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: SPICER, CO **COOP ID: 057848**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 8,385 Feet** **Lat: 40˚28N** **Lon: 106˚27W**

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	26.0	4.5	15.3	49+	1986	29	21.1	1986	-48	1963	12	5.4	1979	1542	0	.0	.0	.0	19.4	31.0	8.6
Feb	29.5	5.4	17.5	52+	1986	25	24.7	1995	-50	1989	6	11.6	1985	1332	0	.0	.0	.2	12.7	28.2	7.4
Mar	36.4	11.0	23.7	59+	1999	20	29.9	1972	-31	1975	28	17.5	1977	1281	0	.0	.0	3.3	6.2	30.5	3.4
Apr	45.1	18.6	31.9	71	1992	30	39.1	1992	-17	1975	2	24.3	1983	994	0	.0	.0	13.9	2.0	28.2	1.2
May	56.9	27.1	42.0	80	2000	31	48.5	2000	1	1970	1	37.3	1983	713	0	.0	.0	26.0	@	23.3	.0
Jun	67.6	33.3	50.5	87+	1961	27	55.4	1988	17+	1989	22	47.5	1982	437	0	.0	.0	29.5	.0	11.1	.0
Jul	73.8	38.7	56.3	91	1954	13	62.0	2000	19	1955	8	53.0	1993	272	0	.0	@	31.0	.0	2.7	.0
Aug	72.5	37.4	55.0	89+	2000	10	60.4	2000	20	1964	22	51.8	1978	313	1	.0	.0	31.0	.0	5.1	.0
Sep	64.7	29.7	47.2	86	1954	3	52.4	2000	4+	1978	20	41.7	1971	534	0	.0	.0	28.7	.0	15.9	.0
Oct	53.0	21.5	37.3	90	1955	16	42.5	1999	-13	1993	30	32.2	1984	861	0	.0	.0	22.1	.9	27.8	.4
Nov	35.3	11.7	23.5	67	1949	3	34.7	1999	-32	1976	28	13.1	1979	1245	0	.0	.0	4.9	9.7	29.8	3.7
Dec	27.1	5.5	16.3	56	1980	27	27.5	1980	-43	1978	8	7.6	1978	1510	0	.0	.0	.3	18.4	30.9	8.5
Ann	49.0	20.4	34.7	91	Jul 1954	13	62.0	Jul 2000	-50	Feb 1989	6	5.4	Jan 1979	11034	1	.0	@	190.9	69.3	264.5	33.2

\+ 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

(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

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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	1.09	.84	1.60	1950	24	4.00	1996	.19+	1992
Feb	.87	.79	.80	1957	9	1.98	1986	.13	1985
Mar	.96	.91	1.12	1991	27	2.16	1991	.12	1997
Apr	1.22	1.00	1.90	1958	23	3.19	1997	.28	1979
May	1.60	1.41	1.08	1976	21	4.05	1981	.22	1986
Jun	1.25	1.16	1.20	1957	13	2.20	1987	.02	1980
Jul	1.76	1.65	1.11	1983	21	4.19	1983	.40	1972
Aug	1.31	1.17	1.00	1949	23	3.10	1977	.41	1988
Sep	1.39	1.19	1.60	1997	20	5.20	1997	.32	1987
Oct	1.14	.99	.97	1977	7	2.59	1972	.11	2000
Nov	1.07	.90	1.00	1953	6	3.22	1985	.24	1976
Dec	1.00	.89	1.25	1948	22	2.88	1996	.08	1993
Ann	14.66	14.03	1.90	Apr 1958	23	5.20	Sep 1997	.02	Jun 1980

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.4	4.0	.1	.0
Feb	8.0	3.1	.2	.0
Mar	9.2	3.6	.2	@
Apr	8.9	4.4	.3	.0
May	10.2	5.5	.5	.1
Jun	7.6	4.1	.5	.0
Jul	9.4	5.5	.7	.1
Aug	9.8	4.4	.4	.0
Sep	7.6	4.6	.4	.1
Oct	6.9	3.9	.4	.0
Nov	8.8	4.2	.1	.0
Dec	8.3	3.7	.2	.0
Ann	104.1	51.0	4.0	.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	.13	.22	.37	.52	.68	.86	1.07	1.33	1.68	2.25	2.81
Feb	.25	.33	.46	.57	.67	.78	.90	1.04	1.23	1.52	1.78
Mar	.20	.29	.43	.56	.68	.82	.98	1.17	1.41	1.81	2.18
Apr	.39	.51	.68	.82	.97	1.11	1.27	1.46	1.71	2.09	2.44
May	.34	.49	.72	.93	1.15	1.38	1.64	1.95	2.36	3.01	3.63
Jun	.25	.36	.54	.71	.88	1.06	1.27	1.52	1.84	2.37	2.87
Jul	.58	.74	.99	1.20	1.40	1.61	1.84	2.10	2.44	2.98	3.47
Aug	.51	.63	.80	.95	1.08	1.22	1.37	1.55	1.77	2.11	2.42
Sep	.34	.47	.68	.86	1.03	1.22	1.44	1.69	2.02	2.54	3.02
Oct	.23	.33	.50	.65	.80	.97	1.16	1.39	1.68	2.16	2.62
Nov	.31	.42	.57	.70	.83	.96	1.11	1.29	1.51	1.87	2.20
Dec	.13	.21	.35	.49	.64	.80	.99	1.22	1.53	2.05	2.55
Ann	10.73	11.50	12.48	13.22	13.88	14.51	15.16	15.88	16.75	18.00	19.09

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	22.5	12.8	17	15
Feb	21.4	22.4	18	18
Mar	18.6	16.4	15	14
Apr	16.2	15.5	5	1
May	4.9	1.6	#	0
Jun	.8	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.7	.0	#	0
Oct	6.9	5.0	#	#
Nov	16.0	16.3	3	2
Dec	21.6	16.8	9	8
Ann	129.6	106.8	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	12.0	1996	28	74.5	1996	40+	1996	31	35	1979
Feb	12.0	1986	13	41.5	1986	40+	1993	24	38	1996
Mar	14.0	1991	27	37.8	1991	43	1993	15	36+	1993
Apr	18.0	1973	19	44.0	1973	30	1984	14	24	1984
May	6.0	1973	1	17.7	1979	14	1984	2	3	1984
Jun	5.0	1976	14	10.0	1979	1+	2000	17	#+	2000
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	8.0	1978	19	8.0	1978	5	1995	21	#+	1999
Oct	10.0	1975	23	23.3	1990	8+	1990	9	2	1990
Nov	18.0	1973	2	27.8	1995	32	1985	30	13	1985
Dec	24.0	1973	28	59.9	1996	37	1983	27	30	1985
Ann	24.0	Dec 1973	28	74.5	Jan 1996	43	Mar 1993	15	38	Feb 1996

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	8.5	7.4	3.5	1.6	.2
Feb	7.0	6.0	2.9	1.5	.2
Mar	7.2	6.2	3.2	1.4	.2
Apr	5.6	5.0	2.6	1.1	.1
May	1.7	1.6	.9	.4	.0
Jun	.3	.3	.1	.1	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.3	.2	@	@	.0
Oct	2.1	1.9	.8	.4	@
Nov	7.4	5.9	2.9	1.2	.1
Dec	7.2	6.2	3.0	1.7	.2
Ann	47.3	40.7	19.9	9.4	1.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	-9.9	-9.9	-9.9	-9.9
Apr	10.3	10.1	9.7	7.7
May	1.2	1.0	.5	.2
Jun	.1	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	@	@	.0	.0
Oct	1.7	.7	.2	.0
Nov	13.9	8.2	2.8	.8
Dec	20.7	18.4	13.7	6.1
Ann	-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

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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	8/05	8/01	7/30	7/28	7/26	7/24	7/22	7/20	7/16
32	8/02	7/27	7/23	7/19	7/16	7/12	7/09	7/04	6/28
28	7/17	7/10	7/05	6/30	6/26	6/22	6/17	6/12	6/05
24	6/21	6/15	6/11	6/07	6/04	5/31	5/28	5/24	5/18
20	6/08	6/01	5/26	5/22	5/18	5/13	5/09	5/03	4/26
16	5/14	5/09	5/06	5/03	5/01	4/28	4/25	4/22	4/18

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	7/26	7/30	8/01	8/04	8/06	8/09	8/11	8/14	8/19
32	7/28	8/02	8/06	8/10	8/13	8/17	8/20	8/25	8/31
28	8/04	8/12	8/18	8/23	8/28	9/01	9/06	9/12	9/20
24	8/28	9/02	9/06	9/10	9/13	9/16	9/19	9/23	9/29
20	9/09	9/14	9/17	9/20	9/23	9/26	9/29	10/02	10/07
16	9/14	9/20	9/24	9/27	10/01	10/04	10/07	10/12	10/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	31	24	19	15	11	7	2	0	0
32	58	47	40	34	28	22	16	8	0
28	95	84	75	68	62	55	48	40	29
24	121	114	109	104	100	96	92	86	79
20	156	146	139	133	128	122	116	109	99
16	174	167	161	157	152	148	143	138	130

***** 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

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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	1542	1332	1281	994	713	437	272	313	534	861	1245	1510	11034
60	1387	1192	1126	844	558	289	133	172	385	706	1095	1355	9242
57	1294	1108	1033	754	465	207	72	107	300	613	1005	1262	8220
55	1232	1052	971	694	403	158	42	72	245	551	945	1200	7565
50	1077	912	816	547	259	65	6	19	130	397	795	1045	6068
32	519	411	290	129	10	0	0	0	0	35	293	489	2176

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	0	3	32	125	320	553	751	711	456	197	39	2	3189
55	0	0	0	0	1	21	80	70	11	0	0	0	183
57	0	0	0	0	0	10	48	43	6	0	0	0	107
60	0	0	0	0	0	3	16	16	1	0	0	0	36
65	0	0	0	0	0	0	0	1	0	0	0	0	1
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	0	36	160	375	548	512	292	79	2	0	0	0	0	36	196	571	1119	1631	1923	2002	2004	2004
45	0	0	0	8	66	232	394	357	166	21	0	0	0	0	0	8	74	306	700	1057	1223	1244	1244	1244
50	0	0	0	0	13	107	241	207	69	0	0	0	0	0	0	0	13	120	361	568	637	637	637	637
55	0	0	0	0	0	31	100	75	14	0	0	0	0	0	0	0	0	31	131	206	220	220	220	220
60	0	0	0	0	0	1	19	14	0	0	0	0	0	0	0	0	0	1	20	34	34	34	34	34
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	1	50	164	300	399	379	258	117	13	0	0	0	1	51	215	515	914	1293	1551	1668	1681	1681

(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