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: GRAND JUNCTION 6 ESE, CO **COOP ID: 053489**

Climate Division: CO 2 **NWS Call Sign:** **Elevation: 4,760 Feet** **Lat: 39˚03N** **Lon: 108˚28W**

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	37.9	16.8	27.4	61	1965	31	36.7	1981	-12+	1973	8	13.3	1973	1168	0	.0	.0	3.3	8.5	30.4	2.2
Feb	45.9	23.6	34.8	68+	1986	27	43.7	1995	-21	1989	6	20.8	1974	847	0	.0	.0	10.4	2.3	24.8	.8
Mar	56.2	32.5	44.4	79+	1998	25	50.3	1999	9	1971	6	39.6	1976	642	0	.0	.0	23.7	.1	15.7	.0
Apr	64.6	39.2	51.9	88+	1992	30	59.1	1992	11	1975	2	46.1	1975	401	7	.0	.0	27.6	.0	6.1	.0
May	74.6	48.0	61.3	100	2000	30	67.3	2000	27	1968	7	56.2	1975	164	49	@	.8	30.8	.0	.8	.0
Jun	86.4	57.1	71.8	104+	1994	27	77.2	1994	33+	1976	14	66.5	1975	21	223	.7	13.3	30.0	.0	.0	.0
Jul	91.9	63.1	77.5	104+	2000	24	81.0	2000	42	1978	18	74.6	1992	0	389	2.2	22.4	31.0	.0	.0	.0
Aug	89.5	61.3	75.4	103	2000	3	79.2+	2000	40	1963	28	72.2	1987	1	323	.7	18.0	31.0	.0	.0	.0
Sep	80.6	52.4	66.5	99+	1995	5	70.2	1983	27	1971	18	62.4	1971	56	100	.0	4.1	30.0	.0	.3	.0
Oct	67.5	40.5	54.0	87+	2001	1	59.2	1988	15	1991	31	47.9	1984	348	7	.0	.0	29.3	.1	4.4	.0
Nov	51.3	28.5	39.9	74	1999	9	45.8	1999	-2	1976	28	33.3	1979	754	0	.0	.0	16.9	.5	21.0	.1
Dec	40.5	19.4	30.0	67	1999	2	39.6	1980	-13	1978	8	18.5	1978	1087	0	.0	.0	4.0	5.0	30.4	.5
Ann	65.6	40.2	52.9	104+	Jul 2000	24	81.0	Jul 2000	-21	Feb 1989	6	13.3	Jan 1973	5489	1098	3.6	58.6	268.0	16.5	133.9	3.6

\+ 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: 1962-2001

(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	.53	.38	.50+	1993	11	1.40	1973	.06	1986
Feb	.47	.34	.70	1996	21	1.34	1980	.00+	1981
Mar	.93	.86	1.19	1993	28	2.12	1987	.02	1972
Apr	.85	.86	.88	1965	27	2.55	1997	.02	1989
May	1.09	.92	.96	1973	6	3.00	1992	.00	1974
Jun	.48	.31	1.27	1969	24	1.86	1983	.00	1980
Jul	.79	.77	1.20	1997	24	2.08	1997	.00+	1994
Aug	.74	.63	.99	1963	12	2.01	1993	.00	1985
Sep	.85	.71	1.35	1965	18	3.38	1997	.06	1979
Oct	.98	.93	1.10	1965	18	3.28	1972	.00	1988
Nov	.80	.70	.89	1986	2	2.77	1983	.00+	1989
Dec	.55	.38	.60	1963	10	2.28	1983	.00	1976
Ann	9.06	8.36	1.35	Sep 1965	18	3.38	Sep 1997	.00+	Jul 1994

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.2	2.1	.1	.0
Feb	4.0	2.0	@	.0
Mar	6.0	3.1	.4	@
Apr	6.0	2.8	.4	.0
May	6.0	3.4	.4	.0
Jun	3.2	1.5	.2	@
Jul	4.7	2.4	.4	@
Aug	5.5	2.5	.2	.0
Sep	5.8	3.1	.1	.0
Oct	5.1	3.2	.4	@
Nov	5.0	2.5	.3	.0
Dec	3.8	2.1	.1	.0
Ann	59.3	30.7	3.0	.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	.08	.13	.20	.28	.35	.44	.53	.65	.81	1.07	1.32
Feb	.00	.04	.11	.19	.26	.35	.45	.58	.75	1.04	1.33
Mar	.07	.13	.25	.38	.52	.69	.88	1.13	1.47	2.04	2.61
Apr	.09	.15	.26	.38	.51	.66	.83	1.04	1.33	1.82	2.29
May	.05	.15	.31	.47	.64	.83	1.06	1.34	1.72	2.36	2.98
Jun	.01	.04	.10	.17	.25	.34	.45	.59	.78	1.11	1.44
Jul	.00	.12	.27	.40	.52	.66	.81	.99	1.24	1.63	2.01
Aug	.03	.10	.21	.31	.43	.56	.72	.91	1.17	1.61	2.03
Sep	.13	.20	.32	.43	.56	.69	.84	1.03	1.28	1.70	2.09
Oct	.05	.14	.29	.43	.58	.76	.96	1.21	1.55	2.11	2.67
Nov	.00	.15	.31	.44	.56	.69	.83	1.00	1.22	1.58	1.91
Dec	.05	.11	.20	.28	.36	.45	.55	.67	.84	1.10	1.35
Ann	5.42	6.08	6.95	7.62	8.23	8.83	9.46	10.16	11.03	12.30	13.43

\+ 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: 1962-2001
(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	3.8	2.2	1	#	6.0	1973	4	11.5	1991	11	1979	31	7	1973	2.3	1.2	.5	.1	.0	2.7	1.9	1.7	.0
Feb	2.0	.7	1	#	3.8	1989	5	10.7	1989	11	1979	3	8	1979	1.2	.7	.2	.0	.0	.4	.3	.3	.0
Mar	1.6	.9	#	0	4.5	1985	28	9.0	1987	4	1979	1	#+	2000	1.1	.6	.1	.0	.0	.3	@	.0	.0
Apr	.5	.0	#	0	5.0	1997	2	5.0	1997	2	1999	3	#+	1999	.2	.2	@	@	.0	.1	.0	.0	.0
May	.1	.0	#	0	3.2	1979	8	3.2	1979	3	1979	8	#	1979	@	@	@	.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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	.0	#	0	5.3	1975	24	5.8	1975	4	1972	30	#+	1996	.2	.1	.1	@	.0	.1	@	.0	.0
Nov	1.4	.3	#	0	4.6	1983	26	7.4	1983	3+	2000	15	1+	2000	1.0	.6	@	.0	.0	.6	.1	.0	.0
Dec	4.0	2.2	1	#	6.4	1983	24	25.3	1983	14	1983	28	5	1978	2.5	1.4	.3	.1	.0	2.1	.1	.0	.0
Ann	13.8	6.3	N/A	N/A	6.4	Dec 1983	24	25.3	Dec 1983	14	Dec 1983	28	8	Feb 1979	8.5	4.8	1.2	.2	.0	6.3	2.4	2.0	.0

+ 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	6/06	5/30	5/25	5/20	5/16	5/12	5/08	5/03	4/25
32	5/19	5/12	5/08	5/04	5/01	4/27	4/23	4/19	4/13
28	4/29	4/23	4/18	4/14	4/11	4/07	4/03	3/30	3/24
24	4/18	4/12	4/07	4/03	3/31	3/27	3/23	3/18	3/12
20	4/04	3/26	3/19	3/13	3/08	3/02	2/24	2/17	2/08
16	3/28	3/16	3/07	2/28	2/21	2/14	2/07	1/29	1/17

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	9/21	9/26	9/29	10/02	10/05	10/08	10/11	10/14	10/19
32	9/27	10/03	10/08	10/12	10/16	10/19	10/23	10/28	11/03
28	10/07	10/13	10/18	10/21	10/25	10/28	11/01	11/05	11/11
24	10/22	10/26	10/30	11/02	11/05	11/07	11/10	11/14	11/18
20	11/04	11/09	11/13	11/16	11/19	11/22	11/26	11/29	12/05
16	11/11	11/17	11/21	11/24	11/27	11/30	12/03	12/07	12/13

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	169	160	153	147	141	136	130	123	113
32	194	185	178	173	167	162	156	149	140
28	223	214	207	201	196	191	185	178	169
24	243	234	228	223	218	213	208	202	194
20	292	279	271	263	256	249	242	233	221
16	317	304	294	286	278	271	262	253	239

***** 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	1168	847	642	401	164	21	0	1	56	348	754	1087	5489
60	1013	707	488	269	78	5	0	0	15	216	604	932	4327
57	921	623	401	201	45	1	0	0	5	151	515	839	3702
55	864	574	344	162	29	0	0	0	2	114	456	777	3322
50	719	444	217	84	7	0	0	0	0	49	314	622	2456
32	283	110	9	0	0	0	0	0	0	0	21	166	589

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	138	186	391	596	908	1192	1412	1345	1035	682	257	103	8245
55	6	7	13	68	224	502	699	632	347	83	2	0	2583
57	2	0	8	47	178	443	637	570	290	58	1	0	2234
60	0	0	2	25	118	357	544	477	209	30	0	0	1762
65	0	0	0	7	49	223	389	323	100	7	0	0	1098
70	0	0	0	0	14	117	235	180	33	1	0	0	580

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	1	43	188	381	679	966	1174	1109	808	450	100	5	1	44	232	613	1292	2258	3432	4541	5349	5799	5899	5904
45	0	12	97	251	525	816	1019	954	658	312	37	0	0	12	109	360	885	1701	2720	3674	4332	4644	4681	4681
50	0	0	37	147	377	666	864	799	511	184	10	0	0	0	37	184	561	1227	2091	2890	3401	3585	3595	3595
55	0	0	12	71	243	519	709	644	368	91	1	0	0	0	12	83	326	845	1554	2198	2566	2657	2658	2658
60	0	0	0	26	135	376	554	489	234	29	0	0	0	0	0	26	161	537	1091	1580	1814	1843	1843	1843
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	1	36	132	245	424	622	760	726	520	287	74	4	1	37	169	414	838	1460	2220	2946	3466	3753	3827	3831

(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