

Climatology of the United States

No. 20

1971-2000

Station: OCEANSIDE MARINA, CA

COOP ID: 046377

Climate Division: CA 6

NWS Call Sign: L34

Elevation: 10 Feet

Lat: 33° 13N

Lon: 117° 24W

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	64.0	45.4	54.7	86	1968	23	58.3	1986	20	1963	14	52.0	1987	319	0	.0	.0	31.0	.0	.4	.0
Feb	63.9	46.5	55.2	90	1977	12	59.7	1977	28	1974	8	50.7	1990	275	1	.0	@	28.0	.0	.1	.0
Mar	64.0	48.4	56.2	90+	1978	18	59.9	1978	34+	1975	11	51.5	1999	275	1	.0	.1	31.0	.0	.0	.0
Apr	65.3	51.0	58.2	93	1989	5	62.1	1992	33	1975	5	54.4	1999	208	2	.0	@	30.0	.0	.0	.0
May	66.5	55.9	61.2	89+	1979	13	64.5	1997	38	1974	18	58.0	1999	137	18	.0	.0	31.0	.0	.0	.0
Jun	68.8	59.6	64.2	93	1957	17	69.8	1981	43	1975	15	60.1	1999	84	60	.0	.1	30.0	.0	.0	.0
Jul	72.1	63.0	67.6	103	1974	21	73.0	1984	44	1976	24	63.9	1987	36	115	.0	@	31.0	.0	.0	.0
Aug	73.6	63.6	68.6	94	1983	6	73.1	1984	47	1975	9	64.3	1999	34	145	.0	.1	31.0	.0	.0	.0
Sep	73.4	61.4	67.4	108	1963	26	74.4	1984	43	1973	28	63.0	1986	44	117	@	.3	30.0	.0	.0	.0
Oct	71.4	56.1	63.8	105	1965	22	68.9	1983	36+	1971	30	60.7	1996	78	40	@	.3	31.0	.0	.0	.0
Nov	68.1	48.6	58.4	100	1976	4	63.8	1976	29	1961	18	53.4	1994	205	6	.0	.3	30.0	.0	.0	.0
Dec	64.9	44.8	54.9	90	1963	29	58.6	1976	27+	1975	29	51.5	1987	314	0	.0	.0	31.0	.0	.3	.0
Ann	68.0	53.7	60.9	108	Sep 1963	26	74.4	Sep 1984	20	Jan 1963	14	50.7	Feb 1990	2009	505	.0	1.2	365.0	.0	.8	.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: 1953-2001

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

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

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Climate Division: CA 6

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Lat: 33°13N

Lon: 117°24W

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	2.42	1.57	2.35	1980	29	8.78	1993	.00+	1976	6.9	5.0	1.8	.6	.00	.13	.47	.83	1.24	1.70	2.27	2.97	3.96	5.62	7.28
Feb	2.23	1.60	1.96	1998	17	8.50	1998	.07	1974	6.3	4.7	1.6	.5	.14	.27	.54	.84	1.19	1.59	2.07	2.69	3.56	5.04	6.50
Mar	2.11	1.46	3.02	1978	1	6.73	1978	.00+	1997	6.0	4.5	1.6	.3	.00	.00	.36	.69	1.06	1.48	1.98	2.62	3.48	4.95	6.40
Apr	.92	.66	1.62	1956	13	3.55	1975	.00+	1993	3.0	1.9	.6	.2	.00	.00	.02	.13	.28	.48	.73	1.07	1.57	2.44	3.35
May	.23	.03	.86	1990	28	1.33	1977	.00+	2000	1.6	.7	.1	.0	.00	.00	.00	.00	.00	.02	.09	.20	.39	.73	1.10
Jun	.09	.00	.58	1993	5	.68	1990	.00+	2000	.8	.3	.1	.0	.00	.00	.00	.00	.00	.00	.01	.06	.15	.32	.50
Jul	.02	.00	.27	1968	28	.29	1976	.00+	2000	.3	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.12
Aug	.13	.00	2.20	1977	17	2.81	1977	.00+	2000	.5	.2	@	@	.00	.00	.00	.00	.00	.00	.00	.00	.02	.32	.70
Sep	.29	.00	1.03	1976	10	2.15	1976	.00+	1999	1.2	.7	.2	@	.00	.00	.00	.00	.00	.00	.02	.15	.40	.96	1.58
Oct	.43	.14	1.31	1987	12	2.56	1987	.00+	1999	1.9	1.0	.2	.1	.00	.00	.00	.00	.05	.14	.27	.46	.74	1.27	1.82
Nov	.92	.70	1.89	1966	7	3.58	1985	.00+	1999	3.3	2.2	.5	.2	.00	.00	.00	.19	.38	.59	.84	1.16	1.59	2.33	3.05
Dec	1.34	1.00	1.68	1966	5	4.02	1984	.00+	2000	4.7	3.0	.9	.2	.00	.00	.28	.50	.74	1.00	1.31	1.69	2.20	3.06	3.90
Ann	11.13	10.51	3.02	Mar 1978	1	8.78	Jan 1993	.00+	Dec 2000	36.5	24.3	7.6	2.1	4.17	5.21	6.70	7.94	9.12	10.33	11.64	13.16	15.09	18.06	20.78

+ 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: 1953-2001

(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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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	#	1983	17	#	1983	.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	#	Oct 1983	17	#	Oct 1983	.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	3/20	3/02	2/17	2/06	1/26	1/15	1/02	12/15	0/00
32	1/27	1/13	12/28	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	11/16	11/29	12/08	12/15	12/23	12/31	1/09	1/21	0/00
32	12/25	1/11	2/03	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	354	330	314	300	284	264
32	>365	>365	>365	>365	>365	>365	>365	>365	335
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

Complete documentation available from:
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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	Ann
65	319	275	275	208	137	84	36	34	44	78	205	314	2009
60	171	149	138	83	44	23	6	7	10	15	89	167	902
57	97	90	79	36	15	8	0	1	3	3	44	94	470
55	61	60	48	16	6	3	0	0	0	1	23	59	277
50	9	13	8	1	0	0	0	0	0	0	3	8	42
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	704	650	749	784	904	966	1102	1134	1063	985	791	709	10541
55	52	66	85	111	197	279	389	421	373	273	124	55	2425
57	26	40	53	71	144	224	328	360	316	213	84	28	1887
60	7	15	19	28	80	148	240	273	232	132	40	8	1222
65	0	1	1	2	18	60	115	145	117	40	6	0	505
70	0	0	0	0	2	13	37	61	43	5	0	0	161

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	453	444	497	550	651	717	847	893	828	742	559	462	453	897	1394	1944	2595	3312	4159	5052	5880	6622	7181	7643
45	299	299	342	400	496	567	692	738	678	587	409	307	299	598	940	1340	1836	2403	3095	3833	4511	5098	5507	5814
50	150	159	190	251	341	417	537	583	528	432	259	158	150	309	499	750	1091	1508	2045	2628	3156	3588	3847	4005
55	48	51	58	107	186	267	382	428	378	277	117	48	48	99	157	264	450	717	1099	1527	1905	2182	2299	2347
60	7	4	4	16	54	122	227	273	229	131	33	5	7	11	15	31	85	207	434	707	936	1067	1100	1105
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	235	220	238	278	346	418	537	582	527	434	299	246	235	455	693	971	1317	1735	2272	2854	3381	3815	4114	4360

(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