

# Climatology of the United States No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: P RANCH REFUGE, OR

1971-2000

COOP ID: 356853

Climate Division: OR 7

NWS Call Sign:

Elevation: 4,195 Feet Lat: 42° 50N

Lon: 118° 53W

Temperature (°F)																					
Mean (1)				Extremes										Degree Days (1) Base Temp 65		Mean Number of Days (3)					
Month	Daily Max	Daily Min	Mean	Highest Daily(2)	Year	Day	Highest Month(1) Mean	Year	Lowest Daily(2)	Year	Day	Lowest Month(1) Mean	Year	Heating	Cooling	Max >= 100	Max >= 90	Max >= 50	Max <= 32	Min <= 32	Min <= 0
Jan	41.9	20.3	31.1	65	1971	19	37.6	1998	-32	1962	22	21.4	1979	1051	0	.0	.0	6.5	5.0	26.7	1.7
Feb	47.3	23.7	35.5	73	1995	24	41.8	1995	-18	1989	7	25.0	1989	826	0	.0	.0	11.7	1.6	22.9	.9
Mar	53.9	27.2	40.6	81	1966	31	44.8	1986	-6	1976	3	36.3	1977	759	0	.0	.0	21.4	.1	23.0	@
Apr	60.9	31.1	46.0	87	1985	14	52.2	1990	10	1968	13	38.6	1975	570	0	.0	.0	26.1	.0	17.8	.0
May	68.6	37.9	53.3	93	1986	30	58.8	1992	18	1964	6	48.9	1977	366	2	.0	.1	30.3	.0	6.1	.0
Jun	76.6	43.2	59.9	96+	1970	21	65.4	1974	27+	1973	18	54.5	1984	180	26	.0	1.7	29.9	.0	1.3	.0
Jul	85.7	46.6	66.2	103	1959	12	70.5	1985	29	1986	5	58.0	1993	63	99	.0	9.0	31.0	.0	.3	.0
Aug	86.3	44.5	65.4	103	1961	3	71.4	1971	26	1969	29	61.1	1976	79	91	.1	10.0	31.0	.0	.8	.0
Sep	78.5	36.4	57.5	98	1972	3	61.5	1979	13	1999	27	50.1	1985	243	17	.0	1.8	29.8	.0	10.1	.0
Oct	67.1	30.3	48.7	92	1980	3	55.7	1988	1	1971	29	44.8	1984	505	0	.0	.1	29.0	.0	18.9	.0
Nov	50.1	25.8	38.0	76+	1990	11	47.3	1995	-7	1993	26	30.6	1985	812	0	.0	.0	14.9	1.3	23.0	.4
Dec	42.3	20.6	31.5	65+	1990	9	37.3	1973	-27	1972	10	22.7	1985	1040	0	.0	.0	6.5	4.0	26.6	1.5
Ann	63.3	32.3	47.8	103+	Aug 1961	3	71.4	Aug 1971	-32	Jan 1962	22	21.4	Jan 1979	6494	235	.1	22.7	268.1	12.0	177.5	4.5

+ Also occurred on an earlier date(s)

@ Denotes mean number of days greater than 0 but less than .05

Complete documentation available from: [www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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**Climate Division: OR 7**

**NWS Call Sign:**

**Elevation: 4,195 Feet Lat: 42°50N**

**Lon: 118°53W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.06	.91	1.56	1972	22	3.13	1972	.09	1985	6.4	2.9	.2	.1	.15	.23	.38	.53	.69	.86	1.05	1.29	1.62	2.15	2.67
Feb	.97	.72	1.37	1951	4	3.43	1986	.17	1977	6.2	3.0	.3	@	.17	.26	.40	.53	.67	.82	.98	1.19	1.46	1.89	2.31
Mar	1.21	1.11	1.05	1986	8	3.20	1983	.18	1994	7.9	3.8	.3	@	.25	.36	.53	.70	.86	1.03	1.23	1.47	1.79	2.29	2.77
Apr	1.43	1.34	1.90	1951	28	4.82	1997	.21	1977	7.3	4.6	.4	.2	.29	.42	.63	.82	1.02	1.22	1.46	1.74	2.12	2.72	3.28
May	1.56	1.56	1.52	1989	10	3.82	1998	.15	1976	7.4	4.3	.7	.1	.26	.40	.63	.84	1.06	1.30	1.57	1.91	2.35	3.06	3.75
Jun	1.12	.99	1.97	1987	16	2.79	1987	.17	1985	5.5	2.9	.4	.1	.19	.29	.45	.61	.76	.93	1.13	1.36	1.67	2.18	2.66
Jul	.45	.32	1.15	1983	1	1.89	1987	.00+	1994	3.0	1.3	.2	@	.00	.00	.05	.12	.20	.29	.41	.56	.77	1.12	1.47
Aug	.64	.31	1.03	1979	13	3.07	1976	.00+	2000	2.9	1.7	.3	@	.00	.00	.03	.14	.26	.39	.57	.79	1.09	1.61	2.15
Sep	.72	.61	1.35	1982	19	2.08	1986	.00+	1999	3.7	2.1	.2	@	.00	.00	.08	.23	.37	.52	.70	.92	1.21	1.68	2.17
Oct	.92	.55	1.28	1962	10	2.57	2000	.00+	1997	4.8	2.8	.5	@	.00	.00	.13	.27	.43	.62	.84	1.13	1.53	2.22	2.91
Nov	1.17	1.04	2.24	1997	25	2.54	1988	.12	1976	8.1	3.9	.3	@	.28	.39	.56	.71	.87	1.03	1.21	1.42	1.70	2.15	2.57
Dec	1.28	.98	1.00	1981	19	4.91	1983	.01	1976	7.6	3.7	.4	@	.10	.18	.34	.52	.72	.94	1.21	1.56	2.04	2.84	3.64
Ann	12.53	12.14	2.24	Nov 1997	25	4.91	Dec 1983	.00+	Aug 2000	70.8	37.0	4.2	.5	7.42	8.34	9.56	10.51	11.37	12.22	13.11	14.10	15.33	17.14	18.74

+ Also occurred on an earlier date(s)

# Denotes amounts of a trace

@ Denotes mean number of days greater than 0 but less than .05

\*\* Statistics not computed because less than six years out of thirty had measurable precipitation

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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**Station: P RANCH REFUGE, OR**

**COOP ID: 356853**

**Climate Division: OR 7**

**NWS Call Sign:**

**Elevation: 4,195 Feet**

**Lat: 42° 50N**

**Lon: 118° 53W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										Snow Fall >= Thresholds					Snow Depth >= Thresholds			
Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	3.4	3.0	#	#	4.0	1973	9	9.0+	1973	10	1993	13	8	1993	2.0	1.3	.3	.0	.0	1.8	.6	.2	.0
Feb	2.4	.6	#	0	6.8	1979	14	10.4	1979	4	1985	5	1	1985	1.5	1.0	.1	.1	.0	1.3	.6	.0	.0
Mar	1.9	.0	#	0	5.5	1971	16	9.0	1971	6	1971	17	1	1974	1.1	.7	.3	.1	.0	.8	.5	.1	.0
Apr	.8	.0	#	0	3.5	1977	9	3.5	1977	2	1985	21	#+	1985	.5	.3	.1	.0	.0	@	.0	.0	.0
May	.3	.0	#	0	4.8	1986	11	4.8	1986	#	1977	25	#	1977	.1	.1	.1	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	.0	#	0	3.1	1984	19	7.1	1984	1	1971	31	#+	1973	.2	.2	@	.0	.0	@	.0	.0	.0
Nov	1.6	.5	#	0	9.0	1977	21	10.0	1977	9	1977	21	1	1985	1.0	.7	.1	@	.0	.6	.1	.1	.0
Dec	3.5	2.5	#	0	9.0	1994	12	12.0	1994	10	1983	29	3	1983	2.0	1.4	.4	.1	.0	3.2	1.0	.6	.0
Ann	14.3	6.6	N/A	N/A	9.0+	Dec 1994	12	12.0	Dec 1994	10+	Jan 1993	13	8	Jan 1993	8.4	5.7	1.4	.3	.0	7.7	2.8	1.0	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

@ Denotes mean number of days greater than 0 but less than .05

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

(1) Derived from Snow Climatology and 1971-2000 daily data

(2) Derived from 1971-2000 daily data

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**Elevation: 4,195 Feet**

**Lat: 42° 50N**

**Lon: 118° 53W**

Freeze Data									
Spring Freeze Dates (Month/Day)									
Temp (F)	Probability of later date in spring (thru Jul 31) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	7/21	7/16	7/12	7/09	7/06	7/03	6/30	6/26	6/20
32	7/06	6/28	6/23	6/18	6/14	6/09	6/05	5/30	5/22
28	6/03	5/28	5/24	5/20	5/16	5/13	5/09	5/05	4/28
24	5/22	5/13	5/06	4/30	4/25	4/20	4/14	4/07	3/29
20	5/01	4/23	4/18	4/14	4/09	4/05	4/01	3/26	3/19
16	4/15	4/04	3/28	3/21	3/15	3/09	3/02	2/23	2/12
Fall Freeze Dates (Month/Day)									
Temp (F)	Probability of earlier date in fall (beginning Aug 1) than indicated(*)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	8/05	8/10	8/14	8/17	8/20	8/22	8/25	8/29	9/03
32	8/19	8/23	8/27	8/30	9/02	9/04	9/07	9/11	9/16
28	8/31	9/04	9/07	9/10	9/13	9/15	9/18	9/21	9/26
24	9/08	9/14	9/19	9/23	9/27	10/01	10/05	10/09	10/16
20	9/22	9/29	10/04	10/08	10/12	10/16	10/20	10/25	11/01
16	10/04	10/12	10/18	10/23	10/28	11/01	11/06	11/12	11/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	65	58	53	48	44	40	35	30	22
32	106	97	90	85	79	74	69	62	53
28	142	134	128	123	119	114	109	103	95
24	188	177	168	161	154	147	140	131	120
20	215	205	197	191	185	179	172	165	155
16	267	253	243	234	226	218	209	199	185

\* Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

**0/00** Indicates that the probability of occurrence of threshold temperature is less than the indicated probability.

Derived from 1971-2000 serially complete daily data

Complete documentation available from:

[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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Degree Days to Selected Base Temperatures (°F)													
Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1051	826	759	570	366	180	63	79	243	505	812	1040	6494
60	896	686	604	426	226	85	16	25	132	352	662	885	4995
57	803	602	511	344	156	46	6	10	82	264	572	792	4188
55	741	546	449	291	118	28	2	5	56	211	517	730	3694
50	591	413	302	180	47	6	0	0	16	102	379	578	2614
32	159	67	11	6	0	0	0	0	0	1	58	146	448

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	131	165	276	426	659	836	1059	1035	765	518	235	129	6234
55	0	0	1	21	64	174	347	327	131	16	4	0	1085
57	0	0	0	14	40	133	290	270	97	7	0	0	851
60	0	0	0	6	17	82	206	192	57	2	0	0	562
65	0	0	0	0	2	26	99	91	17	0	0	0	235
70	0	0	0	0	0	5	31	29	4	0	0	0	69

Growing Degree Units (2)																								
Base	Growing Degree Units (Monthly)												Growing Degree Units (Accumulated Monthly)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	18	41	95	212	416	598	809	774	512	285	76	26	18	59	154	366	782	1380	2189	2963	3475	3760	3836	3862
45	2	8	36	113	275	448	654	619	365	161	31	2	2	10	46	159	434	882	1536	2155	2520	2681	2712	2714
50	0	0	4	47	157	303	499	464	231	75	7	0	0	0	4	51	208	511	1010	1474	1705	1780	1787	1787
55	0	0	0	16	70	174	346	312	124	20	0	0	0	0	0	16	86	260	606	918	1042	1062	1062	1062
60	0	0	0	0	25	79	204	173	44	2	0	0	0	0	0	0	25	104	308	481	525	527	527	527
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	13	40	94	182	299	401	533	528	414	275	65	17	13	53	147	329	628	1029	1562	2090	2504	2779	2844	2861

(1) Derived from the 1971-2000 Monthly Normals

(2) Derived from 1971-2000 serially complete daily data

**Note:** For corn, temperatures below 50 are set to 50, and temperatures above 86 are set to 86

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

## Notes

- a. The monthly means are simple arithmetic averages computed by summing the monthly values for the period 1971-2000 and dividing by thirty. Prior to averaging, the data are adjusted if necessary to compensate for data quality issues, station moves or changes in station reporting practices. Missing months are replaced by estimates based on neighboring stations.
- b. The median is defined as the middle value in an ordered set of values. The median is being provided for the snow and precipitation elements because the mean can be a misleading value for precipitation normals.
- c. Only observed validated values were used to select the extreme daily values.
- d. Extreme monthly temperature/precipitation means were selected from the monthly normals data.  
Monthly snow extremes were calculated from daily values quality controlled to be consistent with the Snow Climatology.
- e. Degree Days were derived using the same techniques as the 1971-2000 normals.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)
- f. Mean "number of days statistics" for temperature and precipitation were calculated from a serially complete daily data set.  
Documentation of the serially complete data set is available from the link below:
- g. Snowfall and snow depth statistics were derived from the Snow Climatology.  
Documentation for the Snow Climatology project is available from the link under references.

## Data Sources for Tables

Several different data sources were used to create the Clim20 climate summaries. In some cases the daily extremes appear inconsistent with the monthly extremes and or the mean number of days statistics. For example, a high daily extreme value may not be reflected in the highest monthly value or the mean number of days threshold that is less than and equal to the extreme value. Some of these difference are caused by different periods of record. Daily extremes are derived from the station's entire period of record while the serial data and normals data were for the 1971-2000 period. Therefore extremes observed before 1971 would not be included in the 1971-2000 normals or the 1971-2000 serial daily data set. Inconsistencies can also occur when monthly values are adjusted to reflect the current observing conditions or were replaced during the 1971-2000 Monthly Normals processing and are not reconciled with the Summary of the Day data.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html)  
Eischeid, J. K., P. Pasteris, H. F. Diaz, M. Plantico, and N. Lott, 2000: Creating a serially complete, national daily time series of temperature and precipitation for the Western United States. J. Appl. Meteorol., 39, 1580-1591,  
[www1.ncdc.noaa.gov/pub/data/special/serialcomplete\\_jam\\_0900.pdf](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)