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: SHARON, ND **COOP ID: 327986**

Climate Division: ND 6 **NWS Call Sign:** **Elevation: 1,525 Feet** **Lat: 47˚36N** **Lon: 97˚54W**

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	13.1	-3.8	4.7	52	1990	10	18.8	1990	-38	1994	18	-10.0	1982	1873	0	.0	.0	@	27.4	31.0	19.4
Feb	20.8	3.9	12.4	61	1958	25	25.8	1998	-39	1996	1	-4.5	1979	1475	0	.0	.0	.2	20.9	28.1	12.8
Mar	33.1	16.8	25.0	74	1963	31	35.1	2000	-25+	1980	1	14.8	1996	1243	0	.0	.0	3.0	12.7	29.3	4.9
Apr	52.2	30.8	41.5	96	1980	21	50.9	1987	-10	1979	6	31.0	1979	708	3	.0	.1	18.3	2.0	18.7	.2
May	67.4	43.8	55.6	98	1964	21	64.1	1977	11	1967	3	47.4	1979	318	26	.0	.4	29.3	.0	3.9	.0
Jun	74.5	52.8	63.7	97+	1968	3	71.7	1988	29	1964	1	58.0	1982	117	77	.0	1.1	30.0	.0	.0	.0
Jul	78.9	57.2	68.1	100+	1988	27	73.1	1989	36	1978	9	61.5	1992	50	145	.1	2.3	31.0	.0	.0	.0
Aug	78.7	55.1	66.9	101+	1983	7	74.2	1983	28	1982	27	59.0	1977	81	140	.1	2.9	31.0	.0	@	.0
Sep	68.2	45.0	56.6	100+	1983	2	62.2	1998	17	1965	26	52.1	1985	272	19	.1	1.0	29.1	.0	2.2	.0
Oct	54.2	33.4	43.8	90	1963	4	48.9	1973	1	1991	31	38.1	1991	657	0	.0	.0	20.9	1.0	14.5	.0
Nov	32.5	16.9	24.7	74+	1999	8	36.0	1999	-26	1985	29	13.8	1985	1208	0	.0	.0	3.3	15.0	28.3	3.0
Dec	18.0	2.3	10.2	60	1969	1	23.1	1997	-36	1983	23	-2.8	1983	1699	0	.0	.0	.0	25.8	30.9	14.5
Ann	49.3	29.5	39.4	101+	Aug 1983	7	74.2	Aug 1983	-39	Feb 1996	1	-10.0	Jan 1982	9701	410	.3	7.8	196.1	104.8	186.9	54.8

\+ 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/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

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: SHARON, ND **COOP ID: 327986**

Climate Division: ND 6 **NWS Call Sign:** **Elevation: 1,525 Feet** **Lat: 47˚36N** **Lon: 97˚54W**

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	.68	.61	.79	1980	6	1.86	1989	.06	2000
Feb	.54	.40	.85	1977	24	1.70	1998	.08+	1990
Mar	1.12	1.12	1.30+	1973	14	3.13	1977	.00	1991
Apr	1.33	1.09	1.65	1994	26	5.23	1986	.00	1980
May	2.65	2.27	2.60	1972	22	6.62	1972	.29	1976
Jun	3.55	3.23	2.60	1966	5	7.81	1990	.97	1989
Jul	3.45	2.95	4.00	1987	22	10.06	1987	.70	1975
Aug	2.67	2.78	3.15	1964	21	5.71	1989	.52	1996
Sep	2.05	1.50	3.10	1970	7	6.71	1973	.27	1993
Oct	1.67	1.25	3.04	1982	9	6.75	1982	.00	1999
Nov	.97	.69	2.10	1986	8	3.52	1986	.00+	1999
Dec	.55	.46	.62	1988	14	1.66	1988	.05	1999
Ann	21.23	21.97	4.00	Jul 1987	22	10.06	Jul 1987	.00+	Nov 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.3	2.2	.2	.0
Feb	5.0	2.0	.2	.0
Mar	5.9	3.2	.6	.1
Apr	5.7	3.5	.8	.1
May	8.6	6.2	1.6	.4
Jun	9.7	7.1	2.7	.8
Jul	9.3	6.6	2.1	.8
Aug	8.6	5.7	1.8	.5
Sep	6.9	4.3	1.3	.4
Oct	5.7	3.6	1.2	.3
Nov	4.6	2.7	.5	.1
Dec	5.3	1.8	.1	.0
Ann	81.6	48.9	13.1	3.5

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	.11	.17	.27	.37	.46	.56	.68	.83	1.02	1.33	1.63
Feb	.08	.12	.20	.27	.35	.43	.53	.65	.82	1.08	1.34
Mar	.09	.22	.40	.57	.74	.92	1.13	1.39	1.73	2.29	2.82
Apr	.02	.09	.25	.43	.64	.90	1.20	1.60	2.16	3.13	4.09
May	.64	.89	1.27	1.62	1.96	2.32	2.72	3.20	3.83	4.83	5.76
Jun	1.24	1.58	2.06	2.47	2.87	3.27	3.71	4.22	4.87	5.89	6.82
Jul	.72	1.03	1.54	2.00	2.47	2.96	3.52	4.19	5.08	6.49	7.84
Aug	.85	1.10	1.48	1.80	2.11	2.43	2.78	3.20	3.73	4.56	5.33
Sep	.29	.45	.75	1.03	1.33	1.66	2.04	2.50	3.13	4.16	5.15
Oct	.02	.09	.27	.48	.75	1.07	1.47	1.99	2.74	4.05	5.37
Nov	.00	.09	.25	.40	.57	.74	.95	1.20	1.55	2.12	2.68
Dec	.07	.12	.19	.27	.35	.44	.54	.67	.84	1.12	1.38
Ann	14.46	15.75	17.41	18.67	19.80	20.90	22.03	23.29	24.83	27.06	29.00

\+ 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

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: SHARON, ND **COOP ID: 327986**

Climate Division: ND 6 **NWS Call Sign:** **Elevation: 1,525 Feet** **Lat: 47°36N** **Lon: 97°54W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	8.3	7.8	9	7
Feb	6.2	5.4	7	7
Mar	7.4	6.5	5	3
Apr	2.3	1.0	1	#
May	.2	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	#	0
Oct	1.5	.0	#	#
Nov	7.2	5.3	3	3
Dec	6.5	6.5	5	4
Ann	39.6	32.5	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	9.0	1980	6	18.5	1980	31	1997	28	26	1997
Feb	6.0	1977	24	18.0	1987	26	1994	13	22	1994
Mar	10.0	1996	4	25.5	1996	30	1979	11	26	1979
Apr	9.0	1994	26	9.8	1990	25	1979	5	14	1979
May	3.0	1991	3	3.0	1991	3	1991	3	#+	1997
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	#	1984	24	#	1984	#	1971	15	#	1971
Oct	6.0	1985	8	10.0	1985	6	1985	8	1	1991
Nov	12.0	1977	20	23.0	1977	19	1977	27	11	1996
Dec	6.0	1988	14	18.1	1988	21	1996	23	17	1996
Ann	12.0	Nov 1977	20	25.5	Mar 1996	31	Jan 1997	28	26+	Jan 1997

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.2	3.7	.9	.4	.0
Feb	3.9	2.8	.5	.2	.0
Mar	3.2	2.5	.9	.5	@
Apr	1.0	.9	.2	.1	.0
May	.1	.1	@	.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	.6	.6	.2	@	.0
Nov	3.2	2.7	1.1	.4	.1
Dec	4.4	2.8	.5	.1	.0
Ann	21.6	16.1	4.3	1.7	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	28.2	24.4	16.9	8.2
Feb	23.7	18.7	14.1	7.1
Mar	16.6	13.4	10.2	3.3
Apr	2.5	1.0	.5	@
May	.1	@	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.8	.4	.1	.0
Nov	12.8	8.8	4.9	1.7
Dec	21.5	13.6	4.8	2.8
Ann	106.2	80.3	51.5	23.1

+ 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: SHARON, ND **COOP ID: 327986**

Climate Division: ND 6 **NWS Call Sign:** **Elevation: 1,525 Feet** **Lat: 47˚36N** **Lon: 97˚54W**

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	6/10	6/04	5/30	5/27	5/23	5/20	5/16	5/11	5/05
32	5/21	5/18	5/15	5/13	5/10	5/08	5/06	5/03	4/29
28	5/16	5/11	5/07	5/04	5/01	4/28	4/25	4/21	4/16
24	5/07	5/02	4/28	4/24	4/21	4/18	4/14	4/10	4/04
20	4/25	4/20	4/17	4/14	4/12	4/09	4/06	4/03	3/29
16	4/17	4/13	4/10	4/07	4/04	4/02	3/30	3/27	3/22

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	8/28	9/02	9/06	9/09	9/12	9/14	9/17	9/21	9/26
32	9/12	9/16	9/18	9/21	9/23	9/25	9/27	9/30	10/04
28	9/16	9/21	9/25	9/28	10/01	10/04	10/08	10/12	10/17
24	9/25	10/01	10/05	10/09	10/12	10/15	10/19	10/23	10/28
20	10/06	10/12	10/16	10/20	10/23	10/26	10/29	11/02	11/08
16	10/14	10/19	10/23	10/27	10/30	11/02	11/06	11/10	11/15

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	133	125	120	115	111	106	102	96	89
32	150	145	141	138	135	132	129	125	120
28	176	168	162	157	152	148	143	137	129
24	199	190	184	178	173	168	163	156	148
20	215	207	202	198	193	189	185	179	172
16	231	223	217	212	208	203	198	193	185

***** 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: SHARON, ND **COOP ID: 327986**

Climate Division: ND 6 **NWS Call Sign:** **Elevation: 1,525 Feet** **Lat: 47˚36N** **Lon: 97˚54W**

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	1873	1475	1243	708	318	117	50	81	272	657	1208	1699	9701
60	1718	1335	1088	565	205	50	14	30	158	502	1058	1544	8267
57	1625	1251	995	484	150	25	6	15	103	411	968	1451	7484
55	1563	1195	933	432	118	15	1	9	74	351	908	1389	6988
50	1408	1055	781	314	59	3	0	1	25	218	759	1234	5857
32	871	590	313	54	1	0	0	0	0	12	299	704	2844

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	21	39	94	339	732	950	1117	1083	737	378	81	27	5598
55	0	0	0	27	136	275	405	378	121	4	0	0	1346
57	0	0	0	19	106	225	348	323	90	2	0	0	1113
60	0	0	0	10	68	160	263	245	55	0	0	0	801
65	0	0	0	3	26	77	145	140	19	0	0	0	410
70	0	0	0	0	8	26	65	66	5	0	0	0	170

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	8	155	499	716	876	841	509	196	16	0	0	0	8	163	662	1378	2254	3095	3604	3800	3816	3816
45	0	0	1	83	356	566	721	686	367	106	5	0	0	0	1	84	440	1006	1727	2413	2780	2886	2891	2891
50	0	0	0	42	231	420	566	531	237	46	0	0	0	0	0	42	273	693	1259	1790	2027	2073	2073	2073
55	0	0	0	19	130	276	412	377	134	13	0	0	0	0	0	19	149	425	837	1214	1348	1361	1361	1361
60	0	0	0	4	65	156	263	235	63	1	0	0	0	0	0	4	69	225	488	723	786	787	787	787
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	5	111	305	444	561	533	306	126	12	0	0	0	5	116	421	865	1426	1959	2265	2391	2403	2403

(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