

Climatology of the United States

No. 20 1971-2000

Station: BEMIDJI, MN

COOP ID: 210643

Climate Division: MN 2

NWS Call Sign:

Elevation: 1,350 Feet Lat: 47° 28N

Lon: 94° 53W

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	16.1	-4.3	5.9	52	1973	25	18.5	1990	-50	1950	30	-7.4	1982	1834	0	.0	.0	.1	28.2	31.0	20.7
Feb	24.0	2.6	13.3	60	1961	22	28.9	1998	-47+	1996	2	1.5	1989	1449	0	.0	.0	.3	20.6	27.9	14.5
Mar	36.0	16.0	26.0	72	1967	30	35.8	2000	-44	1962	1	15.9	1996	1210	0	.0	.0	2.9	12.9	28.9	6.0
Apr	52.6	29.5	41.1	95	1980	21	49.6	1987	-13	1954	3	34.4	1996	719	0	.0	@	16.1	1.8	21.0	.2
May	67.5	42.6	55.1	94	1964	21	65.1	1977	11	1966	1	47.6	1979	336	28	.0	.1	28.9	@	5.2	.0
Jun	74.6	51.9	63.3	94+	1995	18	68.5	1995	24	1964	1	57.6	1982	117	65	.0	.6	30.0	.0	.1	.0
Jul	78.7	57.0	67.9	101	1975	29	72.7	1975	37+	1995	1	59.4	1992	56	145	.1	1.4	31.0	.0	.0	.0
Aug	76.6	54.6	65.6	101	1976	19	71.8	1983	30	1965	28	60.2	1977	84	103	@	1.2	31.0	.0	.0	.0
Sep	65.9	45.3	55.6	98	1983	2	61.0	1998	22+	1973	20	50.2	1993	291	8	.0	.3	28.4	.0	2.6	.0
Oct	53.5	35.0	44.3	95	1963	5	50.4	1973	2	1952	17	38.6	1976	643	0	.0	.0	18.6	.9	14.8	.0
Nov	33.9	19.0	26.5	73+	1975	5	36.9	1999	-30	1964	30	17.3	1985	1157	0	.0	.0	3.0	15.0	27.9	2.9
Dec	20.7	3.3	12.0	56	1962	1	24.3	1997	-45	1955	19	-4	1983	1644	0	.0	.0	@	26.3	30.9	14.5
Ann	50.0	29.4	39.7	101+	Aug 1976	19	72.7	Jul 1975	-50	Jan 1950	30	-7.4	Jan 1982	9540	349	.1	3.6	190.3	105.7	190.3	58.8

+ 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/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

Climatology of the United States

No. 20 1971-2000

Station: BEMIDJI, MN

COOP ID: 210643

Climate Division: MN 2

NWS Call Sign:

Elevation: 1,350 Feet Lat: 47°28N

Lon: 94°53W

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	.69	.59	1.30	1996	18	2.07	1996	.02	1973	8.3	2.1	.2	@	.11	.17	.27	.37	.47	.57	.69	.84	1.04	1.36	1.66	
Feb	.57	.49	1.03	1955	20	1.45	1998	.03	1988	6.3	1.8	.0	.0	.08	.12	.20	.28	.37	.46	.57	.70	.88	1.17	1.45	
Mar	.86	.88	1.05	1955	11	1.60	1979	.18	1992	7.8	3.1	.3	.0	.28	.37	.48	.59	.68	.78	.89	1.02	1.19	1.44	1.68	
Apr	1.52	1.44	2.59	1964	13	3.67	1986	.03	1980	8.1	4.3	.7	.2	.17	.29	.50	.72	.94	1.19	1.49	1.86	2.36	3.18	3.98	
May	2.67	2.59	2.80	1962	22	6.35	1982	.10	1980	10.7	6.1	1.5	.3	.49	.72	1.11	1.48	1.85	2.25	2.70	3.26	3.99	5.17	6.29	
Jun	4.09	3.74	3.90	1957	22	8.38	1983	.54	1995	13.1	8.0	2.7	.9	1.26	1.64	2.22	2.72	3.20	3.70	4.25	4.90	5.73	7.03	8.24	
Jul	4.33	4.19	3.40	1987	22	7.90	1975	.57	1984	11.3	7.8	2.9	1.0	1.34	1.75	2.36	2.89	3.40	3.93	4.51	5.19	6.07	7.44	8.72	
Aug	3.50	3.45	3.05	1968	23	7.39	1974	.45	1982	10.6	6.4	2.7	.8	1.17	1.51	1.99	2.40	2.80	3.21	3.65	4.17	4.84	5.88	6.83	
Sep	2.75	2.43	2.91	1995	30	7.35	1973	.26	1976	10.8	5.8	1.6	.5	.72	.98	1.38	1.73	2.08	2.44	2.84	3.32	3.94	4.92	5.84	
Oct	2.26	2.07	2.24	1979	31	5.00	1971	.33	1976	9.2	4.8	1.2	.5	.40	.60	.93	1.24	1.55	1.90	2.29	2.76	3.39	4.41	5.38	
Nov	1.12	.90	1.95	1988	17	3.35	1988	.09	1976	7.3	3.9	.4	.1	.16	.26	.42	.57	.73	.91	1.11	1.36	1.70	2.25	2.78	
Dec	.63	.68	2.10	1951	3	1.18	1995	.10	1979	8.3	2.2	@	.0	.17	.23	.32	.40	.48	.56	.65	.76	.89	1.11	1.32	
Ann	24.99	25.95	3.90	Jun 1957	22	8.38	Jun 1983	.02	Jan 1973	111.8	56.3	14.2	4.3	17.69	19.10	20.91	22.28	23.50	24.68	25.90	27.25	28.89	31.27	33.32	

+ 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

Climatology of the United States

No. 20 1971-2000

Station: BEMIDJI, MN

COOP ID: 210643

Climate Division: MN 2

NWS Call Sign:

Elevation: 1,350 Feet

Lat: 47° 28N

Lon: 94° 53W

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	8.2	8.8	12	12	14.0	1996	18	18.8	1975	28	1996	18	20+	1989	8.2	3.0	.7	.3	@	-9.9	-9.9	-9.9	-9.9
Feb	5.5	4.2	14	14	5.5	1995	15	14.5	1979	34	1979	28	28	1979	5.6	2.3	.4	.1	.0	-9.9	-9.9	-9.9	-9.9
Mar	5.6	6.0	10	9	9.0	1985	4	12.1	1975	35	1979	4	28	1979	5.8	2.6	.6	.1	.0	-9.9	-9.9	-9.9	-9.9
Apr	2.1	.9	2	#	8.0	1994	29	10.5	1994	23	1979	1	13	1979	1.9	.7	.2	.1	.0	4.4	3.3	2.6	1.1
May	.1	.0	#	0	1.0	1989	6	1.0	1989	1	1989	6	#+	1990	.1	.1	.0	.0	.0	.1	.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	.2	1995	22	.2	1995	0	0	0	0	0	@	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.5	.2	#	0	2.6	1984	17	3.6	1984	2	1990	18	#+	1995	.8	.2	.0	.0	.0	.3	.0	.0	.0
Nov	6.1	3.5	2	1	10.0	1991	2	20.9	1977	19	1977	29	10	1977	5.4	2.4	.6	.2	@	8.4	3.6	2.1	.2
Dec	6.0	6.3	6	4	8.0	1990	20	8.9	1974	21	1977	16	18+	1985	7.7	2.8	.1	.1	.0	-9.9	-9.9	-9.9	-9.9
Ann	34.1	29.9	N/A	N/A	14.0	Jan 1996	18	20.9	Nov 1977	35	Mar 1979	4	28+	Mar 1979	35.5	14.1	2.6	.9	@	-9.9	-9.9	-9.9	-9.9

+ 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/normal/usnormals.html

Climatology of the United States

No. 20 1971-2000

Station: BEMIDJI, MN

COOP ID: 210643

Climate Division: MN 2

NWS Call Sign:

Elevation: 1,350 Feet

Lat: 47° 28N

Lon: 94° 53W

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	6/13	6/07	6/03	5/31	5/28	5/25	5/21	5/17	5/12
32	5/29	5/24	5/21	5/18	5/15	5/12	5/09	5/05	5/01
28	5/20	5/15	5/12	5/09	5/06	5/03	4/30	4/27	4/22
24	5/10	5/05	5/02	4/29	4/26	4/23	4/20	4/17	4/12
20	4/29	4/24	4/21	4/18	4/15	4/12	4/10	4/06	4/02
16	4/17	4/13	4/10	4/07	4/05	4/03	3/31	3/28	3/24
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	8/25	8/31	9/04	9/07	9/11	9/14	9/17	9/22	9/27
32	9/15	9/18	9/21	9/23	9/25	9/27	9/29	10/01	10/05
28	9/19	9/23	9/26	9/29	10/01	10/03	10/06	10/08	10/12
24	10/01	10/06	10/09	10/12	10/15	10/18	10/21	10/25	10/30
20	10/11	10/16	10/20	10/24	10/27	10/30	11/03	11/07	11/12
16	10/23	10/28	10/31	11/03	11/06	11/09	11/11	11/15	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	129	121	115	110	105	100	95	89	81
32	152	145	140	136	132	128	124	119	112
28	166	160	155	151	147	143	139	134	128
24	194	186	181	176	171	167	162	157	149
20	216	209	203	199	194	190	185	180	172
16	233	226	222	218	214	210	206	202	195

* 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/normal/usnormals.html

Climatology of the United States

No. 20 1971-2000

Station: BEMIDJI, MN

COOP ID: 210643

Climate Division: MN 2

NWS Call Sign:

Elevation: 1,350 Feet Lat: 47° 28N

Lon: 94° 53W

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
65	1834	1449	1210	719	336	117	56	84	291	643	1157	1644	9540
60	1679	1309	1055	572	222	48	16	28	167	489	1007	1489	8081
57	1586	1225	962	486	166	24	7	12	108	399	917	1396	7288
55	1524	1169	900	431	133	14	2	6	77	341	857	1334	6788
50	1369	1029	747	304	69	3	0	0	25	213	709	1179	5647
32	827	561	281	36	1	0	0	0	0	11	259	655	2631

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	16	36	94	308	716	938	1112	1042	708	391	92	35	5488
55	0	0	0	13	136	262	401	335	94	8	0	0	1249
57	0	0	0	8	106	212	344	279	66	4	0	0	1019
60	0	0	0	3	69	146	260	202	35	1	0	0	716
65	0	0	0	0	28	65	145	103	8	0	0	0	349
70	0	0	0	0	10	19	66	39	1	0	0	0	135

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	5	116	453	695	860	795	456	174	13	0	0	0	5	121	574	1269	2129	2924	3380	3554	3567	3567
45	0	0	0	60	311	545	705	640	314	90	4	0	0	0	0	60	371	916	1621	2261	2575	2665	2669	2669
50	0	0	0	26	197	397	550	485	193	40	0	0	0	0	0	26	223	620	1170	1655	1848	1888	1888	1888
55	0	0	0	9	104	257	395	334	102	10	0	0	0	0	0	9	113	370	765	1099	1201	1211	1211	1211
60	0	0	0	1	49	139	250	198	42	0	0	0	0	0	0	1	50	189	439	637	679	679	679	679
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	5	92	285	426	549	496	260	100	9	0	0	0	5	97	382	808	1357	1853	2113	2213	2222	2222

(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 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/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