

Climatography of the United States

No. 20

1971-2000

Station: WESTCLIFFE, CO

COOP ID: 058931

Climate Division: CO 1

NWS Call Sign:

Elevation: 7,860 Feet Lat: 38°08N

Lon: 105°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	36.6	6.8	21.7	65	1950	21	30.4	1999	-41+	1971	6	13.9	1984	1343	0	.0	.0	3.8	6.7	30.5	9.2
Feb	40.1	10.4	25.3	72	1975	14	34.1	2000	-45	1951	1	19.4	1973	1113	0	.0	.0	7.2	4.5	27.8	6.7
Mar	46.1	18.4	32.3	72+	1971	26	38.4	1974	-21	1950	13	25.8	1987	1016	0	.0	.0	14.1	1.4	28.9	2.1
Apr	53.9	25.1	39.5	77+	1989	20	47.8	1981	-17	1959	10	33.2	1973	764	0	.0	.0	22.3	.5	24.0	.5
May	63.5	33.4	48.5	85	2000	30	54.6	1996	8+	1956	15	43.5	1983	514	0	.0	.0	29.3	.0	14.8	.0
Jun	74.2	40.0	57.1	94	1954	24	61.4	1981	20	1976	15	53.1	1983	242	4	.0	.2	30.0	.0	2.6	.0
Jul	78.9	44.5	61.7	94	1971	13	65.5	1978	30+	1956	4	58.9	1992	115	12	.0	.4	31.0	.0	.1	.0
Aug	76.6	43.6	60.1	91	1958	13	63.1	2000	28+	1992	28	57.1	1992	158	6	.0	.1	31.0	.0	.3	.0
Sep	70.5	36.3	53.4	89+	1960	5	57.5	1998	4	1971	19	49.3	1971	349	1	.0	.0	29.6	.0	9.3	.0
Oct	60.3	25.6	43.0	82	1950	12	46.0	1992	-12	1993	30	37.8	1976	683	0	.0	.0	27.2	.2	24.7	.3
Nov	45.7	15.5	30.6	71+	1999	15	38.1	1973	-29	1957	22	20.5	1972	1032	0	.0	.0	13.2	3.4	28.3	3.6
Dec	37.6	7.4	22.5	69	1980	27	35.0	1980	-39	1978	8	15.8	1974	1317	0	.0	.0	5.8	7.2	30.3	9.6
Ann	57.0	25.6	41.3	94+	Jul 1971	13	65.5	Jul 1978	-45	Feb 1951	1	13.9	Jan 1984	8646	23	.0	.7	244.5	23.9	221.6	32.0

+ 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: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: WESTCLIFFE, CO

COOP ID: 058931

Climate Division: CO 1

NWS Call Sign:

Elevation: 7,860 Feet Lat: 38°08N

Lon: 105°28W

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	.43	.38	.87	1987	15	1.53	1987	.00	1991	3.9	1.2	@	.0	.02	.06	.13	.19	.26	.33	.42	.53	.68	.92	1.16
Feb	.50	.42	.82	1971	20	1.37	1997	.06	2000	4.1	1.8	.1	.0	.06	.10	.17	.24	.31	.40	.49	.61	.78	1.05	1.32
Mar	1.20	1.06	.98	1995	29	2.92	1995	.23	1977	6.7	3.7	.7	.0	.32	.43	.60	.76	.91	1.06	1.24	1.45	1.72	2.14	2.54
Apr	1.36	1.10	2.18	1952	21	4.04	1999	.05	1981	6.8	3.7	.7	.1	.13	.22	.41	.60	.80	1.04	1.31	1.66	2.13	2.92	3.69
May	1.47	1.30	3.81	1955	18	3.29	1979	.20	1998	7.1	3.9	.7	.1	.28	.41	.63	.83	1.03	1.25	1.49	1.79	2.19	2.82	3.42
Jun	1.03	1.15	1.46	1950	3	2.33	1983	.11	1998	6.9	3.1	.3	@	.15	.24	.39	.53	.68	.84	1.03	1.26	1.57	2.07	2.55
Jul	2.16	1.95	2.90	1991	23	7.99	1991	.23	1987	10.6	5.5	1.1	.3	.45	.65	.96	1.25	1.54	1.85	2.20	2.62	3.17	4.06	4.90
Aug	2.38	1.92	3.66	1966	2	8.18	1981	.31	1980	12.1	6.8	1.1	.2	.52	.74	1.09	1.41	1.72	2.06	2.44	2.89	3.49	4.44	5.33
Sep	1.10	.93	1.78	1959	30	3.25	1976	.22	1984	6.5	3.1	.3	.1	.22	.32	.49	.63	.78	.94	1.12	1.34	1.62	2.08	2.52
Oct	1.00	1.01	1.54	1959	1	2.91	1984	.08	1977	4.9	2.8	.5	.1	.09	.16	.29	.43	.58	.76	.96	1.22	1.58	2.18	2.76
Nov	.96	.90	1.72	1986	1	3.13	1991	.06	1973	4.7	2.4	.5	.2	.07	.14	.26	.39	.54	.71	.91	1.16	1.52	2.11	2.69
Dec	.58	.46	2.44	1978	6	2.95	1978	.01	1980	4.2	1.7	.1	@	.05	.08	.16	.24	.33	.43	.55	.71	.92	1.28	1.64
Ann	14.17	13.99	3.81	May 1955	18	8.18	Aug 1981	.00	Jan 1991	78.5	39.7	6.1	1.1	9.89	10.72	11.77	12.58	13.29	13.98	14.70	15.49	16.46	17.86	19.07

+ 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

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www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: WESTCLIFFE, CO

COOP ID: 058931

Climate Division: CO 1

NWS Call Sign:

Elevation: 7,860 Feet

Lat: 38°08N

Lon: 105°28W

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	8.8	7.2	4	2	18.0	1987	15	31.1	1987	24	1987	16	13	1979	3.5	2.9	1.1	.6	.1	3.8	1.7	.8	.1
Feb	10.8	8.0	3	1	17.0	1984	26	27.9	1997	16	1989	5	11	1992	3.6	3.0	1.5	.6	.2	4.2	2.7	1.3	.2
Mar	18.9	17.0	1	1	20.0	1985	29	43.7	2000	17	1995	30	4	1983	5.3	4.8	2.6	1.3	.3	5.3	3.4	1.5	.3
Apr	16.5	12.0	1	#	18.0	1990	30	41.0	1994	16	1999	2	2+	1999	3.6	3.4	2.2	1.2	.2	2.4	1.3	.7	.1
May	5.2	2.0	#	0	18.0	1990	1	31.0	1983	16	1990	1	2	1990	1.3	1.2	.7	.4	@	.6	.3	.2	.1
Jun	.3	.0	#	0	7.0	1975	10	7.0	1975	1	1975	10	#	1975	@	@	@	@	.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	1.6	.0	#	0	10.0	1976	27	11.0	1971	6	1971	17	#+	1996	.5	.5	.2	.1	@	.2	.1	@	.0
Oct	9.0	6.4	#	#	22.0	1991	30	32.0	1991	18	1991	31	2	1997	1.9	1.8	1.0	.7	.3	1.8	1.1	.7	.2
Nov	12.5	12.3	2	1	22.0	1997	28	34.8	1997	22	1997	28	9	1991	3.9	3.5	1.9	1.2	.3	5.5	3.7	2.1	.6
Dec	11.5	9.9	4	1	27.0	1978	6	36.0	1978	29	1978	6	14	1978	3.8	3.1	1.5	.7	.2	8.2	5.8	4.3	2.2
Ann	95.1	74.8	N/A	N/A	27.0	Dec 1978	6	43.7	Mar 2000	29	Dec 1978	6	14	Dec 1978	27.4	24.2	12.7	6.8	1.6	32.0	20.1	11.6	3.8

+ 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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NWS Call Sign:

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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	7/22	7/16	7/11	7/08	7/04	7/01	6/27	6/23	6/17
32	7/01	6/26	6/22	6/19	6/16	6/13	6/10	6/06	6/01
28	6/18	6/13	6/09	6/06	6/03	5/31	5/28	5/24	5/19
24	6/01	5/27	5/24	5/21	5/18	5/15	5/12	5/09	5/04
20	5/24	5/18	5/13	5/10	5/06	5/03	4/29	4/24	4/18
16	5/06	5/01	4/28	4/25	4/22	4/19	4/15	4/12	4/07
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	8/04	8/10	8/14	8/18	8/21	8/25	8/28	9/02	9/07
32	8/24	8/29	9/01	9/04	9/07	9/10	9/12	9/16	9/20
28	9/05	9/09	9/13	9/15	9/18	9/21	9/23	9/27	10/01
24	9/14	9/18	9/21	9/23	9/26	9/28	10/01	10/04	10/08
20	9/22	9/27	9/30	10/03	10/06	10/09	10/12	10/15	10/20
16	9/27	10/02	10/05	10/08	10/11	10/14	10/17	10/21	10/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	76	66	59	53	47	42	36	29	19
32	105	97	92	87	82	77	72	67	59
28	126	119	114	110	106	102	98	93	86
24	148	142	138	134	130	127	123	119	112
20	174	167	161	157	152	148	143	138	130
16	190	184	179	175	172	168	164	160	154

* 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

Complete documentation available from:

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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	Ann
65	1343	1113	1016	764	514	242	115	158	349	683	1032	1317	8646
60	1188	973	861	614	361	119	28	51	209	528	882	1162	6976
57	1095	889	768	524	275	67	7	18	139	435	792	1069	6078
55	1033	833	706	467	222	41	2	8	99	374	732	1007	5524
50	878	693	551	328	113	8	0	0	32	227	588	852	4270
32	350	234	103	28	1	0	0	0	0	6	171	339	1232

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	30	45	111	253	510	752	920	871	643	346	129	45	4655
55	0	0	0	3	18	104	209	166	52	0	0	0	552
57	0	0	0	0	9	69	152	115	32	0	0	0	377
60	0	0	0	0	2	32	79	54	12	0	0	0	179
65	0	0	0	0	0	4	12	6	1	0	0	0	23
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	1	1	29	113	307	550	708	648	430	169	26	1	1	2	31	144	451	1001	1709	2357	2787	2956	2982	2983
45	0	0	5	41	173	400	553	493	284	70	3	0	0	0	5	46	219	619	1172	1665	1949	2019	2022	2022
50	0	0	0	11	70	254	398	339	157	16	0	0	0	0	0	11	81	335	733	1072	1229	1245	1245	1245
55	0	0	0	0	17	126	243	186	58	1	0	0	0	0	0	0	17	143	386	572	630	631	631	631
60	0	0	0	0	1	36	97	57	11	0	0	0	0	0	0	0	1	37	134	191	202	202	202	202
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	2	20	53	123	248	402	481	444	337	202	55	14	2	22	75	198	446	848	1329	1773	2110	2312	2367	2381

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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 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