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: HAT CREEK, CA **COOP ID: 043824**

Climate Division: CA 2 **NWS Call Sign:** **Elevation: 3,015 Feet** **Lat: 40˚56N** **Lon: 121˚33W**

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	47.0	22.0	34.5	66+	1984	31	39.9	1986	-11	1949	25	27.9	1993	946	0	.0	.0	12.7	.4	26.8	.4
Feb	52.2	25.4	38.8	78	1986	28	43.7	1991	-8	1949	13	32.8	1993	734	0	.0	.0	16.7	.3	22.9	.2
Mar	57.1	28.9	43.0	81+	1966	31	47.0	1972	9+	1969	10	38.2	1977	683	0	.0	.0	24.7	.0	21.0	.0
Apr	64.0	32.2	48.1	90+	1987	27	54.3	1990	17+	2001	7	41.3	1975	508	0	.0	.1	27.2	.0	14.8	.0
May	72.7	38.0	55.4	101	1983	29	60.8	1992	18	1999	4	48.7	1977	307	8	@	1.8	30.6	.0	5.0	.0
Jun	81.0	43.7	62.4	104	1950	30	67.2	1977	27	1966	4	56.9	1980	124	44	.4	6.2	30.0	.0	.6	.0
Jul	89.1	47.0	68.1	108	1972	16	72.2	1988	27	1997	1	62.7	1983	44	139	2.5	17.2	31.0	.0	.1	.0
Aug	88.9	44.3	66.6	110	1972	8	69.4	1971	30	1999	31	62.6	1976	42	92	2.1	17.2	31.0	.0	@	.0
Sep	82.5	38.4	60.5	107	1988	4	66.0	1991	22+	1972	23	55.5	1986	166	29	.6	8.2	30.0	.0	3.2	.0
Oct	70.8	31.3	51.1	98	1980	3	56.6	1987	14+	1971	29	46.1	1984	433	2	.0	1.2	30.0	.0	16.9	.0
Nov	54.3	26.4	40.4	82+	1966	1	47.4	1995	7+	1994	19	32.6	1994	739	0	.0	.0	20.9	.0	23.4	.0
Dec	46.2	21.9	34.1	68	1980	17	38.6	1995	-20	1972	9	27.2	1972	959	0	.0	.0	11.6	.5	26.9	.4
Ann	67.2	33.3	50.3	110	Aug 1972	8	72.2	Jul 1988	-20	Dec 1972	9	27.2	Dec 1972	5685	314	5.6	51.9	296.4	1.2	161.6	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/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

Issue Date: February 2004

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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	2.96	2.80	2.34	1967	21	7.17	1995	.13	1984
Feb	2.89	2.57	1.98	1979	14	6.27	1979	.07	1988
Mar	2.82	2.29	1.95	1971	12	7.68	1995	.47	1976
Apr	1.44	1.26	1.14	1978	20	4.21	1978	.05	1985
May	1.36	1.15	1.82	1963	30	4.34	1998	.05	1976
Jun	.73	.48	1.05	1995	16	2.80	1971	.02	1972
Jul	.21	.03	1.10	1952	29	1.18	1987	.00+	1999
Aug	.36	.13	1.21	1948	23	2.09	1976	.00+	2000
Sep	.79	.61	1.44	1985	8	2.35	1985	.00+	1999
Oct	1.34	1.23	2.80	1962	12	3.50	1981	.00	1978
Nov	2.33	1.94	2.60	1960	26	6.44	1981	.27	1995
Dec	2.55	2.32	1.83	1980	3	7.54	1996	.07	1989
Ann	19.78	18.60	2.80	Oct 1962	12	7.68	Mar 1995	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.9	7.0	1.9	.4
Feb	11.4	6.7	1.8	.6
Mar	12.4	7.3	1.5	.3
Apr	9.1	4.6	.7	.2
May	7.4	3.7	.7	.1
Jun	4.0	2.2	.2	@
Jul	1.3	.7	.1	.0
Aug	1.9	1.1	.1	.0
Sep	3.5	2.0	.4	.1
Oct	5.8	2.8	.9	.2
Nov	9.6	5.6	1.3	.2
Dec	9.9	6.4	1.3	.3
Ann	87.2	50.1	10.9	2.4

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	.30	.52	.92	1.33	1.78	2.28	2.87	3.61	4.62	6.29	7.93
Feb	.43	.67	1.09	1.49	1.90	2.36	2.89	3.53	4.40	5.81	7.17
Mar	.57	.83	1.24	1.62	2.00	2.41	2.87	3.43	4.16	5.34	6.45
Apr	.25	.37	.58	.78	.98	1.20	1.45	1.75	2.16	2.81	3.43
May	.12	.21	.39	.58	.79	1.02	1.30	1.65	2.13	2.94	3.73
Jun	.06	.10	.20	.30	.41	.54	.69	.88	1.15	1.61	2.05
Jul	.00	.00	.00	.00	.00	.02	.09	.19	.35	.66	.98
Aug	.00	.00	.00	.00	.04	.13	.24	.41	.64	1.06	1.48
Sep	.00	.00	.09	.22	.37	.53	.73	.98	1.34	1.92	2.50
Oct	.04	.13	.30	.50	.71	.96	1.26	1.64	2.17	3.06	3.95
Nov	.27	.45	.78	1.10	1.45	1.83	2.29	2.84	3.60	4.85	6.07
Dec	.25	.44	.79	1.14	1.53	1.96	2.47	3.11	3.99	5.44	6.85
Ann	10.70	12.27	14.39	16.06	17.59	19.11	20.71	22.51	24.76	28.11	31.08

\+ 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	5.7	2.0	1	#	9.0	1974	6	17.0	1974	20	1993	13	11	1993	2.6	2.3	.9	.4	.0	5.8	2.9	1.6	.2
Feb	4.3	1.3	1	#	8.0	1975	1	19.5	1990	11	1990	18	4	1993	1.7	1.4	.5	.3	.0	2.6	1.4	.9	.1
Mar	2.6	1.0	#	#	6.0	1974	2	13.0	1974	6+	1991	13	1	1991	1.5	1.2	.2	@	.0	1.3	.6	.1	.0
Apr	.9	.0	#	0	6.0	1975	4	13.0	1975	9	1975	5	1	1975	.5	.3	.1	.1	.0	.3	.2	.1	.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	.1	.0	#	0	3.0	1971	30	3.0	1971	2	1971	30	#	1971	@	@	@	.0	.0	@	.0	.0	.0
Oct	.1	.0	#	0	1.0	1984	17	1.0	1984	#	1971	28	#	1971	.1	@	.0	.0	.0	.0	.0	.0	.0
Nov	.7	.0	#	0	4.7	1977	21	5.0	1984	4	1994	27	1	1994	.4	.4	.1	.0	.0	.5	.1	.0	.0
Dec	5.1	2.8	1	#	12.0	1979	24	26.0	1979	17	1979	25	4	1979	2.4	1.9	.7	.3	@	3.4	1.6	.7	.3
Ann	19.5	7.1	N/A	N/A	12.0	Dec 1979	24	26.0	Dec 1979	20	Jan 1993	13	11	Jan 1993	9.2	7.5	2.5	1.1	@	13.9	6.8	3.4	.6

+ 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	7/11	7/03	6/27	6/22	6/17	6/12	6/07	6/01	5/24
32	6/21	6/13	6/07	6/02	5/28	5/24	5/19	5/13	5/05
28	5/27	5/20	5/16	5/12	5/08	5/04	4/30	4/26	4/19
24	5/05	4/28	4/23	4/18	4/14	4/10	4/06	4/01	3/25
20	4/18	4/07	3/29	3/22	3/16	3/09	3/02	2/22	2/10
16	3/11	3/01	2/21	2/15	2/09	2/03	1/27	1/20	1/10

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	8/18	8/24	8/28	8/31	9/04	9/07	9/10	9/14	9/20
32	9/05	9/11	9/16	9/20	9/23	9/27	10/01	10/05	10/11
28	9/25	9/30	10/03	10/06	10/09	10/12	10/15	10/18	10/23
24	10/07	10/13	10/17	10/21	10/25	10/28	11/01	11/06	11/12
20	10/20	10/27	11/01	11/05	11/09	11/13	11/18	11/23	11/29
16	10/31	11/08	11/15	11/20	11/25	12/01	12/06	12/12	12/21

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	110	99	91	84	78	72	65	57	46
32	148	138	130	123	117	111	104	96	86
28	179	170	164	159	154	149	143	137	128
24	221	212	204	198	193	187	181	174	164
20	280	266	255	246	238	230	221	211	196
16	330	316	306	297	289	281	272	262	247

***** 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	Ann
65	946	734	683	508	307	124	44	42	166	433	739	959	5685
60	791	594	528	364	179	47	11	7	76	288	589	804	4278
57	698	510	436	283	119	21	3	1	41	212	500	711	3535
55	636	454	376	232	87	11	1	0	25	167	441	649	3079
50	481	316	234	129	31	1	0	0	5	79	302	494	2072
32	65	14	3	0	0	0	0	0	0	0	19	69	170

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	142	204	343	482	724	911	1118	1073	852	592	270	133	6844
55	0	0	2	24	98	231	405	360	187	45	2	0	1354
57	0	0	0	14	68	181	346	299	143	28	1	0	1080
60	0	0	0	6	35	118	261	212	89	12	0	0	733
65	0	0	0	0	8	44	139	92	29	2	0	0	314
70	0	0	0	0	0	10	58	23	5	0	0	0	96

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	24	66	150	274	498	702	900	860	647	380	104	18	24	90	240	514	1012	1714	2614	3474	4121	4501	4605	4623
45	0	16	57	158	350	553	745	705	497	243	35	1	0	16	73	231	581	1134	1879	2584	3081	3324	3359	3360
50	0	0	11	70	216	403	590	550	351	126	8	0	0	0	11	81	297	700	1290	1840	2191	2317	2325	2325
55	0	0	0	26	111	261	436	395	216	53	0	0	0	0	0	26	137	398	834	1229	1445	1498	1498	1498
60	0	0	0	1	43	144	285	244	106	11	0	0	0	0	0	1	44	188	473	717	823	834	834	834
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	32	75	136	223	356	461	562	545	466	332	101	29	32	107	243	466	822	1283	1845	2390	2856	3188	3289	3318

(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