

Climatology of the United States No. 20

Station: GRAND JUNCTION WALKER AP, CO

1971-2000

COOP ID: 053488

Climate Division: CO 2

NWS Call Sign: GJT

Elevation: 4,858 Feet Lat: 39°08N

Lon: 108°32W

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	36.6	15.6	26.1	62	1911	31	35.9	1981	-23	1963	13	10.6	1973	1194	0	.0	.0	2.7	10.0	30.1	3.0
Feb	45.4	22.7	34.1	70	1904	24	43.0	1995	-21	1933	8	18.7	1974	860	0	.0	.0	9.8	2.3	24.4	.7
Mar	55.7	31.0	43.4	81+	1971	26	48.5	1999	5+	1948	11	37.1	1976	656	0	.0	.0	23.8	.1	15.7	.0
Apr	64.3	37.5	50.9	89+	1992	30	58.5	1992	11	1975	2	44.5	1975	409	2	.0	.0	28.0	.0	6.1	.0
May	74.5	46.4	60.5	101	2000	29	65.8	2000	26	1970	2	54.9	1975	178	44	@	1.1	30.9	.0	.4	.0
Jun	86.9	55.3	71.1	105	1990	27	77.0	1994	34	1976	14	65.1	1975	33	232	1.4	15.4	30.0	.0	.0	.0
Jul	92.1	61.4	76.8	105+	1976	10	80.4	1994	44	1993	5	73.8	1987	12	394	2.8	24.0	31.0	.0	.0	.0
Aug	89.6	59.7	74.7	103+	2000	2	78.4	2000	43	1968	23	71.2	1987	1	318	.7	19.6	31.0	.0	.0	.0
Sep	80.3	50.4	65.4	100	1995	4	70.0	1998	28	1908	27	60.6	1985	73	100	@	4.3	30.0	.0	.2	.0
Oct	66.7	38.6	52.7	88	1963	1	57.2	1988	16	1917	29	47.9	1984	367	1	.0	.0	29.3	.0	3.5	.0
Nov	49.8	26.3	38.1	75	1977	5	43.0	1995	-2	1976	28	31.4	1979	792	0	.0	.0	15.9	.8	21.9	@
Dec	38.9	17.5	28.2	66	1901	6	38.9	1980	-21	1924	26	14.8	1978	1125	0	.0	.0	2.8	6.0	29.8	1.0
Ann	65.1	38.5	51.8	105+	Jun 1990	27	80.4	Jul 1994	-23	Jan 1963	13	10.6	Jan 1973	5700	1091	4.9	64.4	265.2	19.2	132.1	4.7

+ 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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1900-2001

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Precipitation (inches)

		Precipitation Totals								Mean Number of Days (3)				Precipitation Probabilities (1)											
														Probability that the monthly/annual precipitation will be equal to or less than the indicated amount											
Means/Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels												
													These values were determined from the incomplete gamma distribution												
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95	
Jan	.60	.52	.64	1956	16	1.36+	1993	.09	1999	6.6	2.2	@	.0	.11	.16	.25	.33	.42	.51	.61	.73	.90	1.17	1.43	
Feb	.50	.45	.58	1934	9	1.33	1989	.00	1972	5.4	1.5	.1	.0	.04	.10	.18	.26	.33	.41	.51	.62	.78	1.02	1.26	
Mar	1.00	.87	1.02	1918	6	2.02	1979	.02+	1972	7.8	3.4	.3	@	.08	.15	.28	.42	.57	.74	.95	1.22	1.58	2.19	2.80	
Apr	.86	.81	.86	1965	27	2.15	1997	.09	1982	7.1	3.0	.2	.0	.14	.22	.34	.46	.58	.71	.87	1.05	1.29	1.69	2.07	
May	.98	1.10	1.83	1906	24	2.04	1995	.01	1974	7.1	3.3	.2	.0	.10	.17	.30	.44	.59	.75	.95	1.19	1.53	2.08	2.62	
Jun	.41	.25	1.12	1912	8	1.68	1984	.00	1980	4.0	1.4	.1	.0	.01	.03	.07	.13	.19	.27	.37	.50	.68	.99	1.30	
Jul	.66	.52	1.39	1974	18	1.92	1983	.01	1994	5.5	2.1	.2	@	.04	.07	.15	.24	.34	.46	.61	.79	1.05	1.50	1.94	
Aug	.84	.62	1.43	1921	24	2.67	1997	.09	1975	6.3	2.5	.3	.1	.16	.23	.35	.47	.58	.71	.85	1.02	1.25	1.62	1.96	
Sep	.91	.63	1.87	1941	22	2.84	1997	.01	1979	6.5	3.0	.4	.0	.08	.14	.26	.38	.52	.68	.87	1.10	1.43	1.98	2.51	
Oct	1.00	.90	1.35	1908	18	3.45	1972	.02	1988	6.2	3.1	.4	.0	.07	.13	.25	.39	.54	.72	.94	1.21	1.60	2.25	2.89	
Nov	.71	.62	1.08	1919	26	2.00	1983	.00	1989	6.0	2.4	.2	.0	.09	.18	.30	.40	.50	.61	.73	.88	1.07	1.38	1.67	
Dec	.52	.49	1.16	1951	30	1.85	1983	.01	1976	5.6	1.9	.1	.0	.07	.11	.19	.26	.33	.42	.51	.63	.79	1.05	1.30	
Ann	8.99	8.82	1.87	Sep 1941	22	3.45	Oct 1972	.00+	Nov 1989	74.1	29.8	2.5	.1	5.56	6.19	7.01	7.65	8.23	8.79	9.38	10.04	10.85	12.04	13.08	

+ 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

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Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	6.0	4.0	2	0	6.8	1978	23	18.7	1979	11+	1979	13	8+	1984	5.6	2.2	.5	.1	.0	13.3	7.7	5.4	.3
Feb	3.2	2.1	1	0	8.7	1989	4	16.0	1989	11+	1989	5	7+	1979	3.3	1.0	.2	@	.0	7.3	4.9	3.8	.2
Mar	2.8	1.7	#	0	4.9	2000	20	9.4	1987	5	1979	1	1	1979	2.7	.9	.3	.0	.0	1.3	.2	@	.0
Apr	1.5	.2	#	0	5.3	1975	17	14.3	1975	7	1975	18	#	1997	1.2	.5	.1	@	.0	.3	.1	@	.0
May	.2	.0	#	0	5.0	1979	8	5.0	1979	1	1979	8	#	2000	.1	.1	@	@	.0	@	.0	.0	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1979	.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	.7	.0	#	0	3.4	1972	30	6.1	1975	5	1975	24	#	1996	.6	.2	.1	.0	.0	.2	.1	@	.0
Nov	2.3	2.0	#	0	4.7	1979	19	8.2	1979	2+	1996	16	1	1971	2.4	.8	.2	.0	.0	1.1	.0	.0	.0
Dec	4.8	3.6	1	0	6.3	1998	20	19.0	1983	11+	1983	30	4	1978	4.8	1.8	.2	@	.0	6.7	2.5	.8	.2
Ann	21.5	13.6	N/A	N/A	8.7	Feb 1989	4	19.0	Dec 1983	11+	Feb 1989	5	8+	Jan 1984	20.7	7.5	1.6	.1	.0	30.2	15.5	10.0	.7

+ 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	5/30	5/24	5/19	5/16	5/12	5/09	5/05	5/01	4/25
32	5/09	5/04	5/01	4/27	4/25	4/22	4/19	4/15	4/10
28	4/27	4/21	4/17	4/14	4/11	4/08	4/05	4/01	3/26
24	4/18	4/10	4/04	3/30	3/25	3/20	3/15	3/09	3/01
20	4/12	4/01	3/25	3/18	3/12	3/05	2/27	2/19	2/08
16	3/28	3/17	3/08	3/01	2/22	2/16	2/08	1/31	1/19
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	9/24	9/29	10/03	10/07	10/10	10/14	10/17	10/21	10/27
32	9/29	10/05	10/09	10/13	10/16	10/20	10/24	10/28	11/03
28	10/19	10/23	10/27	10/29	11/01	11/03	11/06	11/09	11/14
24	10/24	10/29	11/01	11/04	11/07	11/09	11/12	11/16	11/20
20	10/30	11/05	11/10	11/14	11/18	11/21	11/25	11/30	12/07
16	11/10	11/18	11/24	11/28	12/03	12/07	12/12	12/18	12/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	165	160	155	150	146	141	136	128
32	199	191	184	179	174	169	164	158	149
28	227	219	213	208	203	198	194	188	180
24	256	246	238	232	226	220	214	206	196
20	290	276	267	258	250	242	234	224	210
16	323	310	299	291	283	275	266	256	242

* 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)

Base	Heating Degree Days (1)												
	Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
65	1194	860	656	409	178	33	12	1	73	367	792	1125	5700
60	1051	727	517	293	91	8	0	0	28	251	657	986	4609
57	965	644	427	221	54	3	0	0	12	180	567	893	3966
55	907	595	370	180	36	1	0	0	6	139	508	831	3573
50	762	464	236	96	9	0	0	0	1	61	361	678	2668
32	328	124	10	0	0	0	0	0	0	0	30	215	707

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	46	141	385	601	921	1217	1438	1374	1050	687	241	52	8153
55	0	0	6	61	237	528	725	661	367	85	1	0	2671
57	0	0	3	41	190	469	663	599	312	58	0	0	2335
60	0	0	1	20	126	383	570	506	232	28	0	0	1866
65	0	0	0	2	44	232	394	318	100	1	0	0	1091
70	0	0	0	0	10	130	262	204	42	0	0	0	648

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	39	179	377	684	985	1200	1135	820	451	82	3	1	40	219	596	1280	2265	3465	4600	5420	5871	5953	5956
45	0	9	80	248	533	835	1045	980	670	309	31	0	0	9	89	337	870	1705	2750	3730	4400	4709	4740	4740
50	0	0	31	142	382	685	890	825	520	185	7	0	0	0	31	173	555	1240	2130	2955	3475	3660	3667	3667
55	0	0	6	66	244	535	735	670	377	92	0	0	0	0	6	72	316	851	1586	2256	2633	2725	2725	2725
60	0	0	0	23	131	391	580	515	240	30	0	0	0	0	0	23	154	545	1125	1640	1880	1910	1910	1910
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	33	126	244	427	628	770	740	523	286	65	3	0	33	159	403	830	1458	2228	2968	3491	3777	3842	3845

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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