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: COVELO, CA **COOP ID: 042081**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 1,410 Feet** **Lat: 39˚49N** **Lon: 123˚15W**

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	53.7	31.3	42.5	78	1984	27	47.2	1986	7+	1950	15	38.6	1982	697	0	.0	.0	22.3	.0	18.7	.0
Feb	58.1	33.8	46.0	82	1992	25	50.6	1991	10	1949	13	41.5	1990	535	0	.0	.0	23.6	.2	13.2	.0
Mar	62.3	35.8	49.1	85	1960	18	53.6	1993	18	1953	2	45.2	1991	496	0	.0	.0	28.8	.0	10.6	.0
Apr	68.7	37.7	53.2	94	1981	29	59.3	1990	24+	2001	3	47.9	1975	358	4	.0	.2	29.6	.0	6.3	.0
May	76.3	42.1	59.2	103+	1950	31	66.0	1992	27+	1977	6	53.5	1998	201	21	.1	3.2	31.0	.0	.8	.0
Jun	85.1	47.5	66.3	108	1961	15	71.6	1977	31+	1981	13	61.3	1980	57	96	1.3	9.8	30.0	.0	.1	.0
Jul	92.8	51.5	72.2	114	1988	20	76.7	1984	37	1999	4	67.8	1999	16	238	6.3	21.0	31.0	.0	.0	.0
Aug	92.6	50.1	71.4	115	1981	8	75.1	1986	38+	1999	31	68.3	1975	5	202	5.2	21.3	31.0	.0	.0	.0
Sep	87.8	45.6	66.7	114	1955	3	72.4	1991	28	1950	30	62.1	1986	49	99	2.3	13.7	30.0	.0	.0	.0
Oct	76.4	39.3	57.9	104	1980	2	63.1	1991	17	1971	29	52.6	1971	247	24	.3	3.4	31.0	.0	4.2	.0
Nov	59.7	34.4	47.1	88+	1949	4	52.5	1995	14+	1961	17	42.1	1994	540	0	.0	.0	27.2	.0	13.7	.0
Dec	52.6	30.7	41.7	75	1976	10	47.1	1981	-9	1972	9	34.5	1972	724	0	.0	.0	21.3	.3	18.2	.2
Ann	72.2	40.0	56.1	115	Aug 1981	8	76.7	Jul 1984	-9	Dec 1972	9	34.5	Dec 1972	3925	684	15.5	72.6	336.8	.5	85.8	.2

\+ 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: 1948-2001

(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	8.32	8.09	4.41	1974	15	24.35	1995	.44	1985
Feb	7.49	6.52	4.06	1960	8	19.43	1986	.20	1988
Mar	6.31	4.63	3.65	1974	30	15.62	1995	.42	1988
Apr	2.50	2.05	1.93	1983	23	6.49	1982	.20	1985
May	1.44	.84	1.83	1990	22	7.26	1990	.00	1976
Jun	.36	.13	.87	1997	4	2.04	1992	.00+	1987
Jul	.07	.00	.80	1974	8	.85	1974	.00+	1999
Aug	.21	.03	2.69	1968	21	1.72	1976	.00+	2000
Sep	.68	.18	2.41	1957	27	4.18	1986	.00+	1999
Oct	2.35	2.18	4.20	1962	12	5.96	1979	.00	1978
Nov	5.72	4.87	3.17	1977	21	15.81	1984	.58	1990
Dec	6.78	5.33	6.02	1964	22	19.75	1996	.08	1989
Ann	42.23	39.65	6.02	Dec 1964	22	24.35	Jan 1995	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.8	10.4	5.8	2.4
Feb	12.6	9.9	5.6	2.7
Mar	13.1	9.4	4.5	1.8
Apr	8.3	5.3	1.7	.3
May	5.9	3.4	.9	.3
Jun	1.9	1.1	.2	.0
Jul	.4	.1	.1	.0
Aug	1.0	.6	.1	.0
Sep	2.4	1.5	.5	.1
Oct	5.7	4.2	1.8	.6
Nov	11.3	8.5	4.2	1.9
Dec	12.4	9.4	4.7	2.1
Ann	87.8	63.8	30.1	12.2

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	1.05	1.72	2.90	4.06	5.28	6.64	8.22	10.17	12.81	17.15	21.35
Feb	.88	1.46	2.51	3.56	4.67	5.91	7.36	9.15	11.59	15.60	19.51
Mar	1.08	1.63	2.55	3.41	4.30	5.26	6.36	7.70	9.48	12.36	15.12
Apr	.41	.63	.99	1.33	1.69	2.08	2.52	3.06	3.78	4.94	6.06
May	.02	.09	.26	.45	.68	.96	1.29	1.74	2.36	3.44	4.53
Jun	.00	.00	.00	.02	.08	.16	.27	.41	.63	1.02	1.42
Jul	.00	.00	.00	.00	.00	.00	.00	.00	.05	.22	.45
Aug	.00	.00	.00	.00	.00	.02	.08	.18	.34	.66	1.01
Sep	.00	.00	.00	.01	.08	.22	.41	.71	1.16	2.00	2.89
Oct	.07	.25	.57	.91	1.28	1.71	2.23	2.88	3.78	5.29	6.78
Nov	.52	.92	1.69	2.48	3.35	4.34	5.51	6.97	8.99	12.36	15.67
Dec	.53	.98	1.86	2.80	3.84	5.03	6.45	8.25	10.74	14.91	19.03
Ann	22.03	25.49	30.17	33.89	37.30	40.70	44.29	48.37	53.44	61.03	67.80

\+ 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:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	1.0	.0	#	0
Feb	.4	.0	#	0
Mar	.6	.0	#	0
Apr	.1	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.1	.0	0	0
Dec	.4	.0	#	0
Ann	2.6	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	6.5	1975	31	8.4	1971	7	1975	31	#+	2000
Feb	3.5	1971	27	4.0+	1989	5	1975	1	1	1975
Mar	5.2	1975	21	5.2	1975	5	1975	21	1	1975
Apr	1.5	1999	8	2.5	1999	#	1999	10	#	1999
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	2.0	2000	13	2.0	2000	0	0	0	0	0
Dec	2.0	1971	10	5.5	1971	10	1972	6	2	1972
Ann	6.5	Jan 1975	31	8.4	Jan 1971	10	Dec 1972	6	2	Dec 1972

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.3	.3	.1	.1	.0
Feb	.3	.2	.1	.0	.0
Mar	.3	.3	.1	.1	.0
Apr	.1	.1	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.1	.1	.0	.0	.0
Dec	.2	.2	.0	.0	.0
Ann	1.3	1.2	.3	.2	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	@	@	@	.0
Feb	.3	.2	@	.0
Mar	.3	.1	@	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.6	.3	@	.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	6/15	6/08	6/02	5/29	5/25	5/20	5/16	5/11	5/03
32	5/24	5/17	5/11	5/07	5/02	4/28	4/23	4/18	4/10
28	5/01	4/21	4/14	4/08	4/02	3/28	3/22	3/15	3/05
24	3/11	3/03	2/26	2/21	2/17	2/12	2/08	2/02	1/25
20	2/20	2/07	1/28	1/20	1/12	1/03	12/25	12/11	0/00
16	2/02	1/15	12/26	0/00	0/00	0/00	0/00	0/00	0/00

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	9/15	9/21	9/26	9/30	10/04	10/07	10/11	10/16	10/22
32	10/06	10/12	10/15	10/18	10/21	10/24	10/27	10/31	11/05
28	10/18	10/23	10/27	10/31	11/03	11/06	11/09	11/13	11/18
24	11/01	11/08	11/14	11/19	11/23	11/27	12/02	12/08	12/16
20	11/08	11/20	11/29	12/06	12/14	12/22	12/30	1/11	0/00
16	12/17	1/10	2/05	0/00	0/00	0/00	0/00	0/00	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	163	152	144	138	131	125	118	110	100
32	200	190	183	177	171	166	160	152	142
28	243	233	226	219	214	208	201	194	184
24	309	299	291	285	279	273	266	259	248
20	>365	>365	>365	348	332	320	309	297	281
16	>365	>365	>365	>365	>365	>365	>365	>365	>365

***** 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	Ann
65	697	535	496	358	201	57	16	5	49	247	540	724	3925
60	542	395	344	223	99	14	3	0	12	138	391	569	2730
57	449	312	259	155	56	4	0	0	4	88	305	476	2108
55	387	259	206	118	35	1	0	0	2	63	251	415	1737
50	239	140	103	48	8	0	0	0	0	21	134	272	965
32	1	0	0	0	0	0	0	0	0	0	0	9	10

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	327	390	528	636	843	1029	1245	1220	1040	801	451	307	8817
55	0	5	21	64	165	340	532	507	352	150	11	0	2147
57	0	2	12	41	124	283	470	445	294	114	5	0	1790
60	0	0	4	19	74	202	380	352	212	71	2	0	1316
65	0	0	0	4	21	96	238	202	99	24	0	0	684
70	0	0	0	0	3	32	126	81	29	6	0	0	277

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	114	187	288	401	604	797	1005	978	799	563	222	106	114	301	589	990	1594	2391	3396	4374	5173	5736	5958	6064
45	34	80	157	255	449	647	850	823	649	410	107	33	34	114	271	526	975	1622	2472	3295	3944	4354	4461	4494
50	1	21	56	137	295	498	695	668	499	263	39	0	1	22	78	215	510	1008	1703	2371	2870	3133	3172	3172
55	0	0	7	53	168	349	540	513	350	142	7	0	0	0	7	60	228	577	1117	1630	1980	2122	2129	2129
60	0	0	0	8	72	210	386	359	211	58	0	0	0	0	0	8	80	290	676	1035	1246	1304	1304	1304
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	78	131	200	286	401	500	597	573	508	401	154	72	78	209	409	695	1096	1596	2193	2766	3274	3675	3829	3901

(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