

# 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: SAN LUIS DAM, CA

1971-2000

COOP ID: 047846

Climate Division: CA 5

NWS Call Sign:

Elevation: 277 Feet

Lat: 37°03N

Lon: 121°03W

## 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	54.1	36.4	45.3	73+	1981	23	50.8	1995	21	1963	21	39.1	1972	613	0	.0	.0	23.5	.0	6.0	.0
Feb	60.5	40.7	50.6	75+	1991	27	54.4	1991	22+	1989	7	46.8	1989	403	0	.0	.0	27.1	@	1.5	.0
Mar	65.3	45.4	55.4	84+	1972	18	60.8	1972	28	1971	2	51.4	1973	306	6	.0	.0	31.0	.0	.2	.0
Apr	71.6	49.2	60.4	94	1985	15	65.5	1987	32	1970	13	54.0	1975	175	37	.0	.3	30.0	.0	.0	.0
May	78.4	54.2	66.3	104	1984	29	73.6	1997	36	1970	11	60.5	1998	81	121	.2	4.6	31.0	.0	.0	.0
Jun	85.6	58.9	72.3	106+	1995	26	79.1	1981	40+	1971	9	67.0	1998	17	234	1.9	10.7	30.0	.0	.0	.0
Jul	91.2	63.2	77.2	108+	1999	13	82.1	1996	44	1975	5	71.3	1987	1	379	4.2	18.7	31.0	.0	.0	.0
Aug	90.5	62.9	76.7	107+	1998	5	80.5	1992	45	1980	23	72.4	1976	0	364	3.5	17.9	31.0	.0	.0	.0
Sep	86.6	59.8	73.2	105+	1998	4	77.7	1984	45	1976	27	68.0	1986	5	251	1.0	11.5	30.0	.0	.0	.0
Oct	78.0	52.7	65.4	101	2001	2	70.4	1991	33	1971	30	61.6	1971	78	89	.0	2.6	31.0	.0	.0	.0
Nov	64.3	43.5	53.9	81	1997	1	60.0	1995	28	1993	25	49.2	1994	337	5	.0	.0	29.6	.0	.6	.0
Dec	54.8	35.9	45.4	72	1979	5	50.8	1995	14	1990	22	40.1	1985	609	0	.0	.0	24.4	@	6.5	.0
Ann	73.4	50.2	61.8	108+	Jul 1999	13	82.1	Jul 1996	14	Dec 1990	22	39.1	Jan 1972	2625	1486	10.8	66.3	349.6	.0	14.8	.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](http://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: 1963-2001

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

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**Lon: 121°03W**

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	2.10	1.74	1.54	1969	19	5.91	1997	.17+	1976	11.5	5.3	1.3	.1	.20	.34	.63	.92	1.24	1.60	2.03	2.56	3.30	4.52	5.72
Feb	2.11	1.61	2.55	1998	3	9.03	1998	.13	1997	9.0	5.1	1.2	.2	.13	.25	.51	.80	1.13	1.50	1.96	2.55	3.37	4.76	6.15
Mar	1.74	1.45	1.86	1995	11	5.07	1995	.00	1972	8.4	4.4	.8	.2	.06	.20	.44	.70	.97	1.29	1.66	2.13	2.78	3.87	4.94
Apr	.55	.41	1.02	1963	7	1.75	1998	.00+	1992	4.1	1.9	.2	.0	.00	.02	.08	.16	.25	.35	.49	.66	.90	1.32	1.75
May	.49	.07	3.70	1998	6	6.56	1998	.00+	1992	2.1	1.1	.2	.1	.00	.00	.00	.00	.00	.05	.17	.40	.79	1.57	2.42
Jun	.05	.00	.27	1982	30	.36	1982	.00+	1999	.6	.2	.0	.0	.00	.00	.00	.00	.00	.00	.00	.04	.09	.16	.23
Jul	.03	.00	.39	1974	10	.40	1974	.00+	2000	.3	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.19
Aug	.10	.00	.94	1983	31	1.88	1983	.00+	2000	.5	.2	.1	.0	**	**	**	**	**	**	**	**	**	**	**
Sep	.23	.00	1.71	1976	29	2.07	1976	.00+	1999	1.1	.5	.1	@	.00	.00	.00	.00	.00	.00	.01	.08	.28	.67	1.21
Oct	.54	.40	1.16	2000	27	2.10	2000	.00+	1995	2.8	1.5	.3	@	.00	.00	.06	.14	.23	.34	.47	.65	.90	1.34	1.78
Nov	1.25	.73	1.60	1965	17	5.53	1972	.00	1995	6.7	2.9	.8	.2	.00	.03	.13	.27	.46	.70	1.01	1.44	2.08	3.21	4.39
Dec	1.33	1.10	1.55	1974	3	3.92	1996	.05	1999	9.5	3.5	.7	.1	.13	.22	.40	.59	.79	1.01	1.28	1.62	2.08	2.85	3.60
Ann	10.52	9.39	3.70	May 1998	6	9.03	Feb 1998	.00+	Aug 2000	56.6	26.7	5.7	.9	4.52	5.47	6.79	7.88	8.89	9.92	11.02	12.29	13.88	16.32	18.52

+ 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: 1963-2001

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

Complete documentation available from:  
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**Climate Division: CA 5**

**NWS Call Sign:**

**Elevation: 277 Feet**

**Lat: 37°03N**

**Lon: 121°03W**

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	#	1982	30	#	1982	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	N/A	N/A	#	Jan 1982	30	#	Jan 1982	0	0	0	0	0	.0	.0	.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	4/04	3/24	3/16	3/10	3/03	2/25	2/18	2/10	1/30
32	3/02	2/20	2/13	2/07	2/01	1/26	1/19	1/11	12/26
28	2/08	1/28	1/20	1/12	1/05	12/26	12/09	0/00	0/00
24	1/09	12/22	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	12/11	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	11/09	11/14	11/17	11/20	11/22	11/25	11/28	12/01	12/05
32	11/19	11/26	11/30	12/05	12/09	12/13	12/17	12/23	1/03
28	12/06	12/15	12/22	12/28	1/04	1/12	0/00	0/00	0/00
24	12/23	1/11	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	12/21	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	296	285	277	270	263	257	250	242	230
32	>365	339	323	314	307	300	293	286	276
28	>365	>365	>365	>365	>365	>365	342	327	310
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

Complete documentation available from:

[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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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	613	403	306	175	81	17	1	0	5	78	337	609	2625
60	458	264	174	87	28	3	0	0	0	25	206	455	1700
57	371	187	113	48	13	0	0	0	0	10	141	367	1250
55	314	139	80	30	7	0	0	0	0	5	105	309	989
50	187	53	23	8	0	0	0	0	0	0	42	181	494
32	4	0	0	0	0	0	0	0	0	0	0	3	7

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	414	521	724	852	1063	1207	1401	1387	1236	1034	658	416	10913
55	11	16	90	192	357	517	688	674	546	326	73	10	3500
57	7	7	61	150	301	458	626	612	486	269	49	6	3032
60	0	1	30	99	223	371	533	519	396	191	24	0	2387
65	0	0	6	37	121	234	379	364	251	89	5	0	1486
70	0	0	0	10	50	125	233	216	127	29	0	0	790

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	205	340	497	629	829	980	1167	1156	1013	811	450	214	205	545	1042	1671	2500	3480	4647	5803	6816	7627	8077	8291
45	94	203	342	479	674	830	1012	1001	863	656	302	92	94	297	639	1118	1792	2622	3634	4635	5498	6154	6456	6548
50	33	89	197	329	519	680	857	846	713	501	169	29	33	122	319	648	1167	1847	2704	3550	4263	4764	4933	4962
55	3	20	86	191	365	530	702	691	563	348	72	0	3	23	109	300	665	1195	1897	2588	3151	3499	3571	3571
60	0	0	23	88	223	380	547	536	413	207	20	0	0	0	23	111	334	714	1261	1797	2210	2417	2437	2437
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	90	166	257	358	507	629	757	757	666	499	234	99	90	256	513	871	1378	2007	2764	3521	4187	4686	4920	5019

(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> |
|---|---|

## 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)