

# 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: SISTERS, OR

1971-2000

COOP ID: 357857

Climate Division: OR 7

NWS Call Sign:

Elevation: 3,180 Feet Lat: 44° 17N

Lon: 121° 33W

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	39.1	20.0	29.6	65	1971	29	35.0	1999	-28	1962	22	17.5	1979	1099	0	.0	.0	4.5	5.3	27.9	1.6
Feb	43.2	22.8	33.0	72+	1995	24	38.6	1991	-22+	1989	5	21.6	1989	896	0	.0	.0	8.4	2.5	25.0	1.3
Mar	49.8	26.1	38.0	78	1966	29	42.0	1986	-1	1996	1	33.4	1975	838	0	.0	.0	18.7	@	25.6	@
Apr	56.7	28.5	42.6	87	1987	28	49.0	1987	9	1968	13	37.5	1975	672	0	.0	.0	23.5	.0	21.1	.0
May	64.6	33.4	49.0	98	1986	31	54.2	1992	11	1975	25	44.9	1977	497	0	.0	.2	30.0	.0	14.9	.0
Jun	74.0	38.3	56.2	103	1976	28	60.9	1974	20+	1976	5	52.4+	1980	274	8	@	2.1	29.7	.0	7.4	.0
Jul	83.4	41.7	62.6	109	1976	17	68.9	1998	24	1977	5	55.9	1993	133	56	.5	9.8	31.0	.0	2.8	.0
Aug	83.6	41.1	62.4	106	1972	7	66.9	1977	25	1992	24	57.8	1975	137	54	.6	9.7	31.0	.0	3.0	.0
Sep	74.8	34.7	54.8	103	1998	2	60.4	1998	15	1985	30	49.0	1985	315	7	.1	2.1	29.9	.0	11.5	.0
Oct	62.8	28.9	45.9	92	1980	4	51.9	1988	1	1971	29	43.0	1984	594	0	.0	.2	28.2	.1	21.8	.0
Nov	45.8	25.3	35.6	73+	1988	1	42.0	1999	-16	1993	24	25.5	1985	884	0	.0	.0	11.8	1.7	23.7	.5
Dec	39.2	20.0	29.6	64+	1980	27	35.3	1973	-28+	1990	21	19.3	1985	1099	0	.0	.0	4.9	5.7	28.2	1.6
Ann	59.8	30.1	44.9	109	Jul 1976	17	68.9	Jul 1998	-28+	Dec 1990	21	17.5	Jan 1979	7438	125	1.2	24.1	251.6	15.3	212.9	5.0

+ 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: 1958-2001

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

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### 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	2.32	2.27	2.02	1989	10	4.53	1971	.11	1985	9.2	5.4	1.3	.4	.55	.77	1.11	1.41	1.71	2.03	2.39	2.81	3.37	4.26	5.09	
Feb	1.72	1.52	2.27	1986	18	5.26	1986	.21	1991	8.3	4.6	.6	.1	.34	.49	.75	.98	1.21	1.46	1.75	2.09	2.55	3.28	3.97	
Mar	1.17	.95	.94	1983	30	3.09	1983	.21	1973	7.9	3.9	.5	.0	.23	.34	.51	.67	.82	1.00	1.19	1.42	1.73	2.22	2.69	
Apr	.89	.80	1.52	1990	28	2.29	1992	.00	1977	7.2	2.5	.3	.1	.03	.10	.23	.36	.50	.66	.85	1.09	1.42	1.97	2.51	
May	.79	.43	1.11	1981	19	3.95	1998	.06	1976	6.5	2.2	.3	.1	.04	.08	.17	.27	.39	.54	.72	.94	1.27	1.82	2.38	
Jun	.60	.52	1.32	1982	12	2.36	1982	.00	1987	4.6	1.6	.2	@	.01	.05	.13	.21	.31	.42	.56	.73	.97	1.38	1.79	
Jul	.45	.30	1.25	1987	18	2.45	1987	.00+	1999	2.8	1.1	.2	@	.00	.00	.00	.07	.15	.26	.38	.54	.77	1.17	1.56	
Aug	.50	.20	.70	1999	4	2.33	1999	.00+	2000	3.2	1.7	.2	.0	.00	.00	.01	.07	.16	.26	.40	.59	.86	1.32	1.81	
Sep	.48	.35	1.36	1982	20	2.06	1982	.00+	1999	3.4	1.5	.1	.1	.00	.00	.02	.09	.17	.28	.41	.58	.82	1.24	1.67	
Oct	.98	.71	3.00	1984	19	4.75	1984	.00+	1988	5.5	2.8	.4	.1	.00	.10	.27	.43	.59	.77	.97	1.22	1.56	2.12	2.66	
Nov	2.14	1.77	2.33	1961	22	6.20	1984	.37	1979	10.3	4.6	1.0	.3	.28	.46	.76	1.06	1.37	1.72	2.12	2.61	3.28	4.37	5.42	
Dec	2.15	1.39	2.80	1964	22	8.83	1981	.15	1976	9.4	5.4	.9	.3	.18	.33	.62	.92	1.24	1.62	2.06	2.62	3.39	4.68	5.95	
Ann	14.19	13.24	3.00	Oct 1984	19	8.83	Dec 1981	.00+	Aug 2000	78.3	37.3	6.0	1.5	8.70	9.70	11.02	12.03	12.95	13.85	14.79	15.85	17.14	19.05	20.72	

+ 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: 1958-2001

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

Complete documentation available from:  
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**Climate Division: OR 7**

**NWS Call Sign:**

**Elevation: 3,180 Feet**

**Lat: 44° 17N**

**Lon: 121° 33W**

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	9.1	7.8	3	1	8.0	1993	22	36.5	1993	33	1993	5	30	1993	3.7	2.6	1.2	.4	.0	10.1	5.5	1.4	.0
Feb	8.8	6.0	2	1	13.0	1996	28	30.2	1975	34	1993	20	27	1993	3.4	2.7	1.0	.4	.1	5.9	3.8	1.9	.7
Mar	3.1	1.9	#	#	14.0	1974	14	14.0	1974	28	1993	2	9	1993	1.7	1.1	.3	.2	@	1.1	.4	.1	.1
Apr	.3	.0	#	0	1.8	1992	6	2.0	1976	2	1992	6	#+	1999	.2	.1	.0	.0	.0	@	.0	.0	.0
May	.0	.0	#	0	.3	2000	10	.3	2000	#+	1999	14	#+	1999	@	.0	.0	.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	.2	.0	#	0	3.0	1991	29	3.5	1991	3	1991	30	#+	1991	.2	.1	@	.0	.0	.2	.1	.0	.0
Nov	3.9	.0	1	#	12.1	1973	5	18.6	1973	23	1973	5	5	1985	1.4	1.0	.5	.3	.1	1.3	.7	.3	.0
Dec	6.3	6.0	2	#	16.5	1983	6	16.5+	1983	27	1992	31	13	1992	3.0	2.1	.7	.3	@	4.9	3.1	2.0	.6
Ann	31.7	21.7	N/A	N/A	16.5	Dec 1983	6	36.5	Jan 1993	34	Feb 1993	20	30	Jan 1993	13.6	9.7	3.7	1.6	.2	23.5	13.6	5.7	1.4

+ 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

Complete documentation available from:

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**Lat: 44° 17N**

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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	8/02	7/29	7/27	7/25	7/23	7/21	7/19	7/17	7/13
32	7/31	7/24	7/20	7/16	7/12	7/08	7/04	6/30	6/23
28	7/18	7/10	7/04	6/28	6/24	6/19	6/13	6/07	5/30
24	6/18	6/10	6/04	5/30	5/25	5/20	5/15	5/09	5/01
20	5/20	5/13	5/07	5/03	4/28	4/24	4/19	4/13	4/06
16	5/01	4/20	4/12	4/05	3/30	3/24	3/17	3/09	2/26
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	7/29	8/01	8/04	8/07	8/09	8/12	8/15	8/18	8/22
32	8/02	8/07	8/11	8/14	8/17	8/20	8/24	8/27	9/02
28	8/19	8/25	8/29	9/01	9/04	9/07	9/11	9/15	9/20
24	9/04	9/10	9/15	9/19	9/23	9/27	10/01	10/05	10/12
20	9/24	9/30	10/04	10/08	10/11	10/15	10/19	10/23	10/29
16	10/04	10/12	10/19	10/24	10/29	11/03	11/08	11/15	11/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	36	29	25	21	17	13	9	4	0
32	58	50	45	40	36	31	26	21	13
28	103	92	85	78	72	66	59	52	41
24	158	145	136	128	120	113	105	95	82
20	194	184	177	171	166	160	154	147	137
16	253	239	229	220	212	204	196	186	172

\* 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)**

<b>Base</b>	<b>Heating Degree Days (1)</b>												
<b>Below</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Ann</b>
<b>65</b>	1099	896	838	672	497	274	133	137	315	594	884	1099	7438
<b>60</b>	944	756	683	522	345	153	55	58	188	439	734	944	5821
<b>57</b>	851	672	590	434	260	96	26	28	125	346	644	851	4923
<b>55</b>	789	616	528	376	207	67	15	17	91	286	586	789	4367
<b>50</b>	635	476	374	241	104	19	2	2	31	152	447	634	3117
<b>32</b>	185	92	15	7	0	0	0	0	0	2	89	170	560

<b>Base</b>	<b>Cooling Degree Days (1)</b>												
<b>Above</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Ann</b>
<b>32</b>	109	121	199	326	527	724	947	940	682	431	195	94	5295
<b>55</b>	0	0	0	4	21	101	249	244	83	2	2	0	706
<b>57</b>	0	0	0	2	11	70	198	194	58	1	0	0	534
<b>60</b>	0	0	0	0	3	36	134	131	30	0	0	0	334
<b>65</b>	0	0	0	0	0	8	56	54	7	0	0	0	125
<b>70</b>	0	0	0	0	0	1	15	15	1	0	0	0	32

**Growing Degree Units (2)**

<b>Base</b>	<b>Growing Degree Units (Monthly)</b>												<b>Growing Degree Units (Accumulated Monthly)</b>											
	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<b>40</b>	11	23	62	150	318	503	720	711	463	226	50	12	11	34	96	246	564	1067	1787	2498	2961	3187	3237	3249
<b>45</b>	0	2	20	74	190	354	565	556	322	116	13	0	0	2	22	96	286	640	1205	1761	2083	2199	2212	2212
<b>50</b>	0	0	0	28	99	224	411	404	197	50	0	0	0	0	0	28	127	351	762	1166	1363	1413	1413	1413
<b>55</b>	0	0	0	3	41	118	268	257	99	14	0	0	0	0	0	3	44	162	430	687	786	800	800	800
<b>60</b>	0	0	0	0	9	49	145	136	32	1	0	0	0	0	0	0	9	58	203	339	371	372	372	372
<b>Base</b>	<b>Growing Degree Units for Corn (Monthly)</b>												<b>Growing Degree Units for Corn (Accumulated Monthly)</b>											
<b>50/86</b>	6	25	66	142	268	372	497	500	380	227	39	5	6	31	97	239	507	879	1376	1876	2256	2483	2522	2527

(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> |
|---|---|

## 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)