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: SEDGWICK 5 S, CO **COOP ID: 057515**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 3,990 Feet** **Lat: 40˚52N** **Lon: 102˚31W**

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	39.6	14.3	27.0	73+	1997	2	33.7	1999	-26	1984	18	14.6	1979	1180	0	.0	.0	6.0	8.8	30.2	4.7
Feb	46.6	19.6	33.1	77+	1982	22	40.6	1999	-26	1989	3	21.2	1989	894	0	.0	.0	11.7	5.4	25.7	2.3
Mar	55.0	25.9	40.5	86	1967	29	47.6	1972	-16	1960	3	35.1	1980	762	0	.0	.0	18.9	2.3	23.9	.5
Apr	64.5	33.8	49.2	94	1992	30	55.0	1981	6	1997	12	42.8	1984	476	1	.0	.1	25.4	.4	12.7	.0
May	73.7	44.2	59.0	98+	2000	29	64.1	1994	21	1989	1	52.2	1995	217	29	.0	.8	30.4	.0	1.2	.0
Jun	84.5	53.3	68.9	109	1990	25	73.7	1994	33	1969	14	62.6	1982	43	160	.8	7.3	30.0	.0	.0	.0
Jul	91.0	59.0	75.0	108+	1990	2	78.8	2000	42	1959	1	69.6	1992	2	313	2.8	16.4	31.0	.0	.0	.0
Aug	89.7	57.7	73.7	106	1969	8	78.7	1983	42+	1993	31	68.4	1992	9	278	1.3	14.3	31.0	.0	.0	.0
Sep	81.2	48.3	64.8	102+	1990	13	70.4	1998	17	1985	30	60.5	1999	100	92	.3	6.2	29.6	.0	1.0	.0
Oct	68.1	36.4	52.3	94	1967	3	56.2	1974	3	1991	31	48.8	1976	396	1	.0	.3	28.1	.3	8.4	.0
Nov	50.7	24.1	37.4	80	1980	6	46.4	1999	-7	1976	27	26.7	1985	828	0	.0	.0	15.7	3.5	24.2	.5
Dec	41.8	16.1	29.0	72	1980	17	38.0	1980	-30	1989	22	13.4	1983	1118	0	.0	.0	8.0	7.6	29.6	3.0
Ann	65.5	36.1	50.8	109	Jun 1990	25	78.8	Jul 2000	-30	Dec 1989	22	13.4	Dec 1983	6025	874	5.2	45.4	265.8	28.3	156.9	11.0

\+ 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: 1952-2001

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

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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	.47	.38	1.10	1990	20	1.81	1988	.03	1998
Feb	.54	.39	1.25	1987	28	2.57	1987	.00+	1996
Mar	1.32	1.03	1.81	2000	8	3.64	1983	.08	1972
Apr	1.81	1.52	2.31	1977	20	5.02	1977	.22	1992
May	3.20	2.91	5.00	1969	5	7.34	1975	.26	2000
Jun	2.78	2.68	3.80	1970	11	9.21	1992	.13	2000
Jul	2.58	2.28	3.75	1998	24	5.83	1998	.44	1999
Aug	2.00	1.50	3.43	1999	18	7.44	1999	.23	1973
Sep	1.23	.92	1.32	1973	11	4.75	1973	.03	1983
Oct	.93	.68	1.35	1963	20	3.39	1994	.00	1974
Nov	.76	.53	1.20	2001	26	2.40	1972	.00	1997
Dec	.43	.30	1.00	1982	25	1.65	1979	.00	1990
Ann	18.05	18.33	5.00	May 1969	5	9.21	Jun 1992	.00+	Nov 1997

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.3	1.5	.2	.1
Feb	3.7	1.6	.2	@
Mar	5.8	3.7	.7	.2
Apr	7.2	4.2	1.0	.3
May	9.6	6.5	2.2	.6
Jun	8.6	5.7	1.8	.6
Jul	8.3	5.4	1.7	.5
Aug	6.9	4.2	1.2	.4
Sep	5.5	3.2	.7	.2
Oct	4.2	2.7	.6	.1
Nov	4.0	2.2	.4	@
Dec	3.2	1.6	@	@
Ann	70.3	42.5	10.7	3.0

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	.05	.09	.15	.22	.29	.36	.46	.57	.73	.99	1.24
Feb	.00	.02	.09	.17	.26	.37	.50	.66	.89	1.29	1.68
Mar	.13	.23	.41	.59	.79	1.02	1.28	1.61	2.06	2.81	3.55
Apr	.36	.52	.79	1.03	1.28	1.54	1.84	2.21	2.68	3.45	4.18
May	.66	.95	1.42	1.85	2.28	2.75	3.27	3.90	4.73	6.05	7.31
Jun	.40	.63	1.03	1.41	1.82	2.26	2.77	3.39	4.24	5.61	6.93
Jul	.86	1.11	1.46	1.77	2.06	2.36	2.69	3.07	3.57	4.33	5.04
Aug	.31	.48	.78	1.05	1.34	1.65	2.01	2.45	3.03	3.99	4.90
Sep	.08	.16	.31	.48	.67	.89	1.15	1.49	1.96	2.75	3.54
Oct	.02	.08	.20	.33	.48	.65	.86	1.13	1.51	2.14	2.77
Nov	.02	.07	.18	.28	.41	.55	.71	.93	1.23	1.73	2.23
Dec	.01	.03	.08	.14	.20	.29	.39	.52	.71	1.03	1.36
Ann	12.47	13.54	14.92	15.97	16.90	17.81	18.75	19.79	21.05	22.89	24.49

\+ 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: 1952-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

Snow Fall >= Thresholds

Snow Depth >= Thresholds

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year	0.1	1.0	3.0	5.0	10.0	1	3	5	10
Jan	8.1	6.5	2	2	18.0	1988	19	25.0	1988	24	1988	20	9	1988	2.8	2.6	.9	.4	.1	14.6	10.1	6.0	2.0
Feb	6.8	3.5	1	1	15.0	1987	28	21.5	1984	13	1987	28	5	1993	2.7	2.3	.8	.2	.1	8.8	5.4	2.9	.2
Mar	10.3	7.0	1	#	18.0	1977	11	35.0	1977	24	1977	12	4	1977	3.2	3.0	1.3	.5	.1	5.9	3.0	1.4	.4
Apr	4.9	2.5	#	#	14.0	1984	21	32.0	1984	20	1980	3	4	1980	1.7	1.5	.7	.3	.1	2.1	1.0	.6	.3
May	.2	.0	#	0	4.0	1979	10	4.0	1979	4	1979	10	#+	1990	.1	.1	@	.0	.0	.1	@	.0	.0
Jun	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Jul	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Aug	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.4	.0	#	0	8.0	1985	29	8.0	1985	7	1985	29	#+	2000	.2	.1	@	@	.0	.1	.1	@	.0
Oct	1.2	.0	#	0	6.0	1997	25	9.0	1997	9	1997	26	1	1997	.5	.4	.2	.1	.0	.6	.2	.1	.0
Nov	7.5	4.0	1	#	12.0	1972	2	29.0	1972	20	1983	28	5	1979	2.1	1.8	.9	.5	.2	5.0	2.8	1.5	.6
Dec	6.1	4.5	2	1	14.0	1982	25	24.5	1985	17	1983	1	11	1983	2.8	2.4	.5	.2	@	11.2	8.1	4.3	1.8
Ann	45.5	28.0	N/A	N/A	18.0+	Jan 1988	19	35.0	Mar 1977	24+	Jan 1988	20	11	Dec 1983	16.1	14.2	5.3	2.2	.6	48.4	30.7	16.8	5.3

+ 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

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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	5/26	5/21	5/18	5/15	5/13	5/10	5/07	5/04	4/30
32	5/15	5/11	5/09	5/06	5/04	5/02	4/30	4/27	4/24
28	5/05	5/01	4/28	4/25	4/22	4/20	4/17	4/14	4/10
24	4/25	4/21	4/18	4/16	4/14	4/12	4/09	4/07	4/03
20	4/21	4/15	4/11	4/07	4/04	3/31	3/28	3/24	3/18
16	4/08	4/01	3/28	3/24	3/20	3/16	3/12	3/08	3/01

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	9/13	9/17	9/20	9/22	9/25	9/27	9/29	10/02	10/06
32	9/17	9/23	9/27	9/30	10/03	10/06	10/10	10/14	10/19
28	9/25	10/01	10/05	10/09	10/12	10/16	10/19	10/23	10/29
24	10/09	10/14	10/18	10/21	10/24	10/27	10/31	11/03	11/09
20	10/16	10/21	10/24	10/28	10/31	11/02	11/06	11/09	11/14
16	10/27	11/01	11/05	11/08	11/11	11/14	11/17	11/21	11/26

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	151	145	141	137	134	131	127	123	117
32	172	165	160	155	151	147	143	138	130
28	193	186	180	176	172	168	164	159	151
24	211	205	200	196	193	189	185	181	175
20	232	224	218	214	209	204	199	193	185
16	261	252	246	240	235	230	225	218	209

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1180	894	762	476	217	43	2	9	100	396	828	1118	6025
60	1025	754	607	334	114	12	0	1	38	248	678	963	4774
57	932	670	514	256	70	4	0	0	17	170	588	870	4091
55	870	620	454	209	48	2	0	0	9	126	535	810	3683
50	716	489	312	112	14	0	0	0	0	50	396	663	2752
32	242	137	25	0	0	0	0	0	0	0	75	227	706

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	85	167	286	515	835	1107	1334	1292	982	628	237	131	7599
55	0	6	2	34	170	419	621	579	301	41	7	1	2181
57	0	0	0	21	130	362	559	517	249	23	0	0	1861
60	0	0	0	9	82	279	466	425	180	8	0	0	1449
65	0	0	0	1	29	160	313	278	92	1	0	0	874
70	0	0	0	0	7	75	172	151	37	0	0	0	442

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	7	47	129	292	576	866	1082	1040	742	394	94	24	7	54	183	475	1051	1917	2999	4039	4781	5175	5269	5293
45	0	16	63	184	428	716	927	885	592	265	41	3	0	16	79	263	691	1407	2334	3219	3811	4076	4117	4120
50	0	3	24	97	285	566	772	730	449	155	13	0	0	3	27	124	409	975	1747	2477	2926	3081	3094	3094
55	0	0	3	41	165	418	617	575	316	71	0	0	0	0	3	44	209	627	1244	1819	2135	2206	2206	2206
60	0	0	0	13	76	275	462	420	200	23	0	0	0	0	0	13	89	364	826	1246	1446	1469	1469	1469
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	20	54	123	215	358	546	690	665	467	279	89	35	20	74	197	412	770	1316	2006	2671	3138	3417	3506	3541

(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

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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