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: MARINETTE, WI **COOP ID: 475091**

Climate Division: WI 3 **NWS Call Sign:** **Elevation: 610 Feet** **Lat: 45˚05N** **Lon: 87˚38W**

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	24.7	8.2	16.5	50	1973	26	24.7	1990	-30	1982	17	6.8	1977	1505	0	.0	.0	@	22.5	30.7	8.6
Feb	28.9	12.4	20.7	62	1999	12	31.7	1998	-30	1996	3	11.0	1979	1243	0	.0	.0	.6	15.9	27.3	5.0
Mar	39.2	22.0	30.6	77	2000	8	38.1	1973	-20	1962	1	24.3	1996	1067	0	.0	.0	5.2	5.7	26.6	1.1
Apr	52.6	33.2	42.9	90+	1962	27	49.4	1987	5	1989	9	37.3	1975	664	0	.0	.0	19.2	.4	13.5	.0
May	66.2	44.8	55.5	97	1988	30	63.1	1977	22	1966	10	47.1	1983	329	34	.0	.6	30.0	.0	2.5	.0
Jun	76.1	54.2	65.2	100+	1988	7	71.4	1988	34+	1964	2	57.9	1982	92	96	.1	2.3	30.0	.0	.0	.0
Jul	81.3	59.7	70.5	102	1988	6	74.5	1983	40+	1978	28	64.0	1992	20	190	.1	4.3	31.0	.0	.0	.0
Aug	78.5	58.1	68.3	101	1955	21	73.9	1983	34	1986	28	64.8	1977	40	142	.0	1.9	31.0	.0	.0	.0
Sep	69.4	50.4	59.9	96	1953	1	64.7	1998	23	1974	23	53.2	1974	184	32	.0	.5	29.9	.0	.9	.0
Oct	56.9	39.4	48.2	89	1963	6	55.6	1971	16+	1988	30	41.5	1988	525	2	.0	.0	25.7	.0	7.6	.0
Nov	42.3	27.5	34.9	75	1953	18	41.7	1990	-8	1950	24	28.5	1995	903	0	.0	.0	7.5	3.2	21.2	.1
Dec	29.6	15.0	22.3	62	1998	4	30.2	1998	-22	1983	23	10.6	1989	1324	0	.0	.0	.7	16.1	29.2	4.2
Ann	53.8	35.4	44.6	102	Jul 1988	6	74.5	Jul 1983	-30+	Feb 1996	3	6.8	Jan 1977	7896	496	.2	9.6	210.8	63.8	159.5	19.0

\+ 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/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

Issue Date: February 2004

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: MARINETTE, WI **COOP ID: 475091**

Climate Division: WI 3 **NWS Call Sign:** **Elevation: 610 Feet** **Lat: 45˚05N** **Lon: 87˚38W**

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	2.00	1.67	2.35	1996	27	8.49	1996	.00	1990
Feb	1.33	1.16	1.43	1971	23	3.30	1984	.00	1990
Mar	2.39	2.17	1.90	2000	9	7.03	1977	.35	1978
Apr	2.75	2.61	1.97	1968	17	4.63	1981	.57	1971
May	3.06	3.09	5.17	1965	16	8.22	1973	.77	1988
Jun	3.60	2.98	3.31	1990	22	11.07	1996	.74	1988
Jul	3.44	3.13	3.96	1991	28	7.52	1991	.87	1981
Aug	3.35	3.15	5.05	1960	3	5.82	1975	1.34	1991
Sep	3.53	3.36	2.78	1979	1	6.33	1983	.74	1976
Oct	2.47	2.47	2.13	1995	7	5.33	1995	.38	1975
Nov	2.69	2.40	3.36	1985	1	8.20	1985	.10	1976
Dec	1.79	1.90	3.10	1959	28	4.06	1971	.00	1989
Ann	32.40	32.56	5.17	May 1965	16	11.07	Jun 1996	.00+	Feb 1990

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.5	5.2	1.0	.3
Feb	7.6	3.7	.5	.1
Mar	8.9	5.2	1.7	.4
Apr	10.3	6.3	1.9	.5
May	10.1	6.3	2.2	.6
Jun	10.6	6.8	1.9	1.0
Jul	11.2	6.8	2.1	.7
Aug	10.6	7.1	2.4	.5
Sep	11.0	6.6	2.6	.9
Oct	9.8	5.5	1.6	.5
Nov	9.6	5.9	1.6	.5
Dec	9.5	5.0	.9	.2
Ann	119.7	70.4	20.4	6.2

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	.16	.38	.70	1.00	1.30	1.63	2.01	2.47	3.08	4.08	5.04
Feb	.11	.25	.47	.66	.86	1.08	1.33	1.64	2.05	2.71	3.36
Mar	.54	.76	1.11	1.42	1.74	2.07	2.45	2.90	3.49	4.43	5.32
Apr	1.05	1.31	1.67	1.97	2.26	2.56	2.87	3.24	3.71	4.43	5.09
May	.97	1.26	1.69	2.06	2.41	2.78	3.19	3.66	4.27	5.22	6.10
Jun	.78	1.11	1.63	2.11	2.59	3.11	3.68	4.37	5.28	6.74	8.11
Jul	1.09	1.42	1.90	2.32	2.71	3.13	3.58	4.11	4.79	5.85	6.83
Aug	1.62	1.91	2.30	2.62	2.91	3.20	3.51	3.86	4.30	4.97	5.57
Sep	1.29	1.62	2.10	2.50	2.88	3.27	3.69	4.18	4.80	5.77	6.65
Oct	.64	.87	1.23	1.54	1.85	2.18	2.55	2.98	3.54	4.43	5.26
Nov	.43	.66	1.05	1.42	1.80	2.22	2.70	3.28	4.06	5.32	6.54
Dec	.34	.58	.88	1.13	1.36	1.61	1.87	2.19	2.60	3.23	3.83
Ann	23.83	25.51	27.64	29.25	30.67	32.04	33.45	35.01	36.89	39.61	41.95

+ 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

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

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: MARINETTE, WI **COOP ID: 475091**

Climate Division: WI 3 **NWS Call Sign:** **Elevation: 610 Feet** **Lat: 45°05N** **Lon: 87°38W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	17.5	15.4	9	9
Feb	11.2	9.5	10	8
Mar	9.7	8.3	4	2
Apr	2.9	1.9	#	#
May	.1	.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
Nov	2.7	1.5	#	#
Dec	12.3	13.5	3	3
Ann	56.5	50.1	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	17.0	1971	4	36.0	1971	34	1982	31	26	1982
Feb	8.5	1985	11	29.0	1985	35	1982	15	27	1982
Mar	11.0	1997	14	24.6	1972	37	1972	10	21	1972
Apr	8.0	1977	5	13.0	1977	12	1977	5	2	1977
May	3.5	1990	10	3.5	1990	#	1997	12	#	1997
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	2.0	1976	19	2.3	1976	#+	1997	21	#+	1997
Nov	8.5	1995	27	15.5	1995	12	1995	27	2+	2000
Dec	11.0	1985	1	20.1	1972	17	1996	31	12	1983
Ann	17.0	Jan 1971	4	36.0	Jan 1971	37	Mar 1972	10	27	Feb 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	8.1	4.8	1.7	.6	.1
Feb	5.8	3.5	1.0	.5	.0
Mar	4.0	2.4	1.1	.6	.1
Apr	1.1	.8	.4	.1	.0
May	@	@	@	.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	.1	@	.0	.0	.0
Nov	1.7	1.1	.3	.1	.0
Dec	6.1	4.0	1.5	.6	.1
Ann	26.9	16.6	6.0	2.5	.3

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	29.3	25.4	21.4	12.3
Feb	25.9	22.3	18.3	10.4
Mar	12.9	10.4	7.9	3.6
Apr	1.6	.8	.4	.1
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	.0	.0	.0	.0
Nov	2.2	1.2	.5	.2
Dec	19.5	13.5	7.7	1.2
Ann	91.4	73.6	56.2	27.8

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: MARINETTE, WI **COOP ID: 475091**

Climate Division: WI 3 **NWS Call Sign:** **Elevation: 610 Feet** **Lat: 45˚05N** **Lon: 87˚38W**

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	6/07	6/01	5/28	5/24	5/20	5/17	5/13	5/09	5/02
32	5/19	5/15	5/12	5/10	5/07	5/05	5/03	4/30	4/26
28	5/07	5/02	4/29	4/26	4/23	4/20	4/17	4/14	4/09
24	4/28	4/23	4/19	4/16	4/13	4/10	4/07	4/04	3/30
20	4/15	4/11	4/08	4/05	4/03	3/31	3/28	3/25	3/21
16	4/11	4/06	4/02	3/30	3/28	3/25	3/22	3/18	3/13

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	9/09	9/14	9/17	9/20	9/23	9/26	9/29	10/03	10/08
32	9/20	9/25	9/28	10/01	10/04	10/07	10/09	10/13	10/17
28	9/30	10/06	10/11	10/14	10/18	10/22	10/26	10/30	11/05
24	10/12	10/19	10/23	10/27	10/31	11/04	11/08	11/13	11/20
20	10/24	10/30	11/03	11/06	11/10	11/13	11/16	11/20	11/26
16	11/03	11/09	11/13	11/16	11/20	11/23	11/27	12/01	12/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	150	141	135	130	125	120	115	109	100
32	165	160	156	152	149	145	142	138	132
28	202	193	187	182	177	173	167	161	153
24	228	218	212	206	201	195	189	183	173
20	241	234	229	224	220	216	212	207	200
16	258	251	245	241	236	232	227	222	214

***** 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/normals/usnormals.html

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: MARINETTE, WI **COOP ID: 475091**

Climate Division: WI 3 **NWS Call Sign:** **Elevation: 610 Feet** **Lat: 45˚05N** **Lon: 87˚38W**

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	1505	1243	1067	664	329	92	20	40	184	525	903	1324	7896
60	1350	1103	912	516	218	36	3	9	91	379	753	1169	6539
57	1257	1019	819	430	163	18	0	2	54	299	663	1076	5800
55	1195	963	757	375	131	11	0	1	35	250	603	1014	5335
50	1040	823	602	248	68	2	0	0	9	146	456	859	4253
32	500	351	149	13	0	0	0	0	0	3	80	362	1458

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	18	32	105	339	728	994	1193	1125	838	503	168	61	6104
55	0	0	0	11	146	315	480	412	183	37	0	0	1584
57	0	0	0	7	116	262	418	352	141	24	0	0	1320
60	0	0	0	3	78	191	328	266	89	11	0	0	966
65	0	0	0	0	34	96	190	142	32	2	0	0	496
70	0	0	0	0	13	35	89	58	7	0	0	0	202

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	0	22	169	508	772	955	896	611	289	55	1	0	0	22	191	699	1471	2426	3322	3933	4222	4277	4278
45	0	0	8	90	359	622	800	741	461	168	20	1	0	0	8	98	457	1079	1879	2620	3081	3249	3269	3270
50	0	0	1	41	228	472	645	586	320	85	5	0	0	0	1	42	270	742	1387	1973	2293	2378	2383	2383
55	0	0	0	16	129	328	490	431	196	33	0	0	0	0	0	16	145	473	963	1394	1590	1623	1623	1623
60	0	0	0	4	64	203	338	283	100	5	0	0	0	0	0	4	68	271	609	892	992	997	997	997
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	17	106	301	485	634	585	364	153	26	0	0	0	17	123	424	909	1543	2128	2492	2645	2671	2671

(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

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