

Climatology of the United States

No. 20

1971-2000

Station: SANTA BARBARA MNCPL AP, CA

COOP ID: 047905

Climate Division: CA 6

NWS Call Sign: SBA

Elevation: 9 Feet

Lat: 34° 26N

Lon: 119° 51W

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	65.4	40.8	53.1	86+	1991	13	57.8	1978	25	1976	1	49.5	1989	369	0	.0	.0	31.0	.0	2.3	.0
Feb	66.3	44.0	55.2	86	1977	15	59.3	1983	25	1989	6	51.2	1989	277	0	.0	.0	28.0	.0	.5	.0
Mar	67.4	46.0	56.7	94	1972	4	61.2	1983	30	1966	3	53.5	1999	263	5	.0	.1	31.0	.0	.1	.0
Apr	70.1	47.6	58.9	96+	1989	6	63.3	1992	33	1945	3	54.1	1975	193	8	.0	.1	30.0	.0	.0	.0
May	71.2	50.5	60.9	101	1968	26	65.7	1997	38	1991	2	57.6	1975	151	23	.0	.1	31.0	.0	.0	.0
Jun	74.4	53.9	64.2	109	1990	27	69.4	1981	41+	1955	1	60.8	1991	75	50	@	.5	30.0	.0	.0	.0
Jul	76.7	57.3	67.0	109	1985	2	70.1	1985	45	1944	18	64.4	1994	22	84	.1	.3	31.0	.0	.0	.0
Aug	78.7	58.4	68.6	105	1972	22	72.5	1971	43	1941	21	65.2	1989	23	133	.0	.3	31.0	.0	.0	.0
Sep	78.2	56.6	67.4	104	1979	18	74.8	1984	42+	1950	30	62.9	1986	54	125	.1	.8	30.0	.0	.0	.0
Oct	75.4	51.6	63.5	103	1987	4	67.9	1976	31	1971	29	59.6	2000	92	45	@	.7	31.0	.0	@	.0
Nov	71.0	44.0	57.5	97	1992	2	62.2	1977	30+	2000	19	52.0	2000	234	9	.0	.3	30.0	.0	.4	.0
Dec	66.4	39.9	53.2	89	1958	3	59.1	1977	20	1990	22	49.6	1990	368	0	.0	.0	30.9	.0	2.2	.0
Ann	71.8	49.2	60.5	109+	1990	27	74.8	1984	20	1990	22	49.5	1989	2121	482	.2	3.2	364.9	.0	5.5	.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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1941-2001

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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	3.57	2.51	4.03	1967	24	12.99	1995	.00	1976	6.7	5.0	2.3	1.0	.06	.26	.69	1.19	1.75	2.43	3.25	4.32	5.82	8.39	10.96	
Feb	4.28	3.69	3.97	1985	8	13.56	1998	.01	1984	6.5	5.1	2.6	1.5	.14	.32	.76	1.30	1.95	2.75	3.75	5.07	6.97	10.28	13.63	
Mar	3.51	2.22	4.47	1991	18	11.45	1991	.00	1972	6.7	5.2	2.7	1.0	.04	.18	.55	1.01	1.56	2.23	3.07	4.18	5.78	8.55	11.35	
Apr	.63	.23	1.70	1960	26	4.55	1983	.00+	1993	2.5	1.5	.5	.1	.00	.00	.02	.07	.16	.28	.46	.70	1.07	1.74	2.45	
May	.23	.02	1.17	1977	8	1.83	1977	.00+	1991	1.3	.5	.1	@	.00	.00	.00	.00	.00	.01	.06	.16	.35	.71	1.13	
Jun	.05	.00	.41	1988	20	.46	1988	.00+	1996	.7	.2	.0	.0	.00	.00	.00	.00	.00	.00	.00	.01	.06	.18	.32	
Jul	.03	.00	.91	1950	9	.40	1980	.00+	2000	.4	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.03	.11	.20	
Aug	.11	.00	.99	1983	18	1.87	1983	.00+	1999	.5	.2	.1	.0	.00	.00	.00	.00	.00	.00	.00	.00	.02	.27	.67	
Sep	.42	.02	3.01	1983	30	4.13	1976	.00+	1996	1.1	.5	.2	.1	.00	.00	.00	.00	.00	.00	.04	.19	.54	1.16	2.07	
Oct	.52	.35	2.40	1976	1	2.40	1976	.00+	1999	1.9	1.0	.4	.1	.00	.00	.00	.05	.13	.24	.39	.59	.90	1.45	2.02	
Nov	1.32	.88	2.91	1982	9	6.35	1972	.00+	2000	3.5	2.4	1.0	.3	.00	.00	.09	.24	.44	.71	1.05	1.52	2.21	3.44	4.72	
Dec	2.26	1.48	2.58	1974	3	5.77	1971	.00	1989	4.3	3.1	1.7	.8	.04	.15	.42	.73	1.09	1.52	2.04	2.73	3.70	5.36	7.02	
Ann	16.93	16.95	4.47	Mar 1991	18	13.56	Feb 1998	.00+	Nov 2000	36.1	24.8	11.6	4.9	6.22	7.81	10.10	12.01	13.83	15.69	17.72	20.07	23.07	27.69	31.92	

+ 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

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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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.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	.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	.0	.0	N/A	N/A	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

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-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	3/25	3/13	3/03	2/24	2/16	2/09	1/31	1/22	1/06
32	2/18	2/05	1/27	1/19	1/10	12/31	12/16	0/00	0/00
28	1/19	12/30	0/00	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
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	11/11	11/16	11/21	11/25	11/29	12/03	12/09	12/17
32	11/18	11/27	12/04	12/10	12/16	12/23	1/03	0/00	0/00
28	12/28	1/17	0/00	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	344	317	302	291	281	271	260	248	231
32	>365	>365	>365	>365	349	328	312	298	279
28	>365	>365	>365	>365	>365	>365	>365	>365	>365
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)

Base	Heating Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Below 65	369	277	263	193	151	75	22	23	54	92	234	368	2121
60	220	150	132	83	60	17	1	3	14	24	119	219	1042
57	140	90	77	39	25	5	0	0	6	8	70	139	599
55	98	59	48	20	12	2	0	0	1	2	44	97	383
50	26	12	9	2	0	0	0	0	0	0	10	25	84
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above 32	654	647	765	805	895	965	1084	1133	1062	976	765	656	10407
55	39	62	100	134	195	277	371	420	373	265	119	39	2394
57	20	37	67	94	145	220	309	358	318	209	85	20	1882
60	6	13	29	48	87	142	217	268	236	132	44	6	1228
65	0	0	5	8	23	50	84	133	125	45	9	0	482
70	0	0	0	0	3	8	13	47	51	8	0	0	130

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	399	424	499	537	626	696	806	847	790	700	505	403	399	823	1322	1859	2485	3181	3987	4834	5624	6324	6829	7232
45	245	280	344	387	471	546	651	692	640	545	355	250	245	525	869	1256	1727	2273	2924	3616	4256	4801	5156	5406
50	105	147	194	238	316	396	496	537	490	390	210	111	105	252	446	684	1000	1396	1892	2429	2919	3309	3519	3630
55	29	41	70	105	162	246	341	382	340	236	85	29	29	70	140	245	407	653	994	1376	1716	1952	2037	2066
60	0	0	13	28	46	103	186	227	192	96	17	0	0	0	13	41	87	190	376	603	795	891	908	908
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	236	228	262	292	339	395	493	537	489	411	299	248	236	464	726	1018	1357	1752	2245	2782	3271	3682	3981	4229

(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/normal/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 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/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,
www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf