

Climatology of the United States

No. 20 1971-2000

Station: HENSHAW DAM, CA

COOP ID: 043914

Climate Division: CA 6

NWS Call Sign:

Elevation: 2,700 Feet Lat: 33° 14N

Lon: 116° 46W

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	60.3	30.0	45.2	89	1971	19	49.5	1986	11	1963	14	41.4	1973	615	0	.0	.0	27.3	.0	21.6	.0
Feb	62.4	31.9	47.2	84+	1977	17	53.6	1995	14	1990	15	43.6	1998	500	0	.0	.0	25.6	.2	16.5	.0
Mar	64.2	34.7	49.5	90	1997	21	55.5	1972	13	1966	3	43.9	1973	484	0	.0	@	28.6	.0	10.9	.0
Apr	69.1	37.7	53.4	93	1996	27	58.8	1992	21	1999	10	46.5	1975	353	4	.0	.2	29.2	.0	4.5	.0
May	74.9	42.4	58.7	104	1984	30	66.1	1997	28+	1999	1	52.3	1977	227	30	.1	1.8	30.9	.0	.8	.0
Jun	85.0	46.3	65.7	107+	1990	27	71.9	1981	29	1988	7	60.3	1982	73	93	1.3	10.6	30.0	.0	.1	.0
Jul	92.2	51.8	72.0	120	1980	29	77.2	1996	35	1961	7	65.4	1987	16	233	3.8	21.3	31.0	.0	.0	.0
Aug	92.6	52.6	72.6	113	1980	12	76.9	1980	34	1999	15	66.6	1976	12	253	5.2	22.5	31.0	.0	.0	.0
Sep	87.6	47.8	67.7	109+	1971	13	72.4	1979	32+	1973	16	59.5	1986	62	143	1.6	15.3	30.0	.0	.1	.0
Oct	78.5	39.0	58.8	113	1980	5	64.1	1978	20	1971	30	54.2	1998	224	30	.1	4.6	31.0	.0	4.1	.0
Nov	67.9	31.8	49.9	92	1988	6	56.3	1995	11	1979	21	44.6	1994	455	0	.0	.1	29.2	.0	17.7	.0
Dec	61.2	28.1	44.7	84	1958	12	49.5	1977	8	1990	23	39.6	1987	630	0	.0	.0	27.6	.0	24.7	.0
Ann	74.7	39.5	57.1	120	Jul 1980	29	77.2	Jul 1996	8	Dec 1990	23	39.6	Dec 1987	3651	786	12.1	76.4	351.4	.2	101.0	.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

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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	5.74	3.41	5.60	1980	29	29.27	1993	.00+	1976	7.8	6.0	3.0	1.8	.00	.23	.95	1.77	2.72	3.84	5.22	6.97	9.45	13.70	17.94	
Feb	5.56	4.42	4.00+	1986	15	19.79	1980	.20	1984	7.4	5.6	3.1	2.1	.38	.72	1.42	2.18	3.03	4.02	5.22	6.74	8.85	12.42	15.97	
Mar	5.85	3.73	6.29	1991	1	21.10	1991	.00	1972	8.4	6.7	3.8	2.1	.17	.58	1.37	2.21	3.14	4.21	5.51	7.14	9.42	13.25	17.04	
Apr	1.78	1.38	2.68	1958	2	4.95	1983	.00	1993	5.1	3.4	1.3	.3	.04	.14	.37	.62	.90	1.23	1.64	2.16	2.88	4.12	5.36	
May	.65	.37	2.20	1977	9	4.37	1998	.00	1984	3.7	1.8	.4	.1	.00	.02	.07	.14	.23	.36	.52	.75	1.07	1.66	2.28	
Jun	.16	.00	.93	1993	6	1.01	1995	.00+	2000	.8	.4	.1	.0	.00	.00	.00	.00	.00	.00	.02	.10	.25	.54	.86	
Jul	.40	.01	1.75	1976	26	2.44	1976	.00+	2000	1.2	.7	.3	.1	.00	.00	.00	.00	.00	.00	.06	.24	.60	1.33	2.14	
Aug	.65	.23	2.40	1963	9	4.30	1977	.00+	1999	1.8	1.2	.4	.2	.00	.00	.00	.01	.07	.20	.38	.66	1.10	1.91	2.77	
Sep	.67	.27	3.39	1976	11	4.58	1976	.00+	1996	1.9	1.3	.4	.1	.00	.00	.00	.00	.11	.27	.49	.77	1.19	1.91	2.65	
Oct	.90	.47	2.25	1974	29	4.99	1987	.00+	1999	3.4	2.1	.6	.1	.00	.00	.00	.14	.31	.52	.77	1.10	1.56	2.36	3.15	
Nov	2.36	1.70	9.22	1965	23	10.46	1985	.00+	1992	4.2	3.0	1.5	.8	.00	.00	.24	.57	.96	1.44	2.04	2.83	3.95	5.91	7.89	
Dec	3.19	2.09	4.41	1966	7	10.23	1984	.01	2000	5.9	4.5	2.0	1.1	.16	.34	.71	1.14	1.63	2.21	2.92	3.84	5.13	7.33	9.54	
Ann	27.91	22.94	9.22	Nov 1965	23	29.27	Jan 1993	.00+	Jul 2000	51.6	36.7	16.9	8.8	11.08	13.66	17.31	20.33	23.18	26.08	29.21	32.83	37.42	44.46	50.86	

+ 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

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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	.1	.0	#	0	1.2	1974	5	1.8	1974	1	1974	5	#	1974	.1	@	.0	.0	.0	@	.0	.0	.0
Feb	.7	.0	#	0	5.0	1987	24	15.0	1987	1	1983	3	#	1983	.2	.2	.1	.1	.0	@	.0	.0	.0
Mar	.1	.0	0	0	2.5	1976	3	2.5	1976	0	0	0	0	0	.1	@	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	0	0	#	1971	25	#	1971	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	1.0	1985	12	1.0	1985	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Dec	.1	.0	#	0	3.0	1987	17	3.0	1987	4	1982	30	#+	1987	.1	@	@	.0	.0	@	.0	.0	.0
Ann	1.0	.0	N/A	N/A	5.0	Feb 1987	24	15.0	Feb 1987	4	Dec 1982	30	#+	Dec 1987	.5	.2	.1	.1	.0	@	.0	.0	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

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-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	6/29	6/18	6/10	6/03	5/28	5/21	5/15	5/07	4/26
32	5/28	5/18	5/11	5/05	4/29	4/24	4/18	4/11	4/01
28	4/27	4/15	4/07	3/30	3/23	3/17	3/09	3/01	2/17
24	3/26	3/12	3/02	2/22	2/14	2/05	1/28	1/17	12/31
20	2/18	2/04	1/24	1/14	1/04	12/22	11/29	0/00	0/00
16	2/02	1/13	12/26	11/27	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	8/31	9/10	9/17	9/24	9/30	10/06	10/12	10/20	10/30
32	10/02	10/08	10/13	10/17	10/21	10/25	10/29	11/02	11/09
28	10/19	10/26	10/31	11/04	11/08	11/12	11/16	11/21	11/28
24	11/02	11/10	11/15	11/20	11/24	11/28	12/03	12/09	12/18
20	11/13	11/23	12/01	12/08	12/16	12/24	1/06	0/00	0/00
16	12/03	12/25	1/15	2/15	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	174	157	145	134	124	115	104	92	75
32	211	198	189	181	174	166	158	149	136
28	272	257	246	237	229	220	211	200	185
24	344	317	303	292	282	272	262	250	233
20	>365	>365	>365	>365	>365	334	315	301	285
16	>365	>365	>365	>365	>365	>365	>365	>365	329

* 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.

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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
65	615	500	484	353	227	73	16	12	62	224	455	630	3651
60	460	360	336	219	126	22	2	1	20	120	309	475	2450
57	367	280	253	153	80	9	0	0	9	74	228	384	1837
55	306	228	202	116	55	4	0	0	5	50	179	326	1471
50	167	116	105	46	18	0	0	0	0	15	83	190	740
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	408	424	539	641	826	1010	1240	1264	1071	829	536	393	9181
55	1	8	29	67	168	324	527	551	386	166	25	6	2258
57	0	3	17	43	131	269	465	489	330	128	14	2	1891
60	0	0	7	20	84	192	374	396	252	81	4	0	1410
65	0	0	0	4	30	93	233	253	143	30	0	0	786
70	0	0	0	0	8	31	121	134	66	8	0	0	368

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	186	225	307	408	584	779	999	1023	840	590	310	176	186	411	718	1126	1710	2489	3488	4511	5351	5941	6251	6427
45	77	106	170	268	429	629	844	868	690	435	174	70	77	183	353	621	1050	1679	2523	3391	4081	4516	4690	4760
50	16	35	73	143	285	479	689	713	541	286	75	12	16	51	124	267	552	1031	1720	2433	2974	3260	3335	3347
55	0	1	19	56	152	331	534	558	391	157	17	0	0	1	20	76	228	559	1093	1651	2042	2199	2216	2216
60	0	0	0	9	62	197	379	403	249	66	0	0	0	0	0	9	71	268	647	1050	1299	1365	1365	1365
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	173	195	227	294	387	495	614	631	526	430	277	194	173	368	595	889	1276	1771	2385	3016	3542	3972	4249	4443

(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.
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 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/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