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: LOS BANOS DET RESV, CA **COOP ID: 045120**

Climate Division: CA 5 **NWS Call Sign:** **Elevation: 407 Feet** **Lat: 36˚59N** **Lon: 120˚56W**

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	53.7	38.7	46.2	73+	1981	20	51.1	2000	25+	1999	13	39.7	1972	582	0	.0	.0	22.3	.0	3.8	.0
Feb	60.5	42.7	51.6	76+	1986	17	55.1	1991	21	1989	7	48.0	1971	376	0	.0	.0	27.0	.0	.8	.0
Mar	65.4	45.9	55.7	86	1972	18	61.2	1972	31+	1991	15	51.4	1973	299	9	.0	.0	30.9	.0	.1	.0
Apr	72.3	49.2	60.8	95	1985	15	66.7	1987	30	1975	7	54.2	1975	173	46	.0	.4	30.0	.0	@	.0
May	79.9	54.5	67.2	105	1984	29	74.3	1997	36	1970	7	59.8	1977	85	153	.2	5.2	31.0	.0	.0	.0
Jun	88.0	60.1	74.1	109	1977	23	80.7	1981	34	1980	7	68.6	1980	12	282	2.7	13.5	30.0	.0	.0	.0
Jul	94.2	63.8	79.0	110+	1996	29	83.6	1996	50	1987	18	73.8	1987	0	435	7.5	22.8	31.0	.0	.0	.0
Aug	93.1	63.1	78.1	109+	1998	5	81.9	1996	48	1976	16	73.0	1976	0	407	4.9	21.3	31.0	.0	.0	.0
Sep	87.8	60.5	74.2	107	1998	2	78.3	1984	40	1970	1	69.4	1986	3	278	1.2	12.8	30.0	.0	.0	.0
Oct	78.3	54.3	66.3	99+	2001	3	71.2	1991	34	1981	25	62.4	1984	69	110	.0	2.4	31.0	.0	.0	.0
Nov	64.2	45.3	54.8	81	1985	3	60.7	1995	28	1991	30	49.5	1994	314	6	.0	.0	29.5	.0	.1	.0
Dec	54.5	38.3	46.4	71	1969	21	51.5	1983	16	1990	22	40.4	1985	577	0	.0	.0	23.8	@	4.5	.0
Ann	74.3	51.4	62.9	110+	Jul 1996	29	83.6	Jul 1996	16	Dec 1990	22	39.7	Jan 1972	2490	1726	16.5	78.4	347.5	@	9.3	.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

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1968-2001

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

Issue Date: February 2004

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: LOS BANOS DET RESV, CA **COOP ID: 045120**

Climate Division: CA 5 **NWS Call Sign:** **Elevation: 407 Feet** **Lat: 36°59N** **Lon: 120°56W**

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	1.67	1.25	1.15	1969	19	4.26	1995	.15	1976
Feb	1.69	1.32	1.92	1998	3	8.10	1998	.09	1974
Mar	1.40	1.30	1.33	1995	10	3.64	1978	.00	1972
Apr	.46	.34	.67	1981	19	1.85	1988	.00+	1992
May	.32	.07	1.65	1998	13	2.62	1998	.00+	1992
Jun	.05	.00	.25	1998	7	.26	1998	.00+	1999
Jul	.03	.00	.43	1974	10	.44	1974	.00+	2000
Aug	.03	.00	.40	1976	20	.64	1976	.00+	2000
Sep	.28	.00	2.48	1983	30	2.91	1983	.00+	1999
Oct	.44	.34	1.11	2000	27	2.38	2000	.00+	1999
Nov	.94	.41	1.20	1972	15	4.58	1972	.00	1995
Dec	1.08	.82	1.52	1974	3	2.71	1996	.05	1975
Ann	8.39	7.42	2.48	Sep 1983	30	8.10	Feb 1998	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.1	5.1	.7	@
Feb	8.8	4.4	1.0	.2
Mar	7.9	4.3	.6	@
Apr	3.8	1.5	.2	.0
May	1.9	.9	.1	@
Jun	.7	.2	.0	.0
Jul	.3	.1	.0	.0
Aug	.4	.1	.0	.0
Sep	1.1	.6	.1	.1
Oct	2.7	1.2	.2	@
Nov	5.9	2.4	.6	.1
Dec	9.3	3.1	.5	.1
Ann	53.9	23.9	4.0	.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	.17	.30	.53	.76	1.01	1.29	1.62	2.03	2.60	3.53	4.44
Feb	.10	.19	.39	.62	.88	1.19	1.56	2.04	2.71	3.85	4.99
Mar	.04	.13	.32	.52	.74	1.00	1.31	1.70	2.25	3.18	4.09
Apr	.00	.02	.07	.14	.21	.30	.41	.56	.76	1.11	1.47
May	.00	.00	.00	.00	.01	.07	.17	.32	.55	1.00	1.46
Jun	.00	.00	.00	.00	.00	.00	.00	.05	.10	.17	.23
Jul	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.19
Aug	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.22
Sep	.00	.00	.00	.00	.00	.00	.00	.05	.28	.90	1.55
Oct	.00	.00	.03	.11	.19	.29	.40	.55	.74	1.07	1.41
Nov	.00	.02	.09	.19	.33	.51	.75	1.08	1.56	2.44	3.35
Dec	.12	.20	.35	.50	.67	.85	1.06	1.32	1.68	2.27	2.85
Ann	3.67	4.42	5.47	6.32	7.12	7.93	8.79	9.79	11.04	12.94	14.66

\+ 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: 1968-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: LOS BANOS DET RESV, CA **COOP ID: 045120**

Climate Division: CA 5 **NWS Call Sign:** **Elevation: 407 Feet** **Lat: 36°59N** **Lon: 120°56W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.0	.0	0	0
Feb	.0	.0	0	0
Mar	.0	.0	0	0
Apr	.0	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.0	.0	0	0
Dec	.0	.0	0	0
Ann	.0	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	.0	0	0	.0	0	0	0	0	0	0
Feb	.0	0	0	.0	0	0	0	0	0	0
Mar	.0	0	0	.0	0	0	0	0	0	0
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	.0	0	0	.0	0	0	0	0	0	0
Ann	.0	0	0	.0	0	0	0	0	0	0

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.0	.0	.0	.0	.0
Feb	.0	.0	.0	.0	.0
Mar	.0	.0	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.0	.0	.0	.0	.0
Dec	.0	.0	.0	.0	.0
Ann	.0	.0	.0	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.0	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: LOS BANOS DET RESV, CA **COOP ID: 045120**

Climate Division: CA 5 **NWS Call Sign:** **Elevation: 407 Feet** **Lat: 36˚59N** **Lon: 120˚56W**

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	4/11	3/28	3/18	3/09	3/01	2/21	2/12	2/02	1/19
32	3/02	2/20	2/12	2/05	1/30	1/23	1/16	1/07	12/21
28	1/28	1/19	1/11	1/04	12/27	12/17	0/00	0/00	0/00
24	1/13	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	11/07	11/14	11/19	11/24	11/28	12/02	12/06	12/11	12/18
32	11/22	12/01	12/08	12/13	12/19	12/24	12/30	1/07	1/22
28	12/11	12/19	12/25	12/30	1/05	1/13	0/00	0/00	0/00
24	1/02	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	320	303	291	280	271	261	251	238	222
32	>365	363	342	330	321	313	305	295	282
28	>365	>365	>365	>365	>365	>365	356	343	332
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/normals/usnormals.html

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: LOS BANOS DET RESV, CA **COOP ID: 045120**

Climate Division: CA 5 **NWS Call Sign:** **Elevation: 407 Feet** **Lat: 36˚59N** **Lon: 120˚56W**

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	582	376	299	173	85	12	0	0	3	69	314	577	2490
60	427	237	170	88	34	2	0	0	0	22	186	423	1589
57	341	161	111	50	18	0	0	0	0	9	124	336	1150
55	284	115	79	32	11	0	0	0	0	4	90	279	894
50	163	37	23	9	2	0	0	0	0	0	33	158	425
32	2	0	0	0	0	0	0	0	0	0	0	1	3

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	443	548	733	863	1091	1261	1458	1430	1265	1064	683	447	11286
55	12	19	99	205	389	571	745	717	575	355	82	12	3781
57	7	9	69	163	334	511	683	655	515	298	56	7	3307
60	0	2	35	111	257	423	590	562	425	218	29	1	2653
65	0	0	9	46	153	282	435	407	278	110	6	0	1726
70	0	0	1	14	77	162	283	254	147	42	1	0	981

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	213	348	498	635	852	1030	1218	1188	1031	819	448	217	213	561	1059	1694	2546	3576	4794	5982	7013	7832	8280	8497
45	95	209	343	485	697	880	1063	1033	881	664	299	98	95	304	647	1132	1829	2709	3772	4805	5686	6350	6649	6747
50	36	93	194	337	542	730	908	878	731	509	172	30	36	129	323	660	1202	1932	2840	3718	4449	4958	5130	5160
55	1	25	81	199	389	580	753	723	581	356	72	0	1	26	107	306	695	1275	2028	2751	3332	3688	3760	3760
60	0	1	22	96	248	431	598	568	431	214	18	0	0	1	23	119	367	798	1396	1964	2395	2609	2627	2627
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	82	161	254	366	532	663	778	763	672	509	222	90	82	243	497	863	1395	2058	2836	3599	4271	4780	5002	5092

(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

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