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: BIG BAR 4 E, CA **COOP ID: 040738**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 1,250 Feet** **Lat: 40˚44N** **Lon: 123˚12W**

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	50.0	33.4	41.7	77	1994	25	46.0	1978	12	1974	9	37.7	1982	723	0	.0	.0	16.4	.0	16.1	.0
Feb	56.9	34.2	45.6	81	1992	26	50.1	1995	13+	1989	7	41.3	1999	544	0	.0	.0	22.3	.2	10.6	.0
Mar	63.2	36.2	49.7	88	1960	25	54.8	1978	20	1953	2	45.4	1975	474	0	.0	.0	28.2	.0	7.5	.0
Apr	71.1	37.8	54.5	96	1981	29	60.2	1990	22+	1991	11	49.8	1975	327	9	.0	.7	29.2	.0	3.8	.0
May	79.8	42.8	61.3	110	1986	31	68.7	1992	28+	1991	10	55.1	1977	163	47	.5	4.6	30.9	.0	.5	.0
Jun	88.5	48.1	68.3	113+	1961	17	73.4	1977	34+	1992	12	63.4	1980	42	142	3.6	13.4	30.0	.0	.0	.0
Jul	96.8	51.8	74.3	115	1972	16	78.4	1996	38	1954	24	68.2	1983	6	293	11.7	23.9	31.0	.0	.0	.0
Aug	96.7	51.4	74.1	118	1981	8	78.4	1986	38+	1993	25	70.1	1976	1	281	11.2	24.5	31.0	.0	.0	.0
Sep	90.0	47.3	68.7	113	1955	4	74.2	1974	30	1954	8	63.5	1986	38	147	4.8	16.1	30.0	.0	@	.0
Oct	76.4	40.6	58.5	105	1980	3	64.3	1988	20+	1991	31	54.0	1989	221	20	.5	3.4	31.0	.0	2.2	.0
Nov	56.2	37.1	46.7	80+	1993	2	53.1	1995	16+	1993	15	39.9	1994	550	0	.0	.0	24.7	@	9.0	.0
Dec	48.5	33.7	41.1	66	1989	5	46.1	1981	0	1972	9	34.9	1990	742	0	.0	.0	13.2	.3	15.9	@
Ann	72.8	41.2	57.0	118	Aug 1981	8	78.4+	Jul 1996	0	Dec 1972	9	34.9	Dec 1990	3831	939	32.3	86.6	317.9	.5	65.6	@

\+ 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	6.82	6.80	4.10+	1993	20	17.97	1995	.53	1985
Feb	6.06	5.47	4.18	1982	16	16.05	1986	.22	1988
Mar	5.45	3.89	2.71	1995	9	13.90	1995	.41	1988
Apr	2.20	2.11	1.65+	1953	27	6.00	1995	.12	1985
May	1.36	.96	1.89	1990	22	6.25	1990	.00+	1992
Jun	.52	.30	.91	1978	30	1.91	1988	.00+	1994
Jul	.21	.02	.93	1987	22	1.24	1987	.00+	2000
Aug	.38	.18	1.88	1983	30	3.91	1983	.00+	2000
Sep	.95	.53	1.58	1972	27	4.38	1989	.00+	1994
Oct	2.25	1.88	4.35	1950	28	6.58	1975	.00	1978
Nov	5.39	4.11	3.13	1970	30	15.50	1984	.60	1995
Dec	6.33	4.62	7.26	1981	21	17.14	1996	.17	1989
Ann	37.92	36.24	7.26	Dec 1981	21	17.97	Jan 1995	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.3	8.5	3.8	1.5
Feb	11.4	7.9	3.6	1.5
Mar	11.6	7.4	2.8	.9
Apr	8.7	4.7	1.1	.2
May	6.1	3.6	.5	.1
Jun	3.0	1.5	.3	.0
Jul	1.1	.6	.1	.0
Aug	1.8	1.0	.1	.1
Sep	3.4	2.0	.5	.2
Oct	6.1	3.7	1.3	.4
Nov	10.4	7.2	3.1	1.3
Dec	11.1	7.8	3.8	1.6
Ann	87.0	55.9	21.0	7.8

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	1.22	1.82	2.81	3.74	4.69	5.72	6.90	8.31	10.20	13.25	16.16
Feb	.97	1.49	2.37	3.21	4.07	5.01	6.09	7.40	9.16	12.01	14.75
Mar	.90	1.37	2.16	2.91	3.68	4.52	5.48	6.65	8.21	10.75	13.17
Apr	.39	.59	.91	1.21	1.52	1.85	2.23	2.69	3.30	4.28	5.22
May	.00	.10	.31	.53	.75	1.01	1.31	1.69	2.21	3.08	3.93
Jun	.00	.01	.07	.14	.23	.33	.46	.63	.87	1.29	1.71
Jul	.00	.00	.00	.00	.00	.01	.09	.20	.36	.67	.98
Aug	.00	.00	.00	.00	.00	.07	.19	.38	.66	1.19	1.74
Sep	.00	.00	.03	.16	.33	.54	.80	1.14	1.63	2.48	3.36
Oct	.07	.23	.54	.87	1.23	1.64	2.13	2.75	3.62	5.07	6.50
Nov	.61	1.02	1.77	2.52	3.33	4.22	5.28	6.59	8.36	11.30	14.17
Dec	.67	1.14	2.01	2.89	3.84	4.91	6.16	7.72	9.85	13.38	16.82
Ann	20.62	23.64	27.68	30.87	33.79	36.68	39.73	43.18	47.45	53.83	59.49

\+ 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

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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	1.1	.0	#	0	7.0	1971	12	13.0	1971	13	1971	14	1	1971	.5	.3	.2	.1	.0	.2	.2	.2	@
Feb	.5	.0	#	0	3.1	1999	10	4.5	1972	11	1975	1	1	1975	.3	.2	.1	.0	.0	.2	@	.0	.0
Mar	.1	.0	#	0	1.5	1976	2	1.5	1976	10	1975	22	1	1975	.1	.1	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	#	0	#	1999	99	#+	1999	1	1999	5	#	1999	.0	.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	.2	.0	#	0	4.0	1978	13	4.0	1978	1	1979	22	#	1979	.1	@	@	.0	.0	@	.0	.0	.0
Dec	1.5	.0	#	0	13.0	1972	6	20.0	1972	9	1983	23	2	1983	.5	.3	.1	.1	.1	@	@	@	.0
Ann	3.4	.0	N/A	N/A	13.0	Dec 1972	6	20.0	Dec 1972	13	Jan 1971	14	2	Dec 1983	1.5	.9	.4	.2	.1	.4	.2	.2	@

+ 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	6/02	5/27	5/22	5/19	5/15	5/11	5/08	5/03	4/27
32	5/19	5/09	5/02	4/26	4/21	4/15	4/09	4/02	3/23
28	4/29	4/13	4/01	3/22	3/12	3/02	2/20	2/07	1/18
24	3/09	2/22	2/11	2/01	1/23	1/14	1/04	12/23	12/05
20	2/10	1/30	1/22	1/14	1/06	12/26	0/00	0/00	0/00
16	1/22	1/02	12/14	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	9/20	9/26	10/01	10/05	10/09	10/12	10/16	10/21	10/27
32	10/06	10/13	10/19	10/23	10/27	10/31	11/05	11/10	11/17
28	10/14	10/25	11/03	11/10	11/17	11/23	12/01	12/10	12/24
24	10/31	11/13	11/21	11/29	12/06	12/14	12/22	1/02	1/21
20	11/17	12/03	12/15	12/27	1/09	1/28	0/00	0/00	0/00
16	12/06	12/24	1/12	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	172	163	157	151	146	141	135	128	119
32	221	210	202	195	189	183	176	168	157
28	326	294	277	263	251	239	227	212	193
24	>365	361	339	324	311	299	287	273	255
20	>365	>365	>365	>365	>365	>365	341	320	301
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	723	544	474	327	163	42	6	1	38	221	550	742	3831
60	568	404	325	201	78	10	0	0	9	113	403	587	2698
57	475	322	241	140	43	3	0	0	3	67	320	494	2108
55	413	269	190	107	27	1	0	0	1	44	267	433	1752
50	262	149	92	43	6	0	0	0	0	12	155	288	1007
32	2	0	0	0	0	0	0	0	0	0	3	10	15

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	302	380	549	673	907	1090	1310	1303	1099	822	442	291	9168
55	0	5	26	90	221	401	597	590	410	153	17	1	2511
57	0	2	15	63	175	343	535	528	352	113	9	0	2135
60	0	0	5	33	117	260	442	435	268	66	3	0	1629
65	0	0	0	9	47	142	293	281	147	20	0	0	939
70	0	0	0	1	13	61	161	143	63	4	0	0	446

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	83	168	295	421	647	852	1071	1057	855	583	216	77	83	251	546	967	1614	2466	3537	4594	5449	6032	6248	6325
45	23	67	159	279	492	702	916	902	705	430	102	15	23	90	249	528	1020	1722	2638	3540	4245	4675	4777	4792
50	0	16	65	157	341	552	761	747	555	278	34	0	0	16	81	238	579	1131	1892	2639	3194	3472	3506	3506
55	0	2	15	69	206	402	606	592	407	157	5	0	0	2	17	86	292	694	1300	1892	2299	2456	2461	2461
60	0	0	0	24	101	263	451	440	264	66	0	0	0	0	0	24	125	388	839	1279	1543	1609	1609	1609
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	36	108	193	290	418	518	612	593	513	396	124	29	36	144	337	627	1045	1563	2175	2768	3281	3677	3801	3830

(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