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: ANTIGO, WI **COOP ID: 470239**

Climate Division: WI 3 **NWS Call Sign:** **Elevation: 1,521 Feet** **Lat: 45˚09N** **Lon: 89˚07W**

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	20.2	-.7	9.8	51	1973	25	21.6	1990	-39+	1982	17	-1.0	1977	1716	0	.0	.0	@	27.1	30.9	15.1
Feb	26.1	4.1	15.1	56	2000	27	26.8	1998	-38+	1996	3	6.5	1979	1396	0	.0	.0	.3	19.3	28.0	11.2
Mar	37.0	16.9	27.0	73	2000	9	36.7	2000	-23+	1997	16	19.0	1996	1180	0	.0	.0	4.0	10.0	28.3	4.4
Apr	52.4	30.3	41.4	90	1952	28	47.4	1986	-1	1975	1	35.2	1975	711	0	.0	.0	17.3	1.3	19.1	.1
May	66.6	41.2	53.9	92	1959	2	62.4	1977	19	1966	10	46.3	1997	365	22	.0	.0	29.4	.0	5.6	.0
Jun	74.9	50.2	62.6	94+	1971	27	67.1	1995	30+	1986	2	57.0	1982	121	48	.0	.5	29.9	.0	.2	.0
Jul	79.0	54.9	67.0	98	1955	26	71.1	1983	30	1972	4	61.0	1992	52	113	.0	1.5	31.0	.0	@	.0
Aug	76.4	53.4	64.9	97+	1964	2	70.1	1995	31	1965	29	61.1	1997	82	79	.0	.6	31.0	.0	.1	.0
Sep	66.5	44.3	55.4	94	1976	8	60.7	1998	21	1974	22	50.5	1993	295	6	.0	.1	29.3	.0	2.7	.0
Oct	55.0	33.8	44.4	87+	1976	2	52.0	1971	8	1976	27	39.4+	1988	639	0	.0	.0	21.7	.2	13.7	.0
Nov	38.3	21.4	29.9	71+	1990	2	37.7	1999	-14	1976	30	21.6	1995	1056	0	.0	.0	5.7	9.2	26.0	1.2
Dec	24.6	6.5	15.6	59	1982	3	23.1	1982	-35	1983	19	4.1	1983	1532	0	.0	.0	.3	23.7	30.6	9.8
Ann	51.4	29.7	40.6	98	Jul 1955	26	71.1	Jul 1983	-39+	Jan 1982	17	-1.0	Jan 1977	9145	268	.0	2.7	199.9	90.8	185.2	41.8

\+ 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

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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	.87	.74	.92	1967	25	2.20	1996	.03	1981
Feb	.78	.73	.97	1951	26	2.53	1971	.11	1980
Mar	1.64	1.38	2.28	1973	7	4.79	1977	.11	1999
Apr	2.61	2.47	2.86	1976	18	5.15	1976	.79	1971
May	3.01	3.03	2.37	1976	16	7.56	1973	1.13	1994
Jun	3.67	3.52	3.16	1990	13	8.71	1990	1.07	1976
Jul	3.96	3.81	4.31	1974	25	10.39	1978	.49	1998
Aug	4.23	3.51	5.16	1959	22	10.04	1972	1.99	1976
Sep	4.02	4.10	2.70	1970	21	7.24	1986	.81	1979
Oct	2.60	2.52	1.83	1986	12	5.03	1995	.47	2000
Nov	2.07	1.72	1.72	1992	21	5.53	1991	.00	1997
Dec	1.17	1.12	1.35	1975	14	2.74	1972	.24	1994
Ann	30.63	31.39	5.16	Aug 1959	22	10.39	Jul 1978	.00	Nov 1997

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.5	2.8	.2	.0
Feb	7.1	2.3	.3	.0
Mar	8.6	4.7	.8	.2
Apr	11.1	6.1	1.3	.3
May	11.0	6.4	2.0	.5
Jun	12.1	8.0	2.6	.7
Jul	11.0	7.1	2.1	.9
Aug	11.4	7.5	3.1	1.1
Sep	12.2	7.0	2.7	1.0
Oct	10.3	5.7	1.5	.6
Nov	9.9	5.1	1.2	.3
Dec	9.5	3.7	.4	@
Ann	123.7	66.4	18.2	5.6

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	.24	.36	.48	.60	.73	.88	1.06	1.29	1.68	2.04
Feb	.13	.19	.31	.42	.53	.65	.79	.95	1.18	1.55	1.90
Mar	.23	.37	.60	.83	1.07	1.33	1.64	2.01	2.51	3.33	4.11
Apr	.91	1.16	1.52	1.82	2.10	2.40	2.72	3.10	3.58	4.32	5.01
May	1.16	1.44	1.84	2.17	2.48	2.80	3.15	3.55	4.07	4.85	5.57
Jun	1.35	1.70	2.19	2.60	3.00	3.40	3.84	4.35	4.99	5.99	6.91
Jul	1.28	1.66	2.21	2.68	3.14	3.61	4.12	4.73	5.50	6.71	7.82
Aug	1.68	2.07	2.63	3.09	3.52	3.96	4.43	4.98	5.68	6.75	7.72
Sep	1.37	1.75	2.30	2.77	3.22	3.69	4.19	4.79	5.54	6.72	7.80
Oct	.85	1.09	1.46	1.77	2.07	2.37	2.71	3.11	3.62	4.41	5.14
Nov	.23	.48	.82	1.12	1.42	1.75	2.11	2.55	3.13	4.06	4.95
Dec	.27	.38	.55	.71	.86	1.02	1.20	1.42	1.71	2.16	2.58
Ann	22.77	24.32	26.29	27.77	29.08	30.35	31.64	33.07	34.80	37.30	39.44

\+ 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	13.3	12.4	10	10
Feb	8.9	9.1	12	9
Mar	9.5	8.6	7	5
Apr	4.0	4.5	1	#
May	.5	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	1.1	.0	#	0
Nov	7.1	6.5	1	1
Dec	13.7	12.0	6	5
Ann	58.1	53.1	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	11.0	1971	4	28.5	1976	23	1982	30	18	1982
Feb	8.0	1975	25	21.0	1971	28	1996	1	23+	1979
Mar	8.0	1997	14	22.3	1972	32	1972	9	23	1972
Apr	6.0	1977	5	12.5	1977	14	1972	1	5	1972
May	3.5	1979	6	5.0	1990	2	1990	10	#+	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	#	1991	19	#	1991	0	0	0	0	0
Oct	4.0	1988	24	5.7	1990	3	1992	16	#+	2000
Nov	8.0	1992	26	21.8	1991	13	1991	29	3	1992
Dec	12.0	1985	2	32.0	1985	25	1985	8	18	1985
Ann	12.0	Dec 1985	2	32.0	Dec 1985	32	Mar 1972	9	23+	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	8.1	5.0	1.4	.5	@
Feb	6.0	3.7	.9	.2	.0
Mar	5.3	3.5	1.0	.4	.0
Apr	2.5	1.6	.5	.1	.0
May	.3	.2	.1	.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	.5	.4	.2	.0	.0
Nov	4.1	2.9	.8	.2	.0
Dec	7.8	5.6	1.6	.4	@
Ann	34.6	22.9	6.5	1.8	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	28.5	27.9	21.2	11.7
Feb	27.2	26.6	24.1	10.4
Mar	22.2	17.3	13.4	7.4
Apr	4.6	2.2	1.2	.6
May	.2	.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	7.5	2.8	1.4	.2
Dec	26.2	21.8	13.2	3.8
Ann	116.9	98.6	74.5	34.1

+ 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	6/15	6/12	6/09	6/06	6/03	5/31	5/27	5/23
32	6/08	6/03	5/30	5/27	5/24	5/21	5/18	5/14	5/09
28	5/20	5/15	5/12	5/09	5/06	5/03	4/30	4/27	4/22
24	5/06	5/01	4/28	4/25	4/22	4/19	4/16	4/13	4/08
20	4/23	4/18	4/15	4/12	4/09	4/06	4/03	3/30	3/25
16	4/15	4/10	4/07	4/05	4/02	3/31	3/28	3/25	3/21

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	8/21	8/27	8/31	9/04	9/07	9/10	9/14	9/18	9/24
32	9/07	9/11	9/15	9/17	9/20	9/23	9/25	9/29	10/03
28	9/21	9/25	9/27	9/29	10/01	10/03	10/05	10/08	10/11
24	9/25	10/02	10/06	10/11	10/15	10/18	10/23	10/27	11/03
20	10/17	10/22	10/26	10/29	10/31	11/03	11/06	11/10	11/15
16	10/27	10/30	11/02	11/05	11/07	11/09	11/11	11/14	11/18

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	115	107	102	97	92	88	83	78	70
32	139	132	127	122	118	114	109	104	97
28	165	159	155	151	147	144	140	136	130
24	198	190	184	179	175	170	166	160	152
20	227	219	214	209	205	200	196	190	183
16	235	229	225	221	218	215	211	207	201

***** 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	1716	1396	1180	711	365	121	52	82	295	639	1056	1532	9145
60	1561	1256	1025	564	244	48	12	24	170	486	906	1377	7673
57	1468	1172	932	478	184	23	4	9	110	398	816	1284	6878
55	1406	1116	870	422	150	13	0	4	79	342	756	1222	6380
50	1251	976	716	294	80	3	0	0	27	218	607	1067	5239
32	704	490	246	30	1	0	0	0	0	11	170	540	2192

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	11	18	89	309	681	917	1083	1019	701	396	104	30	5358
55	0	0	0	11	117	240	370	310	90	14	0	0	1152
57	0	0	0	7	89	190	313	254	61	8	0	0	922
60	0	0	0	3	56	125	227	176	31	3	0	0	621
65	0	0	0	0	22	48	113	79	6	0	0	0	268
70	0	0	0	0	7	11	39	23	0	0	0	0	80

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	18	146	452	686	843	785	494	206	31	1	0	0	18	164	616	1302	2145	2930	3424	3630	3661	3662
45	0	0	6	82	310	537	688	630	351	118	9	0	0	0	6	88	398	935	1623	2253	2604	2722	2731	2731
50	0	0	0	41	190	390	533	475	222	54	1	0	0	0	0	41	231	621	1154	1629	1851	1905	1906	1906
55	0	0	0	16	101	254	378	325	123	20	0	0	0	0	0	16	117	371	749	1074	1197	1217	1217	1217
60	0	0	0	6	47	137	234	189	56	3	0	0	0	0	0	6	53	190	424	613	669	672	672	672
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	13	107	286	425	544	500	295	127	15	0	0	0	13	120	406	831	1375	1875	2170	2297	2312	2312

(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