U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

Climatography of the United States No. 20 1971-2000

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

Station: SANTIAM JUNCTION, OR **COOP ID: 357554**

Climate Division: OR 4 **NWS Call Sign:** **Elevation: 3,750 Feet** **Lat: 44˚26N** **Lon: 121˚57W**

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	37.3	21.7	29.5	58	1987	23	33.8	1994	-7	1987	16	23.1	1979	1101	0	.0	.0	1.3	5.7	29.9	.2
Feb	40.1	23.0	31.6	67	1995	23	39.1	1991	-18+	1989	6	20.5	1989	936	0	.0	.0	5.9	2.2	23.9	.5
Mar	44.1	24.8	34.5	69+	1994	29	41.7	1992	5	1990	13	29.6	1971	931	0	.0	.0	8.5	1.0	20.7	.0
Apr	50.1	29.1	39.6	88	1987	28	47.0	1987	12	1999	1	33.8	1975	762	0	.0	.0	17.4	.1	25.9	.0
May	60.8	34.6	47.7	96	1987	8	55.9	1992	20+	1999	10	42.7	1977	536	0	.0	.3	26.9	.0	22.6	.0
Jun	67.6	39.5	53.6	95	1987	4	60.9	1987	24	1988	12	50.0	1980	347	2	.0	.8	29.3	.0	1.3	.0
Jul	75.6	44.0	59.8	99	1991	4	63.7	1985	28	1996	5	53.3	1993	183	21	.0	2.1	31.0	.0	.1	.0
Aug	77.0	43.2	60.1	99	1998	4	66.2	1991	28	1993	24	55.5	1995	178	26	.0	1.5	30.8	.0	.8	.0
Sep	70.4	38.5	54.5	96	1998	1	58.7	1991	21	1988	17	49.1	1985	323	6	@	.4	29.3	.0	2.2	.0
Oct	58.5	33.4	46.0	86	1991	15	54.6	1988	14+	1991	31	41.9	1984	592	0	.0	.0	26.6	.1	9.3	.0
Nov	42.1	28.4	35.3	76	1986	4	40.5	1995	2+	1994	22	28.2	1985	892	0	.0	.0	5.2	3.7	25.0	.0
Dec	36.4	23.3	29.9	60+	1989	27	33.7	1991	-19+	1990	23	21.1	1990	1089	0	.0	.0	1.4	5.3	25.8	.7
Ann	55.0	32.0	43.5	99+	Aug 1998	4	66.2	Aug 1991	-19+	Dec 1990	23	20.5	Feb 1989	7870	55	@	5.1	213.6	18.1	187.5	1.4

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1949-2001

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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	9.60	10.30	2.88	1989	10	16.43	1971	.54	1985
Feb	7.33	7.17	3.41	1996	7	15.19	1999	2.06	1993
Mar	6.70	6.17	1.50	1993	18	11.90	1983	1.71	1992
Apr	5.13	4.65	1.95	1996	24	10.23	1992	1.69	1999
May	3.55	3.28	1.96	2001	15	7.44	1996	.07	1992
Jun	2.63	2.46	1.13	1991	20	5.95+	1984	.93	1986
Jul	.99	.67	2.00	1987	19	4.60	1987	.06	1994
Aug	.85	.53	1.67	1989	9	3.73	1989	.00+	2000
Sep	1.75	1.74	1.52	1986	26	6.69	1986	.00+	1993
Oct	4.43	4.14	2.48	1994	28	8.97	1997	.10	1987
Nov	9.74	9.72	4.70	1996	19	19.85	1988	1.51	1987
Dec	9.49	9.10	4.33	1998	27	23.60	1996	2.28	1989
Ann	62.19	61.23	4.70	Nov 1996	19	23.60	Dec 1996	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	18.3	14.3	6.1	2.2
Feb	16.1	12.0	4.3	1.4
Mar	19.6	13.9	4.9	.7
Apr	17.2	10.7	2.3	.5
May	13.6	8.2	1.9	.2
Jun	9.6	5.9	1.0	.1
Jul	4.9	2.1	.3	.1
Aug	4.8	2.5	.2	@
Sep	8.1	4.9	1.2	.2
Oct	11.4	8.6	2.6	1.0
Nov	19.3	15.3	7.0	2.0
Dec	18.0	14.2	7.2	2.7
Ann	160.9	112.6	39.0	11.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	2.55	3.46	4.85	6.07	7.27	8.53	9.93	11.59	13.75	17.14	20.32
Feb	2.72	3.40	4.39	5.21	5.99	6.79	7.66	8.67	9.96	11.93	13.74
Mar	2.87	3.47	4.32	5.01	5.66	6.32	7.03	7.84	8.87	10.43	11.85
Apr	1.92	2.40	3.09	3.66	4.21	4.77	5.37	6.07	6.97	8.34	9.60
May	.88	1.21	1.73	2.19	2.65	3.12	3.66	4.29	5.13	6.44	7.68
Jun	.90	1.15	1.51	1.82	2.11	2.42	2.75	3.14	3.63	4.40	5.11
Jul	.09	.16	.29	.42	.58	.75	.95	1.21	1.56	2.15	2.73
Aug	.00	.01	.07	.17	.29	.46	.68	.98	1.42	2.22	3.04
Sep	.00	.05	.26	.50	.78	1.13	1.56	2.11	2.90	4.27	5.65
Oct	.59	.95	1.58	2.20	2.84	3.56	4.39	5.41	6.80	9.06	11.25
Nov	2.95	3.87	5.25	6.44	7.60	8.80	10.12	11.67	13.68	16.82	19.72
Dec	2.89	3.80	5.14	6.30	7.42	8.59	9.87	11.38	13.32	16.36	19.18
Ann	43.69	47.26	51.84	55.32	58.42	61.42	64.52	67.95	72.11	78.16	83.40

\+ 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: 1949-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	54.7	50.0	1	#	25.0	1996	21	110.0	1996	12	1988	15	3	1988	10.8	10.6	6.6	4.6	1.5	-9.9	-9.9	-9.9	-9.9
Feb	27.7	30.0	2	0	20.0	1990	16	58.0	1994	15	1987	2	7	1987	7.6	7.5	3.9	2.4	.7	-9.9	-9.9	-9.9	-9.9
Mar	29.8	28.0	0	0	18.0	1995	5	70.2	1988	0	0	0	0	0	8.2	8.1	4.4	2.8	.5	-9.9	-9.9	-9.9	-9.9
Apr	19.6	16.8	#	0	12.0	1991	9	38.0	1988	#	1996	22	#	1996	6.0	5.8	2.5	1.2	.2	-9.9	-9.9	-9.9	-9.9
May	3.7	3.0	#	0	8.0	2000	10	13.0	2000	#	1996	29	#	1996	1.1	1.1	.5	.2	.0	-9.9	-9.9	-9.9	-9.9
Jun	.4	.0	0	0	3.0	1988	2	3.0	1988	0	0	0	0	0	.3	.3	.1	.0	.0	-9.9	-9.9	-9.9	-9.9
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	-9.9	-9.9	-9.9	-9.9
Aug	#	.0	0	0	#	1995	17	#	1995	0	0	0	0	0	.0	.0	.0	.0	.0	-9.9	-9.9	-9.9	-9.9
Sep	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	-9.9	-9.9	-9.9	-9.9
Oct	5.5	.0	#	0	10.0	1996	19	32.0	1996	#	1996	18	#	1996	1.2	1.2	.8	.4	.1	-9.9	-9.9	-9.9	-9.9
Nov	40.8	31.0	#	0	24.0	1998	21	97.0	1994	#+	1997	26	#+	1997	7.8	7.8	5.2	2.9	.7	-9.9	-9.9	-9.9	-9.9
Dec	30.7	26.0	#	#	21.0	1992	9	66.0	1988	#+	1997	6	#+	1997	10.2	10.2	6.1	4.4	1.6	-9.9	-9.9	-9.9	-9.9
Ann	212.9	184.8	N/A	N/A	25.0	Jan 1996	21	110.0	Jan 1996	15	Feb 1987	2	7	Feb 1987	53.2	52.6	30.1	18.9	5.3	-9.9	-9.9	-9.9	-9.9

+ 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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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	7/20	7/11	7/05	6/29	6/24	6/19	6/13	6/07	5/28
32	6/27	6/21	6/16	6/13	6/09	6/05	6/01	5/28	5/22
28	6/13	6/08	6/05	6/02	5/30	5/27	5/24	5/20	5/15
24	6/12	6/03	5/28	5/23	5/18	5/13	5/08	5/02	4/23
20	6/13	5/29	5/19	5/10	5/01	4/23	4/14	4/03	3/20
16	4/25	4/06	3/23	3/11	2/28	2/17	2/06	1/23	1/04

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	8/04	8/17	8/26	9/03	9/10	9/17	9/25	10/04	10/17
32	8/17	8/29	9/07	9/15	9/22	9/30	10/08	10/17	10/29
28	9/14	9/24	9/30	10/06	10/11	10/17	10/22	10/29	11/07
24	10/02	10/11	10/17	10/22	10/27	11/01	11/06	11/13	11/21
20	10/21	10/30	11/06	11/12	11/18	11/23	11/29	12/06	12/16
16	11/03	11/14	11/21	11/28	12/04	12/10	12/16	12/24	1/03

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	135	115	101	89	77	66	54	39	19
32	156	138	126	115	105	95	84	71	54
28	165	154	146	140	134	128	121	113	103
24	188	179	172	167	161	156	150	144	134
20	236	224	215	207	200	193	185	176	164
16	347	320	303	289	276	263	249	233	211

***** 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

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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	1101	936	931	762	536	347	183	178	323	592	892	1089	7870
60	946	796	792	612	385	212	84	83	194	439	742	934	6219
57	853	712	699	522	300	144	43	43	132	350	652	841	5291
55	791	656	637	462	246	107	25	25	97	293	592	779	4710
50	636	516	482	319	136	40	4	5	36	170	443	624	3411
32	135	110	57	16	1	0	0	0	0	2	55	140	516

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	57	99	133	244	487	646	862	871	673	433	153	74	4732
55	0	0	0	1	20	63	173	183	80	11	0	0	531
57	0	0	0	0	11	40	130	139	54	6	0	0	380
60	0	0	0	0	4	17	78	86	27	2	0	0	214
65	0	0	0	0	0	2	21	26	6	0	0	0	55
70	0	0	0	0	0	0	3	5	0	0	0	0	8

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	0	16	31	79	189	494	670	582	492	282	18	1	0	16	47	126	315	809	1479	2061	2553	2835	2853	2854
45	0	0	2	31	95	348	515	427	345	156	2	0	0	0	2	33	128	476	991	1418	1763	1919	1921	1921
50	0	0	0	6	39	216	361	277	209	68	0	0	0	0	0	6	45	261	622	899	1108	1176	1176	1176
55	0	0	0	1	15	113	223	141	102	18	0	0	0	0	0	1	16	129	352	493	595	613	613	613
60	0	0	0	0	0	50	111	58	33	1	0	0	0	0	0	0	0	50	161	219	252	253	253	253
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	18	25	102	209	320	423	344	310	195	14	0	0	18	43	145	354	674	1097	1441	1751	1946	1960	1960

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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.

a. Temperature/ Precipitation Tables
   1. 1971-2000 Monthly Normals
   2. Cooperative Summary of the Day
   3. National Weather Service station records
   4. 1971-2000 serially complete daily data

b. Degree Day Table
   1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
   2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data

c. Snow Tables
   1. Snow Climatology
   2. Cooperative Summary of the Day

d. Freeze Data Table
   1971-2000 serially complete daily data

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/usnormalsprods.html
Snow Climatology Project Description, 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