

Climatography of the United States

No. 20

1971-2000

Station: FARIBAULT, MN

COOP ID: 212721

Climate Division: MN 8

NWS Call Sign:

Elevation: 940 Feet

Lat: 44° 19N

Lon: 93° 17W

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	21.9	1.3	11.6	58	1981	24	25.0	1990	-40	1977	9	-1.3	1977	1655	0	.0	.0	.1	23.7	30.9	14.5
Feb	28.4	7.9	18.2	65	1981	17	30.7	1987	-36+	1996	3	6.6	1979	1311	0	.0	.0	1.0	16.2	27.7	9.0
Mar	40.0	21.2	30.6	81+	1986	30	39.4	2000	-26	1962	1	21.4	1975	1065	0	.0	.0	6.7	7.5	26.0	2.7
Apr	56.1	33.8	45.0	93	1980	21	52.8	1977	0	1982	6	38.0	1975	604	2	.0	.1	21.0	.6	13.6	@
May	69.4	46.1	57.8	94+	2001	15	66.5	1977	22	1967	3	51.2	1997	268	43	.0	.6	30.1	.0	2.4	.0
Jun	79.3	55.7	67.5	102+	1988	22	73.7	1988	33	1983	4	61.1	1982	56	132	.1	2.9	30.0	.0	.0	.0
Jul	83.0	60.2	71.6	104	1948	6	75.9	1983	39	1967	5	64.2	1992	19	225	.1	5.4	31.0	.0	.0	.0
Aug	80.2	58.0	69.1	104	1988	1	73.8	1983	37	1950	20	64.5	1992	31	158	.1	2.7	31.0	.0	.0	.0
Sep	71.7	48.4	60.1	99+	1978	8	66.4	1978	24	1974	22	54.2	1993	179	31	.0	.9	29.7	.0	1.7	.0
Oct	59.6	36.8	48.2	92	1997	4	55.0	1973	11	1988	30	42.7	1988	521	1	.0	@	25.2	.1	11.1	.0
Nov	40.8	23.2	32.0	78	1999	9	40.9	1999	-15	1977	26	23.4	1991	991	0	.0	.0	7.2	7.6	24.9	1.1
Dec	26.8	8.8	17.8	68	1998	2	26.7	1997	-36	1983	19	1.7	1983	1463	0	.0	.0	.5	20.2	30.5	8.7
Ann	54.8	33.5	44.1	104+	Aug 1988	1	75.9	Jul 1983	-40	Jan 1977	9	-1.3	Jan 1977	8163	592	.3	12.6	213.5	75.9	168.8	36.0

+ 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

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: FARIBAULT, MN

COOP ID: 212721

Climate Division: MN 8

NWS Call Sign:

Elevation: 940 Feet Lat: 44°19N

Lon: 93°17W

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	1.05	1.00	1.31	1975	11	2.91	1975	.06	1981	7.9	3.3	.3	.1	.19	.28	.44	.58	.73	.89	1.06	1.28	1.57	2.04	2.48
Feb	.72	.62	1.00	1961	19	2.36	1981	.00	1987	5.8	2.3	.2	.0	.06	.14	.26	.36	.47	.59	.72	.89	1.11	1.46	1.80
Mar	1.93	1.53	2.00	1996	25	4.54	1979	.43	1978	9.1	4.7	1.2	.3	.47	.65	.94	1.19	1.44	1.70	1.99	2.34	2.80	3.52	4.20
Apr	2.81	2.73	2.50	1967	2	5.28	1999	.22	1987	10.2	6.1	1.8	.6	.75	1.02	1.42	1.78	2.13	2.49	2.90	3.39	4.02	5.00	5.93
May	3.74	3.36	2.86	1973	1	9.26	1991	1.54	1992	12.0	7.7	2.6	.7	1.33	1.68	2.19	2.62	3.03	3.45	3.90	4.43	5.11	6.16	7.13
Jun	4.19	4.11	5.15	1956	18	9.10	1993	1.06	1982	11.0	7.6	2.9	.9	1.34	1.74	2.33	2.83	3.31	3.82	4.37	5.01	5.84	7.14	8.33
Jul	4.29	4.52	5.35	1951	21	8.72	1997	.32	1980	10.0	6.4	3.0	1.0	1.08	1.48	2.11	2.66	3.21	3.78	4.43	5.19	6.19	7.76	9.24
Aug	4.44	4.25	5.24	1962	31	10.40	1981	.99	1971	10.4	6.9	2.8	1.3	1.19	1.61	2.25	2.81	3.36	3.94	4.59	5.35	6.35	7.91	9.37
Sep	3.20	3.06	4.36	1986	11	9.13	1986	.84	2000	9.6	5.4	1.9	.9	.87	1.17	1.63	2.04	2.44	2.85	3.31	3.86	4.57	5.69	6.73
Oct	2.23	2.25	2.15	1983	11	5.33	1984	.39	1978	7.9	4.5	1.5	.5	.41	.60	.93	1.24	1.55	1.88	2.26	2.72	3.34	4.32	5.27
Nov	2.02	1.64	2.34	1975	10	5.92	1991	.17	1976	8.1	4.6	1.2	.3	.35	.53	.83	1.10	1.38	1.69	2.04	2.46	3.03	3.93	4.80
Dec	1.02	.99	1.61	1982	28	3.41	1982	.25	1989	7.4	3.2	.4	.1	.24	.33	.48	.62	.75	.89	1.05	1.23	1.48	1.87	2.24
Ann	31.64	32.52	5.35	Jul 1951	21	10.40	Aug 1981	.00	Feb 1987	109.4	62.7	19.8	6.7	22.09	23.93	26.29	28.08	29.68	31.22	32.82	34.59	36.75	39.87	42.58

+ 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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Station: FARIBAULT, MN

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Climate Division: MN 8

NWS Call Sign:

Elevation: 940 Feet

Lat: 44° 19N

Lon: 93° 17W

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	10.0	9.2	8	9	15.0	1982	23	24.5	1975	30	1982	25	19	1997	5.7	4.5	1.3	.3	.1	26.9	22.6	18.0	9.6
Feb	7.6	8.0	9	8	9.0	1971	5	19.5	1971	24	1982	2	19+	1997	3.8	3.0	.7	.2	.0	23.0	19.3	16.6	10.5
Mar	7.6	5.0	3	3	13.0	1983	16	24.3	1989	19	1975	14	11	1975	3.1	2.6	1.0	.4	.1	13.5	10.3	8.2	3.8
Apr	2.9	.8	#	#	11.0	1983	14	22.0	1983	17	1983	15	3	1983	1.1	1.0	.4	.2	@	2.0	.9	.5	.1
May	.0	.0	#	0	.0	0	0	.0	0	4	1984	1	#	1984	.0	.0	.0	.0	.0	.1	@	.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	.0	.0	#	0	1.0	1976	24	1.0	1976	1	1976	24	#+	1995	@	@	.0	.0	.0	@	.0	.0	.0
Nov	6.1	4.4	1	1	12.0	1983	28	27.0	1991	19	1983	30	7	1991	2.7	2.1	.7	.3	@	6.9	4.5	2.7	.5
Dec	7.9	6.7	4	2	9.0	1982	28	18.3	1985	24	1983	21	19	1983	4.7	3.5	.9	.4	.0	20.4	12.5	8.2	3.8
Ann	42.1	34.1	N/A	N/A	15.0	Jan 1982	23	27.0	Nov 1991	30	Jan 1982	25	19+	Feb 1997	21.1	16.7	5.0	1.8	.2	92.8	70.1	54.2	28.3

+ 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

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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	6/02	5/29	5/25	5/21	5/18	5/14	5/10	5/04
32	5/22	5/17	5/13	5/10	5/07	5/04	5/01	4/28	4/23
28	5/08	5/04	5/01	4/28	4/26	4/23	4/21	4/18	4/14
24	4/28	4/23	4/19	4/16	4/14	4/11	4/08	4/04	3/31
20	4/17	4/13	4/10	4/07	4/05	4/02	3/31	3/28	3/23
16	4/13	4/08	4/04	4/01	3/29	3/26	3/23	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	9/11	9/15	9/18	9/21	9/23	9/25	9/28	10/01	10/05
32	9/13	9/18	9/21	9/24	9/27	9/29	10/02	10/05	10/10
28	9/25	9/30	10/04	10/07	10/10	10/13	10/16	10/19	10/24
24	10/05	10/11	10/15	10/18	10/21	10/25	10/28	11/01	11/07
20	10/16	10/21	10/25	10/28	10/31	11/03	11/07	11/10	11/16
16	10/28	11/01	11/05	11/08	11/10	11/13	11/16	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	147	139	133	128	124	119	114	109	101
32	159	153	149	145	142	138	134	130	124
28	186	179	174	170	166	162	158	153	146
24	217	208	201	195	190	185	179	173	163
20	229	222	217	213	209	205	201	196	189
16	247	240	234	230	226	221	217	211	204

* 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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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	1655	1311	1065	604	268	56	19	31	179	521	991	1463	8163
60	1500	1171	910	461	167	17	5	6	86	374	841	1308	6846
57	1407	1087	817	380	118	7	0	1	49	293	751	1215	6125
55	1345	1031	756	330	91	3	0	0	31	243	691	1153	5674
50	1190	891	609	218	42	0	0	0	7	140	547	998	4642
32	659	442	184	16	0	0	0	0	0	4	147	494	1946

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	27	54	141	404	798	1065	1228	1150	842	507	147	54	6417
55	0	0	0	28	176	379	515	437	183	33	0	0	1751
57	0	0	0	19	141	322	453	376	141	21	0	0	1473
60	0	0	0	9	96	243	365	288	88	9	0	0	1098
65	0	0	0	2	43	132	225	158	31	1	0	0	592
70	0	0	0	0	15	56	118	68	6	0	0	0	263

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	1	42	216	569	832	989	914	616	292	41	2	0	1	43	259	828	1660	2649	3563	4179	4471	4512	4514
45	0	0	19	128	417	682	834	759	471	179	18	0	0	0	19	147	564	1246	2080	2839	3310	3489	3507	3507
50	0	0	6	69	285	532	679	604	331	100	4	0	0	0	6	75	360	892	1571	2175	2506	2606	2610	2610
55	0	0	0	34	170	385	524	449	209	43	0	0	0	0	0	34	204	589	1113	1562	1771	1814	1814	1814
60	0	0	0	13	90	248	369	298	115	15	0	0	0	0	0	13	103	351	720	1018	1133	1148	1148	1148
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	29	147	350	535	656	596	385	181	30	0	0	0	29	176	526	1061	1717	2313	2698	2879	2909	2909

(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.
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.

- 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