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: ROCKY FORD 2 SE, CO **COOP ID: 057167**

Climate Division: CO 1 **NWS Call Sign:** **Elevation: 4,170 Feet** **Lat: 38˚02N** **Lon: 103˚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	46.3	14.2	30.3	78	1986	30	40.1	1986	-30	1948	28	17.7	1979	1078	0	.0	.0	13.8	5.2	30.4	3.4
Feb	53.2	19.3	36.3	81+	1962	12	43.5	1999	-25	1996	3	27.6	1978	805	0	.0	.0	18.3	2.9	26.6	1.5
Mar	62.1	27.2	44.7	90	1971	26	50.1	1989	-21+	1948	11	39.7	1984	632	0	.0	@	26.1	.5	23.1	.2
Apr	70.4	35.4	52.9	98	1927	26	58.9	1981	3	1957	8	47.1	1973	369	7	.0	.3	28.4	.1	10.5	.0
May	79.0	46.0	62.5	103	1996	18	67.7	1996	21	1990	4	57.7	1995	136	58	.2	3.3	30.8	.0	.9	.0
Jun	89.7	55.0	72.4	106+	1980	26	76.7	1994	31	1919	2	68.1	1992	10	229	2.5	16.7	30.0	.0	.0	.0
Jul	93.5	59.8	76.7	107	1960	27	79.9	1980	45	1952	8	73.9	1990	0	361	4.6	23.6	31.0	.0	.0	.0
Aug	91.2	57.8	74.5	106	1929	17	78.4	1995	39	1993	31	71.2	1992	2	296	1.5	20.2	31.0	.0	.0	.0
Sep	84.3	48.9	66.6	103	1995	5	71.0	1998	25+	1999	29	62.9	1973	54	102	.3	9.4	29.9	.0	.9	.0
Oct	73.3	35.7	54.5	95	1954	2	56.7	1979	8	1993	30	50.3	1976	326	1	.0	.8	30.0	.1	11.0	.0
Nov	56.5	23.3	39.9	82+	1999	8	47.0	1999	-16+	1991	3	31.9	1972	754	0	.0	.0	21.2	1.1	26.5	.7
Dec	47.3	15.6	31.5	80	1980	17	39.3	1980	-28+	1961	12	20.3	1983	1039	0	.0	.0	13.7	4.3	30.1	2.6
Ann	70.6	36.5	53.6	107	Jul 1960	27	79.9	Jul 1980	-30	Jan 1948	28	17.7	Jan 1979	5205	1054	9.1	74.3	304.2	14.2	160.0	8.4

\+ 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: 1918-2001

(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	.27	.22	.75	1939	8	.85	1985	.00	1977
Feb	.31	.26	.82	1931	28	1.04	1987	.02+	1999
Mar	.87	.89	1.27	1946	15	2.09	2000	.00	1977
Apr	1.21	.88	2.58	1983	22	4.63	1999	.17	1981
May	1.78	1.75	3.19	1925	10	4.02	1995	.25+	1997
Jun	1.33	.94	2.45	1965	17	3.84	1992	.06	1971
Jul	2.04	1.54	4.50	1999	17	6.79	1999	.59	1980
Aug	1.64	1.38	2.75	1965	19	5.14	1997	.33	1988
Sep	.88	.73	2.14	1966	27	2.43	1973	.00	1992
Oct	.71	.62	2.20	1957	8	2.24	1998	.00	1995
Nov	.52	.36	2.00	1930	19	1.88	1972	.00	1995
Dec	.31	.26	.87	1933	1	1.17	1997	.00+	1976
Ann	11.87	11.69	4.50	Jul 1999	17	6.79	Jul 1999	.00+	Nov 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.0	1.0	.1	.0
Feb	2.8	1.0	.1	.0
Mar	4.9	2.4	.5	.1
Apr	5.6	2.9	.6	.2
May	8.5	4.5	1.0	.2
Jun	6.7	3.5	.8	.1
Jul	7.7	4.4	1.3	.3
Aug	7.5	3.9	.8	.3
Sep	4.6	2.2	.5	@
Oct	4.1	1.9	.4	.1
Nov	3.6	1.5	.4	.1
Dec	3.1	1.1	@	.0
Ann	62.1	30.3	6.5	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	.03	.06	.10	.14	.18	.22	.27	.33	.41	.53	.64
Feb	.02	.04	.07	.12	.16	.22	.29	.37	.49	.70	.90
Mar	.12	.23	.38	.50	.62	.75	.90	1.07	1.30	1.67	2.01
Apr	.17	.28	.45	.62	.79	.98	1.20	1.47	1.84	2.43	3.00
May	.38	.55	.81	1.04	1.28	1.54	1.82	2.16	2.62	3.34	4.02
Jun	.13	.23	.41	.60	.80	1.02	1.29	1.62	2.07	2.82	3.55
Jul	.42	.61	.91	1.18	1.46	1.75	2.09	2.49	3.01	3.86	4.66
Aug	.37	.52	.76	.98	1.20	1.43	1.69	1.99	2.40	3.04	3.65
Sep	.04	.11	.24	.37	.51	.67	.85	1.08	1.39	1.91	2.42
Oct	.01	.05	.13	.23	.35	.48	.65	.86	1.16	1.68	2.20
Nov	.01	.04	.11	.18	.26	.36	.48	.63	.84	1.20	1.56
Dec	.00	.01	.05	.10	.15	.21	.28	.37	.50	.73	.95
Ann	7.29	8.13	9.22	10.07	10.84	11.59	12.38	13.26	14.33	15.92	17.32

\+ 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: 1918-2001
(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	4.0	3.8	1	#	9.5	1990	19	10.5+	1990	10	1990	19	3	1988	2.9	1.3	.4	.1	.0	6.2	3.1	.6	@
Feb	3.1	2.1	#	#	9.2	1974	6	11.1	1974	6	1993	11	3	1985	2.2	1.1	.3	.1	.0	2.9	1.1	.1	.0
Mar	5.1	6.0	#	#	12.0	1984	18	16.0	1984	12	1984	18	2	1984	2.5	1.8	.7	.2	@	1.1	.3	.1	@
Apr	2.4	.3	#	#	11.6	1980	1	15.6	1980	11	1980	1	1	1988	1.0	.6	.2	.1	.1	.5	.3	.2	.1
May	.5	.0	#	0	12.7	1990	3	12.7	1990	6	1990	3	#+	1990	.1	.1	@	@	@	.1	.1	@	.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	.2	.0	#	0	2.0	1996	27	2.5	1984	#+	1995	21	#+	1995	.1	.1	.0	.0	.0	.0	.0	.0	.0
Oct	1.5	.0	#	0	10.0	1997	25	20.0	1997	19	1997	27	3	1997	.5	.4	.1	.1	.1	.4	.3	.3	.2
Nov	3.8	2.5	#	#	8.2	1975	19	16.8	1972	8	1975	19	2	1972	2.1	1.2	.5	.2	.0	3.0	1.1	.3	.0
Dec	4.6	3.7	1	#	8.0	1997	9	14.0	1997	8	1979	28	3	1997	2.9	1.6	.5	.1	.0	5.4	2.2	.6	.0
Ann	25.2	18.4	N/A	N/A	12.7	May 1990	3	20.0	Oct 1997	19	Oct 1997	27	3+	Dec 1997	14.3	8.2	2.7	.9	.2	19.6	8.5	2.2	.3

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	5/25	5/20	5/17	5/14	5/12	5/09	5/06	5/03	4/29
32	5/11	5/07	5/05	5/03	5/01	4/30	4/28	4/25	4/22
28	5/01	4/27	4/25	4/22	4/20	4/18	4/15	4/12	4/09
24	4/23	4/19	4/15	4/13	4/10	4/08	4/05	4/02	3/29
20	4/12	4/07	4/03	3/31	3/28	3/25	3/22	3/18	3/13
16	4/08	4/01	3/26	3/22	3/17	3/13	3/08	3/03	2/23

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	9/17	9/20	9/23	9/25	9/27	9/28	10/01	10/03	10/06
32	9/20	9/24	9/27	9/30	10/02	10/04	10/07	10/10	10/14
28	9/28	10/03	10/06	10/09	10/12	10/14	10/17	10/21	10/26
24	10/13	10/17	10/20	10/23	10/26	10/28	10/31	11/03	11/07
20	10/21	10/25	10/28	10/31	11/02	11/05	11/07	11/10	11/14
16	10/28	11/02	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	154	148	144	140	137	134	130	126	121
32	169	164	160	156	153	150	146	142	136
28	191	185	181	177	174	171	167	163	158
24	212	207	204	200	198	195	192	188	183
20	240	233	228	223	219	214	210	205	197
16	268	258	250	244	238	232	226	219	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	1078	805	632	369	136	10	0	2	54	326	754	1039	5205
60	923	665	478	239	60	1	0	0	12	183	604	884	4049
57	830	581	387	173	32	0	0	0	3	115	518	791	3430
55	768	525	329	135	19	0	0	0	1	80	462	729	3048
50	620	395	198	63	4	0	0	0	0	28	330	577	2215
32	184	67	4	0	0	0	0	0	0	0	47	148	450

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	129	186	395	628	945	1209	1384	1317	1038	698	283	132	8344
55	0	0	7	73	252	519	671	604	348	65	9	0	2548
57	0	0	3	51	202	459	609	542	291	38	5	0	2200
60	0	0	1	26	137	371	516	449	210	13	0	0	1723
65	0	0	0	7	58	229	361	296	102	1	0	0	1054
70	0	0	0	0	17	113	208	155	37	0	0	0	530

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	24	69	202	406	707	975	1144	1074	800	463	114	26	24	93	295	701	1408	2383	3527	4601	5401	5864	5978	6004
45	2	23	106	270	552	825	989	919	652	319	46	5	2	25	131	401	953	1778	2767	3686	4338	4657	4703	4708
50	0	2	45	158	403	675	834	764	505	189	13	0	0	2	47	205	608	1283	2117	2881	3386	3575	3588	3588
55	0	0	14	75	259	525	679	609	362	90	0	0	0	0	14	89	348	873	1552	2161	2523	2613	2613	2613
60	0	0	2	23	140	376	524	455	230	32	0	0	0	0	2	25	165	541	1065	1520	1750	1782	1782	1782
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	60	116	214	317	455	603	712	678	520	370	144	65	60	176	390	707	1162	1765	2477	3155	3675	4045	4189	4254

(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