

**Climatography
of the United States
No. 20
1971-2000**

Station: LAGUNA BEACH, CA

COOP ID: 044647

Climate Division: CA 6

NWS Call Sign:

Elevation: 35 Feet

Lat: 33° 33N

Lon: 117° 47W

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	66.9	43.9	55.4	89	1983	10	58.8	1986	21	1949	5	52.4	1979	299	0	.0	.0	31.0	.0	1.1	.0
Feb	67.4	44.5	56.0	92	1954	7	59.7	1980	27+	1990	15	51.9	1990	257	4	.0	.1	28.0	.0	.5	.0
Mar	67.7	46.3	57.0	92+	1988	25	60.7	1997	28+	1979	15	53.5	1985	253	5	.0	.1	31.0	.0	.3	.0
Apr	70.5	48.8	59.7	97	1989	7	64.0	1989	31+	1949	4	55.0	1978	180	20	.0	.3	30.0	.0	.1	.0
May	71.2	53.8	62.5	96	1979	13	68.9	1997	33	1950	8	58.4	1977	120	42	.0	.1	31.0	.0	.0	.0
Jun	74.2	56.9	65.6	102	1990	27	70.4	1981	37+	1950	8	61.2	1980	58	75	.1	.3	30.0	.0	.0	.0
Jul	77.3	60.1	68.7	104+	1985	1	73.0	1984	30	1978	13	65.5	1973	19	132	.0	.2	31.0	.0	.0	.0
Aug	78.8	59.8	69.3	100+	1955	31	74.0	1983	38	1978	23	64.3	1975	19	159	.0	.7	31.0	.0	.0	.0
Sep	78.8	59.5	69.2	108	1963	26	75.2	1984	40+	1978	8	65.0	1973	22	147	.1	1.4	30.0	.0	.0	.0
Oct	75.9	54.9	65.4	104	1958	16	71.0	1983	33+	1978	13	62.1	1996	59	72	.0	1.4	31.0	.0	.0	.0
Nov	71.3	47.8	59.6	100	1950	3	63.7	1976	28	1980	30	55.8	2000	174	10	.0	.2	30.0	.0	.2	.0
Dec	67.3	43.6	55.5	90	1938	8	58.6	1977	24+	1956	19	51.5	1971	296	0	.0	.0	31.0	.0	1.0	.0
Ann	72.3	51.7	62.0	108	Sep 1963	26	75.2	Sep 1984	21	Jan 1949	5	51.5	Dec 1971	1756	666	.2	4.8	365.0	.0	3.2	.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: 1928-2001

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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	2.75	2.34	3.59	1956	26	8.64	1993	.00	1976	6.3	4.7	1.9	.9	.05	.21	.54	.92	1.36	1.88	2.52	3.33	4.48	6.45	8.42	
Feb	2.96	2.20	3.10	1963	10	14.12	1998	.00	1984	6.5	4.6	2.2	.9	.05	.22	.58	.99	1.47	2.02	2.71	3.59	4.82	6.94	9.06	
Mar	2.58	2.16	2.97	1983	1	8.81	1983	.00	1997	6.1	4.3	2.0	.7	.04	.19	.50	.85	1.26	1.75	2.35	3.12	4.21	6.07	7.94	
Apr	.84	.51	1.98	1958	7	3.52	1983	.00+	1997	2.8	1.8	.6	.2	.00	.00	.02	.12	.26	.44	.68	.99	1.44	2.24	3.06	
May	.25	.04	1.45	1990	28	1.76	1977	.00+	1999	1.7	.6	.1	@	.00	.00	.00	.00	.00	.04	.11	.22	.42	.79	1.19	
Jun	.13	.00	.93	1976	10	.93	1976	.00+	2000	.7	.3	.1	.0	.00	.00	.00	.00	.00	.00	.02	.09	.21	.44	.68	
Jul	.04	.00	.32	1992	8	.58	1992	.00+	2000	.5	.2	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.02	.13	.26	
Aug	.12	.00	1.75	1977	17	2.47	1977	.00+	2000	.4	.3	.1	@	**	**	**	**	**	**	**	**	**	**	**	
Sep	.35	.00	2.00	1939	25	2.24	1978	.00+	1999	1.4	.7	.3	.1	.00	.00	.00	.00	.00	.00	.07	.31	.64	1.20	1.74	
Oct	.47	.25	1.60	1996	30	2.19	2000	.00+	1999	2.1	1.0	.4	.1	.00	.00	.00	.01	.09	.19	.33	.53	.81	1.33	1.86	
Nov	1.23	.79	3.06	1963	20	3.82	1972	.00+	1991	3.4	2.3	.8	.3	.00	.00	.14	.31	.52	.77	1.08	1.49	2.07	3.07	4.09	
Dec	1.84	1.13	5.50	1997	6	7.60	1997	.00	2000	4.2	3.0	1.1	.3	.02	.11	.32	.56	.85	1.20	1.64	2.21	3.02	4.42	5.83	
Ann	13.56	12.04	5.50	Dec 1997	6	14.12	Feb 1998	.00+	Dec 2000	36.1	23.8	9.6	3.5	4.81	6.09	7.95	9.51	11.00	12.52	14.19	16.13	18.61	22.44	25.95	

+ 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: 1928-2001

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

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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	4/17	4/02	3/22	3/12	3/02	2/20	2/07	1/20	0/00
32	3/12	2/17	1/30	1/13	12/24	11/18	0/00	0/00	0/00
28	1/07	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	11/03	11/17	11/27	12/05	12/14	12/23	1/02	1/19	0/00
32	11/29	12/13	12/25	1/06	1/20	0/00	0/00	0/00	0/00
28	1/05	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	322	300	283	268	253	236	214
32	>365	>365	>365	>365	>365	>365	347	306	275
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	299	257	253	180	120	58	19	19	22	59	174	296	1756
60	157	135	124	84	43	12	1	5	4	11	69	155	800
57	91	82	71	43	17	3	0	0	0	2	30	89	428
55	58	54	42	24	9	1	0	0	0	0	15	56	259
50	10	11	8	5	0	0	0	0	0	0	1	9	44
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above													
32	725	671	776	830	944	1006	1137	1157	1115	1036	826	727	10950
55	70	81	105	164	240	317	424	444	425	323	150	70	2813
57	41	53	71	122	187	260	362	382	365	263	106	41	2253
60	14	22	32	73	119	178	269	294	278	179	54	14	1526
65	0	4	5	20	42	75	132	159	147	72	10	0	666
70	0	0	0	3	8	17	43	68	59	16	0	0	214

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	462	457	514	578	691	754	879	900	860	771	565	457	462	919	1433	2011	2702	3456	4335	5235	6095	6866	7431	7888
45	307	312	359	428	536	604	724	745	710	616	415	302	307	619	978	1406	1942	2546	3270	4015	4725	5341	5756	6058
50	162	171	205	279	381	454	569	590	560	461	265	159	162	333	538	817	1198	1652	2221	2811	3371	3832	4097	4256
55	53	62	79	136	228	304	414	435	410	308	129	47	53	115	194	330	558	862	1276	1711	2121	2429	2558	2605
60	5	9	15	44	91	158	259	282	261	162	37	3	5	14	29	73	164	322	581	863	1124	1286	1323	1326
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	269	270	291	333	391	456	567	592	558	468	337	279	269	539	830	1163	1554	2010	2577	3169	3727	4195	4532	4811

(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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. 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