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: BLOOMER, WI **COOP ID: 470904**

Climate Division: WI 1 **NWS Call Sign:** **Elevation: 980 Feet** **Lat: 45˚06N** **Lon: 91˚29W**

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	19.9	-.1	9.9	51	1981	25	22.5	1990	-43	1977	9	-3.8	1977	1710	0	.0	.0	.1	24.9	30.8	14.8
Feb	26.7	6.3	16.5	57+	1981	19	30.9	1998	-36+	1996	3	4.4	1979	1357	0	.0	.0	.6	16.8	27.4	9.0
Mar	38.9	19.7	29.3	81+	1986	31	38.1	1973	-36	1962	1	20.8	1996	1108	0	.0	.0	5.7	7.4	26.4	2.6
Apr	55.4	32.8	44.1	90+	1980	22	51.4	1987	4+	1995	5	37.8	1975	628	1	.0	.1	20.7	.4	14.8	.0
May	68.8	44.6	56.7	92+	2001	16	63.2	1977	18	1967	3	49.7	1979	294	36	.0	.3	30.4	.0	3.1	.0
Jun	78.0	54.0	66.0	99	1985	8	71.1	1995	32	1978	8	60.1	1982	79	109	.0	2.2	30.0	.0	@	.0
Jul	82.4	58.7	70.6	103+	1988	16	75.8	1988	41	1972	4	64.6	1992	22	194	.3	4.7	31.0	.0	.0	.0
Aug	79.6	56.5	68.1	104	1988	2	73.4	1988	34	1976	29	62.7	1977	44	139	.2	2.0	31.0	.0	.0	.0
Sep	70.0	47.1	58.6	94+	1985	7	64.2	1998	22+	1976	28	52.2	1993	215	21	.0	.4	29.6	.0	1.7	.0
Oct	57.5	35.6	46.6	88+	1976	1	52.9	1971	6	1976	27	40.6	1976	572	0	.0	.0	24.5	@	11.7	.0
Nov	39.1	22.3	30.7	72	1999	9	37.6	1999	-18+	1978	30	21.9	1976	1030	0	.0	.0	6.7	7.4	25.1	1.3
Dec	24.3	7.0	15.7	62	2001	6	26.0	1997	-35	1983	19	3.7	1983	1530	0	.0	.0	.3	22.1	30.5	8.9
Ann	53.4	32.0	42.7	104	Aug 1988	2	75.8	Jul 1988	-43	Jan 1977	9	-3.8	Jan 1977	8589	500	.5	9.7	210.6	79.0	171.5	36.6

\+ 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	1.00	.85	1.50	1996	18	3.14	1996	.01	1981
Feb	.73	.63	1.35	1984	12	2.33	1971	.00	1987
Mar	1.80	1.68	1.80	1973	11	4.70	1977	.13	1994
Apr	2.79	2.42	2.90	1975	27	5.92	1975	.52	1997
May	3.54	3.32	3.82	1989	30	7.37	1973	.85	1976
Jun	4.54	4.17	3.92	1990	13	11.91	1990	1.02	1988
Jul	3.81	3.54	6.70	1959	8	7.14	1987	.74	1974
Aug	5.02	4.65	5.05	1990	18	11.64	1995	1.65	1996
Sep	3.81	3.25	3.62	1978	12	10.84	1986	.70	1976
Oct	2.32	2.08	2.32	1992	7	5.31	1979	.19	1976
Nov	2.10	1.51	2.62	1991	1	7.67	1991	.08	1976
Dec	1.03	.95	1.70	1965	12	2.60	1982	.18	1997
Ann	32.49	32.52	6.70	Jul 1959	8	11.91	Jun 1990	.00	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.4	3.4	.3	@
Feb	5.3	2.4	.2	.1
Mar	7.6	4.2	1.0	.2
Apr	10.3	6.0	1.7	.5
May	10.5	6.5	2.4	.8
Jun	11.1	7.6	3.1	1.2
Jul	11.2	7.6	2.4	.9
Aug	10.1	6.9	2.9	1.5
Sep	10.5	6.5	2.5	.9
Oct	9.0	5.0	1.4	.6
Nov	7.7	4.4	1.3	.5
Dec	7.4	3.4	.4	.1
Ann	108.1	63.9	19.6	7.3

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	.13	.21	.35	.49	.64	.80	.99	1.22	1.53	2.05	2.55
Feb	.04	.11	.23	.33	.45	.57	.72	.90	1.15	1.55	1.95
Mar	.31	.47	.73	.98	1.23	1.50	1.82	2.20	2.71	3.53	4.31
Apr	.87	1.14	1.53	1.87	2.20	2.53	2.91	3.34	3.91	4.79	5.60
May	1.14	1.47	1.97	2.39	2.80	3.22	3.69	4.23	4.93	6.01	7.01
Jun	1.57	2.00	2.62	3.15	3.66	4.18	4.74	5.41	6.25	7.57	8.77
Jul	1.20	1.57	2.10	2.56	3.01	3.46	3.97	4.56	5.32	6.51	7.61
Aug	1.77	2.25	2.93	3.51	4.06	4.63	5.25	5.97	6.89	8.31	9.61
Sep	1.06	1.42	1.97	2.45	2.92	3.41	3.95	4.59	5.42	6.73	7.95
Oct	.55	.76	1.10	1.40	1.70	2.02	2.38	2.81	3.37	4.25	5.09
Nov	.34	.52	.83	1.12	1.42	1.74	2.11	2.56	3.17	4.15	5.09
Dec	.20	.29	.45	.58	.72	.88	1.05	1.25	1.52	1.96	2.38
Ann	21.91	23.92	26.52	28.50	30.27	32.00	33.78	35.77	38.19	41.72	44.78

\+ 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	9.9	9.4	8	7
Feb	6.8	6.3	9	7
Mar	7.8	8.5	4	3
Apr	1.2	.0	#	#
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	.2	.0	#	0
Nov	5.7	5.4	1	1
Dec	9.4	8.0	5	3
Ann	41.0	37.6	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	8.0	1994	6	18.1	2000	26	1996	29	17	1979
Feb	10.0	1971	5	14.5	1971	32	1971	14	23	1979
Mar	10.0	1985	4	26.2	1985	25	1972	10	16	1972
Apr	4.0	1993	1	8.1	1983	10	1975	1	2	1975
May	#	1984	8	#+	1984	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	#	1985	24	#+	1985	0	0	0	0	0
Oct	3.0	1987	22	3.0+	1987	2	1992	20	#+	1995
Nov	9.0	1983	28	18.0	1991	10	1985	30	4	1991
Dec	16.0	1985	1	29.2	1985	20	1985	2	13	1985
Ann	16.0	Dec 1985	1	29.2	Dec 1985	32	Feb 1971	14	23	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.9	4.7	1.6	.4	.0
Feb	3.6	2.8	.6	.1	@
Mar	2.8	2.4	1.0	.5	@
Apr	.6	.5	.1	.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	.1	.1	@	.0	.0
Nov	2.5	2.1	.8	.2	.0
Dec	4.9	4.0	1.3	.2	@
Ann	20.4	16.6	5.4	1.4	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	27.9	25.8	22.1	8.6
Feb	26.1	23.8	19.6	9.5
Mar	14.9	11.8	8.6	4.4
Apr	1.3	.5	.2	@
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	6.3	3.4	2.3	.1
Dec	22.0	15.7	11.0	3.4
Ann	98.6	81.0	63.8	26.0

+ 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	6/08	6/03	5/30	5/26	5/23	5/20	5/16	5/12	5/07
32	5/27	5/22	5/18	5/15	5/12	5/09	5/06	5/02	4/27
28	5/10	5/06	5/02	4/29	4/27	4/24	4/21	4/18	4/13
24	4/29	4/25	4/21	4/19	4/16	4/13	4/10	4/07	4/02
20	4/19	4/15	4/12	4/09	4/07	4/05	4/02	3/30	3/26
16	4/11	4/06	4/03	3/31	3/28	3/25	3/22	3/19	3/14

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	8/31	9/05	9/08	9/12	9/14	9/17	9/20	9/24	9/29
32	9/16	9/20	9/23	9/25	9/28	9/30	10/02	10/05	10/09
28	9/25	9/29	10/02	10/04	10/07	10/09	10/12	10/15	10/19
24	10/02	10/08	10/12	10/15	10/18	10/22	10/25	10/29	11/04
20	10/16	10/21	10/24	10/27	10/30	11/01	11/04	11/07	11/12
16	10/26	10/31	11/04	11/07	11/09	11/12	11/15	11/18	11/23

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	139	130	124	118	114	109	103	97	89
32	156	150	145	141	138	134	130	126	120
28	181	175	170	166	162	158	154	150	143
24	209	201	195	190	185	180	175	169	161
20	221	216	211	208	205	202	198	194	188
16	246	239	234	230	226	222	217	212	205

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1710	1357	1108	628	294	79	22	44	215	572	1030	1530	8589
60	1555	1217	953	484	188	28	5	11	111	421	880	1375	7228
57	1462	1133	860	402	136	13	0	3	66	335	790	1282	6482
55	1400	1077	798	351	107	7	0	1	44	282	730	1220	6017
50	1245	937	649	235	51	1	0	0	12	168	582	1065	4945
32	706	470	212	19	0	0	0	0	0	5	161	545	2118

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	19	37	128	382	765	1020	1195	1118	796	457	121	38	6076
55	0	0	0	24	158	337	482	406	150	21	0	0	1578
57	0	0	0	15	126	283	420	346	112	11	0	0	1313
60	0	0	0	7	84	208	331	261	67	4	0	0	962
65	0	0	0	1	36	109	194	139	21	0	0	0	500
70	0	0	0	0	13	42	94	58	4	0	0	0	211

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	34	211	554	794	957	885	584	257	35	1	0	0	34	245	799	1593	2550	3435	4019	4276	4311	4312
45	0	0	14	120	404	644	802	730	438	148	14	0	0	0	14	134	538	1182	1984	2714	3152	3300	3314	3314
50	0	0	4	61	266	494	647	575	301	72	2	0	0	0	4	65	331	825	1472	2047	2348	2420	2422	2422
55	0	0	0	29	156	346	492	420	181	29	0	0	0	0	0	29	185	531	1023	1443	1624	1653	1653	1653
60	0	0	0	12	81	215	338	274	95	8	0	0	0	0	0	12	93	308	646	920	1015	1023	1023	1023
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	24	147	347	507	633	577	361	159	21	0	0	0	24	171	518	1025	1658	2235	2596	2755	2776	2776

(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