

Climatology of the United States

No. 20 1971-2000

Station: MONTEREY, CA

COOP ID: 045795

Climate Division: CA 4

NWS Call Sign:

Elevation: 385 Feet

Lat: 36° 35N

Lon: 121° 55W

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	59.8	43.4	51.6	84	1962	8	55.8	1986	22+	1949	11	48.1	1972	416	0	.0	.0	30.5	.0	.3	.0
Feb	61.4	44.7	53.1	86	1995	20	56.1	1992	26+	1989	6	48.2	1989	335	0	.0	.0	27.8	.0	.1	.0
Mar	61.9	45.7	53.8	85	1953	7	57.4	1978	32+	1976	3	50.0	1999	333	0	.0	.0	30.9	.0	@	.0
Apr	64.1	46.6	55.4	93	1981	29	59.8	1992	35	1976	1	50.6	1975	290	0	.0	.2	30.0	.0	.0	.0
May	64.6	48.5	56.6	95+	1997	16	62.3	1997	38	1950	3	52.8	1999	266	4	.0	.2	31.0	.0	.0	.0
Jun	66.9	50.4	58.7	101	1961	14	61.3	1981	42+	1962	4	55.8	1999	193	6	@	.4	30.0	.0	.0	.0
Jul	68.1	52.3	60.2	98	1959	10	63.7	1995	43+	1953	4	57.4	1971	156	8	.0	.3	31.0	.0	.0	.0
Aug	69.5	53.2	61.4	96	1993	1	64.6	1983	45	1956	10	58.1	1973	123	10	.0	.1	31.0	.0	.0	.0
Sep	71.4	53.1	62.3	101+	1971	14	68.0	1984	43	1950	30	59.4	1975	113	30	@	.7	30.0	.0	.0	.0
Oct	69.9	50.9	60.4	104	1987	5	64.2	1983	35	1949	20	56.0	1971	157	14	.2	.8	31.0	.0	.0	.0
Nov	64.2	46.7	55.5	95	1956	8	59.5	1995	35+	1994	19	51.2	1994	290	2	.0	.1	30.0	.0	.0	.0
Dec	59.7	43.2	51.5	89	1958	3	55.5	1980	20	1990	22	46.6	1971	420	0	.0	.0	30.2	.0	.7	.0
Ann	65.1	48.2	56.7	104	Oct 1987	5	68.0	Sep 1984	20	Dec 1990	22	46.6	Dec 1971	3092	74	.2	2.8	363.4	.0	1.1	.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: 1949-2001

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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	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	4.19	3.56	2.86	1995	10	10.61	1995	.11	1984	10.8	7.3	3.3	1.1	.37	.66	1.21	1.79	2.43	3.16	4.02	5.10	6.59	9.08	11.52
Feb	3.75	3.00	2.92	1998	3	14.26	1998	.21	1997	10.6	7.4	2.7	.8	.41	.69	1.21	1.73	2.30	2.92	3.66	4.58	5.83	7.90	9.92
Mar	3.53	3.52	2.17	1995	10	9.61	1983	.03	1972	10.8	7.0	2.7	.6	.27	.50	.95	1.44	1.98	2.60	3.35	4.29	5.60	7.80	9.98
Apr	1.48	.95	2.11	1974	1	5.43	1978	.03	1992	6.7	3.5	.9	.1	.09	.18	.37	.57	.80	1.06	1.38	1.79	2.36	3.34	4.30
May	.50	.28	1.41	1957	18	2.67	1998	.01+	1992	4.5	1.4	.2	.0	.01	.02	.07	.12	.20	.29	.41	.58	.82	1.26	1.70
Jun	.20	.08	.99	1995	16	1.40	1995	.00+	1987	2.7	.5	@	.0	.00	.00	.02	.05	.08	.12	.17	.24	.33	.51	.69
Jul	.09	.04	.70	1980	2	.73	1980	.00+	1989	2.3	.1	@	.0	.00	.00	.01	.02	.03	.05	.07	.10	.15	.23	.31
Aug	.11	.05	.42	1975	18	.97	1976	.00+	1985	2.6	.2	.0	.0	.00	.00	.01	.03	.04	.07	.09	.13	.18	.27	.36
Sep	.28	.09	1.59	1959	18	1.45	1982	.00+	1995	2.7	.6	.1	@	.00	.00	.02	.04	.08	.14	.21	.31	.47	.75	1.04
Oct	1.06	.63	1.36	1950	26	4.37	2000	.02	1978	4.4	2.0	.8	.2	.03	.06	.16	.29	.45	.65	.90	1.24	1.73	2.59	3.47
Nov	2.43	1.92	2.42	1997	26	7.48	1997	.12	1980	8.0	4.7	1.7	.4	.11	.23	.51	.83	1.20	1.65	2.20	2.91	3.92	5.66	7.40
Dec	2.73	2.27	3.85	1955	23	8.01	1996	.16+	1999	9.3	5.6	1.5	.4	.35	.57	.95	1.33	1.74	2.18	2.70	3.34	4.20	5.61	6.99
Ann	20.35	17.28	3.85	Dec 1955	23	14.26	Feb 1998	.00+	Sep 1995	75.4	40.3	13.9	3.6	9.66	11.42	13.84	15.79	17.59	19.40	21.33	23.53	26.30	30.46	34.21

+ 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: 1949-2001

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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	.2	1976	5	.2	1976	#+	1998	20	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.8	1982	17	.8	1982	0	0	0	0	0	.1	.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	#	1998	.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	#	1998	20	#+	1998	#	1998	20	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	.8	Mar 1982	17	.8	Mar 1982	#+	Dec 1998	20	#	May 1998	.1	.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	3/24	3/07	2/22	2/10	1/30	1/19	1/05	12/15	0/00
32	1/27	1/14	1/02	12/18	0/00	0/00	0/00	0/00	0/00
28	12/15	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	11/21	12/02	12/10	12/17	12/24	12/31	1/09	1/22	0/00
32	12/18	12/31	1/13	1/28	0/00	0/00	0/00	0/00	0/00
28	1/16	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	356	332	318	306	294	278
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	416	335	333	290	266	193	156	123	113	157	290	420	3092
60	265	201	202	153	134	71	52	30	36	58	157	273	1632
57	179	129	128	90	78	27	16	7	12	22	96	192	976
55	130	91	90	58	49	11	7	2	6	10	65	145	664
50	44	25	24	11	9	0	0	0	0	0	16	60	189
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
32	607	589	677	701	761	799	875	910	908	880	702	603	9012
55	24	35	54	69	96	120	168	199	223	177	77	35	1277
57	11	18	30	41	64	77	116	142	170	127	49	19	864
60	3	6	10	14	27	31	58	72	103	70	19	7	420
65	0	0	0	0	4	6	8	10	30	14	2	0	74
70	0	0	0	0	0	0	0	0	5	1	0	0	6

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	381	391	438	464	524	574	645	682	684	651	480	378	381	772	1210	1674	2198	2772	3417	4099	4783	5434	5914	6292
45	226	248	283	314	369	424	490	527	534	496	330	229	226	474	757	1071	1440	1864	2354	2881	3415	3911	4241	4470
50	98	117	138	167	214	274	335	372	384	341	186	97	98	215	353	520	734	1008	1343	1715	2099	2440	2626	2723
55	26	33	35	59	76	130	181	217	234	188	69	26	26	59	94	153	229	359	540	757	991	1179	1248	1274
60	0	2	1	16	23	34	55	73	94	74	16	0	0	2	3	19	42	76	131	204	298	372	388	388
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	169	180	202	228	249	283	338	371	383	353	239	171	169	349	551	779	1028	1311	1649	2020	2403	2756	2995	3166

(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