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: MC MINNVILLE, OR **COOP ID: 355384**

Climate Division: OR 2 **NWS Call Sign:** **Elevation: 155 Feet** **Lat: 45˚13N** **Lon: 123˚10W**

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	46.2	33.0	39.6	69+	1931	28	44.4	1995	-7	1950	31	32.3	1979	788	0	.0	.0	11.8	.8	13.0	.0
Feb	50.7	35.1	42.9	72	1968	28	48.1	1991	2	1950	2	35.2	1989	619	0	.0	.0	17.6	.3	9.1	.0
Mar	56.3	37.1	46.7	87	1930	29	51.2	1992	15	1956	6	43.1	1971	566	0	.0	.0	27.1	.0	6.7	.0
Apr	61.6	39.6	50.6	89	1931	29	55.4	1989	24	1931	8	45.7	1975	432	0	.0	.0	29.6	.0	3.7	.0
May	68.5	43.9	56.2	100	1983	28	61.1	1993	24	1954	1	52.1	1977	280	6	@	.5	31.0	.0	.5	.0
Jun	74.6	47.9	61.3	103	1992	22	65.9	1992	31	1976	3	56.5	1971	143	30	.1	1.5	30.0	.0	.1	.0
Jul	81.9	51.2	66.6	108	1938	21	70.4	1996	34+	1971	3	62.1	1993	50	98	.5	6.4	31.0	.0	.0	.0
Aug	82.4	51.2	66.8	106	1972	7	70.5	1986	30	1955	13	61.0	1975	53	108	.9	6.4	31.0	.0	.0	.0
Sep	76.9	47.6	62.3	105	1988	2	66.3	1991	28+	1970	15	58.0	1972	128	45	.2	2.9	30.0	.0	.1	.0
Oct	64.8	42.0	53.4	95	1988	1	57.9	1988	23+	1972	30	50.7	1984	360	1	.0	.1	30.5	.0	1.7	.0
Nov	52.3	37.4	44.9	75	1930	2	49.7	1995	9	1955	15	37.7	1985	605	0	.0	.0	21.5	.2	6.6	.0
Dec	45.7	33.2	39.5	69	1950	4	43.3	1979	-5+	1972	10	33.0	1990	791	0	.0	.0	9.5	1.0	12.0	.1
Ann	63.5	41.6	52.6	108	Jul 1938	21	70.5	Aug 1986	-7	Jan 1950	31	32.3	Jan 1979	4815	288	1.7	17.8	300.6	2.3	53.5	.1

\+ 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: 1928-2001

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

Issue Date: February 2004

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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	6.63	6.83	2.70	1972	11	13.48	1974	.35	1985
Feb	5.50	5.47	3.50	1996	6	13.19	1996	.67	1988
Mar	4.65	4.57	2.50	1951	8	8.38	1989	.81	1992
Apr	2.81	2.24	1.97	1991	5	7.01	1996	.30	1977
May	1.94	1.92	1.76	1972	17	3.93	1984	.02	1992
Jun	1.14	1.06	1.07+	1985	7	2.68	1984	.10	1972
Jul	.43	.23	1.05	1986	4	2.22	1983	.00+	1996
Aug	.52	.17	1.20	1968	23	2.98	1978	.00+	2000
Sep	1.37	.96	3.10	1996	16	4.09	1986	.00+	1991
Oct	2.96	2.95	3.58	1994	27	7.21	1997	.25	1988
Nov	6.23	5.89	2.80	1946	18	12.66	1983	.61	1993
Dec	7.48	6.38	3.67	1937	27	19.99	1996	1.08	1976
Ann	41.66	41.53	3.67	Dec 1937	27	19.99	Dec 1996	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	16.6	11.7	4.7	1.6
Feb	15.4	11.1	3.8	1.1
Mar	16.0	11.1	3.1	.7
Apr	13.0	7.6	1.5	.3
May	9.6	5.7	1.0	.1
Jun	6.1	3.2	.6	.1
Jul	2.4	1.2	.2	@
Aug	2.8	1.5	.3	.0
Sep	5.7	3.6	1.0	.1
Oct	10.5	6.3	2.1	.4
Nov	17.6	12.4	4.3	1.3
Dec	17.3	12.5	5.6	1.8
Ann	133.0	87.9	28.2	7.5

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	1.34	1.94	2.92	3.81	4.70	5.67	6.75	8.06	9.79	12.56	15.19
Feb	1.28	1.80	2.60	3.32	4.04	4.80	5.65	6.67	8.00	10.11	12.11
Mar	1.79	2.23	2.84	3.35	3.84	4.33	4.87	5.49	6.27	7.48	8.59
Apr	.58	.84	1.25	1.63	2.01	2.41	2.87	3.41	4.14	5.29	6.39
May	.27	.43	.70	.97	1.25	1.56	1.92	2.36	2.96	3.93	4.86
Jun	.20	.30	.47	.62	.78	.95	1.15	1.39	1.71	2.22	2.71
Jul	.00	.00	.00	.05	.13	.22	.34	.50	.73	1.14	1.56
Aug	.00	.00	.00	.00	.03	.16	.34	.58	.93	1.55	2.17
Sep	.00	.04	.20	.39	.61	.88	1.21	1.64	2.26	3.32	4.39
Oct	.50	.76	1.19	1.59	2.01	2.47	2.98	3.61	4.45	5.82	7.12
Nov	1.37	1.95	2.86	3.69	4.51	5.39	6.38	7.57	9.13	11.61	13.96
Dec	1.91	2.61	3.70	4.66	5.61	6.61	7.72	9.04	10.76	13.48	16.03
Ann	26.28	29.12	32.83	35.69	38.27	40.79	43.42	46.36	49.96	55.24	59.87

+ 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: 1928-2001
(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	1.6	.1	#	0	7.0	1971	12	16.0	1971	12	1971	14	1	1982	.9	.6	.3	.1	.0	.4	.2	.1	@
Feb	.9	.0	#	0	6.1	1990	15	7.8	1990	7	1990	16	1	1990	.4	.3	.2	.1	.0	.1	.1	.1	.0
Mar	.2	.0	#	0	2.5	1972	1	2.5	1972	3	1972	1	#+	1982	.1	.1	.0	.0	.0	@	@	.0	.0
Apr	#	.0	#	0	#	1987	18	#	1987	#+	1987	18	#+	1987	.0	.0	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.2	.0	#	0	2.0	1996	19	2.0	1996	#	1975	29	#	1975	.2	.1	.0	.0	.0	.0	.0	.0	.0
Dec	1.6	.0	#	0	8.0	1972	5	17.4	1972	12	1972	6	5	1972	.6	.4	.2	.1	.0	.1	.1	.0	.0
Ann	4.5	.1	N/A	N/A	8.0	Dec 1972	5	17.4	Dec 1972	12+	Dec 1972	6	5	Dec 1972	2.2	1.5	.7	.3	.0	.6	.4	.2	@

+ 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	6/21	6/11	6/03	5/28	5/22	5/16	5/10	5/03	4/22
32	5/23	5/13	5/05	4/29	4/23	4/16	4/10	4/02	3/23
28	4/28	4/14	4/05	3/28	3/20	3/12	3/04	2/23	2/10
24	2/27	2/16	2/08	2/01	1/25	1/19	1/11	1/02	12/15
20	2/20	2/08	1/30	1/21	1/13	1/03	12/20	0/00	0/00
16	1/28	1/14	1/02	12/17	0/00	0/00	0/00	0/00	0/00

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	9/18	9/24	9/28	10/02	10/06	10/09	10/13	10/17	10/23
32	9/30	10/08	10/14	10/19	10/24	10/29	11/03	11/09	11/17
28	10/22	11/01	11/08	11/14	11/19	11/25	12/01	12/08	12/18
24	11/11	11/25	12/06	12/14	12/23	12/31	1/10	1/22	2/14
20	11/30	12/14	12/24	1/02	1/11	1/22	2/07	0/00	0/00
16	12/18	1/01	1/13	1/29	0/00	0/00	0/00	0/00	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	171	159	150	143	136	129	121	112	100
32	229	213	202	193	184	175	165	154	138
28	299	280	266	255	244	233	221	207	188
24	>365	>365	355	339	328	317	306	294	279
20	>365	>365	>365	>365	>365	356	340	327	313
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	788	619	566	432	280	143	50	53	128	360	605	791	4815
60	633	479	411	285	150	58	10	12	50	215	455	636	3394
57	540	395	320	203	92	26	2	4	22	141	368	543	2656
55	478	340	263	154	62	14	0	1	12	99	313	482	2218
50	332	211	135	62	15	2	0	0	1	32	187	335	1312
32	19	3	0	0	0	0	0	0	0	0	4	20	46

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	254	308	457	558	749	877	1071	1079	907	664	390	252	7566
55	0	0	6	22	98	201	358	366	229	50	8	0	1338
57	0	0	2	11	66	153	298	307	179	29	4	0	1049
60	0	0	0	3	31	95	213	222	117	10	0	0	691
65	0	0	0	0	6	30	98	108	45	1	0	0	288
70	0	0	0	0	0	5	29	36	11	0	0	0	81

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	93	139	232	335	518	651	838	850	683	427	184	83	93	232	464	799	1317	1968	2806	3656	4339	4766	4950	5033
45	30	54	99	193	364	501	683	695	533	274	79	25	30	84	183	376	740	1241	1924	2619	3152	3426	3505	3530
50	0	8	29	83	217	351	528	540	383	140	16	0	0	8	37	120	337	688	1216	1756	2139	2279	2295	2295
55	0	0	0	28	107	205	373	385	242	55	1	0	0	0	0	28	135	340	713	1098	1340	1395	1396	1396
60	0	0	0	4	38	94	223	235	119	13	0	0	0	0	0	4	42	136	359	594	713	726	726	726
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	25	52	114	189	307	393	518	527	425	248	67	22	25	77	191	380	687	1080	1598	2125	2550	2798	2865	2887

(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