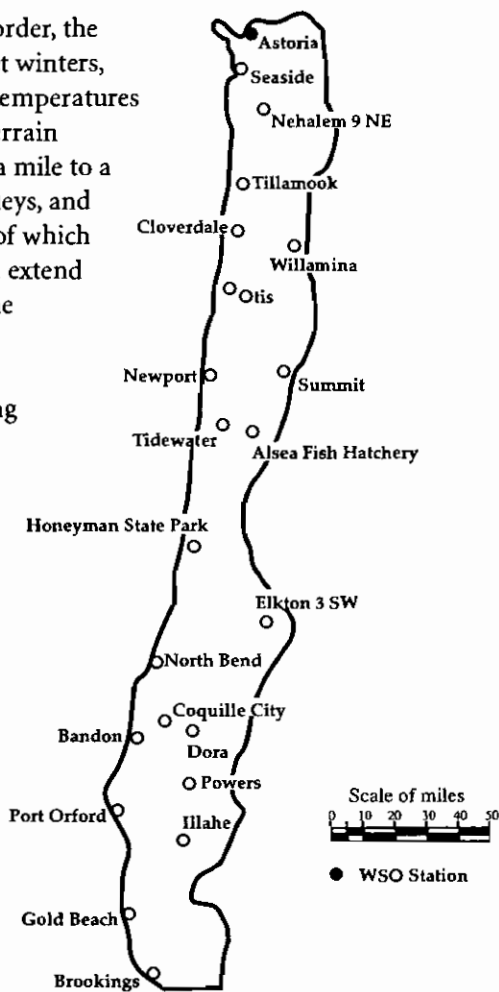
Stretching along Oregon's Pacific border, the coastal zone is characterized by wet winters, relatively dry summers, and mild temperatures throughout the year. The features of the coastal terrain include a coastal plain (extending from less than a mile to a few tens of miles in width), numerous coastal valleys, and the western slopes of the Coast Range, the peaks of which range from 2,000 to 5,500 feet above sea level and extend down the full length of the state. Rivers such as the Coquille, Umpqua, and Yaquina dissect the Coast Range and drain its slopes. The zone's heavy precipitation results from moist air masses moving off the Pacific Ocean onto land, especially during winter months. The abundant moisture supports lush pastures for dairy and animal production as well as valley crops of grass seed, flower bulbs, nuts, and fruit.

Along the lower elevations of the immediate coast, normal annual precipitation is between 65 and 90 inches. However, spots high on the west slopes of the Coast Range may get up to 200 inches. Several days of abundant rainfall can cause strong flood events, though flood control dams have greatly reduced the incidence of damaging floods in some locations. As is typical of western Oregon, the highest monthly precipitation for the coast occurs in the winter months of November, December, and January. Table 13 is a summary of mean monthly and annual precipitation for recording stations in the coastal zone.

Snowfall in the vicinity of the coast is minimal, usually only 1 to 3 inches, though some of the higher elevations receive significant amounts. For example, Laurel Mountain (elevation 3,589 feet) received 55 inches of snow in January of 1982. At Mary's Peak (elevation 4,097 feet), the highest peak in the Coast Range, snow often lasts into May.

The months of July, August, and September tend to be the warmest, but average summer temperatures are only about 15°F above the coldest month, January. Table 14 lists mean maximum, mean minimum, and mean average temperatures for each month in various Zone 1 locations. Average heating and cooling degree days (base 65°F) are lower for the coastal region than any other Oregon region as a result of the mild temperatures.

Extremely high or low temperatures are rare, and the annual temperature range is lower than that of any other Oregon climate zone.



Temperatures of 90°F or above occur, on the average, less than once per year, and freezing temperatures are infrequent (except at higher elevations in the Coast Range). Newport, for example, records temperatures of 32°F or below an average of thirty times per year. Killing frosts are even less frequent; most of the area averages more than three hundred days between the last occurrence (in spring) and the first occurrence (in fall) of 28°F temperatures. Median dates of low temperature thresholds in spring and fall are listed in Table 15, and Table 16 gives the length of the growing season at each station.

Occasional strong winds strike the Oregon coast, usually in advance of winter storms. Wind speeds can exceed hurricane force, and in rare cases have caused significant damage to structures or vegetation. Damage is most likely at exposed coastal locations, but it may extend into inland valleys as well. Such events are typically short lived, lasting less than one day.

Skies are likely to be cloudy during winter, and only partly cloudy during summer. At Astoria, average winter cloud cover is over 80%, dropping only to about 65% in summer. Summer cloud cover is due mostly to fog and low clouds. As a result of the persistent cloudiness, total solar radiation is lower here than in any other part of the state.

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Table 13. Monthly and annual precipitation (in inches). 1961-1990 means.

Station/Elevation (feet)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Alsea Fish													
Hatchery (230)	14.87	11.80	11.04	6.39	4.03	2.25	.74	1.31	3.02	6.17	14.15	16.24	92.00
Astoria WSO (10)	10.01	7.59	7.07	4.61	3.02	2.40	1.16	1.33	2.91	5.73	10.05	10.55	66.42
Bandon 2 NNE (20)	9.29	7.20	7.47	4.36	2.76	1.50	.40	.97	1.69	4.11	9.30	9.86	58.91
Brookings (45)	10.85	9.03	9.65	5.30	3.64	1.55	.53	1.31	2.15	5.84	11.89	12.23	74.78
Cloverdale (20)	12.84	9.38	9.77	5.82	4.28	3.24	1.51	1.65	3.62	6.59	12.24	13.11	84.04
Elkton 3 SW (120)	8.53	6.52	6.29	3.52	1.96	.99	.30	.73	1.44	3.49	8.81	9.71	52.17
Gold Beach (120)	12.02	10.31	10.75	5.98	3.85	1.62	.47	1.18	2.42	5.73	12.64	13.43	80.40
Honeyman State													
Park (120)	11.48	9.38	9.23	5.23	3.79	2.37	.86	1.34	2.49	5.92	11.50	12.41	76.01
Nehalem 9 NE (140)	18.62	15.34	13.49	7.83	5.32	3.85	2.20	1.80	5.48	8.52	18.16	20.54	121.74
Newport (140)	11.11	8.13	8.24	4.84	3.50	2.69	1.04	1.26	2.63	5.36	10.88	12.03	71.72
North Bend (10)	9.73	7.76	7.81	4.65	2.89	1.60	.45	.96	1.80	4.59	10.27	10.97	63.48
Otis 2 NE (150)	14.88	11.11	11.11	6.77	4.84	3.69	1.68	1.92	3.91	7.58	14.25	15.55	97.27
Port Orford (30)	11.72	8.44	9.02	5.00	3.27	1.95	.61	1.44	1.96	4.90	11.15	12.36	71.49
Powers (230)	9.67	7.66	7.90	4.74	2.62	1.02	.30	.73	1.71	3.82	9.39	10.43	59.99
Seaside (10)	10.88	9.13	8.19	5.11	3.56	2.85	1.55	1.45	3.15	6.17	10.90	11.52	74.46
Summit (750)	10.99	8.54	8.09	4.88	3.17	2.01	.77	1.04	2.33	4.88	10.33	11.84	68.86
Tidewater (50)	14.81	11.34	11.32	6.67	4.15	2.55	.83	1.25	2.88	6.24	13.85	15.54	91.42
Tillamook 1 W (10)	13.58	9.94	10.19	6.05	4.45	3.20	1.60	1.75	3.76	7.12	13.08	13.93	88.65
Willamina S (240)	7.93	6.27	6.03	3.15	1.79	1.18	.50	.69	1.74	3.65	7.50	9.54	49.96

Table 14. Monthly temperatures (°F), 1961-1990 means.

Station	Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Astoria	MMXT	47.9	51.1	53.2	55.9	60.2	64.4	67.8	69.0	67.7	61.2	53.5	48.3	58.4
	MMNT	35.9	37.4	37.9	40.1	44.5	49.5	52.5	52.7	49.1	44.1	40.2	36.6	43.4
	MNTM	41.9	44.2	45.6	48.0	52.3	56.9	60.2	60.9	58.4	52.7	46.9	42.4	50.9
Bandon	MMXT	53.4	55.2	55.7	57.2	60.4	63.7	66.1	67.0	67.4	63.2	57.5	53.6	59.9
	MMNT	38.2	39.5	39.8	40.7	43.9	48.1	50.4	50.4	47.6	44.3	41.8	38.7	43.6
	MNTM	45.8	47.3	47.7	48.9	52.1	55.9	58.3	58.7	57.5	53.7	49.6	46.1	51.8
Brookings	MMXT	54.7	56.3	57.1	59.6	63.2	66.4	67.7	67.5	68.7	64.4	58.4	54.7	61.6
	MMNT	40.9	42.0	41.8	42.5	46.0	49.5	51.2	52.0	51.2	47.9	44.6	41.2	46.0
	MNTM	47.8	49.1	49.4	51.0	54.6	57.9	59.4	59.8	59.9	56.2	51.5	47.9	53.8
Cloverdale	MMXT	50.2	53.5	55.0	57.6	62.4	66.4	70.3	71.2	70.4	64.2	55.4	50.5	60.5
	MMNT	37.2	38.6	38.6	39.7	43.3	47.4	49.5	50.2	48.5	44.6	41.1	37.5	43.0
	MNTM	43.7	46.1	46.8	48.7	52.8	56.9	59.9	60.7	59.4	54.4	48.2	44.0	51.8
Elkton	MMXT	49.0	54.2	58.7	63.9	70.2	76.9	83.5	84.2	79.2	67.3	54.5	48.0	65.8
	MMNT	36.1	37.8	38.9	40.6	44.3	49.1	51.3	51.8	48.3	45.1	41.4	36.8	43.4
	MNTM	42.6	46.0	48.8	52.2	57.3	63.0	67.3	68.0	63.6	56.2	47.9	42.2	54.7
Gold Beach	MMXT	54.6	55.8	56.2	58.1	61.2	65.1	67.8	68.3	67.7	63.8	57.7	54.6	60.9
	MMNT	40.3	41.4	41.5	42.7	45.4	49.3	51.0	51.8	50.6	47.2	43.9	40.8	45.6
	MNTM	47.4	48.6	48.9	50.4	53.3	57.2	59.3	60.1	59.2	55.5	50.8	47.5	53.2
Honeyman State Park	MMXT	50.3	52.9	55.5	58.6	62.7	66.0	68.8	69.1	69.3	63.1	54.1	49.9	60.1
	MMNT	37.4	38.6	39.5	40.5	44.0	47.8	50.2	51.0	49.1	45.5	41.6	37.5	43.7
	MNTM	43.8	45.8	47.5	49.6	53.4	56.9	59.5	60.0	59.2	54.3	47.8	43.7	51.9
Newport	MMXT	50.3	52.7	53.6	55.2	58.6	62.0	64.6	65.3	65.5	61.1	54.8	50.4	57.9
	MMNT	37.3	38.5	38.7	39.7	43.4	47.7	49.6	49.9	48.2	44.6	41.5	37.8	43.1
	MNTM	43.8	45.6	46.1	47.5	51.0	54.8	57.1	57.6	56.9	52.8	48.1	44.1	50.5
North Bend	MMXT	51.9	54.0	54.8	56.5	60.2	63.8	66.3	67.1	66.9	63.0	56.9	52.6	59.5
	MMNT	38.9	40.5	41.1	42.4	46.6	50.7	52.5	53.0	50.5	46.7	43.2	40.1	45.5
	MNTM	45.4	47.3	48.0	49.5	53.4	57.3	59.4	60.1	58.7	54.8	50.1	46.3	52.5
Otis	MMXT	47.1	51.2	53.9	56.7	61.3	65.6	69.3	70.8	69.1	61.4	52.3	46.9	58.8
	MMNT	36.0	37.6	38.1	39.4	43.1	47.5	49.5	50.3	48.4	44.3	40.3	36.5	42.6
	MNTM	41.5	44.4	46.0	48.0	52.2	56.5	59.4	60.5	58.7	52.9	46.3	41.7	50.7
Port Orford	MMXT	53.6	55.1	56.1	58.2	61.7	65.3	68.3	69.1	68.5	63.7	57.3	53.8	60.9
	MMNT	39.5	40.2	40.9	41.7	45.1	49.3	51.6	51.7	50.2	46.6	42.9	39.8	45.1
	MNTM	46.6	47.5	48.5	49.9	53.4	57.3	60.0	60.4	59.4	55.3	50.1	46.8	53.1
Powers	MMXT	52.8	55.8	58.1	61.7	66.8	72.3	77.7	78.8	76.3	68.5	57.8	52.3	65.0
	MMNT	34.5	35.7	37.5	39.6	43.6	48.4	50.9	50.6	46.7	42.5	38.9	35.1	42.0
	MNTM	43.6	45.8	47.8	50.7	55.2	60.4	64.3	64.7	61.5	55.5	48.4	43.7	53.5
Seaside	MMXT	51.0	53.8	55.2	57.6	61.5	65.1	67.9	68.9	69.5	63.8	55.9	51.3	60.0
	MMNT	36.7	38.2	38.4	40.5	44.7	48.9	51.6	52.0	49.0	44.6	40.6	37.2	43.4
	MNTM	43.9	46.0	46.7	49.0	53.1	57.0	59.8	60.4	59.2	54.2	48.2	44.2	51.7
Tidewater	MMXT	50.1	54.9	57.4	60.6	65.4	70.1	74.2	75.7	74.6	66.8	55.7	49.7	62.9
	MMNT	36.4	37.9	38.6	40.0	44.0	48.6	51.9	52.3	49.9	45.7	41.1	37.1	43.6
	MNTM	43.3	46.4	48.0	50.3	54.7	59.4	63.1	64.0	62.3	56.3	48.4	43.4	53.2
Tillamook	MMXT	49.9	52.9	54.5	56.9	60.8	64.7	67.3	68.5	68.6	62.8	54.6	49.8	59.3
	MMNT	35.7	36.9	36.9	38.5	42.4	46.7	49.2	49.5	46.4	42.2	39.1	36.1	41.6
	MNTM	42.8	44.9	45.7	47.7	51.6	55.7	58.2	59.0	57.5	52.5	46.8	42.9	50.4

Table 15. Median frost dates. 1961-1990 means.

	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
Astoria	21 Jan	3 Mar	14 Apr	7 May	11 Dec	9 Nov	13 Oct	
Bandon	***	9 Feb	10 Apr	12 May	15 Dec	22 Nov	10 Oct	
Brookings	***	***	3 Feb	18 Apr	***	***	26 Nov	
Cloverdale	***	3 Feb	15 Apr	17 May	18 Dec	23 Nov	18 Oct	
Coquille	10 Feb	10 Feb	24 Apr	23 May	11 Nov	27 Nov	13 Nov	14 Oct
Dora	30 Jan	20 Feb	28 Apr	20 May	21 Dec	28 Nov	20 Oct	8 Oct
Elkton 3 SW	10 Jan	9 Feb	27 Mar	7 May	17 Dec	16 Nov	17 Oct	
Falls City	3 Feb	2 Apr	5 May	26 May	16 Dec	13 Nov	27 Oct	4 Oct
Gold Beach	***	***	3 Mar	20 Apr	***	14 Dec	19 Nov	
Honeyman State Park	9 Jan	2 Feb	5 Apr	5 May	19 Dec	27 Nov	2 Nov	
Ilwaco	5 Jan	10 Feb	10 Apr	11 May	13 Dec	9 Nov	16 Oct	
Newport	***	9 Feb	19 Apr	13 May	19 Dec	27 Nov	30 Oct	
North Bend	***	29 Jan	6 Mar	12 Apr	28 Dec	29 Nov	31 Oct	
Otis	10 Jan	6 Feb	24 Apr	15 May	12 Dec	15 Nov	13 Oct	
Port Orford 2	***	28 Jan	14 Mar	5 May	23 Dec	27 Nov	8 Nov	
Powers	23 Jan	21 Feb	19 Apr	17 May	22 Dec	28 Nov	1 Nov	9 Oct
Seaside	16 Jan	19 Feb	13 Apr	8 May	30 Dec	28 Nov	3 Nov	16 Oct
Tidewater	3 Jan	9 Feb	15 Apr	6 May	12 Dec	13 Nov	22 Oct	
Tillamook	10 Feb	6 Apr	9 May	7 Jun	13 Dec	8 Nov	8 Oct	17 Sep

Table 16. Growing season. 1961-1990 means

	Average days between occurrences of			
	24° F	28° F	32° F	36° F
Astoria	***	283	209	160
Bandon	***	310	226	152
Brookings	***	***	***	223
Cloverdale	***	319	222	155
Coquille	275	292	193	145
Dora	327	283	175	142
Elkton 3 SW	***	312	235	163
Falls City	307	225	175	132
Gold Beach	***	***	287	213
Honeyman State Park	***	321	237	181
Ilwaco	***	307	213	158
Newport	***	314	222	170
North Bend	***	334	268	203
Otis	***	310	205	151
Port Orford 2	***	330	259	187
Powers	335	281	196	145
Seaside	349	284	205	161
Tidewater	***	307	212	169
Tillamook	308	216	152	102

Codes for Table 14

MMXT = mean maximum

MMNT = mean minimum

MNTM = monthly mean

Tables 15, 16

*** Did not occur

Zone 2. The Willamette Valley

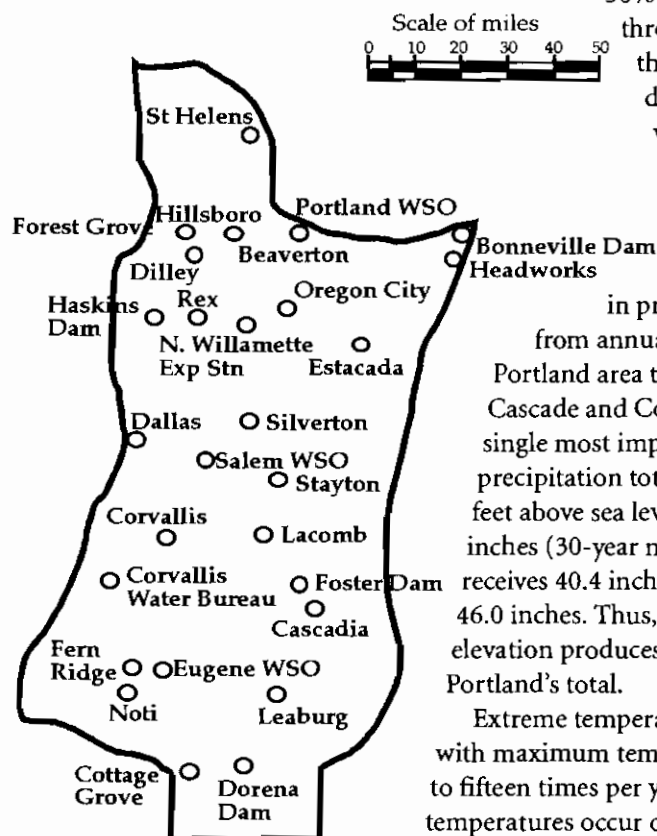
The Willamette Valley is the most diverse agricultural area in the state, and also the home of the majority of the population. Oregon's three largest cities, Portland, Salem, and Eugene, are located in the north, central, and south portions of the Valley, respectively, but these urban areas are surrounded by varied and productive ranches, orchards, and farms. Among the crops grown in significant quantities are tree fruits, nuts, berries, mint, grains, and hay. Livestock operations are also common, including the dairy and poultry industries.

The climate of the Valley is relatively mild throughout the year, characterized by cool, wet winters and warm, dry summers. The climatic conditions closely resemble the Mediterranean climates that occur in California, although Oregon's winters are somewhat wetter and cooler. Growing seasons in the Willamette Valley are long, and moisture is abundant during most of the year (although summer irrigation is common).

Like the remainder of western Oregon, the Valley has a predominant winter rainfall climate. Typical distribution of precipitation includes about 50% of the annual total from December through February, lesser amounts in the spring and fall, and very little during summer. Rainfall tends to vary inversely with temperatures—the cooler months are the wettest, the warm summer months the driest.

There is considerable variation in precipitation in the Valley, ranging from annual totals below 40 inches in the Portland area to upwards of 80 inches in the Cascade and Coast Range foothills. Elevation is the single most important determinant of precipitation totals. Portland, for example, at 21 feet above sea level, receives an average of 37.4 inches (30-year normal), while Salem (196 feet) receives 40.4 inches and Eugene (359 feet) receives 46.0 inches. Thus, a change of only 338 feet of elevation produces an increase of 23% above Portland's total.

Extreme temperatures in the Valley are rare. Days with maximum temperature above 90°F occur only five to fifteen times per year on average, and below zero temperatures occur only about once every 25 years.



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Mean high temperatures range from the low 80s in the summer to about 40°F in the coldest months, while average lows are generally in the low 50s in summer and low 30s in winter. The mean growing season (days between 32°F temperatures) is 150-180 days in the lower portions of the Valley, and 110-130 days in the foothills (above about 800 feet).

Although snow falls nearly every year, amounts are generally quite low. Valley floor locations average 5-10 inches per year, mostly during December through February, although higher totals are observed at greater elevations in the foothills.

Severe storms are rare in the Valley. Ice storms occasionally occur in the north, resulting from cold air flowing westward through the Columbia Gorge. High winds occur several times per year in association with major weather systems.

Relative humidity is highest during early morning hours, and is generally 80-100% throughout the year. During the afternoon, humidities are generally lowest, ranging from 70 to 80% during January to 30-50% during summer. Annual pan evaporation is about 35 inches, mostly occurring during the period April-October.

Winters are likely to be cloudy. Average cloud cover during the coldest months exceeds 80%, with an average of about 26 cloudy days in January (with three partly cloudy and two clear days). During summer, however, sunshine is much more abundant, with average cloud cover less than 40%; more than half of the days in July are clear.

Table 17 is a summary of average precipitation conditions at selected stations in the Willamette Valley, while temperature conditions are summarized in Table 18. Median dates of low temperature thresholds in spring and fall are listed in Table 19, and Table 20 gives the length of the growing season at each station.

Table 17. Monthly and annual precipitation (in inches). 1961-1990 means.

Station/Elevation (feet)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Beaverton (270)	5.74	4.40	3.90	2.49	2.15	1.57	.68	1.04	1.85	2.66	6.56	6.72	39.77
Bonneville Dam (60)	11.37	9.17	7.87	5.53	3.66	2.57	.99	1.58	3.24	5.60	11.07	12.35	74.99
Cascadia (262)	8.48	6.82	6.79	5.28	4.10	2.83	.90	1.40	2.65	4.88	9.29	9.37	61.70
Corvallis (230)	6.82	5.04	4.55	2.56	1.95	1.20	.55	.87	1.51	3.11	6.77	7.73	42.67
Corvallis Water Bureau (590)	11.73	8.64	7.87	3.95	2.50	1.38	.43	.78	1.76	4.26	10.44	12.39	66.13
Cottage Grove 1 S (650)	6.53	5.09	5.24	3.59	2.43	1.39	.52	.97	1.65	3.47	7.46	7.20	45.54
Dallas 2 NE (290)	8.08	6.00	5.64	2.71	1.98	1.22	.50	.70	1.55	3.28	7.65	9.11	48.42
Dilley (170)	7.15	5.43	5.07	2.50	1.76	1.35	.53	.90	1.58	3.37	6.87	8.26	44.20
Dorena Dam (820)	6.27	5.02	5.22	3.95	2.80	1.81	.72	1.14	1.94	3.52	7.31	6.96	46.65
Estacada 2 SE (410)	8.53	6.40	6.23	4.77	3.73	2.58	1.03	1.49	2.63	4.55	8.44	8.90	59.28
Eugene WSO AP (360)	7.91	5.65	5.52	3.11	2.16	1.43	.52	1.08	1.67	3.30	8.32	8.61	49.25
Fern Ridge (490)	6.45	5.02	4.53	2.63	1.84	1.20	.39	.75	1.32	2.94	6.92	7.65	41.63
Forest Grove (180)	7.10	5.26	4.86	2.46	1.70	1.29	.48	.93	1.60	3.31	6.91	7.98	43.86
Foster Dam (550)	7.13	5.89	5.42	3.94	3.34	2.38	.74	1.33	2.00	3.79	7.95	7.86	51.77
Haskins Dam (760)	12.19	9.53	9.08	4.15	2.72	1.51	.53	.91	2.27	5.21	11.85	13.58	73.52
Headworks (750)	11.01	8.74	8.36	6.67	5.04	3.81	1.54	2.18	4.02	6.09	10.49	11.55	79.50
Hillsboro (160)	5.87	4.25	4.02	2.15	1.62	1.39	.54	1.07	1.51	2.82	5.74	6.59	37.57
Lacomb (520)	7.40	5.70	6.27	4.52	3.57	2.50	1.06	1.55	2.16	4.34	8.53	8.32	55.93
Leaburg 1 SW (680)	8.86	7.17	7.16	5.11	3.72	2.50	.78	1.29	2.71	4.99	10.15	9.67	64.11
N. Willamette Exp. St. (150)	5.84	4.34	4.06	2.64	2.28	1.70	.66	1.02	1.93	2.98	6.39	6.94	40.78
Noti 1 NW (450)	10.18	7.68	7.26	3.93	2.38	1.32	.39	.80	1.66	4.06	9.86	11.14	60.65
Oregon City (170)	7.13	5.21	4.78	3.41	2.54	1.91	.78	1.16	2.05	3.44	6.87	7.79	47.06
Portland KGW-TV (160)	6.66	4.62	4.51	2.89	2.23	1.57	.69	1.13	2.01	3.20	6.40	7.23	43.15
Portland WSFO AP (20)	5.36	3.85	3.56	2.39	2.06	1.48	.63	1.09	1.75	2.67	5.34	6.13	36.32
Rex (520)	6.28	4.49	4.21	2.59	2.18	1.56	.63	1.00	1.82	3.18	6.41	7.02	41.37
ST Helens (100)	5.91	4.61	4.66	2.53	2.41	1.64	.70	1.37	1.84	3.45	6.70	6.96	42.76
Salem WSO AP (200)	5.91	4.50	4.17	2.42	1.88	1.34	.58	.76	1.56	2.98	6.28	6.87	39.24
Silver Creek Falls (1350)	11.47	9.06	9.10	6.37	4.78	3.21	1.15	1.73	3.12	6.02	11.58	12.09	79.69
Silverton (410)	6.50	4.82	4.85	3.37	2.76	1.90	.84	1.11	2.05	3.41	6.90	7.35	45.85
Stayton (430)	7.12	5.72	5.31	3.65	2.91	2.16	.86	1.28	2.22	3.97	8.04	8.23	51.48

Oregon Climate Zones

Table 18. Monthly temperatures (°F). 1961-1990 means.

Station	Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Beaverton	MMXT	46.2	50.2	56.1	61.3	66.8	73.3	78.9	79.7	74.5	64.3	52.5	46.0	62.6
	MMNT	32.5	34.7	37.2	40.0	44.4	49.7	53.0	52.7	49.1	42.2	37.1	33.1	42.3
	MNTM	39.3	42.5	46.6	50.6	55.6	61.5	65.9	66.2	61.8	53.3	44.8	39.5	52.4
Bonneville Dam	MMXT	42.6	47.8	53.7	58.6	65.9	72.1	78.0	78.8	72.6	62.5	50.7	43.7	60.6
	MMNT	32.6	36.0	38.0	41.3	46.6	52.4	56.3	56.2	52.4	46.2	40.0	34.4	44.4
	MNTM	39.2	41.6	45.9	50.6	56.2	62.4	67.3	67.7	62.9	54.7	45.7	39.0	52.8
Cascadia	MMXT	45.4	51.0	54.2	58.4	64.7	71.5	78.3	79.9	73.7	63.8	51.7	45.0	61.5
	MMNT	30.9	32.8	34.4	36.8	41.3	46.7	48.4	47.9	43.6	38.5	35.8	32.2	39.1
	MNTM	38.2	41.8	44.4	48.0	52.9	59.1	63.3	63.8	58.7	51.3	43.7	38.5	50.3
Corvallis	MMXT	45.4	50.8	54.8	59.0	66.1	73.1	80.1	81.1	75.0	64.2	52.1	45.8	62.3
	MMNT	32.9	35.4	37.0	38.8	43.0	48.5	50.9	51.2	47.7	41.6	37.8	34.1	41.6
	MNTM	39.3	42.8	46.0	49.3	54.6	60.9	65.7	66.2	61.6	53.0	45.2	39.8	52.0
Corvallis Water Bureau	MMXT	44.9	49.8	54.4	58.6	65.8	72.2	78.4	79.4	73.6	63.5	51.2	44.9	61.4
	MMNT	31.7	33.9	35.6	37.3	41.8	47.4	50.1	50.4	47.4	41.1	36.4	32.6	40.5
	MNTM	38.4	41.4	45.0	48.3	53.7	59.7	64.2	64.8	60.5	52.3	43.9	38.5	50.9
Cottage Grove	MMXT	47.7	53.4	56.7	60.9	67.6	74.2	81.2	81.8	75.9	65.4	53.4	47.8	63.8
	MMNT	32.4	34.7	35.4	36.5	40.8	45.7	47.4	47.8	43.9	40.2	37.3	33.6	39.6
	MNTM	40.3	43.7	46.2	49.2	54.2	60.0	64.4	64.7	60.1	53.0	45.5	40.5	51.8
Dallas	MMXT	46.2	51.5	55.9	60.8	68.6	75.6	82.6	82.8	76.6	65.3	52.3	45.9	63.7
	MMNT	32.8	34.9	36.2	37.8	42.1	46.9	48.9	48.8	46.2	41.2	37.1	33.4	40.5
	MNTM	39.5	43.0	46.0	49.6	55.4	61.3	65.6	65.8	61.6	53.4	44.8	39.4	52.1
Dorena Dam	MMXT	46.6	51.7	55.1	59.2	65.3	71.9	78.9	79.8	74.4	64.4	52.4	46.6	62.2
	MMNT	31.7	33.2	34.9	37.4	41.6	47.1	49.5	49.5	45.6	40.6	36.7	32.7	40.0
	MNTM	39.2	42.4	44.9	48.3	53.5	59.5	64.2	64.6	60.0	52.5	44.6	39.6	51.1
Estacada	MMXT	45.2	50.3	54.9	59.8	66.9	73.0	78.9	79.0	72.4	61.0	51.0	45.5	61.5
	MMNT	33.3	36.1	37.2	39.3	43.9	48.8	51.7	51.7	48.3	42.9	38.3	34.3	42.2
	MNTM	39.4	42.8	46.1	49.8	55.3	60.9	65.3	65.4	60.6	52.1	44.8	39.7	51.9
Eugene WSO	MMXT	46.2	51.7	55.8	60.1	67.2	74.5	82.0	82.0	75.8	64.5	52.3	46.3	63.2
	MMNT	33.2	35.7	37.1	38.5	42.7	48.0	51.2	51.7	47.8	41.9	38.0	34.5	41.7
	MNTM	39.9	43.4	46.6	49.8	55.0	61.4	66.7	67.0	62.0	53.3	45.4	40.3	52.6
Fern Ridge	MMXT	46.2	51.3	55.3	59.3	66.2	73.3	80.3	80.9	75.3	64.5	52.6	46.6	62.6
	MMNT	32.6	35.0	36.5	38.6	43.1	48.7	51.7	52.3	48.7	43.0	38.0	34.1	41.8
	MNTM	39.4	43.1	45.9	49.0	54.6	61.0	66.0	66.6	62.0	53.7	45.2	40.3	52.2
Forest Grove	MMXT	45.7	51.5	56.1	61.0	68.5	75.2	81.6	82.7	76.4	65.1	52.7	45.8	63.5
	MMNT	32.3	35.2	36.7	38.9	43.6	49.2	52.5	52.4	48.0	41.3	37.3	33.7	41.8
	MNTM	39.2	43.0	46.5	50.3	56.2	62.3	67.2	67.5	62.3	53.4	45.1	39.5	52.7
Foster Dam	MMXT	47.3	51.4	55.9	60.0	66.1	72.5	79.4	80.1	74.3	64.8	52.9	47.1	62.6
	MMNT	33.1	35.1	37.2	39.4	43.4	48.3	50.5	50.2	46.4	41.5	38.2	34.2	41.5
	MNTM	40.2	43.3	46.6	49.8	54.8	60.4	65.0	65.2	60.3	53.2	45.6	40.7	52.1
Headworks	MMXT	44.9	49.7	53.5	58.5	66.0	72.0	77.8	78.1	72.1	63.2	51.3	45.1	61.0
	MMNT	33.9	36.3	37.1	39.2	43.8	48.8	52.1	53.0	49.9	44.7	38.9	34.8	42.7
	MNTM	39.5	42.7	45.3	49.3	55.0	60.5	65.1	65.7	61.5	54.1	45.2	39.8	52.0
Hillsboro	MMXT	45.6	51.3	55.7	60.3	67.6	73.9	80.1	80.7	74.8	64.5	52.5	45.9	62.7
	MMNT	33.0	35.5	36.8	38.7	43.3	49.0	51.8	51.6	47.0	40.8	37.2	33.9	41.6
	MNTM	39.4	43.0	46.3	49.9	55.4	61.5	66.0	66.1	61.1	52.7	45.0	39.7	52.2
Lacomb	MMXT	46.2	51.1	55.5	59.7	65.9	72.2	77.8	79.2	74.2	64.5	51.9	46.8	62.1
	MMNT	31.5	34.4	36.0	38.1	42.4	47.3	49.8	49.4	45.6	40.3	36.3	34.1	40.4
	MNTM	39.1	42.1	45.9	49.5	54.3	59.9	64.1	64.4	60.3	52.5	44.3	39.8	51.4

Table continues on next page

Station	Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Leaburg	MMXT	46.9	52.2	56.0	60.4	67.4	74.2	81.5	82.3	75.5	65.0	52.6	46.5	63.4
	MMNT	33.2	34.9	36.5	39.0	43.1	48.2	50.4	50.5	47.2	42.4	38.2	34.0	41.4
	MNTM	40.2	43.5	46.3	49.9	55.2	61.2	66.0	66.4	61.5	53.8	45.4	40.2	52.5
N. Willamette Exp. St.	MMXT	45.8	51.3	55.4	59.4	66.8	73.1	79.6	80.2	74.1	64.0	52.7	46.3	62.4
	MMNT	32.2	34.6	36.5	39.0	44.0	49.5	52.4	52.2	48.4	41.2	37.3	33.3	41.7
	MNTM	39.2	42.7	46.0	49.7	55.4	61.5	66.1	66.2	61.6	52.8	45.2	39.6	52.2
Oregon City	MMXT	46.6	52.4	56.7	61.7	69.4	76.0	81.9	82.0	76.0	64.9	53.2	46.7	64.0
	MMNT	34.6	37.3	38.9	41.0	46.2	51.6	54.8	55.0	51.2	44.7	39.5	35.5	44.2
	MNTM	40.8	44.7	47.9	51.8	57.9	63.9	68.4	68.5	63.9	55.0	46.6	40.9	54.2
Portland KGW	MMXT	45.7	50.3	56.2	60.9	67.0	73.6	79.4	79.1	73.8	63.6	51.3	46.1	62.3
	MMNT	35.8	38.0	40.7	43.5	48.0	53.2	56.5	57.0	53.7	47.4	41.1	36.0	45.9
	MNTM	40.9	45.4	48.4	51.9	58.0	63.8	68.3	68.7	64.0	56.0	47.0	41.6	54.5
Portland WSO	MMXT	45.2	51.2	56.0	59.9	67.1	73.6	79.8	80.1	74.0	63.8	52.4	45.8	62.4
	MMNT	33.6	36.5	38.5	41.0	46.8	52.8	56.4	56.8	51.7	44.7	39.2	34.9	44.4
	MNTM	39.6	43.6	47.3	51.0	57.1	63.3	68.1	68.5	63.2	54.5	46.1	40.2	53.5
St Helens	MMXT	45.8	51.4	57.9	62.6	68.2	74.9	79.7	81.2	74.5	65.3	51.8	45.5	63.2
	MMNT	32.3	36.6	39.3	41.1	46.0	51.6	54.5	55.4	51.1	44.1	38.1	33.9	43.7
	MNTM	39.6	43.3	48.4	52.4	57.1	63.4	67.5	68.4	63.6	54.9	45.5	39.5	53.6
Salem WSO	MMXT	46.2	51.6	55.7	59.9	67.0	74.4	81.5	82.0	75.6	64.3	52.3	46.4	63.1
	MMNT	32.6	34.5	35.6	37.3	42.2	47.9	50.6	51.1	46.8	40.8	37.0	33.8	40.9
	MNTM	39.5	42.7	45.8	49.1	54.7	61.3	66.2	66.6	61.5	52.7	44.9	39.9	52.1
Silver Creek	MMXT	45.1	48.6	52.6	58.0	64.8	71.2	77.1	77.4	72.8	61.9	49.7	44.0	60.6
	MMNT	30.4	31.7	33.1	35.2	40.0	45.0	47.2	47.5	43.0	38.5	34.5	31.1	38.3
	MNTM	37.8	40.2	42.9	46.5	52.1	57.8	62.1	62.1	58.0	50.4	42.2	37.7	49.5
Silverton	MMXT	45.4	51.2	55.0	58.6	65.8	71.9	78.4	79.3	73.6	63.4	52.3	46.0	61.7
	MMNT	32.4	35.5	37.4	39.5	44.7	50.2	53.2	53.6	49.8	43.3	38.0	33.6	42.6
	MNTM	39.2	43.0	46.2	49.6	55.3	61.1	66.0	66.5	62.0	53.4	45.4	39.5	52.3
Stayton	MMXT	46.6	51.6	55.7	60.3	66.9	73.6	80.1	80.8	75.0	64.3	52.9	46.5	63.0
	MMNT	32.5	35.2	37.4	39.5	43.7	48.9	51.1	51.0	47.6	42.4	38.1	33.7	41.7
	MNTM	39.6	43.4	46.6	49.9	55.3	61.2	65.6	65.9	61.3	53.4	45.5	40.1	52.3

Codes for Table 18

MMXT = mean maximum

MMNT = mean minimum

MNTM = monthly mean

Tabl

Beaver

Bonneville

Cascades

Corvallis

Corvallis

Cottage Grove

Dallas

Doreau

Estacada

Fern Ridge

Forest Grove

Foster

Headwaters

Hillsboro

Lacore

Leaburg

North

Oregon

Portland

Portland

St. Helens

Salmon

Scotts

Silver

Silver

Stayton

***Di

Table 19. Median frost dates. 1961-1990 means.

	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
Beaverton	3 Feb	9 Mar	19 Apr	10 May	19 Dec	26 Nov	26 Oct	15 Oct
Bonneville Dam	22 Jan	16 Feb	18 Mar	20 Apr	***	19 Dec	24 Nov	13 Nov
Cascadia	13 Feb	4 Apr	13 May	25 May	28 Nov	3 Nov	3 Oct	17 Sep
Corvallis	28 Jan	8 Mar	24 Apr	17 May	20 Dec	26 Nov	25 Oct	6 Oct
Corvallis Water Bureau	29 Jan	16 Feb	27 Apr	20 May	10 Dec	26 Nov	4 Nov	13 Oct
Cottage Grove	18 Feb	14 Apr	20 May	4 Jun	17 Dec	10 Nov	28 Sep	8 Sep
Dallas	4 Feb	23 Mar	2 May	27 May	9 Dec	12 Nov	16 Oct	24 Sep
Dorena Dam	12 Feb	29 Mar	29 Apr	22 May	19 Dec	18 Nov	16 Oct	2 Oct
Estacada	29 Jan	16 Feb	13 Apr	10 May	24 Dec	3 Dec	7 Nov	13 Oct
Fern Ridge	28 Jan	19 Feb	21 Apr	8 May	21 Dec	1 Dec	7 Nov	20 Oct
Forest Grove	4 Feb	13 Mar	25 Apr	13 May	9 Dec	12 Nov	18 Oct	3 Oct
Foster Dam	31 Jan	20 Feb	10 Apr	15 May	28 Dec	27 Nov	24 Oct	12 Oct
Headworks	24 Jan	10 Feb	12 Apr	4 May	***	14 Dec	18 Nov	22 Oct
Hillsboro	3 Feb	6 Mar	29 Apr	13 May	19 Dec	16 Nov	18 Oct	3 Oct
Lacomb	4 Feb	16 Mar	2 May	22 May	25 Dec	22 Nov	20 Oct	2 Oct
Leaburg	18 Jan	21 Feb	19 Apr	15 May	24 Dec	8 Dec	10 Nov	14 Oct
North Willamette Exp. Stn.	2 Feb	13 Mar	22 Apr	16 May	18 Dec	14 Nov	21 Oct	10 Oct
Oregon City	30 Jan	21 Feb	5 Apr	28 Apr	30 Dec	6 Dec	6 Nov	16 Oct
Portland KGW	9 Jan	3 Feb	3 Mar	14 Apr	31 Dec	20 Dec	30 Nov	14 Nov
Portland WSO	29 Jan	16 Feb	26 Mar	25 Apr	28 Dec	3 Dec	10 Nov	22 Oct
St. Helens	31 Jan	20 Feb	10 Apr	15 May	28 Dec	27 Nov	24 Oct	12 Oct
Salem	4 Mar	12 Apr	4 May	25 May	29 Nov	2 Nov	16 Oct	2 Oct
Scotts Mills	23 Feb	13 Apr	12 May	3 Jun	4 Dec	15 Nov	18 Oct	25 Sep
Silver Creek Falls	1 Mar	17 Apr	14 May	8 Jun	24 Nov	23 Oct	4 Oct	12 Sep
Silverton	29 Jan	5 Mar	11 Apr	29 Apr	20 Dec	26 Nov	4 Nov	16 Oct
Stayton	1 Feb	15 Mar	20 Apr	11 May	14 Dec	26 Nov	22 Oct	3 Oct

***Did not occur

Table 20. Growing season. 1961-1990 means.

	Average days between occurrences of			
	24° F	28° F	32° F	36° F
Beaverton	320	262	190	158
Bonneville Dam	***	308	252	207
Cascadia	289	213	143	116
Corvallis	326	263	184	142
Corvallis Water Bureau	316	284	191	146
Cottage Grove	303	210	131	96
Dallas	310	235	168	120
Dorena Dam	311	235	170	133
Estacada	330	292	209	157
Eugene WSO	308	259	176	135
Fern Ridge	328	286	200	165
Forest Grove	309	245	177	143
Foster Dam	331	280	198	150
Headworks	***	308	220	171
Hillsboro	320	255	173	144
Lacomb	325	251	171	133
Leaburg	342	291	205	152
North Willamette Exp. Stn.	321	246	182	147
Oregon City	336	290	215	172
Portland KGW	356	320	272	214
Portland WSO	333	290	230	180
St. Helens	331	280	198	150
Salem WSO	270	204	165	130
Silver Creek Falls	268	189	143	96
Silverton	326	266	207	170
Stayton	317	256	185	145

*** Did not occur

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