

Climatology of the United States

No. 20

1971-2000

Station: BARABOO, WI

COOP ID: 470516

Climate Division: WI 7

NWS Call Sign:

Elevation: 823 Feet Lat: 43° 27N Lon: 89° 44W

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	26.1	1.6	13.9	57	1989	31	27.8	1990	-45	1951	30	.2	1977	1587	0	.0	.0	.6	21.2	30.7	13.0
Feb	31.9	6.5	19.2	63+	2000	27	32.6	1998	-41	1996	3	6.6	1979	1282	0	.0	.0	1.7	14.1	27.4	8.2
Mar	43.3	18.5	30.9	84	1986	29	38.0	2000	-34	1962	1	22.3	1975	1058	0	.0	.0	8.7	5.4	27.1	2.4
Apr	57.0	29.9	43.5	92	1980	22	52.0	1985	-2	1982	7	37.4	1975	648	0	.0	@	21.5	.4	16.5	@
May	69.8	41.4	55.6	92	1991	29	63.3	1977	22+	1989	6	50.0	1996	316	25	.0	.2	30.5	.0	3.9	.0
Jun	79.0	50.6	64.8	102	1988	21	69.5	1995	31	1982	5	59.3	1982	83	78	.1	2.3	30.0	.0	.1	.0
Jul	82.9	55.3	69.1	102	1988	15	73.2	1983	38	1996	10	63.0	1992	28	155	.1	4.3	31.0	.0	.0	.0
Aug	80.6	52.3	66.5	102+	1988	17	73.4	1995	34	1986	27	61.8+	1992	72	117	.1	1.8	31.0	.0	.0	.0
Sep	72.3	43.6	58.0	99	1955	9	61.9	1978	20	1949	29	52.5	1993	225	12	.0	.5	29.9	.0	2.7	.0
Oct	60.3	32.5	46.4	92	1963	6	54.0	1971	10	1988	29	40.1	1988	576	0	.0	.0	26.0	.0	13.8	.0
Nov	43.9	21.2	32.6	76+	1999	9	39.8	1999	-17	1977	26	24.6	1995	973	0	.0	.0	9.4	4.5	24.5	.7
Dec	31.1	8.6	19.9	64+	2001	6	28.7	1994	-35	1983	19	6.6	1985	1400	0	.0	.0	1.3	16.1	30.0	6.8
Ann	56.5	30.2	43.4	102+	Aug 1988	17	73.4	Aug 1995	-45	Jan 1951	30	.2	Jan 1977	8248	387	.3	9.1	221.6	61.7	176.7	31.1

+ 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/normal/usnormals.html

Issue Date: February 2004

(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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Climatology 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: BARABOO, WI

COOP ID: 470516

Climate Division: WI 7

NWS Call Sign:

Elevation: 823 Feet Lat: 43°27N

Lon: 89°44W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.08	.99	1.10	1967	24	2.99	1996	.03	1981	7.9	3.5	.5	.1	.16	.25	.41	.56	.72	.89	1.08	1.32	1.64	2.16	2.66
Feb	1.03	1.02	1.27	1977	23	3.10	1971	.00	1995	6.2	3.1	.4	.1	.08	.19	.36	.51	.67	.84	1.03	1.27	1.59	2.12	2.62
Mar	2.08	2.00	3.80	1998	31	5.98	1998	.21	1978	8.4	4.4	1.5	.2	.38	.57	.87	1.15	1.44	1.76	2.11	2.54	3.11	4.03	4.91
Apr	3.61	3.26	3.05	1993	20	7.90	1999	.74	1997	11.0	7.0	2.5	.7	1.14	1.49	1.99	2.43	2.85	3.28	3.76	4.32	5.04	6.16	7.19
May	3.48	3.37	3.40	1978	13	6.44	1973	.04	1981	11.1	6.8	2.4	.6	.75	1.06	1.57	2.04	2.50	3.00	3.55	4.22	5.11	6.51	7.84
Jun	4.16	3.75	4.12	1967	9	9.80	2000	1.21	1992	10.6	7.1	2.5	1.4	1.27	1.66	2.25	2.76	3.25	3.76	4.32	4.98	5.84	7.17	8.40
Jul	4.44	3.92	7.78	1993	18	14.79	1993	1.41	1990	10.4	6.9	2.9	1.1	1.64	2.06	2.66	3.15	3.63	4.11	4.64	5.25	6.03	7.23	8.33
Aug	4.45	4.18	5.03	2001	2	11.73	1980	1.18	1996	10.9	7.0	2.9	1.2	1.56	1.98	2.59	3.11	3.60	4.10	4.65	5.29	6.11	7.38	8.55
Sep	3.53	3.13	3.40	1961	12	10.40	1992	.37	1975	9.9	6.5	2.4	1.0	.49	.78	1.29	1.78	2.29	2.86	3.51	4.31	5.39	7.16	8.87
Oct	2.48	2.22	2.96	1991	25	5.69	1984	.25	1975	10.5	5.6	1.6	.4	.65	.88	1.24	1.56	1.87	2.20	2.56	2.99	3.56	4.44	5.28
Nov	2.32	1.84	2.25	1975	29	5.29	1982	.08	1976	9.4	5.1	1.4	.4	.41	.62	.96	1.27	1.60	1.95	2.35	2.83	3.47	4.51	5.50
Dec	1.13	.96	1.17	1968	19	2.27	2000	.09	1998	8.2	3.3	.4	@	.14	.23	.38	.54	.71	.90	1.11	1.38	1.75	2.35	2.93
Ann	33.79	33.58	7.78	Jul 1993	18	14.79	Jul 1993	.00	Feb 1995	114.5	66.3	21.4	7.2	25.98	27.54	29.51	30.99	32.29	33.54	34.82	36.23	37.92	40.36	42.45

+ 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

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Station: BARABOO, WI

COOP ID: 470516

Climate Division: WI 7

NWS Call Sign:

Elevation: 823 Feet

Lat: 43°27N

Lon: 89°44W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	9.8	9.3	6	4	12.0	1971	3	22.5	1982	26	1971	4	20	1971	6.0	3.9	1.2	.3	.1	24.6	17.2	13.0	5.2
Feb	8.1	6.7	6	5	10.0	1976	21	22.3	1994	24	1979	21	22	1979	4.2	2.7	1.0	.4	@	22.3	16.9	12.0	5.7
Mar	6.1	5.0	2	1	12.0	1971	18	19.1	1971	16	1971	19	8	1979	2.9	2.1	.9	.3	@	11.2	6.7	4.7	1.2
Apr	2.4	1.0	#	#	7.0	1973	9	13.0	1993	11	1973	9	2	1973	1.1	.8	.3	.1	.0	1.7	.7	.3	@
May	#	.0	#	0	#	1994	1	#	1994	#	1994	1	#	1994	.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	.4	.0	#	0	5.5	1990	10	5.5	1990	3+	1997	27	#+	1997	.1	.1	.1	@	.0	.2	.1	.0	.0
Nov	4.7	2.9	#	#	9.0	1985	8	27.3	1985	12	1985	10	3	1985	2.3	1.6	.5	.3	.0	4.4	2.2	1.0	.1
Dec	9.3	7.4	3	2	12.0	1990	3	35.2	2000	18	1990	5	14	1985	5.3	3.4	1.0	.5	@	17.8	10.6	6.0	2.3
Ann	40.8	32.3	N/A	N/A	12.0+	Dec 1990	3	35.2	Dec 2000	26	Jan 1971	4	22	Feb 1979	21.9	14.6	5.0	1.9	.1	82.2	54.4	37.0	14.5

+ 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:

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Station: BARABOO, WI

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Climate Division: WI 7

NWS Call Sign:

Elevation: 823 Feet

Lat: 43°27N

Lon: 89°44W

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	6/16	6/11	6/07	6/03	5/31	5/27	5/24	5/20	5/14
32	6/03	5/29	5/25	5/21	5/18	5/15	5/12	5/08	5/02
28	5/23	5/17	5/13	5/09	5/06	5/02	4/29	4/25	4/19
24	5/08	5/01	4/27	4/23	4/19	4/16	4/12	4/07	4/01
20	4/23	4/19	4/16	4/13	4/11	4/08	4/06	4/02	3/29
16	4/15	4/11	4/07	4/05	4/02	3/30	3/27	3/24	3/19
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	9/02	9/06	9/09	9/12	9/14	9/17	9/19	9/22	9/27
32	9/11	9/15	9/18	9/20	9/22	9/24	9/27	9/29	10/03
28	9/19	9/24	9/27	9/30	10/02	10/05	10/08	10/11	10/15
24	9/24	9/29	10/03	10/06	10/10	10/13	10/16	10/20	10/25
20	10/09	10/15	10/18	10/21	10/25	10/28	10/31	11/03	11/09
16	10/25	10/30	11/03	11/06	11/09	11/12	11/15	11/19	11/24
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	124	118	113	109	106	102	99	94	88
32	145	138	134	130	126	122	119	114	108
28	171	163	158	153	149	145	140	134	127
24	198	190	183	178	173	167	162	155	147
20	217	210	205	200	196	192	187	182	175
16	243	235	230	225	220	216	211	206	198

* 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:

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Climate Division: WI 7 NWS Call Sign: Elevation: 823 Feet Lat: 43° 27N Lon: 89° 44W

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	1587	1282	1058	648	316	83	28	72	225	576	973	1400	8248
60	1432	1142	903	501	201	28	6	22	113	426	823	1245	6842
57	1339	1058	810	417	146	12	0	9	65	341	733	1152	6082
55	1277	1002	748	363	115	6	0	4	42	288	673	1090	5608
50	1122	862	601	241	55	1	0	0	10	175	527	935	4529
32	599	410	175	16	0	0	0	0	0	7	126	437	1770

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	35	52	140	359	733	985	1150	1068	778	454	143	60	5957
55	0	0	0	15	134	301	437	359	129	22	0	0	1397
57	0	0	0	9	104	247	375	302	92	13	0	0	1142
60	0	0	0	4	66	173	288	222	50	5	0	0	808
65	0	0	0	0	25	78	155	117	12	0	0	0	387
70	0	0	0	0	8	22	66	47	2	0	0	0	145

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	2	51	205	527	783	936	861	575	263	55	4	0	2	53	258	785	1568	2504	3365	3940	4203	4258	4262
45	0	0	24	116	378	633	781	706	426	155	21	0	0	0	24	140	518	1151	1932	2638	3064	3219	3240	3240
50	0	0	11	63	251	483	626	551	289	82	5	0	0	0	11	74	325	808	1434	1985	2274	2356	2361	2361
55	0	0	4	33	144	338	471	397	175	37	1	0	0	0	4	37	181	519	990	1387	1562	1599	1600	1600
60	0	0	1	12	72	207	320	248	95	8	0	0	0	0	1	13	85	292	612	860	955	963	963	963
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	41	147	341	504	620	558	366	179	39	2	0	0	41	188	529	1033	1653	2211	2577	2756	2795	2797

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

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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