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: STERLING, CO **COOP ID: 057950**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 3,938 Feet** **Lat: 40˚37N** **Lon: 103˚13W**

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	38.5	11.9	25.2	71+	1990	11	33.4	1999	-26+	1984	19	13.9	1979	1234	0	.0	.0	6.2	9.2	30.8	5.3
Feb	45.7	17.7	31.7	77	1954	9	39.5	1992	-30	1982	5	22.2	1989	932	0	.0	.0	12.0	5.3	27.5	2.6
Mar	53.9	25.3	39.6	86	1963	29	46.4	1986	-21	1960	3	33.2	1987	789	0	.0	.0	19.2	2.4	25.7	.4
Apr	62.9	33.7	48.3	92	1987	18	53.6	1981	-3	1975	2	41.8	1984	502	1	.0	.1	24.7	.6	12.9	.1
May	72.4	44.5	58.5	98+	2000	30	63.9	1994	23+	1989	1	52.3	1995	237	33	.0	1.1	30.1	.0	1.6	.0
Jun	84.0	54.1	69.1	110	1990	28	75.0	1988	30+	1998	7	63.6	1982	48	170	1.1	9.8	30.0	.0	@	.0
Jul	90.3	59.8	75.1	108	1990	2	78.6	2000	37+	1952	8	70.5	1972	1	312	3.4	17.8	31.0	.0	.0	.0
Aug	88.4	58.1	73.3	105+	1987	1	78.1	1995	35	1964	28	69.7	1974	8	263	1.4	15.4	31.0	.0	.0	.0
Sep	79.4	47.6	63.5	103	1979	10	69.8	1998	14	1985	30	58.7	1971	122	76	.3	6.3	29.2	@	1.3	.0
Oct	67.1	34.7	50.9	93	1996	12	53.6	2000	3	1997	26	47.4	1976	439	0	.0	.4	27.8	.3	12.6	.0
Nov	50.2	22.5	36.4	86	1950	1	44.4	1999	-10	1952	27	26.5	1985	859	0	.0	.0	16.0	3.4	27.4	.6
Dec	40.5	13.8	27.2	74	1980	5	36.2	1980	-35	1989	22	12.7	1983	1173	0	.0	.0	7.7	7.5	30.8	4.0
Ann	64.4	35.3	49.9	110	Jun 1990	28	78.6	Jul 2000	-35	Dec 1989	22	12.7	Dec 1983	6344	855	6.2	50.9	264.9	28.7	170.6	13.0

\+ 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

(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: STERLING, CO **COOP ID: 057950**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 3,938 Feet** **Lat: 40˚37N** **Lon: 103˚13W**

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	.41	.35	.90	1990	20	1.28	1978	.00+	1999
Feb	.32	.17	.70	1998	10	1.24	1993	.00+	1999
Mar	1.13	.85	1.75	1984	19	3.52	1984	.00+	1999
Apr	1.33	1.12	1.52	1981	20	3.51	1977	.17	1991
May	2.75	2.95	3.07	1975	29	6.44	1987	.29	1974
Jun	2.88	2.43	3.11	1985	4	8.26	1992	.30	2000
Jul	2.59	2.23	2.56	1963	27	10.52	1998	.64	1971
Aug	1.89	1.46	4.88	1968	15	5.50	1979	.29	1973
Sep	1.19	.95	1.94	1992	1	3.88	1973	.08	1978
Oct	.88	.62	1.75	1995	23	3.75	1994	.00+	1999
Nov	.61	.54	.93	1956	3	2.13	1972	.00+	2000
Dec	.31	.23	.54	1952	13	1.19	1973	.00+	1996
Ann	16.29	16.30	4.88	Aug 1968	15	10.52	Jul 1998	.00+	Nov 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.0	1.2	.1	.0
Feb	2.9	1.1	.1	.0
Mar	4.8	2.7	.7	.2
Apr	6.1	3.5	.9	.2
May	9.1	6.0	1.5	.6
Jun	8.2	5.1	1.8	.8
Jul	8.0	4.9	1.7	.5
Aug	6.3	4.2	1.3	.3
Sep	5.5	3.0	.7	.1
Oct	3.7	2.2	.4	.1
Nov	3.4	1.7	.3	.0
Dec	2.6	1.2	.0	.0
Ann	63.6	36.8	9.5	2.8

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	.00	.00	.10	.18	.25	.32	.41	.52	.66	.89	1.11
Feb	.00	.00	.01	.06	.11	.18	.27	.38	.55	.83	1.12
Mar	.00	.10	.29	.47	.65	.86	1.10	1.40	1.81	2.48	3.14
Apr	.26	.38	.58	.76	.94	1.14	1.36	1.62	1.97	2.54	3.07
May	.63	.88	1.29	1.65	2.01	2.39	2.82	3.33	4.00	5.08	6.08
Jun	.56	.82	1.24	1.63	2.03	2.45	2.93	3.51	4.28	5.51	6.68
Jul	.57	.81	1.19	1.53	1.88	2.24	2.66	3.15	3.80	4.83	5.80
Aug	.33	.50	.77	1.03	1.30	1.58	1.91	2.30	2.83	3.68	4.50
Sep	.13	.23	.39	.56	.73	.93	1.16	1.45	1.84	2.48	3.11
Oct	.00	.00	.08	.22	.38	.56	.79	1.08	1.49	2.18	2.87
Nov	.00	.00	.11	.21	.32	.44	.59	.77	1.01	1.42	1.83
Dec	.00	.00	.09	.15	.20	.26	.32	.40	.50	.66	.82
Ann	10.87	11.89	13.22	14.23	15.14	16.02	16.94	17.96	19.20	21.02	22.60

\+ 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: STERLING, CO **COOP ID: 057950**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 3,938 Feet** **Lat: 40°37N** **Lon: 103°13W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	5.6	3.4	2	1
Feb	4.5	2.4	1	#
Mar	5.7	5.0	1	#
Apr	2.4	.5	#	0
May	.1	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	#	0
Sep	.4	.0	#	0
Oct	.3	.0	#	0
Nov	4.0	1.7	1	#
Dec	5.0	4.0	1	#
Ann	28.0	17.0	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	13.0	1990	20	15.3	1992	12	1992	13	6	1992
Feb	11.5	1987	27	19.0	1987	16	1987	28	9	1993
Mar	8.0	1979	19	13.5	1977	16	1987	1	4	1974
Apr	8.0	1977	3	11.0	1975	6	1989	10	1	1973
May	2.0	1979	10	3.0	1979	#	1990	9	#	1990
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	#	1999	29	#	1999
Sep	7.0	1985	29	7.0	1985	7	1985	29	#+	1989
Oct	3.1	1986	11	3.1	1986	10	1997	25	5	1973
Nov	8.0	1985	10	21.5	1985	18	1983	28	3	1985
Dec	9.0	1982	25	18.1	1985	12	1985	14	7	1985
Ann	13.0	Jan 1990	20	21.5	Nov 1985	18	Nov 1983	28	9	Feb 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.2	1.6	.6	.3	@
Feb	1.8	1.4	.3	.2	@
Mar	2.2	1.6	.6	.2	.0
Apr	.9	.9	.3	.1	.0
May	.1	.1	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	.1	@	@	.0
Oct	.2	.2	.1	.0	.0
Nov	1.8	1.3	.4	.2	.0
Dec	2.3	1.7	.5	.1	.0
Ann	11.6	8.9	2.8	1.1	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	12.0	7.7	3.3	.5
Feb	4.9	3.1	2.2	1.2
Mar	2.1	1.1	.4	.1
Apr	.8	.4	@	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.1	.1	@	.0
Oct	.3	.1	.0	.0
Nov	3.3	1.7	.9	.1
Dec	7.9	4.3	2.3	.4
Ann	31.4	18.5	9.1	2.3

+ 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/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: STERLING, CO **COOP ID: 057950**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 3,938 Feet** **Lat: 40˚37N** **Lon: 103˚13W**

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	5/25	5/21	5/18	5/16	5/14	5/11	5/09	5/06	5/02
32	5/19	5/15	5/11	5/08	5/06	5/03	5/01	4/27	4/23
28	5/05	4/30	4/27	4/24	4/21	4/19	4/16	4/13	4/08
24	4/27	4/21	4/18	4/15	4/12	4/09	4/05	4/02	3/28
20	4/16	4/11	4/08	4/05	4/02	3/30	3/27	3/23	3/18
16	4/11	4/04	3/30	3/26	3/22	3/18	3/14	3/09	3/02

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	9/12	9/15	9/17	9/19	9/20	9/22	9/24	9/26	9/29
32	9/18	9/22	9/26	9/28	10/01	10/04	10/06	10/10	10/14
28	9/25	9/29	10/03	10/06	10/09	10/11	10/14	10/18	10/22
24	10/05	10/11	10/14	10/18	10/21	10/24	10/27	10/31	11/05
20	10/11	10/17	10/21	10/25	10/28	11/01	11/04	11/09	11/14
16	10/24	10/29	11/02	11/06	11/09	11/12	11/16	11/20	11/25

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	142	138	134	132	129	126	124	120	116
32	166	160	155	151	147	144	140	135	129
28	188	182	177	173	169	166	162	157	151
24	211	204	199	195	191	188	183	179	172
20	235	226	219	214	209	204	198	192	183
16	255	247	241	236	231	227	222	216	208

***** 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: STERLING, CO **COOP ID: 057950**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 3,938 Feet** **Lat: 40˚37N** **Lon: 103˚13W**

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	1234	932	789	502	237	48	1	8	122	439	859	1173	6344
60	1079	792	634	359	133	15	0	1	51	287	709	1018	5078
57	986	708	541	279	86	7	0	0	25	203	619	925	4379
55	924	652	480	230	61	3	0	0	14	153	562	863	3942
50	770	524	337	129	21	0	0	0	2	61	424	718	2986
32	293	154	31	1	0	0	0	0	0	0	86	267	832

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	82	145	266	490	819	1112	1334	1278	944	585	216	117	7388
55	0	0	1	30	167	425	621	565	269	24	3	0	2105
57	0	0	0	19	130	369	559	503	220	13	0	0	1813
60	0	0	0	8	83	287	466	411	156	4	0	0	1415
65	0	0	0	1	33	170	312	263	76	0	0	0	855
70	0	0	0	0	9	84	169	136	29	0	0	0	427

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	3	43	125	292	578	877	1092	1036	702	358	79	13	3	46	171	463	1041	1918	3010	4046	4748	5106	5185	5198
45	0	11	62	181	426	727	937	881	556	230	31	0	0	11	73	254	680	1407	2344	3225	3781	4011	4042	4042
50	0	0	20	93	293	577	782	726	415	127	9	0	0	0	20	113	406	983	1765	2491	2906	3033	3042	3042
55	0	0	2	43	175	430	627	571	284	53	0	0	0	0	2	45	220	650	1277	1848	2132	2185	2185	2185
60	0	0	0	14	86	291	474	417	172	14	0	0	0	0	0	14	100	391	865	1282	1454	1468	1468	1468
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	23	61	133	222	363	549	694	656	450	284	95	32	23	84	217	439	802	1351	2045	2701	3151	3435	3530	3562

(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