

Climatology of the United States

No. 20

1971-2000

Station: PALO ALTO, CA

COOP ID: 046646

Climate Division: CA 4

NWS Call Sign:

Elevation: 25 Feet

Lat: 37° 27N

Lon: 122° 08W

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	57.6	40.4	49.0	75+	1976	20	53.7	1986	21	1963	13	45.2	1994	496	0	.0	.0	29.3	.0	6.2	.0
Feb	61.6	43.2	52.4	84	1981	22	55.4	1980	24	1962	27	47.7	1994	353	0	.0	.0	27.4	.0	1.5	.0
Mar	64.3	45.6	55.0	85	1988	27	59.5	1978	30+	1971	2	51.2	1991	312	1	.0	.0	30.9	.0	.4	.0
Apr	69.0	47.4	58.2	94	1981	30	62.3	1989	31+	2001	7	53.5	1994	211	8	.0	.2	30.0	.0	.1	.0
May	73.5	51.2	62.4	100+	1997	18	66.0	1997	33	1977	6	58.0	1977	124	41	.1	1.3	31.0	.0	.0	.0
Jun	77.4	55.0	66.2	107	1961	15	71.9	1981	40	1982	3	62.4	1994	46	81	.4	2.5	30.0	.0	.0	.0
Jul	78.8	57.1	68.0	105+	1988	18	70.5	1972	41	1983	19	64.9	1994	15	106	.2	1.8	31.0	.0	.0	.0
Aug	78.7	57.2	68.0	101	1968	30	71.1	1971	44	1982	4	65.6	1986	10	101	.1	1.8	31.0	.0	.0	.0
Sep	77.8	55.0	66.4	105	1971	15	70.9	1984	41+	1981	29	60.7	1993	53	95	.2	2.1	30.0	.0	.0	.0
Oct	73.0	50.0	61.5	100	1980	2	63.8	1978	34	1971	30	58.0	1971	128	19	@	.5	31.0	.0	.0	.0
Nov	64.1	43.9	54.0	89+	1955	11	59.0	1981	26	1993	25	49.0	1993	330	0	.0	.0	29.9	.0	1.1	.0
Dec	58.2	39.2	48.7	75+	1967	27	53.4+	1981	20	1990	23	43.4	1993	506	0	.0	.0	29.1	.0	6.6	.0
Ann	69.5	48.8	59.2	107	Jun 1961	15	71.9	Jun 1981	20	Dec 1990	23	43.4	Dec 1993	2584	452	1.0	10.2	360.6	.0	15.9	.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

Station: PALO ALTO, CA

COOP ID: 046646

Climate Division: CA 4

NWS Call Sign:

Elevation: 25 Feet

Lat: 37°27N

Lon: 122°08W

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	3.24	3.09	2.60	1982	5	7.91	1995	.28+	1991	10.9	6.8	2.0	.6	.28	.51	.94	1.39	1.88	2.44	3.11	3.94	5.10	7.02	8.91
Feb	3.18	2.45	3.75	1998	3	12.43	1998	.26	1997	9.9	6.3	2.1	.7	.24	.45	.86	1.30	1.78	2.34	3.02	3.87	5.05	7.03	8.99
Mar	2.65	2.42	1.52	1958	16	8.54	1983	.05	1988	10.0	5.9	1.6	.3	.20	.37	.71	1.08	1.48	1.95	2.51	3.22	4.20	5.85	7.47
Apr	.89	.66	1.55	1958	3	2.84	1978	.01	1977	5.1	3.0	.4	.0	.04	.09	.19	.31	.45	.61	.81	1.07	1.44	2.06	2.69
May	.35	.10	1.02	1994	7	2.49	1998	.00+	1992	2.5	1.3	.1	@	.00	.00	.00	.00	.04	.11	.22	.37	.61	1.03	1.47
Jun	.11	.01	.82	1995	16	1.04	1995	.00+	1998	.7	.3	@	.0	.00	.00	.00	.00	.00	.00	.04	.10	.19	.34	.50
Jul	.03	.00	.33	1966	31	.34	1980	.00+	2000	.4	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.03	.10	.17
Aug	.08	.00	.58	1997	20	.81	1976	.00+	1998	.6	.3	@	.0	.00	.00	.00	.00	.00	.00	.00	.02	.10	.26	.46
Sep	.19	.05	1.78	1959	19	1.09	1982	.00+	1996	1.6	.6	.1	.0	.00	.00	.00	.00	.00	.04	.10	.19	.33	.58	.85
Oct	.85	.61	1.86	1962	13	3.72	1972	.00+	1995	3.2	1.9	.6	.1	.00	.03	.13	.26	.40	.56	.77	1.03	1.41	2.05	2.69
Nov	1.83	1.22	2.48	1970	29	6.31	1972	.03	1995	7.2	4.1	1.3	.3	.07	.16	.36	.59	.87	1.21	1.63	2.18	2.97	4.32	5.68
Dec	2.31	2.12	2.77	1955	22	5.49	1996	.01	1989	8.8	5.5	1.5	.3	.18	.33	.63	.94	1.30	1.70	2.19	2.80	3.66	5.09	6.50
Ann	15.71	14.42	3.75	Feb 1998	3	12.43	Feb 1998	.00+	Jul 2000	60.9	36.1	9.7	2.3	7.03	8.42	10.36	11.93	13.40	14.88	16.46	18.28	20.56	24.02	27.15

+ 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

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: PALO ALTO, CA

COOP ID: 046646

Climate Division: CA 4

NWS Call Sign:

Elevation: 25 Feet

Lat: 37°27N

Lon: 122°08W

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

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Climatography of the United States

No. 20 1971-2000

Station: PALO ALTO, CA

COOP ID: 046646

Climate Division: CA 4

NWS Call Sign:

Elevation: 25 Feet

Lat: 37° 27N

Lon: 122° 08W

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	4/09	3/30	3/22	3/15	3/08	2/28	2/18	2/06
32	3/16	3/02	2/20	2/11	2/03	1/26	1/16	1/06	12/20
28	2/01	1/21	1/11	1/02	12/20	0/00	0/00	0/00	0/00
24	12/17	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	10/30	11/06	11/10	11/14	11/18	11/21	11/25	11/30	12/06
32	11/09	11/20	11/28	12/05	12/11	12/18	12/25	1/02	1/15
28	12/06	12/16	12/25	1/02	1/15	0/00	0/00	0/00	0/00
24	12/29	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	292	277	266	256	247	238	228	217	202
32	>365	>365	338	322	309	298	287	275	258
28	>365	>365	>365	>365	>365	>365	>365	358	330
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:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

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

Station: PALO ALTO, CA

COOP ID: 046646

Climate Division: CA 4 NWS Call Sign: Elevation: 25 Feet Lat: 37°27N Lon: 122°08W

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	496	353	312	211	124	46	15	10	53	128	330	506	2584
60	342	219	172	96	45	8	0	0	12	37	193	355	1479
57	255	147	106	50	18	2	0	0	4	12	125	269	988
55	200	108	72	27	9	0	0	0	0	4	89	216	725
50	93	37	17	4	0	0	0	0	0	0	29	111	291
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	527	571	712	787	940	1025	1114	1115	1032	914	660	517	9914
55	14	35	71	124	236	335	401	402	342	205	59	20	2244
57	7	18	43	87	183	277	339	340	285	151	35	11	1776
60	1	6	16	43	117	193	246	247	203	83	13	4	1172
65	0	0	1	8	41	81	106	101	95	19	0	0	452
70	0	0	0	0	8	18	22	15	28	2	0	0	93

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	262	344	437	519	658	752	836	840	770	644	403	257	262	606	1043	1562	2220	2972	3808	4648	5418	6062	6465	6722
45	124	202	283	369	503	602	681	685	620	489	254	119	124	326	609	978	1481	2083	2764	3449	4069	4558	4812	4931
50	37	87	145	219	349	452	526	530	470	334	124	34	37	124	269	488	837	1289	1815	2345	2815	3149	3273	3307
55	4	19	48	99	199	303	371	375	320	186	36	0	4	23	71	170	369	672	1043	1418	1738	1924	1960	1960
60	0	0	3	31	84	162	217	220	171	73	4	0	0	0	3	34	118	280	497	717	888	961	965	965
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	132	180	233	297	384	452	519	524	469	379	224	141	132	312	545	842	1226	1678	2197	2721	3190	3569	3793	3934

(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 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