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: WEYERHAUSER, WI **COOP ID: 479144**

Climate Division: WI 1 **NWS Call Sign:** **Elevation: 1,195 Feet** **Lat: 45˚25N** **Lon: 91˚25W**

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	20.6	.0	10.3	51	1981	25	22.2	1990	-39+	1996	31	.0	1977	1697	0	.0	.0	@	24.9	30.9	15.6
Feb	27.6	6.1	16.9	60	2000	29	31.4	1998	-39	1996	3	7.8	1989	1348	0	.0	.0	.6	16.5	27.8	9.7
Mar	39.3	18.2	28.8	81	1986	31	38.5	2000	-35	1962	1	21.5	1975	1124	0	.0	.0	6.8	6.7	28.1	3.5
Apr	55.5	30.4	43.0	88	1980	22	50.6	1977	1	1954	3	36.5	1975	661	0	.0	.0	21.5	.6	17.9	.0
May	69.0	41.8	55.4	92+	1975	22	63.6	1977	15	1967	3	49.2	1983	320	24	.0	.1	30.5	.0	5.4	.0
Jun	76.2	50.3	63.3	96	1986	19	68.3	1995	22	1986	2	57.1	1982	119	66	.0	1.2	30.0	.0	.5	.0
Jul	80.5	55.5	68.0	100+	1988	28	72.4	1988	36	1967	5	63.0	1992	41	134	.1	3.0	31.0	.0	.0	.0
Aug	78.5	53.6	66.1	100+	1988	17	71.3	1995	25	1986	28	60.7	1985	66	99	.1	1.5	31.0	.0	.1	.0
Sep	69.5	44.7	57.1	96	1976	7	63.6	1998	20	1984	30	51.8	1993	253	16	.0	.2	29.6	.0	2.8	.0
Oct	57.2	33.5	45.4	87	1976	1	52.7	1971	8	1988	30	39.5	1980	609	0	.0	.0	24.3	.1	14.7	.0
Nov	38.8	21.4	30.1	71	1999	9	39.0	1999	-22	1985	29	22.0	1985	1047	0	.0	.0	6.0	8.3	26.5	1.6
Dec	24.6	6.3	15.5	58+	1998	3	25.8	1997	-32+	1986	13	2.9	1985	1535	0	.0	.0	.3	22.0	30.7	10.3
Ann	53.1	30.2	41.7	100+	Aug 1988	17	72.4	Jul 1988	-39+	Feb 1996	3	.0	Jan 1977	8820	339	.2	6.0	211.6	79.1	185.4	40.7

\+ 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: 1948-2001

(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	1.16	.97	1.76	1996	18	3.78	1980	.05	1981
Feb	.93	.81	1.57	1998	27	2.77	1998	.03	1997
Mar	2.04	1.85	2.26	1998	28	5.75	1977	.21	1978
Apr	2.51	2.55	3.20	1954	26	5.28	1975	.10	1987
May	3.62	3.37	3.10	1953	21	8.40	1991	.87	1988
Jun	4.18	4.04	3.63	1951	24	7.81	1979	1.69	1988
Jul	4.49	3.62	4.39	2000	9	9.64	1987	.97	1988
Aug	4.51	4.11	5.90	1990	18	9.96	1995	1.40	1976
Sep	4.16	3.93	2.70	1951	12	9.32	1985	1.24	1976
Oct	2.71	2.83	2.95	1985	4	5.27	1995	.50	1978
Nov	2.12	1.96	2.86	1991	1	7.03	1991	.00	1976
Dec	1.10	1.08	2.30	1965	12	3.16	1972	.22	1997
Ann	33.53	34.06	5.90	Aug 1990	18	9.96	Aug 1995	.00	Nov 1976

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.5	3.7	.4	.1
Feb	5.6	2.8	.4	.1
Mar	7.5	4.7	1.2	.3
Apr	9.4	6.6	1.8	.4
May	10.8	7.5	2.6	.7
Jun	11.1	7.8	2.7	.9
Jul	10.4	7.4	3.1	1.2
Aug	9.9	7.9	2.9	1.1
Sep	10.3	7.5	3.2	1.2
Oct	8.5	5.8	1.7	.5
Nov	8.0	4.9	1.4	.3
Dec	7.3	3.9	.5	@
Ann	106.3	70.5	21.9	6.8

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	.17	.27	.43	.60	.76	.95	1.16	1.42	1.77	2.33	2.88
Feb	.10	.17	.30	.43	.57	.73	.91	1.13	1.44	1.95	2.45
Mar	.43	.62	.92	1.19	1.47	1.76	2.09	2.48	3.00	3.83	4.62
Apr	.65	.89	1.25	1.58	1.89	2.22	2.60	3.03	3.61	4.51	5.36
May	1.25	1.59	2.09	2.51	2.91	3.33	3.78	4.31	4.99	6.04	7.00
Jun	1.78	2.16	2.69	3.13	3.53	3.94	4.38	4.89	5.53	6.51	7.39
Jul	1.32	1.74	2.38	2.94	3.48	4.04	4.66	5.39	6.34	7.81	9.19
Aug	1.71	2.13	2.73	3.23	3.71	4.20	4.72	5.34	6.11	7.31	8.41
Sep	1.37	1.77	2.34	2.84	3.31	3.80	4.34	4.96	5.77	7.02	8.17
Oct	.75	1.01	1.40	1.74	2.07	2.42	2.80	3.26	3.85	4.78	5.64
Nov	.29	.57	.93	1.23	1.52	1.84	2.19	2.61	3.16	4.04	4.86
Dec	.19	.29	.45	.60	.75	.92	1.11	1.34	1.64	2.13	2.60
Ann	23.55	25.47	27.94	29.82	31.49	33.10	34.78	36.62	38.87	42.13	44.96

\+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	12.4	11.0	10	11
Feb	7.6	6.0	12	10
Mar	9.3	6.5	6	5
Apr	1.9	2.0	#	#
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.5	.0	#	0
Nov	6.7	4.0	1	1
Dec	9.0	8.0	5	3
Ann	47.4	37.5	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	9.0	1982	22	22.0+	1998	27	1982	31	18	1972
Feb	8.0	1973	1	18.7	1971	32+	1979	21	28	1972
Mar	12.0	1985	4	36.5	1985	37	1972	6	20	1972
Apr	4.0	1972	22	5.2	1972	11	1996	1	3	1996
May	#	1989	6	#+	1989	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	4.0	1986	14	4.0+	1992	2	1987	22	#+	1993
Nov	9.0	1978	17	22.5	1985	13	1985	30	6	1991
Dec	10.0	1985	1	21.5+	1996	21	1985	1	16	1985
Ann	12.0	Mar 1985	4	36.5	Mar 1985	37	Mar 1972	6	28	Feb 1972

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.2	5.1	1.5	.6	.0
Feb	4.1	3.0	.8	.2	.0
Mar	3.4	2.6	1.3	.6	.1
Apr	1.0	.8	.3	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.2	.2	.1	.0	.0
Nov	3.1	2.4	1.1	.4	.0
Dec	5.8	3.9	1.2	.2	@
Ann	24.8	18.0	6.3	2.0	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	30.3	28.1	25.6	15.0
Feb	25.7	23.4	20.6	11.8
Mar	16.7	13.6	11.2	7.3
Apr	1.5	.8	.5	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.0	.0	.0
Nov	7.0	4.2	2.9	.2
Dec	23.6	18.5	12.6	4.4
Ann	104.9	88.6	73.4	38.7

+ 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	6/20	6/14	6/10	6/06	6/02	5/30	5/26	5/22	5/16
32	6/14	6/07	6/02	5/29	5/25	5/21	5/17	5/12	5/05
28	6/01	5/24	5/19	5/14	5/10	5/05	5/01	4/25	4/18
24	5/10	5/04	4/29	4/25	4/22	4/18	4/14	4/10	4/03
20	4/29	4/24	4/20	4/16	4/13	4/10	4/06	4/02	3/27
16	4/16	4/12	4/09	4/06	4/04	4/01	3/30	3/27	3/22

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	8/24	8/29	9/02	9/06	9/09	9/12	9/15	9/19	9/25
32	9/09	9/13	9/16	9/18	9/21	9/23	9/26	9/29	10/03
28	9/15	9/20	9/24	9/27	9/30	10/03	10/06	10/10	10/15
24	9/22	9/29	10/04	10/08	10/12	10/16	10/20	10/24	10/31
20	10/02	10/08	10/13	10/16	10/20	10/24	10/27	11/01	11/07
16	10/15	10/21	10/26	10/30	11/02	11/06	11/10	11/14	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	125	116	109	103	98	92	86	80	70
32	143	135	128	123	118	113	108	101	93
28	175	164	156	149	143	137	130	122	111
24	205	194	186	179	172	166	159	150	139
20	216	207	200	195	189	184	179	172	163
16	237	228	222	217	212	207	201	195	187

***** 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	1697	1348	1124	661	320	119	41	66	253	609	1047	1535	8820
60	1542	1208	969	514	205	50	9	18	142	458	897	1380	7392
57	1449	1124	876	428	148	25	2	6	91	372	807	1287	6615
55	1387	1068	814	374	116	15	0	3	65	318	747	1225	6132
50	1232	928	660	250	55	3	0	0	22	199	599	1070	5018
32	686	454	204	17	0	0	0	0	0	9	172	546	2088

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	12	30	104	346	726	938	1116	1056	753	423	116	34	5654
55	0	0	0	13	130	262	403	345	127	18	0	0	1298
57	0	0	0	7	100	212	343	287	93	11	0	0	1053
60	0	0	0	3	63	147	257	206	54	4	0	0	734
65	0	0	0	0	24	66	134	99	16	0	0	0	339
70	0	0	0	0	7	20	53	33	3	0	0	0	116

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	1	26	183	510	725	889	818	526	225	26	1	0	1	27	210	720	1445	2334	3152	3678	3903	3929	3930
45	0	1	8	99	362	575	734	663	381	125	8	0	0	1	9	108	470	1045	1779	2442	2823	2948	2956	2956
50	0	0	2	45	229	427	579	508	250	56	1	0	0	0	2	47	276	703	1282	1790	2040	2096	2097	2097
55	0	0	0	19	124	285	424	356	138	24	0	0	0	0	0	19	143	428	852	1208	1346	1370	1370	1370
60	0	0	0	5	57	161	275	214	65	4	0	0	0	0	0	5	62	223	498	712	777	781	781	781
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	22	144	334	463	581	528	332	149	18	0	0	1	23	167	501	964	1545	2073	2405	2554	2572	2572

(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