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: CONDE, SD **COOP ID: 391917**

Climate Division: SD 3 **NWS Call Sign:** **Elevation: 1,330 Feet** **Lat: 45˚09N** **Lon: 98˚06W**

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	.0	.0	.0	53	1998	2	.0	0	-35	1997	18	.0	0	0	0	.0	.0	.4	23.3	31.0	16.3
Feb	.0	.0	.0	64	2000	23	.0	0	-45	1994	9	.0	0	0	0	.0	.0	1.7	17.8	28.0	8.9
Mar	.0	.0	.0	75+	2000	7	.0	0	-31	1995	8	.0	0	0	0	.0	.0	7.3	8.4	27.9	2.8
Apr	.0	.0	.0	87	2001	29	.0	0	5	1997	9	.0	0	0	0	.0	.2	21.1	.7	17.1	@
May	.0	.0	.0	93	2001	15	.0	0	20	1996	1	.0	0	0	0	.0	.4	30.4	.0	3.1	.0
Jun	.0	.0	.0	101	1979	15	.0	0	37	1998	7	.0	0	0	0	.2	2.6	30.0	.0	.0	.0
Jul	.0	.0	.0	99	2000	9	.0	0	40	1995	1	.0	0	0	0	1.0	8.3	31.0	.0	@	.0
Aug	.0	.0	.0	105	1968	21	.0	0	40	1979	24	.0	0	0	0	.7	6.6	31.0	.0	.0	.0
Sep	.0	.0	.0	105	1978	6	.0	0	19	1992	28	.0	0	0	0	.2	2.0	29.7	.0	2.9	.0
Oct	.0	.0	.0	90+	1993	7	.0	0	11	1993	31	.0	0	0	0	.0	.1	25.5	.2	14.6	.0
Nov	.0	.0	.0	77+	1999	9	.0	0	-25	1996	26	.0	0	0	0	.0	.0	7.7	8.8	28.2	2.0
Dec	.0	.0	.0	61	1998	2	.0	0	-31	1996	26	.0	0	0	0	.0	.0	.9	19.5	31.0	11.2
Ann	.0	.0	.0	105+	Sep 1978	6	-99.9	0	-45	Feb 1994	9	99.9	0	0	0	2.1	20.2	216.7	78.7	183.8	41.2

\+ 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: 1951-2001

(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: CONDE, SD **COOP ID: 391917**

Climate Division: SD 3 **NWS Call Sign:** **Elevation: 1,330 Feet** **Lat: 45˚09N** **Lon: 98˚06W**

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	.44	.35	.92	1997	4	1.46	1997	.00	1974
Feb	.58	.44	1.27	1969	21	1.93	1976	.11	1985
Mar	1.17	1.00	.92	1970	3	3.49	1977	.03	1971
Apr	1.95	1.44	2.03	1998	1	7.02	1986	.05	1996
May	2.70	2.01	2.64	1965	15	8.81	1972	.40	1992
Jun	2.98	2.82	4.48	1992	17	8.54	1984	.62	1994
Jul	3.07	2.48	6.12	1997	25	13.66	1997	.22	1975
Aug	2.70	2.63	4.26	1994	9	5.18	1993	.59	1996
Sep	1.70	1.43	3.12	1999	4	5.90	1999	.00	1974
Oct	1.55	1.04	2.89	1998	17	6.99	1998	.09	1993
Nov	.86	.64	1.65	1993	24	3.50	1993	.00+	1999
Dec	.39	.36	.72	1965	11	.95	1977	.00	1986
Ann	20.09	19.04	6.12	Jul 1997	25	13.66	Jul 1997	.00+	Nov 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.7	1.7	.1	.0
Feb	4.6	1.9	.3	.0
Mar	5.5	3.3	.7	.0
Apr	6.9	4.6	1.4	.5
May	8.8	5.5	2.0	.6
Jun	9.4	6.1	1.9	.9
Jul	8.5	5.6	1.6	.7
Aug	7.0	4.5	1.5	.8
Sep	5.5	3.1	1.2	.4
Oct	5.0	3.1	1.0	.3
Nov	5.5	2.2	.4	.1
Dec	5.1	1.3	.1	.0
Ann	76.5	42.9	12.2	4.3

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	.02	.05	.11	.18	.25	.33	.42	.54	.71	.99	1.26
Feb	.08	.13	.22	.30	.38	.47	.58	.71	.89	1.17	1.45
Mar	.18	.27	.44	.60	.77	.95	1.17	1.42	1.77	2.34	2.88
Apr	.22	.37	.64	.92	1.21	1.53	1.91	2.38	3.02	4.07	5.09
May	.49	.73	1.12	1.49	1.86	2.27	2.73	3.29	4.03	5.22	6.36
Jun	.69	.96	1.40	1.79	2.18	2.60	3.06	3.62	4.35	5.50	6.60
Jul	.38	.62	1.06	1.48	1.94	2.44	3.02	3.75	4.73	6.33	7.89
Aug	1.03	1.28	1.64	1.94	2.22	2.51	2.83	3.19	3.66	4.38	5.03
Sep	.05	.17	.40	.65	.92	1.23	1.60	2.08	2.73	3.84	4.93
Oct	.09	.17	.36	.57	.80	1.09	1.43	1.87	2.49	3.54	4.59
Nov	.00	.00	.14	.28	.43	.60	.81	1.07	1.43	2.04	2.64
Dec	.02	.05	.11	.17	.23	.30	.38	.47	.61	.83	1.05
Ann	11.32	12.87	14.93	16.55	18.03	19.48	21.02	22.75	24.88	28.06	30.87

\+ 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: 1951-2001
(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: CONDE, SD **COOP ID: 391917**

Climate Division: SD 3 **NWS Call Sign:** **Elevation: 1,330 Feet** **Lat: 45°09N** **Lon: 98°06W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	4.4	3.0	7	5
Feb	5.7	4.7	7	3
Mar	4.9	4.5	4	2
Apr	2.2	.2	#	#
May	#	.0	#	0
Jun	.0	.0	#	0
Jul	.0	.0	#	0
Aug	.0	.0	#	0
Sep	#	.0	#	0
Oct	.8	.0	#	0
Nov	4.9	2.6	2	#
Dec	4.1	3.1	4	2
Ann	27.0	18.1	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	6.0	1982	23	15.6	1994	40	1997	30	38	1997
Feb	6.0	1995	15	12.1	1989	39	1994	14	34	1994
Mar	7.0	1987	24	14.5	1983	35	1994	2	22	1997
Apr	8.0	1995	12	19.0	1995	18	1995	12	4	1997
May	#	1979	9	#+	1979	#+	1996	18	#+	1996
Jun	.0	0	0	.0	0	#	1996	6	#	1996
Jul	.0	0	0	.0	0	#	1995	31	#	1995
Aug	.0	0	0	.0	0	#	1989	14	#	1989
Sep	#	1995	22	#	1995	#	1995	22	#	1995
Oct	4.0	1972	30	4.0+	1995	4	1990	17	#+	1999
Nov	16.5	1993	24	26.7	1993	22	1993	30	8	2000
Dec	8.0	1984	2	11.0	1984	27	1996	31	21	1996
Ann	16.5	Nov 1993	24	26.7	Nov 1993	40	Jan 1997	30	38	Jan 1997

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.6	2.0	.3	@	.0
Feb	3.2	2.0	.5	.1	.0
Mar	2.9	2.0	.6	.1	.0
Apr	.8	.7	.4	.1	.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	.4	.3	.1	.0	.0
Nov	2.9	1.6	.5	.1	@
Dec	3.4	1.7	.2	.1	.0
Ann	17.2	10.3	2.6	.5	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	20.9	13.2	10.3	6.5
Feb	17.5	12.5	8.4	6.5
Mar	10.1	7.9	6.5	2.7
Apr	1.0	.6	.3	.1
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	.3	.1	.0	.0
Nov	6.1	3.6	1.7	.5
Dec	12.8	6.5	5.3	2.2
Ann	68.7	44.4	32.5	18.5

+ 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: CONDE, SD **COOP ID: 391917**

Climate Division: SD 3 **NWS Call Sign:** **Elevation: 1,330 Feet** **Lat: 45˚09N** **Lon: 98˚06W**

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	6/09	6/02	5/28	5/23	5/19	5/15	5/11	5/05	4/28
32	6/03	5/27	5/21	5/16	5/12	5/08	5/03	4/28	4/20
28	5/13	5/08	5/05	5/03	4/30	4/28	4/25	4/22	4/18
24	5/06	4/30	4/26	4/23	4/20	4/17	4/14	4/10	4/05
20	4/26	4/21	4/16	4/13	4/10	4/06	4/03	3/30	3/24
16	4/15	4/10	4/06	4/03	3/31	3/28	3/25	3/21	3/16

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	9/07	9/10	9/13	9/15	9/16	9/18	9/20	9/23	9/26
32	9/11	9/16	9/19	9/21	9/24	9/26	9/29	10/02	10/06
28	9/18	9/23	9/27	10/01	10/04	10/07	10/10	10/14	10/19
24	9/24	9/30	10/04	10/08	10/12	10/15	10/19	10/23	10/29
20	10/04	10/11	10/15	10/19	10/22	10/26	10/30	11/03	11/09
16	10/17	10/22	10/26	10/30	11/02	11/05	11/09	11/13	11/19

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	145	136	130	125	120	115	109	103	94
32	162	152	145	139	134	128	123	116	106
28	173	167	163	159	156	152	149	144	138
24	197	189	183	178	174	169	164	158	150
20	219	211	205	200	195	190	185	179	171
16	237	230	224	220	216	211	207	201	194

***** 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: CONDE, SD **COOP ID: 391917**

Climate Division: SD 3 **NWS Call Sign:** **Elevation: 1,330 Feet** **Lat: 45˚09N** **Lon: 98˚06W**

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	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	31	195	528	800	992	939	597	253	26	0	0	0	31	226	754	1554	2546	3485	4082	4335	4361	4361
45	0	0	10	111	382	650	837	784	454	149	9	0	0	0	10	121	503	1153	1990	2774	3228	3377	3386	3386
50	0	0	2	55	247	500	682	629	317	74	3	0	0	0	2	57	304	804	1486	2115	2432	2506	2509	2509
55	0	0	0	26	138	352	528	474	201	29	0	0	0	0	0	26	164	516	1044	1518	1719	1748	1748	1748
60	0	0	0	9	65	220	373	324	111	6	0	0	0	0	0	9	74	294	667	991	1102	1108	1108	1108
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	2	32	149	333	509	652	609	385	187	29	0	0	2	34	183	516	1025	1677	2286	2671	2858	2887	2887

(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