

Climatology of the United States

No. 20

1971-2000

Station: SILVERTON, CO

COOP ID: 057656

Climate Division: CO 2

NWS Call Sign:

Elevation: 9,272 Feet Lat: 37°49N

Lon: 107°40W

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	31.8	-4.2	13.8	64	1953	10	20.4	1999	-38	1984	18	7.2	1984	1589	0	.0	.0	.5	13.0	31.0	20.0
Feb	34.8	-1.1	16.9	61	1932	27	24.2	1995	-39	1985	1	10.3	1985	1349	0	.0	.0	2.1	7.8	28.3	15.2
Mar	38.8	7.5	23.2	68	1925	22	32.7	1999	-25	1962	14	17.2	1987	1297	0	.0	.0	5.5	3.6	31.0	7.4
Apr	44.4	16.8	30.6	72+	1943	22	37.0	1992	-18	1980	1	24.1	1973	1031	0	.0	.0	13.6	1.6	29.8	1.3
May	55.1	26.4	40.8	78+	1927	2	46.5	1996	2+	1922	12	35.5	1975	751	0	.0	.0	25.6	@	27.2	.0
Jun	66.3	31.6	49.0	96	1929	26	54.0	1994	10	1911	20	46.2	1976	481	0	.0	.0	29.6	.0	16.7	.0
Jul	71.4	37.4	54.4	93+	1929	6	58.4	1998	20	1931	10	51.2	1977	328	0	.0	.0	31.0	.0	4.2	.0
Aug	68.8	37.0	52.9	92	1924	2	57.7	1995	0+	1946	24	49.3	1976	375	0	.0	.0	31.0	.0	5.8	.0
Sep	62.5	30.3	46.4	88+	1981	30	51.1	1998	5	1908	27	42.2	1985	558	0	.0	.0	29.1	.0	18.7	.0
Oct	53.3	20.9	37.1	78	1960	8	40.9	1999	-12	1919	28	29.3	1984	865	0	.0	.0	23.2	.6	29.2	.4
Nov	40.0	7.4	23.7	68+	1999	14	33.1	1999	-24	1931	24	16.4	2000	1239	0	.0	.0	7.6	4.6	29.9	7.3
Dec	32.3	-2.5	14.9	65	1931	19	24.4	1980	-35	1990	23	8.5	1978	1555	0	.0	.0	.6	11.4	31.0	18.9
Ann	50.0	17.3	33.6	96	Jun 1929	26	58.4	Jul 1998	-39	Feb 1985	1	7.2	Jan 1984	11418	0	.0	.0	199.4	42.6	282.8	70.5

+ 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: 1906-2001

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

091-A

**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: SILVERTON, CO

COOP ID: 057656

Climate Division: CO 2

NWS Call Sign:

Elevation: 9,272 Feet Lat: 37° 49N

Lon: 107° 40W

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	1.60	1.34	1.90	1913	17	4.18	1979	.12	1986	10.2	5.8	.7	@	.25	.39	.62	.84	1.07	1.32	1.60	1.95	2.42	3.19	3.92
Feb	1.79	1.40	2.10	1989	4	5.20	1989	.10	1972	9.6	4.7	.7	.2	.29	.44	.70	.95	1.20	1.48	1.79	2.18	2.70	3.54	4.34
Mar	2.35	2.08	2.15	1985	28	6.53	1985	.40	1997	11.1	6.8	1.1	.2	.55	.77	1.11	1.42	1.72	2.05	2.41	2.85	3.42	4.32	5.17
Apr	1.64	1.35	1.26	1944	28	5.87	1999	.42	1982	9.7	5.5	.5	.0	.38	.53	.77	.98	1.20	1.42	1.68	1.98	2.38	3.01	3.61
May	1.86	1.64	1.71	1999	2	5.34	1981	.00	1974	9.3	5.6	.8	.1	.35	.61	.92	1.18	1.42	1.68	1.95	2.28	2.70	3.37	3.98
Jun	1.27	1.17	2.00	1927	28	3.55	1984	.00	1980	7.6	4.0	.4	.0	.29	.47	.68	.85	1.01	1.17	1.34	1.55	1.81	2.22	2.60
Jul	2.74	2.66	1.68	1990	2	5.54	1981	.46+	1993	13.9	8.3	1.2	.1	.65	.90	1.31	1.66	2.02	2.40	2.82	3.32	3.98	5.03	6.01
Aug	3.08	3.11	2.20	1932	27	5.79	1999	.84	1974	16.2	9.8	1.3	.1	1.32	1.60	1.99	2.30	2.60	2.90	3.23	3.60	4.07	4.78	5.43
Sep	2.72	2.56	2.05	1970	6	6.68	1986	.28	1979	11.9	7.4	1.6	.2	.71	.97	1.36	1.71	2.05	2.41	2.81	3.29	3.91	4.89	5.80
Oct	2.33	2.02	4.05	1911	5	6.23	1972	.12	1995	8.3	5.8	1.3	.3	.34	.53	.87	1.19	1.53	1.90	2.32	2.84	3.54	4.68	5.78
Nov	1.93	1.67	2.10	1919	27	5.32	1985	.19	1989	8.8	5.5	1.0	.1	.31	.47	.75	1.02	1.29	1.59	1.94	2.36	2.92	3.83	4.71
Dec	1.86	1.33	2.20	1981	31	6.40	1981	.30	1976	8.7	5.1	.8	.2	.23	.38	.64	.90	1.18	1.48	1.83	2.27	2.87	3.84	4.78
Ann	25.17	24.56	4.05	Oct 1911	5	6.68	Sep 1986	.00+	Jun 1980	125.3	74.3	11.4	1.5	17.92	19.32	21.12	22.48	23.69	24.86	26.07	27.40	29.02	31.37	33.40

+ 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: 1906-2001

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

Complete documentation available from:
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No. 20 1971-2000

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151 Patton Avenue
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Station: SILVERTON, CO

COOP ID: 057656

Climate Division: CO 2

NWS Call Sign:

Elevation: 9,272 Feet

Lat: 37°49N

Lon: 107°40W

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	23.1	20.9	24	24	16.0	1980	19	67.9	1980	48	1984	15	40	1984	8.8	6.5	3.1	1.4	.4	-9.9	-9.9	-9.9	-9.9
Feb	23.7	19.8	28	30	25.0	1989	4	60.3	1989	65	1989	5	50	1989	8.0	5.9	2.8	1.4	.4	-9.9	-9.9	-9.9	-9.9
Mar	28.6	27.2	25	29	21.5	1985	28	69.2	2000	55	1979	21	43	1980	9.7	7.2	3.5	1.7	.5	-9.9	-9.9	-9.9	-9.9
Apr	15.2	13.0	10	8	11.0	1984	29	44.7	1999	48+	1985	1	30	1980	7.4	5.0	2.0	.7	@	10.3	8.2	6.4	5.3
May	6.0	3.7	#	#	15.0	1999	2	31.5	1999	17	1990	2	2	1984	2.2	1.6	.7	.4	.1	2.4	1.2	.8	.2
Jun	.2	.0	#	0	1.9	1999	6	2.0	1993	1+	1997	9	#+	1997	.2	.2	.0	.0	.0	.2	.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	#	0	7.0	1986	25	15.8	1986	13	1986	26	1	1986	.4	.3	.1	.1	.0	.4	.1	.1	@
Oct	8.7	5.5	1	#	14.0	1974	29	39.6	1984	25	1984	18	8	1984	3.4	2.6	1.3	.6	.1	3.0	1.6	1.0	.3
Nov	25.4	25.0	6	6	13.8	1985	30	69.5	1985	39	1985	30	15	1985	7.8	6.3	3.2	1.7	.3	17.5	14.9	13.5	6.9
Dec	25.2	19.0	14	15	13.5	1988	25	90.8	1983	49	1983	28	31	1985	8.2	6.3	3.0	1.6	.3	-9.9	-9.9	-9.9	-9.9
Ann	157.1	134.1	N/A	N/A	25.0	Feb 1989	4	90.8	Dec 1983	65	Feb 1989	5	50	Feb 1989	56.1	41.9	19.7	9.6	2.1	-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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No. 20 1971-2000

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NWS Call Sign:

Elevation: 9,272 Feet

Lat: 37° 49N

Lon: 107° 40W

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	8/06	8/02	7/30	7/28	7/25	7/23	7/21	7/18	7/14
32	7/31	7/25	7/21	7/17	7/14	7/10	7/07	7/02	6/27
28	7/18	7/10	7/05	6/30	6/26	6/21	6/17	6/11	6/03
24	6/27	6/19	6/12	6/07	6/02	5/29	5/23	5/17	5/09
20	6/09	6/01	5/26	5/21	5/16	5/11	5/06	4/30	4/22
16	5/21	5/14	5/09	5/05	5/02	4/28	4/24	4/19	4/12
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	7/29	7/31	8/03	8/05	8/07	8/08	8/10	8/13	8/16
32	7/31	8/07	8/12	8/17	8/21	8/26	8/30	9/05	9/12
28	8/11	8/19	8/24	8/29	9/02	9/06	9/11	9/16	9/24
24	8/31	9/07	9/11	9/15	9/19	9/23	9/26	10/01	10/07
20	9/16	9/21	9/25	9/28	10/01	10/05	10/08	10/12	10/17
16	9/24	9/30	10/04	10/08	10/11	10/15	10/19	10/23	10/29
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	29	23	19	15	11	8	4	0	0
32	73	61	52	45	38	31	24	15	3
28	107	93	84	75	68	60	51	42	28
24	145	132	123	115	108	100	92	83	71
20	172	160	152	145	138	131	124	115	104
16	193	182	175	168	162	156	150	142	132

* 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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NWS Call Sign:

Elevation: 9,272 Feet Lat: 37° 49N Lon: 107° 40W

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	1589	1349	1297	1031	751	481	328	375	558	865	1239	1555	11418
60	1434	1209	1142	881	596	331	181	231	408	710	1089	1400	9612
57	1341	1125	1049	791	503	244	106	155	320	617	999	1307	8557
55	1279	1069	987	731	441	190	69	114	264	555	939	1245	7883
50	1124	929	832	581	292	81	12	40	139	401	789	1090	6310
32	566	426	298	130	11	0	0	0	0	34	281	533	2279

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	0	1	24	89	283	509	695	648	432	192	32	1	2906
55	0	0	0	0	0	8	51	49	6	0	0	0	114
57	0	0	0	0	0	3	26	28	2	0	0	0	59
60	0	0	0	0	0	0	8	10	0	0	0	0	18
65	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	12	117	317	491	453	246	57	0	0	0	0	0	12	129	446	937	1390	1636	1693	1693	1693
45	0	0	0	0	30	175	336	298	119	10	0	0	0	0	0	0	30	205	541	839	958	968	968	968
50	0	0	0	0	0	65	182	148	29	0	0	0	0	0	0	0	0	65	247	395	424	424	424	424
55	0	0	0	0	0	10	57	37	3	0	0	0	0	0	0	0	0	10	67	104	107	107	107	107
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	6	39	141	289	375	337	230	121	22	0	0	0	6	45	186	475	850	1187	1417	1538	1560	1560

(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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. 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,
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