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: CABIN CREEK, CO **COOP ID: 051186**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 10,020 Feet** **Lat: 39˚39N** **Lon: 105˚42W**

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	30.2	6.8	18.5	56	1996	13	25.2	1986	-28	1979	1	11.1	1979	1441	0	.0	.0	.7	16.6	30.7	6.9
Feb	32.4	8.4	20.4	55	1979	13	26.7	2000	-26	1985	1	15.6	1975	1249	0	.0	.0	.6	11.6	28.1	4.8
Mar	36.6	12.5	24.6	62+	1987	6	29.3	1972	-21	1969	25	19.7	1988	1239	0	.0	.0	2.6	8.5	30.7	3.1
Apr	42.5	19.5	31.0	64	1992	30	38.6	1981	-14	1997	12	24.8	1983	1020	0	.0	.0	9.0	4.0	27.5	.9
May	52.1	29.0	40.6	75+	2000	31	46.0	1974	8+	1979	11	35.8	1983	758	0	.0	.0	21.7	.5	21.0	.0
Jun	63.4	37.2	50.3	84	1979	21	55.1	1977	18	1975	11	46.5	1992	441	0	.0	.0	28.3	.0	7.1	.0
Jul	68.3	41.8	55.1	83+	1983	6	59.3	1980	27	1992	22	50.9	1995	309	0	.0	.0	31.0	.0	.7	.0
Aug	66.5	40.6	53.6	78+	1986	18	57.8	2000	24	1978	15	50.0	1997	355	0	.0	.0	30.9	.0	.9	.0
Sep	60.0	33.8	46.9	78	1983	8	51.6	1998	9	1985	29	42.5	1996	543	0	.0	.0	27.5	.2	10.4	.0
Oct	50.0	25.4	37.7	72+	1997	6	41.4	1978	-5+	1993	30	29.9	1984	846	0	.0	.0	19.1	1.5	24.2	.2
Nov	37.1	13.7	25.4	63	1975	5	36.0	1999	-21	1979	28	18.2	1979	1187	0	.0	.0	4.3	8.9	28.9	2.7
Dec	31.9	9.0	20.5	57	1998	4	30.0	1980	-23	1996	18	15.8+	1983	1381	0	.0	.0	.9	14.1	30.7	5.5
Ann	47.6	23.1	35.4	84	Jun 1979	21	59.3	Jul 1980	-28	Jan 1979	1	11.1	Jan 1979	10769	0	.0	.0	176.6	65.9	240.9	24.1

\+ 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: 1968-2001

(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	.68	.54	.80	1999	24	2.85	1996	.02	1995
Feb	.84	.74	.80+	1996	21	1.76	1989	.02	1973
Mar	1.62	1.64	1.24	1990	7	3.45	1992	.49	1989
Apr	2.49	2.08	3.00	1999	25	8.55	1999	.37	1981
May	2.09	1.73	4.28	1969	7	5.34	1995	.04	1974
Jun	1.78	1.52	1.40	1992	1	4.93	1992	.02	1971
Jul	2.53	2.50	1.52	1984	26	4.48	1984	.64	1978
Aug	2.74	2.70	1.25	1992	25	5.45	1984	.51	1985
Sep	1.59	1.41	1.37	1970	22	4.01	1993	.17	1979
Oct	1.19	.94	1.60	1999	19	3.09	1984	.29	2000
Nov	1.10	1.10	1.20	1998	18	2.61	1983	.18	2000
Dec	.78	.73	1.12	1982	24	2.22	1973	.10	1991
Ann	19.43	19.90	4.28	May 1969	7	8.55	Apr 1999	.02+	Jan 1995

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.9	3.1	.2	.0
Feb	5.7	3.0	.2	.0
Mar	8.1	5.0	.8	.2
Apr	8.9	6.5	1.4	.4
May	9.3	5.2	1.1	.3
Jun	8.4	5.2	1.0	.1
Jul	12.6	7.3	1.1	.1
Aug	14.9	8.7	1.2	.1
Sep	9.0	4.9	.8	.0
Oct	6.3	3.5	.5	.1
Nov	6.5	3.6	.4	.1
Dec	6.0	2.9	.2	@
Ann	101.6	58.9	8.9	1.4

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	.18	.27	.38	.50	.64	.83	1.08	1.51	1.94
Feb	.16	.24	.36	.47	.59	.71	.85	1.02	1.24	1.60	1.93
Mar	.50	.65	.88	1.08	1.27	1.47	1.69	1.94	2.28	2.79	3.27
Apr	.70	.94	1.30	1.61	1.91	2.23	2.58	3.00	3.54	4.39	5.18
May	.36	.55	.85	1.14	1.43	1.75	2.11	2.55	3.14	4.09	4.99
Jun	.25	.40	.65	.90	1.16	1.44	1.77	2.17	2.72	3.61	4.47
Jul	1.06	1.29	1.62	1.88	2.13	2.38	2.66	2.97	3.37	3.97	4.52
Aug	.88	1.14	1.53	1.85	2.17	2.49	2.85	3.27	3.81	4.64	5.41
Sep	.40	.55	.78	.99	1.19	1.40	1.64	1.93	2.30	2.88	3.44
Oct	.31	.42	.60	.75	.90	1.05	1.23	1.44	1.71	2.13	2.53
Nov	.28	.38	.54	.68	.82	.97	1.14	1.33	1.59	1.99	2.37
Dec	.14	.21	.32	.43	.54	.65	.79	.95	1.16	1.51	1.84
Ann	13.87	14.95	16.33	17.38	18.31	19.21	20.14	21.17	22.41	24.21	25.77

\+ 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: 1968-2001
(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	9.1	8.5	6	5
Feb	13.0	11.0	5	4
Mar	24.8	25.3	4	3
Apr	22.9	20.5	4	3
May	9.4	3.3	1	#
Jun	1.9	.0	#	0
Jul	.0	.0	0	0
Aug	.1	.0	0	0
Sep	3.1	.0	#	0
Oct	7.5	5.2	#	#
Nov	15.7	11.5	3	2
Dec	13.6	9.3	5	3
Ann	121.1	94.6	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	14.0	1996	1	26.0	1975	35	1974	2	26	1982
Feb	16.0	1989	4	28.5	1971	30	1982	4	14	1982
Mar	29.0	1990	7	61.2	1990	25	1990	15	17	1990
Apr	24.0	1998	26	72.2	1998	28	1984	21	15	1997
May	22.5	1982	13	38.6	1995	22	1973	6	3	1982
Jun	14.0	1975	10	17.0	1975	8	1975	10	1	1975
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	2.0	1992	25	2.0	1992	0	0	0	0	0
Sep	14.0	1971	17	19.0	1971	10	1971	18	1	1971
Oct	17.0	1997	25	18.0	1978	14	1984	16	4	1984
Nov	24.0	1979	20	35.5	1972	20	1983	30	7	1983
Dec	20.0	1982	24	53.2	1973	35	1973	31	21	1983
Ann	29.0	Mar 1990	7	72.2	Apr 1998	35+	Jan 1974	2	26	Jan 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.1	4.1	1.6	.5	.1
Feb	5.4	4.2	1.7	.8	.2
Mar	6.9	5.7	3.3	1.8	.3
Apr	6.5	5.6	2.9	1.8	.6
May	2.0	1.6	1.0	.5	.3
Jun	.4	.3	.3	.2	.1
Jul	.0	.0	.0	.0	.0
Aug	@	@	.0	.0	.0
Sep	.6	.6	.4	.3	@
Oct	3.1	2.5	1.2	.6	.1
Nov	5.6	4.2	2.0	1.0	.2
Dec	5.0	4.1	1.5	.6	.2
Ann	40.6	32.9	15.9	8.1	2.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	19.4	14.6	10.9	4.4
Mar	21.3	15.3	8.7	2.2
Apr	14.3	9.9	7.5	2.5
May	2.4	1.4	1.0	.2
Jun	.1	.1	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.6	.2	.1	@
Oct	2.2	.9	.4	.1
Nov	12.9	9.8	5.2	1.4
Dec	16.9	12.7	10.8	2.9
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	8/01	7/25	7/20	7/15	7/11	7/06	7/02	6/26	6/19
32	7/15	7/08	7/03	6/28	6/24	6/20	6/16	6/11	6/04
28	6/27	6/21	6/17	6/13	6/10	6/06	6/03	5/30	5/24
24	6/09	6/03	5/30	5/26	5/23	5/20	5/16	5/12	5/06
20	5/25	5/20	5/16	5/13	5/09	5/06	5/03	4/29	4/24
16	5/14	5/09	5/05	5/02	4/29	4/26	4/23	4/20	4/15

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	7/31	8/07	8/12	8/16	8/20	8/24	8/28	9/02	9/09
32	8/22	8/28	9/01	9/04	9/08	9/11	9/14	9/19	9/24
28	8/29	9/04	9/09	9/13	9/16	9/20	9/24	9/29	10/05
24	9/09	9/15	9/19	9/23	9/27	9/30	10/04	10/09	10/15
20	9/18	9/25	9/29	10/03	10/07	10/10	10/14	10/19	10/25
16	9/23	9/30	10/05	10/09	10/13	10/17	10/22	10/27	11/02

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	77	64	55	47	40	32	24	15	2
32	105	94	87	80	74	68	62	55	44
28	125	116	109	103	98	92	86	80	70
24	154	144	137	131	126	120	115	108	98
20	175	167	160	155	150	145	139	133	124
16	190	182	176	171	166	162	157	151	143

***** 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	1441	1249	1239	1020	758	441	309	355	543	846	1187	1381	10769
60	1286	1109	1100	870	603	296	167	205	393	691	1037	1226	8983
57	1193	1025	1007	780	510	216	100	124	308	598	947	1133	7941
55	1131	969	945	720	448	169	67	82	253	536	887	1071	7278
50	976	829	790	570	298	76	14	18	137	385	737	916	5746
32	418	326	251	130	12	0	0	0	0	36	240	364	1777

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	0	1	19	100	277	549	714	668	447	213	43	6	3037
55	0	0	0	0	0	28	68	37	10	0	0	0	143
57	0	0	0	0	0	15	39	17	5	0	0	0	76
60	0	0	0	0	0	6	13	4	0	0	0	0	23
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	0	27	119	337	485	440	259	80	9	0	0	0	0	27	146	483	968	1408	1667	1747	1756	1756
45	0	0	0	2	46	201	333	287	131	22	0	0	0	0	0	2	48	249	582	869	1000	1022	1022	1022
50	0	0	0	0	6	98	181	140	48	2	0	0	0	0	0	0	6	104	285	425	473	475	475	475
55	0	0	0	0	0	30	63	33	10	0	0	0	0	0	0	0	0	30	93	126	136	136	136	136
60	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	2	5	5	5	5	5	5
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	0	24	90	225	299	270	180	70	7	0	0	0	0	24	114	339	638	908	1088	1158	1165	1165

(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:
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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