

# Climatology of the United States

## No. 20

### 1971-2000

**Station: CLEARLAKE 4 SE, CA**

**COOP ID: 041806**

**Climate Division: CA 2**

**NWS Call Sign:**

**Elevation: 1,349 Feet Lat: 38° 55N**

**Lon: 122° 34W**

### 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	55.2	31.8	43.5	76	1989	29	47.2	1986	8	1974	5	39.5	1982	666	0	.0	.0	24.4	.0	19.9	.0
Feb	57.7	34.3	46.0	81	1977	15	50.2	1995	16+	1989	5	41.8	1989	533	0	.0	.0	24.6	.2	13.5	.0
Mar	60.6	36.5	48.6	84+	1986	29	52.8	1984	17	1966	3	44.1	1991	510	0	.0	.0	29.1	.0	8.9	.0
Apr	66.5	39.1	52.8	94	1981	30	58.5	1985	23	1964	24	45.5	1975	373	7	.0	.2	29.6	.0	3.4	.0
May	74.3	44.7	59.5	101	1984	29	66.4	1992	28+	1974	18	51.7	1998	205	35	.1	3.0	31.0	.0	.2	.0
Jun	83.3	51.3	67.3	114	1977	30	71.9	1977	34+	1972	11	61.7	1980	48	117	1.6	10.3	30.0	.0	.0	.0
Jul	90.4	55.4	72.9	113	1972	16	77.5	1988	39+	1966	5	68.1	1983	9	253	5.6	20.5	31.0	.0	.0	.0
Aug	89.6	54.1	71.9	112+	1981	9	74.6	1992	40+	1968	22	66.5	1976	5	218	5.0	19.5	31.0	.0	.0	.0
Sep	84.0	49.3	66.7	111+	1955	4	70.8	1991	30	1965	19	61.7	1986	54	103	1.5	11.5	30.0	.0	.0	.0
Oct	74.4	42.4	58.4	99+	2001	3	63.6	1991	21	1983	6	53.2	1971	225	20	.0	2.4	31.0	.0	1.6	.0
Nov	61.3	35.4	48.4	92	1966	1	54.5	1995	19+	1956	28	42.9	1994	500	0	.0	.0	28.7	.0	11.9	.0
Dec	55.1	31.2	43.2	78+	1980	16	48.3	1995	6	1990	22	36.8	1972	676	0	.0	.0	24.8	.0	20.0	.0
Ann	71.0	42.1	56.6	114	Jun 1977	30	77.5	Jul 1988	6	Dec 1990	22	36.8	Dec 1972	3804	753	13.8	67.4	345.2	.2	79.4	.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: 1954-2001

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

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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	6.01	5.09	6.47	1995	9	25.96	1995	.27	1976	11.7	8.4	3.8	1.9	.33	.66	1.38	2.19	3.12	4.21	5.54	7.25	9.66	13.76	17.86	
Feb	5.37	3.31	4.70	1998	3	22.03	1998	.02	1971	10.3	7.1	3.7	1.6	.21	.46	1.04	1.74	2.56	3.56	4.79	6.41	8.71	12.69	16.71	
Mar	4.37	3.01	5.26	1995	9	15.71	1995	.10	1988	11.2	7.2	2.8	1.0	.36	.66	1.23	1.84	2.50	3.27	4.18	5.32	6.90	9.56	12.16	
Apr	1.39	1.21	1.79	1982	11	4.83	1983	.00	1990	6.5	3.9	.7	.1	.05	.15	.35	.55	.77	1.02	1.32	1.70	2.23	3.11	3.98	
May	.94	.53	2.03	1990	28	5.99	1998	.00+	1985	4.7	2.4	.4	.1	.00	.00	.02	.12	.27	.47	.73	1.08	1.60	2.52	3.48	
Jun	.22	.13	1.15	1967	2	1.09	1993	.00+	1996	1.5	.6	.1	.0	.00	.00	.00	.00	.06	.12	.19	.27	.39	.59	.78	
Jul	.06	.00	.70	1974	8	.70	1974	.00+	2000	.4	.1	.1	.0	.00	.00	.00	.00	.00	.00	.00	.00	.03	.19	.38	
Aug	.08	.00	1.20	1965	18	.76	1997	.00+	2000	.6	.3	@	.0	.00	.00	.00	.00	.00	.00	.00	.01	.10	.27	.46	
Sep	.45	.11	2.81	1989	17	4.11	1989	.00+	1995	2.0	1.1	.3	.1	.00	.00	.00	.00	.03	.12	.25	.45	.77	1.37	2.01	
Oct	1.41	1.07	3.08	1989	23	4.85	1989	.00+	1995	4.3	2.6	1.1	.3	.00	.10	.32	.54	.78	1.04	1.36	1.75	2.29	3.19	4.07	
Nov	3.42	2.50	3.07	1965	14	10.44	1983	.02+	1995	9.2	6.1	2.3	1.0	.09	.23	.57	.99	1.51	2.15	2.96	4.04	5.59	8.32	11.09	
Dec	4.27	3.49	6.28	1995	12	13.00	1983	.00	1989	10.4	7.0	2.8	1.2	.26	.68	1.34	1.97	2.64	3.37	4.22	5.27	6.70	9.04	11.31	
Ann	27.99	24.98	6.47	Jan 1995	9	25.96	Jan 1995	.00+	Aug 2000	72.8	46.8	18.1	7.3	11.56	14.12	17.72	20.69	23.47	26.30	29.35	32.86	37.30	44.09	50.25	

+ 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: 1954-2001

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

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

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Climate Division: CA 2

NWS Call Sign:

Elevation: 1,349 Feet

Lat: 38° 55N

Lon: 122° 34W

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	2.2	.0	#	0	16.0	1974	4	24.5	1974	18	1974	4	3	1974	.4	.4	.2	.2	.1	.6	.6	.4	.2
Feb	.2	.0	#	0	2.0	1990	17	2.0	1990	1	1976	5	#+	1976	.1	.1	.0	.0	.0	@	.0	.0	.0
Mar	.4	.0	#	0	4.0	1976	3	6.0	1976	2+	1977	16	#+	1977	.2	.1	.1	.0	.0	.1	.0	.0	.0
Apr	#	.0	0	0	#	1989	27	#	1989	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	#	1984	27	#	1984	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	0	0	#	1984	7	#	1984	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.1	.0	#	0	1.0	1972	5	2.5	1972	#+	1983	23	#+	1983	.2	.1	.0	.0	.0	.0	.0	.0	.0
Ann	2.9	.0	N/A	N/A	16.0	Jan 1974	4	24.5	Jan 1974	18	Jan 1974	4	3	Jan 1974	.9	.7	.3	.2	.1	.7	.6	.4	.2

+ 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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<b>Freeze Data</b>									
<b>Spring Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of later date in spring (thru Jul 31) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	5/30	5/23	5/18	5/14	5/10	5/06	5/02	4/27	4/20
<b>32</b>	5/06	4/28	4/21	4/16	4/11	4/06	3/31	3/25	3/16
<b>28</b>	4/17	4/05	3/27	3/19	3/12	3/05	2/26	2/17	2/05
<b>24</b>	3/11	2/27	2/18	2/10	2/03	1/26	1/19	1/09	12/28
<b>20</b>	2/23	2/07	1/25	1/13	12/30	12/05	0/00	0/00	0/00
<b>16</b>	1/23	1/11	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>Fall Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of earlier date in fall (beginning Aug 1) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	9/29	10/05	10/10	10/14	10/17	10/21	10/25	10/29	11/04
<b>32</b>	10/15	10/20	10/24	10/27	10/30	11/02	11/05	11/09	11/14
<b>28</b>	10/27	11/03	11/08	11/12	11/16	11/20	11/24	11/29	12/06
<b>24</b>	11/03	11/14	11/21	11/27	12/03	12/09	12/16	12/23	1/02
<b>20</b>	12/03	12/14	12/23	1/01	1/13	0/00	0/00	0/00	0/00
<b>16</b>	12/26	1/14	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>Freeze Free Period</b>									
<b>Temp (F)</b>	<b>Probability of longer than indicated freeze free period (Days)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	185	176	170	165	159	154	149	142	133
<b>32</b>	235	224	215	208	202	195	188	179	168
<b>28</b>	291	276	266	257	248	240	231	220	205
<b>24</b>	351	332	320	310	301	292	282	271	255
<b>20</b>	>365	>365	>365	>365	>365	>365	357	323	297
<b>16</b>	>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 2**

**NWS Call Sign:**

**Elevation: 1,349 Feet**

**Lat: 38°55N**

**Lon: 122°34W**

### 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	666	533	510	373	205	48	9	5	54	225	500	676	3804
60	511	393	358	241	109	12	0	0	13	116	353	521	2627
57	418	311	273	175	67	4	0	0	4	69	270	428	2019
55	356	258	220	138	46	1	0	0	2	46	219	369	1655
50	209	140	114	64	14	0	0	0	0	12	113	228	894
32	0	0	0	0	0	0	0	0	0	0	0	4	4

### Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above													
32	357	391	514	624	853	1058	1268	1236	1039	819	490	351	9000
55	0	5	20	71	186	370	555	523	351	151	19	3	2254
57	0	2	12	49	145	312	493	461	294	112	10	0	1890
60	0	0	4	25	94	230	400	368	213	66	3	0	1403
65	0	0	0	7	35	117	253	218	103	20	0	0	753
70	0	0	0	0	10	43	130	94	34	4	0	0	315

### 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	129	188	285	412	640	850	1049	1008	820	584	263	124	129	317	602	1014	1654	2504	3553	4561	5381	5965	6228	6352
45	38	82	153	269	485	700	894	853	670	430	129	37	38	120	273	542	1027	1727	2621	3474	4144	4574	4703	4740
50	1	20	58	144	335	550	739	698	520	281	49	5	1	21	79	223	558	1108	1847	2545	3065	3346	3395	3400
55	0	0	11	62	201	403	584	543	371	153	6	0	0	0	11	73	274	677	1261	1804	2175	2328	2334	2334
60	0	0	0	12	99	262	430	388	232	59	0	0	0	0	0	12	111	373	803	1191	1423	1482	1482	1482
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	99	131	193	280	407	522	627	603	506	394	188	101	99	230	423	703	1110	1632	2259	2862	3368	3762	3950	4051

(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](http://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](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 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"><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)