

# Climatography of the United States No. 20

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

Station: VALLECITO DAM, CO

1971-2000

COOP ID: 058582

Climate Division: CO 2

NWS Call Sign:

Elevation: 7,650 Feet Lat: 37° 23N

Lon: 107° 35W

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	37.8	6.8	22.3	58	1956	9	33.4	1981	-35	1963	12	16.0	1979	1324	0	.0	.0	2.0	10.2	31.0	9.9
Feb	41.9	11.0	26.5	63	1986	25	35.5	1995	-31	1951	1	19.8	1994	1080	0	.0	.0	3.7	4.9	28.2	5.2
Mar	48.2	19.7	34.0	69	1966	31	41.2	1972	-21	1966	4	28.7	1980	963	0	.0	.0	11.7	1.1	30.6	.9
Apr	55.9	26.0	41.0	79	1981	30	46.3	1989	-4	1975	2	35.7	1975	721	0	.0	.0	21.9	.2	27.0	.2
May	65.3	34.1	49.7	85+	2000	30	55.6	1984	15	1975	7	45.7	1990	476	0	.0	.0	29.6	.0	15.7	.0
Jun	76.4	41.3	58.9	92+	1981	22	63.2	1974	23+	1990	2	54.1	1991	204	20	.0	.1	29.9	.0	3.0	.0
Jul	80.7	48.2	64.5	92+	1989	6	67.7	1980	32+	1995	4	59.5	1992	79	61	.0	.4	31.0	.0	.1	.0
Aug	78.5	47.7	63.1	90+	1981	6	67.6	1995	28	1992	27	57.7	1990	104	45	.0	.1	31.0	.0	.1	.0
Sep	71.8	40.1	56.0	88+	1973	1	60.3	1983	22+	1985	29	51.6	1993	276	5	.0	.0	29.8	.0	5.2	.0
Oct	61.5	30.7	46.1	82	1980	1	51.1	1979	7	1971	30	41.3	1984	586	0	.0	.0	26.8	.2	22.3	.0
Nov	47.2	20.3	33.8	70+	1983	4	39.8	1999	-10	1952	27	26.3	2000	938	0	.0	.0	11.7	3.0	29.2	.7
Dec	39.6	12.1	25.9	61+	1981	9	35.8	1980	-22+	1990	23	15.6	1990	1213	0	.0	.0	3.2	6.8	31.0	4.2
Ann	58.7	28.2	43.5	92+	Jul 1989	6	67.7	Jul 1980	-35	Jan 1963	12	15.6	Dec 1990	7964	131	.0	.6	232.3	26.4	223.4	21.1

+ 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](http://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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**Climate Division: CO 2**

**NWS Call Sign:**

**Elevation: 7,650 Feet Lat: 37°23N**

**Lon: 107°35W**

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	2.30	1.66	3.00	1997	14	8.18	1980	.08	1972	7.5	5.0	1.5	.4	.18	.33	.63	.94	1.30	1.70	2.18	2.80	3.64	5.07	6.47
Feb	2.21	2.00	1.70	1993	9	5.82	1976	.13	1972	7.8	5.2	1.5	.5	.33	.52	.84	1.14	1.46	1.81	2.20	2.69	3.35	4.42	5.44
Mar	2.47	2.36	1.53	1995	6	5.06	2000	.07	1988	9.3	6.0	1.5	.3	.23	.41	.75	1.09	1.46	1.89	2.39	3.01	3.87	5.31	6.71
Apr	1.67	1.47	2.03	1986	1	4.46	1990	.00	1991	7.5	4.5	.9	.1	.20	.41	.69	.93	1.17	1.42	1.71	2.06	2.51	3.24	3.94
May	1.61	1.75	1.50	1968	12	3.43	1992	.09	1996	8.8	4.7	.7	@	.25	.38	.62	.84	1.07	1.32	1.61	1.97	2.44	3.22	3.96
Jun	.98	.70	1.96	1952	3	2.98	1988	.00	1980	5.8	2.8	.5	.0	.01	.06	.18	.31	.46	.65	.88	1.18	1.60	2.33	3.06
Jul	2.65	2.20	1.98	1954	23	5.89	1999	.23	1993	13.2	6.8	1.3	.3	.55	.80	1.19	1.54	1.90	2.28	2.71	3.22	3.91	5.00	6.03
Aug	3.78	3.30	2.78	1969	4	9.27	1999	.95	1985	16.1	8.9	2.1	.6	1.25	1.61	2.14	2.58	3.02	3.46	3.95	4.51	5.24	6.38	7.42
Sep	2.76	2.37	2.10	1983	30	5.55	1976	.11	1979	11.1	6.2	1.7	.5	.69	.95	1.36	1.71	2.06	2.43	2.85	3.34	3.98	4.99	5.94
Oct	2.91	2.11	3.15	1972	19	12.42	1972	.20	1995	7.8	5.7	2.2	.6	.25	.45	.84	1.24	1.68	2.19	2.79	3.55	4.59	6.34	8.05
Nov	2.45	1.93	1.96	1994	12	6.47	1978	.00	1989	7.1	4.8	1.7	.7	.18	.43	.82	1.19	1.56	1.97	2.45	3.03	3.81	5.09	6.32
Dec	1.98	1.30	2.55	1966	6	6.30	1984	.12	1998	7.2	4.5	1.1	.3	.19	.33	.60	.88	1.17	1.51	1.91	2.41	3.09	4.23	5.35
Ann	27.77	28.08	3.15	Oct 1972	19	12.42	Oct 1972	.00+	Apr 1991	109.2	65.1	16.7	4.3	20.02	21.53	23.46	24.92	26.21	27.46	28.76	30.18	31.91	34.41	36.56

+ 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

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

Complete documentation available from:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: VALLECITO DAM, CO

COOP ID: 058582

Climate Division: CO 2

NWS Call Sign:

Elevation: 7,650 Feet

Lat: 37°23N

Lon: 107°35W

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	24.5	17.0	12	11	32.0	1997	14	89.0	1980	46	1980	30	31	1980	6.7	5.6	3.2	1.9	.6	-9.9	-9.9	-9.9	-9.9
Feb	22.5	14.6	14	8	20.0	1989	4	52.0	1976	49	1979	7	41	1979	6.6	5.4	3.1	1.3	.4	-9.9	-9.9	-9.9	-9.9
Mar	21.4	16.0	6	2	14.0	1973	29	54.8	1973	37	1979	24	31	1979	6.6	5.8	2.8	1.3	.2	-9.9	-9.9	-9.9	-9.9
Apr	8.4	6.2	1	#	20.0	1975	12	41.2	1975	25	1980	10	13	1980	3.2	2.7	1.0	.4	.1	1.9	1.2	.2	.0
May	1.4	.0	#	0	6.0	1978	7	15.0	1978	1	1975	5	#+	1986	.7	.6	.2	.1	.0	.1	.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	#	1973	25	#	1973	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	2.5	.0	#	0	9.5	1984	17	14.1	1984	10	1986	11	1	1986	1.1	.8	.4	.1	.0	.5	.3	.2	.1
Nov	13.0	11.3	1	#	13.5	1998	8	43.3	1985	25	1985	29	5	1985	4.1	3.2	1.9	1.1	.2	-9.9	-9.9	-9.9	-9.9
Dec	19.4	13.6	6	2	17.0	1978	6	58.0	1978	40	1978	31	27	1978	6.5	5.4	2.6	1.3	.2	-9.9	-9.9	-9.9	-9.9
Ann	113.1	78.7	N/A	N/A	32.0	Jan 1997	14	89.0	Jan 1980	49	Feb 1979	7	41	Feb 1979	35.5	29.5	15.2	7.5	1.7	-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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**NWS Call Sign:**

**Elevation: 7,650 Feet**

**Lat: 37° 23N**

**Lon: 107° 35W**

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	7/10	7/04	6/30	6/27	6/24	6/21	6/18	6/14	6/09
32	6/25	6/19	6/16	6/12	6/10	6/07	6/03	5/31	5/25
28	6/14	6/08	6/04	5/31	5/28	5/24	5/20	5/16	5/10
24	5/24	5/19	5/15	5/12	5/09	5/06	5/03	4/29	4/23
20	5/10	5/04	5/01	4/27	4/24	4/21	4/18	4/14	4/08
16	4/24	4/19	4/15	4/11	4/08	4/05	4/01	3/28	3/23
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	8/24	8/29	9/01	9/05	9/08	9/10	9/14	9/17	9/22
32	9/07	9/11	9/14	9/16	9/19	9/21	9/23	9/26	9/30
28	9/10	9/16	9/20	9/23	9/26	9/30	10/03	10/07	10/13
24	9/27	10/02	10/06	10/09	10/12	10/15	10/18	10/21	10/27
20	10/11	10/16	10/20	10/23	10/26	10/28	10/31	11/04	11/09
16	10/21	10/25	10/28	10/31	11/03	11/05	11/08	11/12	11/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	98	90	84	79	75	70	65	59	51
32	119	113	108	104	101	97	93	88	82
28	149	139	132	126	121	116	110	103	94
24	178	170	164	160	155	151	146	140	132
20	204	197	192	188	184	180	175	170	163
16	231	223	217	212	208	204	199	193	185

\* 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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**Elevation: 7,650 Feet Lat: 37°23N**

**Lon: 107°35W**

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	1324	1080	963	721	476	204	79	104	276	586	938	1213	7964
60	1169	940	808	571	325	102	19	32	151	433	788	1058	6396
57	1076	856	715	482	241	59	7	12	93	345	698	965	5549
55	1014	800	653	425	190	38	2	5	64	289	638	903	5021
50	859	660	499	287	90	9	0	0	18	170	491	748	3831
32	330	202	78	17	0	0	0	0	0	4	93	244	968

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	29	46	139	286	547	806	1005	964	720	441	145	54	5182
55	0	0	0	3	25	154	294	256	93	13	0	0	838
57	0	0	0	0	13	115	237	201	63	7	0	0	636
60	0	0	0	0	4	68	157	128	30	2	0	0	389
65	0	0	0	0	0	20	61	45	5	0	0	0	131
70	0	0	0	0	0	4	12	8	0	0	0	0	24

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	20	92	271	532	720	677	451	190	24	0	0	0	20	112	383	915	1635	2312	2763	2953	2977	2977
45	0	0	0	29	141	384	565	522	305	81	2	0	0	0	0	29	170	554	1119	1641	1946	2027	2029	2029
50	0	0	0	3	53	239	410	367	171	19	0	0	0	0	0	3	56	295	705	1072	1243	1262	1262	1262
55	0	0	0	0	8	118	257	213	69	0	0	0	0	0	0	0	8	126	383	596	665	665	665	665
60	0	0	0	0	0	35	117	80	14	0	0	0	0	0	0	0	0	35	152	232	246	246	246	246
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	6	43	116	232	385	468	436	319	181	43	1	0	6	49	165	397	782	1250	1686	2005	2186	2229	2230

(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](http://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](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)