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: NAPA STATE HOSPITAL, CA **COOP ID: 046074**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 35 Feet** **Lat: 38˚17N** **Lon: 122˚16W**

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	56.6	39.2	47.9	85	1962	8	53.0	1986	19	1937	9	43.4	1972	529	0	.0	.0	28.9	.0	6.4	.0
Feb	61.8	41.8	51.8	85	1948	17	55.3	1991	23	1917	1	47.1	1989	370	0	.0	.0	27.7	@	1.8	.0
Mar	65.4	43.1	54.3	90	1955	8	58.2	1986	23	1949	8	50.7	1985	335	2	.0	.0	31.0	.0	.7	.0
Apr	70.5	44.7	57.6	95+	1981	29	61.7	1987	27+	1933	22	52.3	1975	231	9	.0	.3	30.0	.0	.2	.0
May	75.4	48.8	62.1	103+	2001	31	66.7	1997	30	1974	18	56.9	1977	133	42	.2	2.4	31.0	.0	@	.0
Jun	80.5	52.6	66.6	113	1961	14	72.7	1981	34+	1933	17	61.4	1982	49	94	1.0	4.8	30.0	.0	.0	.0
Jul	82.6	54.5	68.6	112	1972	14	71.5	1988	38+	1933	13	66.1	1994	9	120	1.0	5.4	31.0	.0	.0	.0
Aug	82.4	54.5	68.5	106	1998	4	72.2	1998	37	1932	17	64.8	1980	13	120	.4	5.2	31.0	.0	.0	.0
Sep	81.8	53.1	67.5	109+	1955	2	71.8	1984	36	1932	22	64.2	1972	31	105	.7	6.6	30.0	.0	.0	.0
Oct	76.4	49.0	62.7	106	1980	1	66.0	1986	28	1946	29	59.3	1981	105	34	.3	2.5	31.0	.0	@	.0
Nov	64.1	42.9	53.5	89+	1966	1	59.7	1995	25+	1932	4	48.7	1994	347	3	.0	.0	30.0	.0	1.1	.0
Dec	56.8	38.6	47.7	81	1967	26	53.1	1995	14	1990	22	42.5+	1990	537	0	.0	.0	28.4	.0	6.5	.0
Ann	71.2	46.9	59.1	113	Jun 1961	14	72.7	Jun 1981	14	Dec 1990	22	42.5+	Dec 1990	2689	529	3.6	27.2	360.0	@	16.7	.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: 1917-2001

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

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: NAPA STATE HOSPITAL, CA

COOP ID: 046074

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 35 Feet** **Lat: 38˚17N** **Lon: 122˚16W**

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	5.35	4.73	5.69	1982	4	13.66	1995	.34	1976
Feb	5.03	4.02	3.45	1983	25	15.29	1986	.28	1971
Mar	4.09	3.01	3.28	1940	30	11.97	1995	.13	1988
Apr	1.45	1.27	2.66	1996	1	3.97	1982	.07	1985
May	.78	.20	1.85	1996	16	3.72	1996	.00+	1992
Jun	.16	.00	1.22	1967	2	1.09	1992	.00+	1999
Jul	.05	.00	.81	1974	8	1.05	1974	.00+	2000
Aug	.11	.00	.84	1965	11	1.30	1976	.00+	2000
Sep	.41	.10	1.87	1959	18	2.31	1989	.00+	1995
Oct	1.43	1.21	4.66+	1962	13	3.64	1975	.00+	1995
Nov	3.72	3.01	5.85	1977	21	10.51	1973	.15	1986
Dec	3.88	3.36	4.10	1931	27	12.92	1996	.00	1989
Ann	26.46	24.92	5.85	Nov 1977	21	15.29	Feb 1986	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.5	7.9	3.7	1.6
Feb	10.0	7.4	3.7	1.4
Mar	10.3	7.7	3.1	.9
Apr	6.3	3.6	.9	.2
May	3.3	1.6	.5	.1
Jun	.8	.5	.1	.0
Jul	.2	.1	@	.0
Aug	.4	.3	.1	.0
Sep	1.8	1.0	.3	.1
Oct	4.0	2.4	1.0	.4
Nov	8.9	5.9	2.8	1.1
Dec	9.7	6.3	2.8	.9
Ann	67.2	44.7	19.0	6.7

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	.50	.87	1.60	2.34	3.15	4.07	5.16	6.52	8.40	11.52	14.59
Feb	.38	.71	1.36	2.06	2.83	3.71	4.77	6.11	7.97	11.09	14.18
Mar	.31	.58	1.11	1.67	2.29	3.01	3.88	4.97	6.48	9.02	11.53
Apr	.12	.22	.41	.61	.84	1.09	1.39	1.76	2.29	3.16	4.01
May	.00	.00	.01	.07	.16	.31	.52	.83	1.31	2.21	3.17
Jun	.00	.00	.00	.00	.00	.00	.05	.15	.29	.52	.77
Jul	**	**	**	**	**	**	**	**	**	**	**
Aug	**	**	**	**	**	**	**	**	**	**	**
Sep	.00	.00	.00	.00	.03	.11	.23	.42	.71	1.24	1.80
Oct	.00	.10	.33	.55	.79	1.06	1.38	1.77	2.32	3.24	4.14
Nov	.18	.38	.82	1.31	1.88	2.56	3.39	4.47	5.99	8.58	11.18
Dec	.25	.64	1.25	1.82	2.42	3.08	3.84	4.78	6.05	8.14	10.15
Ann	12.30	14.61	17.80	20.38	22.78	25.18	27.75	30.68	34.37	39.94	44.95

+ 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: 1917-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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

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: NAPA STATE HOSPITAL, CA **COOP ID: 046074**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 35 Feet** **Lat: 38°17N** **Lon: 122°16W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	#	.0	0	0
Feb	.0	.0	0	0
Mar	.0	.0	0	0
Apr	.0	.0	0	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.0	.0	0	0
Nov	.0	.0	0	0
Dec	#	.0	0	0
Ann	#	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	#	1979	30	#	1979	0	0	0	0	0
Feb	.0	0	0	.0	0	0	0	0	0	0
Mar	1.0	1987	22	1.0	1987	0	0	0	0	0
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	.0	0	0	.0	0	0	0	0	0	0
Nov	.0	0	0	.0	0	0	0	0	0	0
Dec	#	1972	13	#	1972	0	0	0	0	0
Ann	1.0	Mar 1987	22	1.0	Mar 1987	0	0	0	0	0

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.0	.0	.0	.0	.0
Feb	.0	.0	.0	.0	.0
Mar	@	@	.0	.0	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.0	.0	.0	.0	.0
Dec	.0	.0	.0	.0	.0
Ann	@	@	.0	.0	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.0	.0	.0	.0
Mar	.0	.0	.0	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.0	.0	.0	.0
Dec	.0	.0	.0	.0
Ann	.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/normals/usnormals.html

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: NAPA STATE HOSPITAL, CA **COOP ID: 046074**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 35 Feet** **Lat: 38˚17N** **Lon: 122˚16W**

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	5/05	4/25	4/17	4/11	4/05	3/30	3/23	3/16	3/05
32	4/06	3/22	3/12	3/02	2/22	2/13	2/04	1/25	1/10
28	2/08	1/27	1/18	1/10	1/02	12/23	12/09	0/00	0/00
24	12/20	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	11/04	11/08	11/11	11/15	11/18	11/21	11/25	11/30
32	11/05	11/15	11/23	11/29	12/05	12/11	12/18	12/25	1/05
28	11/27	12/08	12/15	12/23	12/30	1/08	1/24	0/00	0/00
24	12/28	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	258	246	237	230	223	216	209	200	188
32	348	324	309	296	285	273	261	246	227
28	>365	>365	>365	>365	362	344	333	323	310
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/normals/usnormals.html

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: NAPA STATE HOSPITAL, CA **COOP ID: 046074**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 35 Feet** **Lat: 38˚17N** **Lon: 122˚16W**

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	529	370	335	231	133	49	9	13	31	105	347	537	2689
60	375	233	194	116	52	10	0	0	5	31	213	383	1612
57	288	157	125	67	23	3	0	0	0	11	146	297	1117
55	233	114	90	41	12	1	0	0	0	5	108	242	846
50	119	39	25	9	1	0	0	0	0	0	43	128	364
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	494	555	690	768	932	1036	1134	1130	1064	952	645	486	9886
55	13	25	67	119	231	347	421	417	374	244	64	15	2337
57	7	12	41	85	180	289	359	355	314	188	41	9	1880
60	0	3	16	43	116	206	266	263	228	115	18	2	1276
65	0	0	2	9	42	94	120	120	105	34	3	0	529
70	0	0	0	0	9	27	27	31	30	4	0	0	128

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	268	362	458	545	697	809	897	893	839	723	430	262	268	630	1088	1633	2330	3139	4036	4929	5768	6491	6921	7183
45	130	220	303	395	542	659	742	738	689	568	281	133	130	350	653	1048	1590	2249	2991	3729	4418	4986	5267	5400
50	46	103	161	247	387	509	587	583	539	413	145	45	46	149	310	557	944	1453	2040	2623	3162	3575	3720	3765
55	3	28	56	120	235	359	432	428	389	259	54	4	3	31	87	207	442	801	1233	1661	2050	2309	2363	2367
60	0	1	9	39	110	212	277	273	240	127	9	0	0	1	10	49	159	371	648	921	1161	1288	1297	1297
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	129	194	261	330	421	493	561	563	513	440	243	133	129	323	584	914	1335	1828	2389	2952	3465	3905	4148	4281

(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.
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