U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: PINNACLES NATL MONUMENT, CA **COOP ID: 046926**

Climate Division: CA 4 **NWS Call Sign:** **Elevation: 1,307 Feet** **Lat: 36˚29N** **Lon: 121˚11W**

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	62.7	33.6	48.2	86	1976	18	52.7	1986	10	1960	2	44.4	1982	522	0	.0	.0	29.4	.0	16.0	.0
Feb	64.7	35.8	50.3	86	1971	13	55.4	1991	17+	1989	7	45.9	1994	413	0	.0	.0	27.3	.2	9.7	.0
Mar	66.6	37.6	52.1	93	1966	31	58.7	1972	21	1994	24	46.7	1991	403	3	.0	@	30.2	.0	6.7	.0
Apr	72.6	39.3	56.0	100	1989	8	63.5	1989	24	1953	9	49.8	1975	286	14	@	.9	29.8	.0	2.9	.0
May	79.6	42.9	61.3	104+	2001	31	68.2	1997	26	1993	12	55.8	1998	167	51	.4	5.2	31.0	.0	.5	.0
Jun	88.1	46.8	67.5	112	1961	14	74.1	1981	16	1976	11	63.5	1998	47	120	3.5	13.6	30.0	.0	.0	.0
Jul	94.4	50.7	72.6	116	1972	15	77.1	1996	35	1966	11	67.8	1983	8	242	7.7	22.8	31.0	.0	.0	.0
Aug	94.5	50.3	72.4	115	1998	5	75.8	1998	37+	1984	24	67.5	1976	5	235	7.8	22.9	31.0	.0	.0	.0
Sep	90.3	48.3	69.3	114	1950	2	75.0	1984	33	1948	26	62.3	1986	33	161	4.2	16.1	30.0	.0	.0	.0
Oct	81.9	42.5	62.2	116	1980	4	67.1	1991	25	1971	30	58.2	1984	136	50	.9	6.7	31.0	.0	1.2	.0
Nov	69.9	36.6	53.3	94+	1967	1	60.5	1995	15	1976	28	46.2	1994	358	6	.0	.3	29.8	.0	8.3	.0
Dec	63.4	32.5	48.0	90	1958	3	53.6	1977	10+	1990	24	43.3	1990	529	0	.0	.0	29.1	.0	18.1	.0
Ann	77.4	41.4	59.4	116+	Oct 1980	4	77.1	Jul 1996	10+	Dec 1990	24	43.3	Dec 1990	2907	882	24.5	88.5	359.6	.2	63.4	.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/normals/usnormals.html

(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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	3.32	2.27	2.19	1967	24	10.16	1995	.09	1976
Feb	3.45	2.51	4.74	1998	3	11.86	1998	.20	1997
Mar	3.47	2.93	3.14	1995	10	10.56	1983	.00	1972
Apr	1.09	.73	2.17	1958	3	4.09	1983	.00	1992
May	.48	.11	1.10	1961	31	3.23	1998	.00+	1992
Jun	.08	.02	.52	1995	16	.59	1995	.00+	1990
Jul	.04	.00	.59	1995	18	.66	1995	.00+	2000
Aug	.09	.00	.88	1976	19	1.35	1976	.00+	1999
Sep	.32	.04	1.18	1976	29	2.72	1976	.00+	1999
Oct	.90	.66	1.85	1996	30	3.29	1996	.00+	1995
Nov	1.72	1.19	3.34	1970	29	5.95	1972	.03	1980
Dec	2.39	2.00	3.13	1955	23	6.54	1971	.01	1989
Ann	17.35	16.71	4.74	Feb 1998	3	11.86	Feb 1998	.00+	Jul 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.6	6.0	2.4	.7
Feb	9.7	5.7	2.2	.8
Mar	9.7	6.4	2.3	.7
Apr	5.2	2.9	.5	.2
May	2.7	1.1	.4	@
Jun	.9	.2	@	.0
Jul	.4	.1	@	.0
Aug	.4	.3	.1	.0
Sep	1.4	.6	.2	.1
Oct	2.9	1.8	.6	.1
Nov	6.2	3.6	1.3	.3
Dec	8.2	4.8	1.8	.6
Ann	57.3	33.5	11.8	3.5

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.20	.40	.81	1.26	1.77	2.37	3.09	4.01	5.31	7.50	9.68
Feb	.18	.37	.78	1.25	1.78	2.40	3.17	4.16	5.54	7.91	10.27
Mar	.16	.47	.99	1.50	2.05	2.66	3.38	4.28	5.50	7.53	9.52
Apr	.02	.08	.21	.36	.54	.74	.99	1.31	1.77	2.55	3.32
May	.00	.00	.00	.00	.03	.12	.25	.46	.80	1.45	2.14
Jun	.00	.00	.00	.00	.00	.01	.03	.08	.14	.25	.37
Jul	.00	.00	.00	.00	.00	.00	.00	.00	.01	.11	.24
Aug	.00	.00	.00	.00	.00	.00	.00	.00	.01	.23	.58
Sep	.00	.00	.00	.00	.00	.03	.12	.27	.52	1.01	1.54
Oct	.00	.01	.07	.17	.30	.48	.71	1.03	1.50	2.35	3.23
Nov	.03	.08	.22	.42	.67	.99	1.42	1.99	2.83	4.32	5.87
Dec	.13	.26	.54	.86	1.23	1.67	2.19	2.88	3.83	5.47	7.10
Ann	8.05	9.56	11.66	13.35	14.92	16.50	18.18	20.11	22.53	26.19	29.48

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

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	.0	#	0	3.0	1974	4	4.0	1974	4	1974	5	#	1974	.1	.1	@	.0	.0	.1	.1	.0	.0
Feb	.0	.0	0	0	.3	1989	5	.3	1989	0	0	0	0	0	@	.0	.0	.0	.0	.0	.0	.0	.0
Mar	#	.0	#	0	#	1975	14	#	1975	#	1985	2	#	1985	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	#	0	#	1999	6	#	1999	#	1999	6	#	1999	.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	.1	.0	#	0	1.5	1972	8	1.5	1972	1+	1998	20	#+	1998	.1	@	.0	.0	.0	.1	.0	.0	.0
Ann	.3	.0	N/A	N/A	3.0	Jan 1974	4	4.0	Jan 1974	4	Jan 1974	5	#+	Apr 1999	.2	.1	@	.0	.0	.2	.1	.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	6/15	6/08	6/02	5/29	5/25	5/21	5/16	5/11	5/04
32	5/18	5/08	5/01	4/24	4/19	4/13	4/07	3/30	3/20
28	4/19	4/05	3/26	3/17	3/10	3/02	2/21	2/11	1/28
24	3/04	2/18	2/08	1/31	1/22	1/13	1/01	12/11	0/00
20	1/26	1/14	1/03	12/24	12/05	0/00	0/00	0/00	0/00
16	12/12	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	9/27	10/03	10/07	10/11	10/14	10/17	10/21	10/25	10/31
32	10/16	10/22	10/26	10/30	11/03	11/06	11/10	11/14	11/20
28	11/02	11/09	11/14	11/19	11/23	11/27	12/01	12/06	12/13
24	11/16	11/25	12/02	12/08	12/14	12/21	12/29	1/13	0/00
20	12/07	12/18	12/28	1/07	1/24	0/00	0/00	0/00	0/00
16	12/17	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	171	161	153	147	141	136	130	122	112
32	234	221	212	204	197	190	182	173	161
28	300	285	275	266	257	249	240	229	215
24	>365	>365	>365	347	330	317	305	292	275
20	>365	>365	>365	>365	>365	>365	>365	350	330
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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	522	413	403	286	167	47	8	5	33	136	358	529	2907
60	367	277	262	168	82	11	0	0	8	57	227	378	1837
57	277	201	189	114	46	4	0	0	2	28	162	292	1315
55	220	154	148	84	29	1	0	0	0	16	125	238	1015
50	101	69	68	29	8	0	0	0	0	3	55	128	461
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	502	511	623	718	907	1063	1257	1253	1118	937	637	494	10020
55	8	21	58	112	224	375	544	540	428	240	72	19	2641
57	4	11	37	82	178	317	482	478	370	190	49	11	2209
60	0	4	17	46	122	235	389	385	285	126	24	4	1637
65	0	0	3	14	51	120	242	235	161	50	6	0	882
70	0	0	0	2	15	45	120	108	74	13	0	0	377

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	240	289	362	469	657	827	1006	1004	873	680	386	244	240	529	891	1360	2017	2844	3850	4854	5727	6407	6793	7037
45	115	162	220	320	502	677	851	849	723	525	243	120	115	277	497	817	1319	1996	2847	3696	4419	4944	5187	5307
50	38	72	105	192	350	527	696	694	573	372	124	40	38	110	215	407	757	1284	1980	2674	3247	3619	3743	3783
55	3	21	33	88	210	379	541	539	424	230	53	1	3	24	57	145	355	734	1275	1814	2238	2468	2521	2522
60	0	0	2	33	108	237	386	384	280	123	12	0	0	0	2	35	143	380	766	1150	1430	1553	1565	1565
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	193	210	250	328	437	515	596	589	532	461	292	204	193	403	653	981	1418	1933	2529	3118	3650	4111	4403	4607

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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