

Climatology of the United States

No. 20

1971-2000

Station: LONG BEACH AP, CA

COOP ID: 045085

Climate Division: CA 6

NWS Call Sign: LGB

Elevation: 25 Feet

Lat: 33°49N

Lon: 118°09W

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	68.0	46.0	57.0	91	1976	16	61.7	1986	25	1963	13	53.9	1974	267	3	.0	.1	31.0	.0	.2	.0
Feb	68.5	48.1	58.3	91+	1995	20	61.8	1995	33	1965	12	55.6	1990	205	5	.0	.2	28.1	.0	.0	.0
Mar	68.9	50.4	59.7	98+	1988	26	64.6	1978	33	1964	8	55.4	1973	186	10	.0	.3	31.0	.0	.0	.0
Apr	72.7	53.2	63.0	105+	1989	6	67.5	1992	38	1975	7	57.3	1975	99	28	.1	.7	30.0	.0	.0	.0
May	74.0	57.8	65.9	103	1967	16	71.3	1997	40	1964	7	62.2	1995	39	55	.1	1.0	31.0	.0	.0	.0
Jun	78.3	61.3	69.8	109	1981	16	75.9	1981	47	1967	2	65.9	1999	5	135	.5	2.1	30.0	.0	.0	.0
Jul	82.9	64.6	73.8	107	1985	1	77.5	1984	51	1960	15	70.4	1987	0	260	.2	4.0	31.0	.0	.0	.0
Aug	84.6	65.6	75.1	105	1967	30	80.1	1998	55	1978	24	70.9	1999	0	302	.5	5.6	31.0	.0	.0	.0
Sep	83.1	63.7	73.4	110	1963	26	80.0	1984	50	1965	30	68.5	1986	1	244	1.0	5.9	30.0	.0	.0	.0
Oct	78.9	58.3	68.6	111	1961	15	72.4	1976	39	1972	31	64.7	2000	16	119	.4	2.9	31.0	.0	.0	.0
Nov	73.4	50.1	61.8	101	1966	1	66.8	1977	34	1958	17	56.9	1994	128	20	.0	.9	30.0	.0	.0	.0
Dec	68.8	45.3	57.1	92	1958	3	61.7	1977	28	1990	22	52.9	1971	265	5	.0	.0	31.0	.0	.3	.0
Ann	75.2	55.4	65.3	111	Oct 1961	15	80.1	Aug 1998	25	Jan 1963	13	52.9	Dec 1971	1211	1186	2.8	23.7	365.1	.0	.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: 1958-2001

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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	Median	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	2.95	1.82	3.75	1995	4	12.76	1995	.00+	1976	6.5	4.5	2.0	.9	.00	.09	.43	.84	1.32	1.90	2.62	3.55	4.89	7.19	9.50	
Feb	3.01	2.17	2.78	1996	20	12.09	1998	.01	1984	6.3	4.5	2.0	1.0	.05	.13	.38	.72	1.16	1.73	2.46	3.46	4.94	7.58	10.31	
Mar	2.43	1.89	3.46	1983	1	8.75	1983	.00+	1997	6.3	4.6	1.8	.4	.00	.07	.35	.68	1.08	1.56	2.15	2.92	4.03	5.93	7.85	
Apr	.60	.43	1.61	1999	11	2.31	1999	.00+	1997	3.2	1.5	.2	.1	.00	.00	.00	.07	.18	.31	.48	.70	1.03	1.60	2.18	
May	.23	.02	2.03	1977	8	2.32	1977	.00+	1997	1.3	.5	.1	.1	.00	.00	.00	.00	.00	.01	.06	.16	.34	.64	1.07	
Jun	.08	.00	.86	1993	5	.86	1993	.00+	2000	.5	.2	@	.0	.00	.00	.00	.00	.00	.00	.00	.00	.04	.23	.47	
Jul	.02	.00	.18	1986	23	.21	1986	.00+	2000	.4	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.03	.09	.13	
Aug	.10	.00	1.75	1977	17	2.03	1977	.00+	2000	.5	.2	@	@	.00	.00	.00	.00	.00	.00	.00	.00	.01	.23	.58	
Sep	.24	.01	1.39	1986	24	1.45	1976	.00+	2000	1.1	.5	.1	.1	.00	.00	.00	.00	.00	.00	.04	.15	.36	.79	1.25	
Oct	.40	.17	1.81	2000	27	2.30	2000	.00+	1999	2.1	1.0	.1	.1	.00	.00	.00	.02	.08	.16	.28	.44	.69	1.13	1.58	
Nov	1.12	.70	2.03	1965	22	4.21	1985	.00+	2000	3.2	2.0	.8	.3	.00	.00	.05	.17	.34	.57	.87	1.28	1.89	2.98	4.10	
Dec	1.76	1.17	3.17	1974	4	5.29	1971	.00+	2000	4.7	3.2	1.2	.4	.00	.05	.24	.47	.76	1.10	1.54	2.10	2.92	4.33	5.76	
Ann	12.94	11.03	3.75	Jan 1995	4	12.76	Jan 1995	.00+	Dec 2000	36.1	22.8	8.3	3.4	4.37	5.59	7.38	8.89	10.35	11.84	13.48	15.39	17.84	21.64	25.14	

+ 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: 1958-2001

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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

@ 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	2/13	1/31	1/21	1/12	1/02	12/21	11/30	0/00	0/00
32	1/08	12/22	0/00	0/00	0/00	0/00	0/00	0/00	0/00
28	0/00	0/00	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	12/05	12/17	12/27	1/05	1/14	1/27	0/00	0/00	0/00
32	12/23	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
28	0/00	0/00	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	>365	>365	>365	>365	>365	>365	343	326	308
32	>365	>365	>365	>365	>365	>365	>365	>365	>365
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)												
	Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
65	267	205	186	99	39	5	0	0	1	16	128	265	1211
60	121	79	78	31	12	3	0	0	0	3	58	123	508
57	68	36	36	11	4	0	0	0	0	1	27	69	252
55	40	17	19	5	0	0	0	0	0	0	15	41	137
50	6	0	2	0	0	0	0	0	0	0	2	7	17
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	760	726	847	920	1041	1123	1283	1326	1232	1122	878	761	12019
55	85	98	144	232	328	433	570	613	542	409	194	83	3731
57	53	61	96	176	266	373	508	551	482	348	143	49	3106
60	22	26	44	102	175	283	415	458	392	256	78	19	2270
65	3	5	10	28	55	135	260	302	244	119	20	5	1186
70	0	0	2	6	12	40	112	151	112	34	4	0	473

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	522	528	606	688	801	893	1045	1085	1003	886	649	524	522	1050	1656	2344	3145	4038	5083	6168	7171	8057	8706	9230
45	367	383	451	538	646	743	890	930	853	731	499	369	367	750	1201	1739	2385	3128	4018	4948	5801	6532	7031	7400
50	218	238	296	388	491	593	735	775	703	576	349	219	218	456	752	1140	1631	2224	2959	3734	4437	5013	5362	5581
55	93	109	150	238	336	443	580	620	553	421	202	90	93	202	352	590	926	1369	1949	2569	3122	3543	3745	3835
60	27	31	48	108	184	293	425	465	403	267	84	20	27	58	106	214	398	691	1116	1581	1984	2251	2335	2355
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	284	280	323	393	488	584	717	752	671	561	372	293	284	564	887	1280	1768	2352	3069	3821	4492	5053	5425	5718

(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