

Climatography of the United States

No. 20

1971-2000

Station: MADERA, CA

COOP ID: 045233

Climate Division: CA 5

NWS Call Sign:

Elevation: 270 Feet Lat: 36° 57N

Lon: 120° 02W

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	54.1	37.2	45.7	79	1981	28	51.0	1986	15	1949	10	40.2	1972	599	0	.0	.0	22.5	.0	9.2	.0
Feb	61.5	40.0	50.8	79+	1977	20	54.0	1986	21+	1972	3	46.8	1971	399	0	.0	.0	27.1	@	4.0	.0
Mar	66.8	43.7	55.3	90	1960	22	59.8	1972	24+	1953	2	51.2	1973	309	7	.0	.0	30.7	.0	1.0	.0
Apr	74.3	46.6	60.5	98	1987	27	66.1	1987	29	1963	21	54.2	1975	175	38	.0	1.0	30.0	.0	.2	.0
May	83.1	52.5	67.8	107	1950	31	73.1	1997	33	1959	2	61.4	1977	61	148	.7	7.9	31.0	.0	.0	.0
Jun	91.0	58.5	74.8	115+	1961	22	81.4	1981	38+	1976	9	71.1	1998	4	296	5.0	18.3	30.0	.0	.0	.0
Jul	96.5	62.7	79.6	116	1961	13	83.6	1988	42	1963	1	75.7	1987	0	454	11.3	27.1	31.0	.0	.0	.0
Aug	95.3	61.8	78.6	112	1996	14	81.3	1980	39	1977	11	73.1	1976	0	419	8.2	24.9	31.0	.0	.0	.0
Sep	89.8	57.0	73.4	115	1955	3	77.3	1984	34	1950	30	68.5	1986	6	259	2.5	16.5	30.0	.0	.0	.0
Oct	79.9	48.5	64.2	101	1961	16	69.0	1987	24	1949	19	59.2	1981	107	83	.0	4.3	31.0	.0	.2	.0
Nov	64.9	39.9	52.4	92	1949	1	57.9	1995	23+	1975	30	46.9	1994	380	2	.0	.0	29.5	.0	3.8	.0
Dec	54.3	35.1	44.7	75+	1959	3	50.3	1977	18+	1990	24	40.7	1972	630	0	.0	.0	23.6	.1	12.1	.0
Ann	76.0	48.6	62.3	116	Jul 1961	13	83.6	Jul 1988	15	Jan 1949	10	40.2	Jan 1972	2670	1706	27.7	100.0	347.4	.1	30.5	.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: 1948-2001

(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

Station: MADERA, CA

COOP ID: 045233

Climate Division: CA 5

NWS Call Sign:

Elevation: 270 Feet Lat: 36°57N

Lon: 120°02W

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	2.19	2.08	1.78	1993	13	5.18	1995	.10	1976	8.3	5.6	1.2	.2	.16	.29	.57	.87	1.21	1.60	2.06	2.65	3.48	4.86	6.24
Feb	2.22	1.62	1.57	1978	10	6.13	2000	.19	1997	7.6	5.2	1.4	.2	.22	.38	.68	.99	1.33	1.71	2.15	2.71	3.48	4.76	6.01
Mar	2.29	2.14	1.81	1998	25	7.11	1991	.00+	1997	7.9	5.6	1.4	.3	.00	.34	.78	1.15	1.51	1.90	2.34	2.86	3.56	4.69	5.77
Apr	1.00	.78	1.79	1956	27	2.94	1982	.00+	1997	3.9	2.6	.5	.1	.00	.06	.20	.36	.52	.71	.94	1.23	1.63	2.30	2.97
May	.43	.09	1.90	1990	28	2.61	1994	.00+	1997	2.0	1.2	.3	.1	.00	.00	.00	.00	.01	.09	.23	.43	.75	1.33	1.94
Jun	.11	.00	.73	1998	7	.74	1998	.00+	1997	.7	.3	@	.0	.00	.00	.00	.00	.00	.00	.01	.05	.15	.35	.58
Jul	.01	.00	.38	1958	29	.09	1992	.00+	2000	.1	.0	.0	.0	**	**	**	**	**	**	**	**	**	**	**
Aug	.02	.00	.16	1976	20	.27	1976	.00+	2000	.3	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.14
Sep	.23	.01	1.63	1959	19	1.61	1978	.00+	1999	1.1	.6	.1	@	.00	.00	.00	.00	.00	.00	.08	.20	.40	.75	1.12
Oct	.74	.66	1.58	1987	28	2.83	2000	.00+	1999	2.5	1.7	.5	.1	.00	.00	.00	.11	.24	.41	.62	.89	1.28	1.96	2.63
Nov	1.24	.69	1.98	1978	21	4.07	1972	.00+	1995	5.0	3.1	.7	.1	.00	.06	.24	.42	.63	.87	1.16	1.52	2.03	2.89	3.75
Dec	1.46	1.40	1.41	1955	24	5.02	1996	.00	1989	5.9	3.8	.9	.1	.10	.25	.48	.69	.92	1.17	1.45	1.80	2.28	3.05	3.80
Ann	11.94	10.97	1.98	Nov 1978	21	7.11	Mar 1991	.00+	Aug 2000	45.3	29.8	7.0	1.2	5.47	6.52	7.97	9.14	10.24	11.34	12.51	13.86	15.54	18.10	20.41

+ 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: 1948-2001

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1971-2000

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Station: MADERA, CA

COOP ID: 045233

Climate Division: CA 5

NWS Call Sign:

Elevation: 270 Feet

Lat: 36°57N

Lon: 120°02W

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	#	1971	28	#	1971	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	N/A	N/A	#	Feb 1971	28	#	Feb 1971	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

Complete documentation available from:

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Climate Division: CA 5

NWS Call Sign:

Elevation: 270 Feet

Lat: 36° 57N

Lon: 120° 02W

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	4/22	4/13	4/06	3/31	3/26	3/20	3/15	3/08	2/27
32	3/31	3/20	3/12	3/06	2/28	2/22	2/15	2/07	1/28
28	2/17	2/05	1/28	1/21	1/14	1/07	12/30	12/20	12/01
24	1/31	1/17	1/04	12/19	0/00	0/00	0/00	0/00	0/00
20	12/24	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	10/18	10/24	10/28	11/01	11/04	11/08	11/11	11/16	11/22
32	10/31	11/07	11/11	11/15	11/18	11/22	11/26	11/30	12/06
28	11/15	11/23	11/28	12/03	12/07	12/12	12/17	12/23	1/05
24	12/09	12/22	1/02	1/20	0/00	0/00	0/00	0/00	0/00
20	1/13	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	260	247	238	230	223	216	208	199	186
32	299	287	278	270	263	256	248	239	227
28	>365	>365	348	334	324	315	305	295	281
24	>365	>365	>365	>365	>365	>365	>365	>365	316
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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NWS Call Sign:

Elevation: 270 Feet Lat: 36°57N Lon: 120°02W

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	599	399	309	175	61	4	0	0	6	107	380	630	2670
60	446	260	177	86	20	0	0	0	0	43	241	475	1748
57	359	183	116	48	8	0	0	0	0	21	169	382	1286
55	303	136	83	30	4	0	0	0	0	12	127	325	1020
50	181	51	24	8	0	0	0	0	0	2	50	188	504
32	4	0	0	0	0	0	0	0	0	0	0	2	6

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	428	525	720	854	1110	1282	1477	1442	1243	999	612	395	11087
55	14	17	90	194	401	592	764	729	553	298	49	5	3706
57	8	8	61	152	343	532	702	667	493	245	31	1	3243
60	2	1	30	100	262	442	609	574	403	174	13	0	2610
65	0	0	7	38	148	296	454	419	259	83	2	0	1706
70	0	0	0	11	68	166	300	267	135	30	0	0	977

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	187	312	469	615	864	1041	1223	1185	1002	752	375	167	187	499	968	1583	2447	3488	4711	5896	6898	7650	8025	8192
45	81	178	315	465	709	891	1068	1030	852	597	232	67	81	259	574	1039	1748	2639	3707	4737	5589	6186	6418	6485
50	28	71	177	318	554	741	913	875	702	442	118	16	28	99	276	594	1148	1889	2802	3677	4379	4821	4939	4955
55	3	18	71	185	399	591	758	720	552	296	42	0	3	21	92	277	676	1267	2025	2745	3297	3593	3635	3635
60	0	0	18	86	253	441	603	565	402	166	6	0	0	0	18	104	357	798	1401	1966	2368	2534	2540	2540
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	94	179	270	381	538	645	749	730	624	477	235	94	94	273	543	924	1462	2107	2856	3586	4210	4687	4922	5016

(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/normals/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 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