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: ALPINE, CA **COOP ID: 040136**

Climate Division: CA 6 **NWS Call Sign:** **Elevation: 1,735 Feet** **Lat: 32˚50N** **Lon: 116˚47W**

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	65.0	43.1	54.1	89	1971	18	60.3	1986	19	1963	13	48.7	1973	344	0	.0	.0	30.6	.0	1.2	.0
Feb	66.2	44.1	55.2	90	1963	3	60.6	1995	22	1953	20	51.3	1979	285	4	.0	.0	27.8	.0	.6	.0
Mar	66.8	44.7	55.8	95	1953	23	60.7	1997	27	1962	1	48.8	1973	283	12	.0	.2	30.8	.0	.3	.0
Apr	71.9	47.1	59.5	103	1989	6	65.2	1989	30	1953	9	52.0	1975	200	35	@	.9	30.0	.0	.1	.0
May	75.1	50.7	62.9	104	1984	28	70.3	1997	36	1962	17	56.8	1977	140	76	.2	2.3	31.0	.0	.0	.0
Jun	83.0	55.6	69.3	109	1976	27	74.8	1981	39+	1954	10	62.8	1982	46	174	1.7	7.7	30.0	.0	.0	.0
Jul	88.6	60.7	74.7	112	1960	20	79.0	1984	40	1977	4	68.8	1987	8	306	2.1	16.6	31.0	.0	.0	.0
Aug	89.4	62.3	75.9	108+	1985	25	81.4	1998	40	1976	10	72.1	1987	5	341	2.2	18.6	31.0	.0	.0	.0
Sep	86.4	60.6	73.5	111	1984	4	80.3	1984	38	1954	30	66.2	1986	21	276	2.2	12.7	30.0	.0	.0	.0
Oct	79.4	54.2	66.8	103+	1980	1	73.4	1999	30	1971	29	62.0	1972	67	123	.3	5.2	31.0	.0	@	.0
Nov	71.2	46.8	59.0	96	1997	2	65.1	1995	28+	1971	22	54.3	1994	206	26	.0	.3	30.0	.0	.3	.0
Dec	65.4	43.1	54.3	90	1979	4	58.8	1980	22	1954	28	46.8	1971	342	9	.0	@	30.5	.0	1.6	.0
Ann	75.7	51.1	63.4	112	Jul 1960	20	81.4	Aug 1998	19	Jan 1963	13	46.8	Dec 1971	1947	1382	8.7	64.5	363.7	.0	4.1	.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/normals/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1952-2001

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

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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	3.49	2.53	3.60	1993	7	15.24	1993	.00	1976
Feb	3.44	2.76	3.18	1980	21	12.96	1998	.05	1984
Mar	3.92	2.81	4.80	1991	1	12.69	1991	.00	1972
Apr	1.26	.89	1.76	1958	7	3.60	1988	.00	1993
May	.47	.26	1.54	1977	9	2.45	1977	.00+	1986
Jun	.20	.00	1.21	1972	6	2.20	1972	.00+	1996
Jul	.16	.00	.79	1984	28	1.86	1984	.00+	2000
Aug	.27	.00	1.75	1977	17	3.09	1977	.00+	1999
Sep	.42	.19	3.13	1976	10	4.36	1976	.00+	1994
Oct	.85	.48	1.88	1974	29	3.94	1974	.00+	1999
Nov	1.72	1.24	3.09	1965	23	7.41	1985	.00+	1991
Dec	1.99	1.76	3.24	1966	5	5.55	1971	.00	2000
Ann	18.19	16.05	4.80	Mar 1991	1	15.24	Jan 1993	.00+	Dec 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.9	5.6	2.2	1.0
Feb	7.1	5.1	2.3	1.1
Mar	8.6	6.3	2.8	1.2
Apr	5.0	3.3	.9	@
May	3.0	1.4	.2	@
Jun	1.4	.6	.1	@
Jul	1.0	.5	.1	.0
Aug	1.2	.6	.2	.1
Sep	1.9	1.1	.2	@
Oct	3.1	1.7	.5	.2
Nov	4.1	2.7	1.2	.5
Dec	6.1	4.2	1.5	.4
Ann	50.4	33.1	12.2	4.5

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	.05	.22	.62	1.09	1.65	2.31	3.13	4.20	5.72	8.33	10.96
Feb	.22	.43	.86	1.33	1.86	2.48	3.22	4.17	5.49	7.73	9.95
Mar	.12	.41	.95	1.51	2.13	2.85	3.71	4.79	6.30	8.82	11.32
Apr	.04	.14	.32	.50	.70	.93	1.21	1.55	2.02	2.82	3.60
May	.00	.00	.04	.10	.17	.27	.39	.56	.79	1.21	1.64
Jun	.00	.00	.00	.00	.00	.00	.02	.12	.30	.66	1.07
Jul	.00	.00	.00	.00	.00	.00	.03	.12	.26	.54	.84
Aug	.00	.00	.00	.00	.00	.00	.00	.06	.30	.89	1.57
Sep	.00	.00	.00	.02	.08	.17	.29	.46	.72	1.19	1.67
Oct	.00	.00	.09	.20	.34	.52	.73	1.02	1.42	2.12	2.83
Nov	.00	.05	.24	.48	.76	1.10	1.52	2.07	2.85	4.21	5.58
Dec	.09	.26	.56	.85	1.16	1.52	1.93	2.45	3.16	4.34	5.49
Ann	8.23	9.84	12.07	13.88	15.57	17.27	19.08	21.17	23.79	27.75	31.34

\+ 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: 1952-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	#	.0	0	0	#	1979	25	#	1979	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	#	.0	0	0	#	1990	14	#	1990	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.1	.0	0	0	1.0	1999	2	2.0	1999	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.1	.0	N/A	N/A	1.0	Apr 1999	2	2.0	Apr 1999	0	0	0	0	0	.1	.1	.0	.0	.0	.0	.0	.0	.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	4/22	4/06	3/27	3/17	3/09	2/28	2/19	2/08	1/24
32	3/28	3/05	2/16	1/31	1/14	12/22	0/00	0/00	0/00
28	1/28	1/15	1/02	12/14	0/00	0/00	0/00	0/00	0/00
24	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	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	11/04	11/15	11/23	11/30	12/06	12/13	12/20	12/27	1/07
32	11/18	12/01	12/11	12/21	12/31	1/16	0/00	0/00	0/00
28	12/17	1/05	1/23	0/00	0/00	0/00	0/00	0/00	0/00
24	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	0/00	0/00	0/00	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	>365	309	291	278	266	255	243	230	212
32	>365	>365	>365	>365	>365	327	302	282	257
28	>365	>365	>365	>365	>365	>365	>365	358	335
24	>365	>365	>365	>365	>365	>365	>365	>365	>365
20	>365	>365	>365	>365	>365	>365	>365	>365	>365
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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	344	285	283	200	140	46	8	5	21	67	206	342	1947
60	205	154	173	109	65	14	0	0	6	21	108	209	1064
57	139	97	118	67	34	6	0	0	0	9	66	147	683
55	104	68	86	44	21	3	0	0	0	3	43	113	485
50	36	17	29	13	5	0	0	0	0	0	12	44	156
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	684	649	737	825	959	1118	1321	1359	1245	1079	809	690	11475
55	75	72	110	179	267	430	608	646	555	369	163	90	3564
57	47	46	80	141	218	373	546	584	495	312	125	62	3029
60	21	19	43	94	155	292	454	491	411	231	78	31	2320
65	0	4	12	35	76	174	306	341	276	123	26	9	1382
70	0	0	1	10	26	88	175	203	165	52	6	0	726

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	451	458	514	610	742	907	1097	1134	1016	852	581	459	451	909	1423	2033	2775	3682	4779	5913	6929	7781	8362	8821
45	303	316	360	460	587	757	942	979	866	697	432	305	303	619	979	1439	2026	2783	3725	4704	5570	6267	6699	7004
50	169	182	215	314	432	607	787	824	716	542	284	174	169	351	566	880	1312	1919	2706	3530	4246	4788	5072	5246
55	72	84	102	183	281	457	632	669	566	387	156	76	72	156	258	441	722	1179	1811	2480	3046	3433	3589	3665
60	24	32	35	86	150	308	477	514	416	243	69	22	24	56	91	177	327	635	1112	1626	2042	2285	2354	2376
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	252	263	293	367	448	569	709	739	655	534	348	257	252	515	808	1175	1623	2192	2901	3640	4295	4829	5177	5434

(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