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: BRIGGSDALE, CO **COOP ID: 050945**

Climate Division: CO 4 **NWS Call Sign:** **Elevation: 4,834 Feet** **Lat: 40˚39N** **Lon: 104˚20W**

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	40.8	10.7	25.8	71	1996	13	33.5	1999	-30+	1984	18	13.9	1979	1217	0	.0	.0	7.6	7.7	30.6	5.4
Feb	46.6	16.0	31.3	74	1986	25	37.7	1992	-32	1989	5	19.9	1989	944	0	.0	.0	12.2	4.2	27.3	2.6
Mar	54.4	23.4	38.9	80+	1986	30	44.9	1986	-17	1966	4	34.4	1980	809	0	.0	.0	20.7	1.8	28.2	.4
Apr	63.2	31.3	47.3	89+	1992	30	53.9	1981	4	1988	1	40.7	1983	533	0	.0	.0	25.7	.3	18.0	@
May	72.5	41.7	57.1	95	1989	29	60.5	1977	16	1976	10	51.8	1995	259	13	.0	.5	30.4	.0	4.1	.0
Jun	83.1	50.8	67.0	102	1990	27	71.3	1994	20	1976	13	62.6	1982	57	115	.3	7.7	29.9	.0	1.0	.0
Jul	89.2	56.5	72.9	104+	1973	6	76.2	1980	33	1968	1	70.0	1990	3	246	1.3	16.6	31.0	.0	.0	.0
Aug	86.9	54.8	70.9	102+	1986	19	74.0	1983	33	1964	28	67.9	1992	8	188	.2	12.2	31.0	.0	.0	.0
Sep	78.3	45.1	61.7	98+	1995	1	67.0	1998	17	1985	30	57.4	1971	144	45	.0	3.3	29.5	.0	2.4	.0
Oct	66.4	33.1	49.8	89	1963	1	52.8	1974	-1	1969	14	46.6	1984	474	0	.0	.0	28.6	.2	15.7	.0
Nov	50.0	20.2	35.1	78+	1999	15	41.7	1999	-15	1972	29	27.8	1972	896	0	.0	.0	15.5	3.0	27.4	1.1
Dec	41.6	11.7	26.7	75	1980	17	36.6	1980	-38	1989	22	13.9	1983	1188	0	.0	.0	8.6	6.3	30.6	4.3
Ann	64.4	32.9	48.7	104+	Jul 1973	6	76.2	Jul 1980	-38	Dec 1989	22	13.9+	Dec 1983	6532	607	1.8	40.3	270.7	23.5	185.3	13.8

\+ 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	.30	.27	.59	1978	16	.97	1974	.00	1983
Feb	.19	.15	.48	1987	26	.88	1987	.00+	1999
Mar	.78	.62	1.35	1990	6	2.76	1990	.06+	1994
Apr	1.28	.99	2.07	1999	30	4.92	1999	.00	1992
May	1.94	1.67	2.40	1988	19	5.99	1987	.00	1974
Jun	2.07	1.73	2.40	1995	3	5.80	1995	.00	1980
Jul	2.51	2.37	3.36	1973	19	5.36	1989	.42	2000
Aug	1.81	1.44	2.63	1993	5	4.72	1983	.00+	1985
Sep	1.28	1.10	1.49	1951	2	3.33	1990	.00+	1992
Oct	.66	.55	.97	1969	4	1.81	1998	.01	1977
Nov	.45	.37	.55	1993	12	1.19	1987	.00+	1984
Dec	.26	.24	.35	1972	5	1.70	1978	.00+	1999
Ann	13.53	13.70	3.36	Jul 1973	19	5.99	May 1987	.00+	Dec 1999

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	2.5	1.1	.1	.0
Feb	2.2	.8	.0	.0
Mar	4.3	2.2	.4	.1
Apr	5.3	3.3	.8	.1
May	8.4	4.8	1.0	.4
Jun	7.4	4.2	1.1	.3
Jul	7.0	4.1	1.3	.7
Aug	5.5	3.8	.8	.3
Sep	5.3	3.3	.7	.2
Oct	3.3	2.2	.4	.0
Nov	3.0	1.7	.2	.0
Dec	2.0	.9	.0	.0
Ann	56.2	32.4	6.8	2.1

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	.09	.14	.18	.23	.29	.37	.47	.64	.80
Feb	.00	.00	.04	.08	.11	.15	.19	.24	.30	.41	.51
Mar	.06	.11	.21	.31	.43	.57	.73	.94	1.23	1.72	2.20
Apr	.10	.24	.45	.64	.84	1.05	1.29	1.58	1.98	2.62	3.24
May	.28	.53	.86	1.13	1.40	1.69	2.01	2.39	2.89	3.68	4.42
Jun	.45	.74	1.08	1.36	1.62	1.89	2.18	2.52	2.96	3.65	4.28
Jul	.65	.89	1.25	1.57	1.89	2.22	2.59	3.03	3.60	4.50	5.34
Aug	.00	.35	.72	1.00	1.28	1.57	1.89	2.26	2.76	3.55	4.30
Sep	.00	.16	.40	.61	.82	1.04	1.30	1.60	2.01	2.68	3.33
Oct	.07	.12	.21	.30	.40	.51	.65	.81	1.04	1.41	1.78
Nov	.00	.06	.14	.22	.29	.37	.46	.56	.70	.94	1.16
Dec	.00	.00	.02	.07	.12	.18	.25	.33	.45	.64	.84
Ann	8.72	9.62	10.78	11.68	12.49	13.27	14.09	15.00	16.12	17.75	19.18

\+ 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)

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	3.9	2.0	#	#	6.0	1989	28	9.0	1985	5	1994	26	4	1984	1.1	1.0	.3	.1	.0	-9.9	-9.9	-9.9	-9.9
Feb	2.0	1.2	#	#	3.5	1987	26	5.5	1987	3+	2000	11	2	1994	.7	.6	.2	.0	.0	-9.9	-9.9	-9.9	-9.9
Mar	2.8	1.8	#	0	4.0	1971	24	9.0	1973	9	1971	5	#+	2000	1.1	.9	.4	.0	.0	.1	.1	.0	.0
Apr	2.2	.0	#	0	6.0	1984	20	10.5	1984	4	1989	9	#+	2000	.6	.6	.2	.1	.0	.0	.0	.0	.0
May	.2	.0	0	0	3.0	1973	1	3.0	1973	0	0	0	0	0	.1	.1	@	.0	.0	.0	.0	.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	.1	.0	#	0	3.0	1999	28	3.0	1999	2+	1985	28	#+	1985	.1	.1	@	.0	.0	.0	.0	.0	.0
Oct	.7	.0	#	0	3.0	1972	30	3.0+	1995	10	1997	25	#+	1997	.3	.3	.1	.0	.0	.1	.0	.0	.0
Nov	2.3	1.8	#	#	5.0	1972	1	15.5	1972	12	1983	27	3	1972	.9	.7	.3	@	.0	1.4	.8	.2	.0
Dec	2.6	1.2	#	#	5.0	1972	5	9.0	1998	6	1998	20	1	1998	.9	.7	.2	.1	.0	.0	.0	.0	.0
Ann	16.8	8.0	N/A	N/A	6.0+	Jan 1989	28	15.5	Nov 1972	12	Nov 1983	27	4	Jan 1984	5.8	5.0	1.7	.3	.0	-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	6/28	6/19	6/13	6/07	6/02	5/28	5/23	5/17	5/08
32	6/09	6/02	5/28	5/23	5/19	5/15	5/11	5/06	4/28
28	5/30	5/22	5/17	5/13	5/08	5/04	4/30	4/24	4/17
24	5/15	5/09	5/04	4/30	4/27	4/23	4/19	4/15	4/08
20	5/05	4/28	4/23	4/18	4/14	4/10	4/05	3/31	3/24
16	4/23	4/16	4/10	4/06	4/01	3/28	3/23	3/18	3/10

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	9/02	9/07	9/10	9/14	9/17	9/19	9/23	9/26	10/01
32	9/13	9/16	9/19	9/21	9/23	9/25	9/27	9/29	10/03
28	9/20	9/24	9/28	9/30	10/03	10/06	10/08	10/12	10/16
24	9/24	9/30	10/03	10/06	10/09	10/12	10/15	10/19	10/24
20	10/08	10/13	10/17	10/20	10/23	10/26	10/29	11/01	11/06
16	10/18	10/22	10/25	10/28	10/30	11/01	11/04	11/07	11/11

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	137	126	118	112	105	99	93	85	74
32	147	140	135	130	126	122	117	112	105
28	172	164	157	152	147	142	136	130	121
24	188	180	174	169	165	160	155	150	142
20	218	209	202	196	191	186	180	173	164
16	240	230	223	217	211	205	199	192	182

***** 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	1217	944	809	533	259	57	3	8	144	474	896	1188	6532
60	1062	804	654	390	141	16	0	1	62	321	746	1033	5230
57	969	720	561	308	88	6	0	0	31	234	656	940	4513
55	907	664	499	258	62	3	0	0	18	181	596	878	4066
50	752	527	347	151	19	0	0	0	3	77	453	725	3054
32	270	136	19	2	0	0	0	0	0	0	87	258	772

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	76	115	233	459	778	1049	1267	1203	891	549	181	93	6894
55	0	0	0	25	126	361	554	490	219	16	0	0	1791
57	0	0	0	15	91	304	492	428	172	8	0	0	1510
60	0	0	0	7	50	224	399	336	113	2	0	0	1131
65	0	0	0	0	13	115	246	188	45	0	0	0	607
70	0	0	0	0	2	44	113	69	12	0	0	0	240

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	29	88	241	515	771	1006	947	648	312	59	14	7	36	124	365	880	1651	2657	3604	4252	4564	4623	4637
45	0	3	32	134	365	621	851	792	499	186	21	0	0	3	35	169	534	1155	2006	2798	3297	3483	3504	3504
50	0	0	5	59	228	473	696	637	359	86	0	0	0	0	5	64	292	765	1461	2098	2457	2543	2543	2543
55	0	0	0	17	119	325	541	482	228	28	0	0	0	0	0	17	136	461	1002	1484	1712	1740	1740	1740
60	0	0	0	0	46	197	386	329	115	3	0	0	0	0	0	0	46	243	629	958	1073	1076	1076	1076
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	24	53	121	217	356	496	628	595	435	268	84	35	24	77	198	415	771	1267	1895	2490	2925	3193	3277	3312

(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