

# Climatology of the United States

No. 20

1971-2000

Station: Lodi, CA

COOP ID: 045032

Climate Division: CA 5

NWS Call Sign:

Elevation: 40 Feet

Lat: 38°06N

Lon: 121°17W

## 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	54.7	37.5	46.1	72+	1976	30	51.9	1978	11	1949	11	40.8	1972	587	0	.0	.0	24.8	.0	8.3	.0
Feb	61.9	40.3	51.1	78	1977	15	54.0	1977	18	1989	7	46.8	1990	388	0	.0	.0	27.5	.1	4.0	.0
Mar	66.9	42.5	54.7	87	1966	31	58.8	1972	22	1971	2	50.4	1991	323	4	.0	.0	31.0	.0	.8	.0
Apr	73.7	45.2	59.5	95+	1981	30	63.8	1977	30+	1953	9	54.4	1975	185	18	.0	.7	30.0	.0	@	.0
May	80.7	49.7	65.2	103	2001	31	70.9	1997	32	1978	5	59.2	1998	92	99	.3	5.3	31.0	.0	@	.0
Jun	87.3	53.9	70.6	111	1961	15	75.1	1973	37	1952	12	65.6	1982	16	184	2.1	12.3	30.0	.0	.0	.0
Jul	91.1	56.5	73.8	110+	1972	15	77.8	1988	40+	1948	5	67.5	1987	2	274	2.7	19.3	31.0	.0	.0	.0
Aug	90.0	55.9	73.0	109	1978	6	76.5	1998	40	1949	16	70.0	1987	2	248	2.3	16.3	31.0	.0	.0	.0
Sep	87.2	53.4	70.3	107+	1955	2	74.1	1984	34+	1948	27	63.9	1986	21	179	1.1	11.6	30.0	.0	.0	.0
Oct	78.7	47.6	63.2	99+	1991	10	67.5	1991	29	1954	26	59.7	1981	109	50	.0	3.2	31.0	.0	@	.0
Nov	64.1	40.7	52.4	87	1976	3	58.1	1995	22+	1958	17	48.2	1994	379	1	.0	.0	29.6	.0	3.4	.0
Dec	54.9	36.0	45.5	76	1959	1	51.4	1983	13	1990	23	39.3	1990	606	0	.0	.0	25.1	.0	10.6	.0
Ann	74.3	46.6	60.5	111	Jun 1961	15	77.8	Jul 1988	11	Jan 1949	11	39.3	Dec 1990	2710	1057	8.5	68.7	352.0	.1	27.1	.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/normal/usnormals.html](http://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: 1948-2001

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

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## No. 20 1971-2000

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

**Station: Lodi, CA**

**COOP ID: 045032**

**Climate Division: CA 5**

**NWS Call Sign:**

**Elevation: 40 Feet**

**Lat: 38°06N**

**Lon: 121°17W**

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	3.56	3.00	2.44	1967	21	9.71	1995	.19	1991	10.8	7.0	2.5	.8	.26	.48	.94	1.43	1.97	2.60	3.36	4.32	5.65	7.90	10.12
Feb	3.29	3.14	2.54	1986	17	9.58	1998	.36+	1997	9.8	6.7	2.4	.6	.33	.58	1.03	1.48	1.98	2.54	3.19	4.01	5.13	6.99	8.80
Mar	2.99	2.64	2.00	1987	5	7.65	1995	.04	1994	10.2	6.9	2.0	.4	.24	.43	.82	1.24	1.69	2.22	2.84	3.63	4.73	6.56	8.37
Apr	1.16	1.13	1.96	1986	7	3.45	1983	.09	1973	5.6	3.0	.6	.1	.14	.23	.39	.55	.73	.92	1.14	1.42	1.80	2.42	3.02
May	.61	.30	1.69	1996	16	3.62	1998	.00+	1992	3.2	1.6	.3	.1	.00	.00	.00	.04	.14	.27	.45	.70	1.06	1.70	2.36
Jun	.13	.05	.66	1953	6	.62	1993	.00+	2000	1.0	.6	.0	.0	.00	.00	.00	.00	.01	.05	.10	.16	.24	.37	.50
Jul	.06	.00	.62	1980	2	.88	1974	.00+	2000	.3	.2	@	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12	.40
Aug	.08	.00	.46	1976	15	.83	1976	.00+	2000	.5	.2	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.20	.54
Sep	.34	.04	2.02	1959	18	2.22	1989	.00+	1997	1.7	.8	.3	.0	.00	.00	.00	.00	.00	.04	.13	.28	.55	1.07	1.64
Oct	1.05	.91	3.15	1991	26	3.15	1991	.00+	1995	3.7	2.1	.7	.2	.00	.00	.13	.28	.46	.67	.93	1.27	1.75	2.57	3.40
Nov	2.35	2.10	2.34	1950	18	6.63	1983	.00	1995	8.1	4.9	1.6	.5	.05	.19	.48	.81	1.18	1.62	2.16	2.85	3.81	5.46	7.10
Dec	2.60	2.49	2.42	1955	23	6.80	1996	.00	1989	9.1	5.4	1.7	.6	.21	.50	.92	1.30	1.70	2.12	2.61	3.21	4.01	5.31	6.55
Ann	18.22	15.88	3.15	Oct 1991	26	9.71	Jan 1995	.00+	Aug 2000	64.0	39.4	12.1	3.3	8.42	10.01	12.22	14.00	15.66	17.32	19.10	21.13	23.68	27.55	31.02

+ 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:  
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: Lodi, CA

COOP ID: 045032

Climate Division: CA 5

NWS Call Sign:

Elevation: 40 Feet

Lat: 38°06N

Lon: 121°17W

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	#	1972	13	#	1972	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	#	Dec 1972	13	#	Dec 1972	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

Complete documentation available from:

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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	4/26	4/18	4/12	4/07	4/02	3/28	3/23	3/17	3/09
32	3/31	3/20	3/11	3/04	2/26	2/19	2/12	2/04	1/23
28	2/24	2/11	2/01	1/23	1/15	1/07	12/28	12/17	11/24
24	2/04	1/24	1/14	1/05	12/26	12/08	0/00	0/00	0/00
20	12/17	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	10/17	10/23	10/28	11/01	11/05	11/09	11/13	11/17	11/24
32	11/03	11/09	11/13	11/16	11/19	11/23	11/26	11/30	12/06
28	11/18	11/26	12/01	12/06	12/11	12/16	12/22	12/28	1/10
24	12/06	12/16	12/25	1/03	1/13	0/00	0/00	0/00	0/00
20	1/16	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	252	240	231	223	216	209	201	193	180
32	302	290	281	273	266	259	251	242	230
28	>365	>365	350	336	325	316	306	296	282
24	>365	>365	>365	>365	>365	>365	350	332	315
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:  
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**Climate Division: CA 5      NWS Call Sign:      Elevation: 40 Feet      Lat: 38°06N      Lon: 121°17W**

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	587	388	323	185	92	16	2	2	21	109	379	606	2710
60	432	250	186	84	32	2	0	0	3	37	240	451	1717
57	346	173	121	43	15	0	0	0	0	15	168	364	1245
55	289	127	87	24	8	0	0	0	0	7	126	307	975
50	167	46	26	4	0	0	0	0	0	1	52	180	476
32	2	0	0	0	0	0	0	0	0	0	0	3	5

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	439	536	704	823	1030	1158	1294	1269	1149	964	612	420	10398
55	13	19	78	157	325	468	581	556	459	258	48	10	2972
57	7	9	51	116	270	408	519	494	399	204	29	6	2512
60	0	2	22	67	195	320	426	401	312	133	12	0	1890
65	0	0	4	18	99	184	274	248	179	50	1	0	1057
70	0	0	0	2	36	81	138	113	83	11	0	0	464

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	204	334	464	592	791	929	1054	1027	919	727	379	195	204	538	1002	1594	2385	3314	4368	5395	6314	7041	7420	7615
45	93	198	309	442	636	779	899	872	769	572	234	80	93	291	600	1042	1678	2457	3356	4228	4997	5569	5803	5883
50	32	82	168	293	481	629	744	717	619	417	111	24	32	114	282	575	1056	1685	2429	3146	3765	4182	4293	4317
55	1	17	61	159	328	479	589	562	469	265	36	0	1	18	79	238	566	1045	1634	2196	2665	2930	2966	2966
60	0	0	8	59	188	329	434	407	319	137	6	0	0	0	8	67	255	584	1018	1425	1744	1881	1887	1887
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	98	181	274	366	493	576	658	639	572	458	224	97	98	279	553	919	1412	1988	2646	3285	3857	4315	4539	4636

(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)