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: CHASKA, MN **COOP ID: 211465**

Climate Division: MN 5 **NWS Call Sign:** **Elevation: 720 Feet** **Lat: 44˚48N** **Lon: 93˚35W**

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	24.2	3.4	13.8	60	1981	24	26.8	1990	-43	1951	30	1.4	1977	1588	0	.0	.0	.2	22.1	30.8	13.3
Feb	31.1	10.3	20.7	62	2000	29	32.8	1998	-37+	1996	2	8.3	1979	1241	0	.0	.0	1.2	14.6	27.0	7.9
Mar	43.1	22.8	33.0	83	1968	30	43.0	2000	-34	1962	1	25.0	1975	994	0	.0	.0	8.1	5.9	24.9	1.9
Apr	60.1	35.6	47.9	95	1980	21	55.3	1977	6+	1995	4	40.5	1975	519	5	.0	.1	23.5	.3	11.5	.0
May	73.8	47.9	60.9	95+	1998	18	68.1	1977	20	1967	3	55.7	1979	195	67	.0	1.5	30.8	.0	1.1	.0
Jun	82.2	57.3	69.8	103	1949	30	75.6	1988	37	1969	13	64.3	1982	29	171	.2	4.3	30.0	.0	.0	.0
Jul	85.8	62.1	74.0	107	1988	31	78.6	1974	42	1967	5	66.8	1992	9	288	.3	8.1	31.0	.0	.0	.0
Aug	82.9	59.9	71.4	105	1988	1	76.6	1983	36	1950	20	66.2	1992	19	216	.1	4.3	31.0	.0	.0	.0
Sep	74.5	50.6	62.6	96+	1998	13	68.5	1998	25	1980	26	56.0	1993	126	53	.0	1.3	29.8	.0	.7	.0
Oct	61.7	38.6	50.2	92	1997	3	56.4	1973	13+	1988	30	44.8	1988	463	3	.0	@	26.6	.1	8.3	.0
Nov	42.0	24.6	33.3	80+	1999	9	43.0	1999	-15	1964	30	25.3	1991	951	0	.0	.0	7.3	6.3	23.7	.7
Dec	28.2	10.5	19.4	70	1998	1	28.4	1997	-35	1983	19	3.1	1983	1415	0	.0	.0	.7	19.1	30.4	7.6
Ann	57.5	35.3	46.4	107	Jul 1988	31	78.6	Jul 1974	-43	Jan 1951	30	1.4	Jan 1977	7549	803	.6	19.6	220.2	68.4	158.4	31.4

\+ 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: 1911-2001

(3) Derived from 1971-2000 serially complete daily data

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: CHASKA, MN **COOP ID: 211465**

Climate Division: MN 5 **NWS Call Sign:** **Elevation: 720 Feet** **Lat: 44˚48N** **Lon: 93˚35W**

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	.93	.73	1.50	1999	13	3.25	1999	.04	1974
Feb	.62	.56	1.07	1957	2	2.00	1981	.00	1987
Mar	1.77	1.61	2.80	1971	15	4.05	1990	.42	1994
Apr	2.40	2.52	1.95	1954	30	5.48	1986	.08	1987
May	3.65	3.80	3.51	1960	21	8.75	1991	1.33	1988
Jun	4.21	3.94	3.40	1968	14	7.65	1990	.20	1988
Jul	4.43	3.90	7.83	1987	21	14.67	1987	.85	1988
Aug	4.48	4.73	3.26	1957	13	9.10	1984	.91	1971
Sep	2.97	2.92	3.14	1992	16	8.26	1991	.34	2000
Oct	2.14	2.09	2.23	1966	15	5.39	1971	.41	1976
Nov	2.00	1.72	2.50	1973	20	6.13	1991	.08	1976
Dec	.84	.82	1.51	1982	28	2.91	1982	.00	1986
Ann	30.44	30.63	7.83	Jul 1987	21	14.67	Jul 1987	.00+	Feb 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.6	2.9	.3	.1
Feb	4.5	2.2	.2	@
Mar	7.7	4.6	1.0	.2
Apr	9.6	5.5	1.5	.4
May	11.1	6.9	2.7	.8
Jun	10.6	6.9	3.1	1.2
Jul	9.9	6.8	2.7	1.2
Aug	10.2	6.8	2.8	1.3
Sep	8.9	5.4	2.0	.5
Oct	7.8	4.4	1.4	.5
Nov	7.4	4.3	1.2	.4
Dec	6.2	2.6	.4	.1
Ann	100.5	59.3	19.3	6.7

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	.09	.16	.29	.42	.55	.71	.90	1.13	1.45	1.97	2.49
Feb	.05	.12	.22	.31	.40	.50	.62	.76	.95	1.26	1.56
Mar	.49	.66	.92	1.14	1.35	1.58	1.83	2.13	2.52	3.12	3.69
Apr	.42	.63	.98	1.31	1.64	2.01	2.42	2.92	3.59	4.67	5.71
May	1.43	1.77	2.25	2.65	3.02	3.41	3.82	4.30	4.90	5.84	6.68
Jun	1.21	1.61	2.21	2.74	3.25	3.78	4.36	5.05	5.95	7.35	8.66
Jul	1.07	1.49	2.13	2.71	3.28	3.88	4.56	5.36	6.41	8.08	9.64
Aug	1.49	1.91	2.53	3.06	3.57	4.09	4.67	5.34	6.20	7.53	8.76
Sep	.73	1.01	1.44	1.83	2.21	2.61	3.06	3.60	4.29	5.40	6.44
Oct	.31	.49	.80	1.10	1.41	1.75	2.14	2.61	3.26	4.30	5.31
Nov	.27	.43	.72	1.00	1.29	1.61	1.98	2.44	3.07	4.08	5.06
Dec	.08	.18	.32	.44	.57	.70	.86	1.04	1.29	1.69	2.07
Ann	21.37	23.12	25.35	27.05	28.57	30.03	31.55	33.22	35.26	38.21	40.77

\+ 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: 1911-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: CHASKA, MN **COOP ID: 211465**

Climate Division: MN 5 **NWS Call Sign:** **Elevation: 720 Feet** **Lat: 44°48N** **Lon: 93°35W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	10.1	8.1	7	6
Feb	6.9	5.7	8	6
Mar	9.0	8.4	4	2
Apr	2.2	.9	#	#
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	.1	.0	#	0
Nov	6.4	6.0	1	1
Dec	8.7	7.9	4	2
Ann	43.4	37.0	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	16.0	1982	23	40.3	1982	40	1982	25	16	1982
Feb	6.0	1991	24	17.3	1971	34	1982	2	27	1982
Mar	15.0	1999	9	27.0	1989	23	1997	16	16	1997
Apr	6.0	1984	30	11.5	1983	10	1975	1	4	1975
May	.5	1971	19	.5	1971	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	2.0	1987	24	2.0	1987	2	1987	24	#+	1996
Nov	20.0	1991	1	27.3	1983	25	1991	3	11	1991
Dec	14.0	1982	28	18.0	1985	25	1983	24	21	1983
Ann	20.0	Nov 1991	1	40.3	Jan 1982	40	Jan 1982	25	27	Feb 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.2	4.0	1.1	.6	.1
Feb	3.8	2.5	.7	.2	.0
Mar	3.5	2.7	1.0	.5	.1
Apr	1.0	.8	.2	.1	.0
May	@	.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	.0
Nov	3.0	2.3	1.0	.5	.1
Dec	5.1	3.0	.6	.3	@
Ann	22.7	15.4	4.6	2.2	.3

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	26.0	20.6	17.2	5.5
Feb	23.6	20.0	16.5	7.5
Mar	12.4	8.7	6.1	2.5
Apr	1.2	.6	.5	@
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	@	.0	.0	.0
Nov	7.0	4.1	2.3	.7
Dec	17.5	10.4	5.8	4.0
Ann	87.7	64.4	48.4	20.2

+ 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/normals/usnormals.html

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: CHASKA, MN **COOP ID: 211465**

Climate Division: MN 5 **NWS Call Sign:** **Elevation: 720 Feet** **Lat: 44˚48N** **Lon: 93˚35W**

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	5/23	5/19	5/15	5/13	5/10	5/08	5/05	5/02	4/28
32	5/14	5/10	5/07	5/04	5/01	4/29	4/26	4/23	4/18
28	5/05	4/30	4/27	4/24	4/21	4/19	4/16	4/12	4/08
24	4/19	4/15	4/12	4/10	4/08	4/06	4/04	4/01	3/29
20	4/14	4/10	4/07	4/05	4/02	3/31	3/28	3/25	3/21
16	4/06	4/01	3/29	3/26	3/23	3/20	3/17	3/13	3/08

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	9/14	9/18	9/21	9/23	9/25	9/27	9/30	10/02	10/06
32	9/22	9/25	9/28	9/30	10/02	10/04	10/06	10/09	10/12
28	9/27	10/02	10/05	10/08	10/11	10/14	10/17	10/21	10/26
24	10/10	10/15	10/19	10/23	10/26	10/29	11/02	11/05	11/11
20	10/16	10/22	10/26	10/29	11/01	11/04	11/07	11/11	11/17
16	10/29	11/03	11/08	11/11	11/14	11/18	11/21	11/25	12/01

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	155	149	144	141	137	134	130	126	120
32	171	165	160	157	153	150	146	142	136
28	191	185	180	176	172	169	165	160	153
24	220	213	208	204	200	196	192	187	180
20	234	226	221	216	212	208	203	198	190
16	257	250	245	240	236	231	227	221	214

***** 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/normals/usnormals.html

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: CHASKA, MN **COOP ID: 211465**

Climate Division: MN 5 **NWS Call Sign:** **Elevation: 720 Feet** **Lat: 44˚48N** **Lon: 93˚35W**

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	1588	1241	994	519	195	29	9	19	126	463	951	1415	7549
60	1433	1101	839	381	110	6	0	3	52	320	801	1260	6306
57	1340	1017	747	306	72	2	0	0	26	245	711	1167	5633
55	1278	961	687	260	52	1	0	0	15	200	652	1105	5211
50	1123	826	545	161	20	0	0	0	3	109	509	951	4247
32	598	387	155	8	0	0	0	0	0	2	126	456	1732

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	33	70	183	483	895	1133	1301	1220	917	566	166	64	7031
55	0	0	3	45	235	443	588	507	242	50	1	0	2114
57	0	0	1	31	192	385	526	445	193	33	0	0	1806
60	0	0	0	17	137	299	433	355	129	16	0	0	1386
65	0	0	0	5	67	171	288	216	53	3	0	0	803
70	0	0	0	1	26	79	162	109	14	0	0	0	391

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	4	48	269	647	895	1059	974	676	334	47	3	0	4	52	321	968	1863	2922	3896	4572	4906	4953	4956
45	0	1	21	166	494	745	904	819	527	211	18	1	0	1	22	188	682	1427	2331	3150	3677	3888	3906	3907
50	0	0	5	90	351	595	749	664	382	115	6	0	0	0	5	95	446	1041	1790	2454	2836	2951	2957	2957
55	0	0	0	44	220	445	594	509	253	56	0	0	0	0	0	44	264	709	1303	1812	2065	2121	2121	2121
60	0	0	0	15	121	303	439	356	143	19	0	0	0	0	0	15	136	439	878	1234	1377	1396	1396	1396
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	37	176	404	586	710	648	424	203	29	1	0	1	38	214	618	1204	1914	2562	2986	3189	3218	3219

(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.
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