

Climatography of the United States No. 20

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: HANFORD 1 S, CA

1971-2000

COOP ID: 043747

Climate Division: CA 5

NWS Call Sign:

Elevation: 245 Feet

Lat: 36°19N

Lon: 119°38W

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	53.7	35.7	44.7	76	1981	20	50.4	1995	15	1963	13	38.7	1972	630	0	.0	.0	21.7	.0	10.1	.0
Feb	61.4	38.9	50.2	86	1930	18	54.1	1992	22+	1953	20	45.7	1971	416	0	.0	.0	27.1	.1	3.7	.0
Mar	66.7	43.2	55.0	89	1960	20	59.5	1997	25	1953	2	47.9	1973	324	13	.0	.0	30.9	.0	1.0	.0
Apr	74.4	46.8	60.6	98+	1951	12	66.2	1987	31+	1975	7	53.8	1975	179	46	.0	1.2	30.0	.0	.1	.0
May	83.1	53.4	68.3	107	1984	30	74.4	1992	34	1938	3	61.6	1977	56	157	.7	8.0	31.0	.0	.0	.0
Jun	90.7	59.2	75.0	111+	1964	25	79.1	1981	39	1955	1	71.2	1991	3	302	3.9	17.6	30.0	.0	.0	.0
Jul	95.9	63.2	79.6	116	1933	27	83.4	1988	47	1975	1	75.3	1987	0	450	7.5	27.1	31.0	.0	.0	.0
Aug	94.7	62.0	78.4	115+	1933	14	81.9	1992	45	1939	29	72.7	1976	0	413	5.9	24.5	31.0	.0	.0	.0
Sep	89.3	57.3	73.3	110	1955	4	77.8	1991	35	1948	26	69.0	1986	6	255	1.3	15.6	30.0	.0	.0	.0
Oct	80.2	48.7	64.5	101+	1996	10	69.7	1991	28	1971	29	60.2	1984	102	86	.1	4.2	31.0	.0	.1	.0
Nov	65.1	39.6	52.4	92	1949	1	58.3	1995	18+	1938	13	48.0	1994	383	2	.0	.0	29.5	.0	4.1	.0
Dec	54.2	33.9	44.1	77+	1979	4	49.6	1995	15	1990	24	39.8	1985	650	0	.0	.0	22.2	.0	13.0	.0
Ann	75.8	48.5	62.2	116	Jul 1933	27	83.4	Jul 1988	15+	Dec 1990	24	38.7	Jan 1972	2749	1724	19.4	98.2	345.4	.1	32.1	.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/normal/usnormals.html

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1927-2001

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

086-A

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Station: HANFORD 1 S, CA

COOP ID: 043747

Climate Division: CA 5

NWS Call Sign:

Elevation: 245 Feet Lat: 36°19N

Lon: 119°38W

Precipitation (inches)

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	1.66	1.67	1.64	1969	19	4.70	1995	.00	1976	7.1	4.4	.9	.1	.03	.11	.31	.54	.80	1.12	1.50	2.01	2.72	3.93	5.16
Feb	1.60	1.28	2.44	1978	10	5.05	1978	.03	1977	6.4	4.1	.8	.1	.07	.15	.33	.54	.78	1.08	1.44	1.91	2.58	3.73	4.88
Mar	1.76	1.26	1.58	1986	9	6.62	1991	.00	1972	6.8	4.6	.9	.3	.06	.20	.45	.70	.98	1.30	1.68	2.15	2.81	3.91	4.99
Apr	.63	.45	1.26	1983	21	1.99	1988	.00+	1997	3.3	1.7	.3	@	.00	.01	.06	.14	.24	.36	.53	.74	1.06	1.62	2.19
May	.26	.04	.82	1971	27	1.44	1971	.00+	1999	1.5	.8	.1	.0	.00	.00	.00	.00	.00	.02	.11	.25	.45	.83	1.22
Jun	.08	.00	.76	1931	7	.51	1976	.00+	1999	.5	.3	@	.0	.00	.00	.00	.00	.00	.00	.00	.00	.11	.29	.46
Jul	.01	.00	.18	1982	1	.18	1982	.00+	2000	.1	@	.0	.0	**	**	**	**	**	**	**	**	**	**	**
Aug	.01	.00	.34	1964	31	.22	1976	.00+	2000	.1	@	.0	.0	**	**	**	**	**	**	**	**	**	**	**
Sep	.25	.01	.94	1976	11	1.47	1976	.00+	1998	1.0	.5	.2	.0	.00	.00	.00	.00	.00	.00	.05	.17	.39	.82	1.28
Oct	.44	.34	1.61	1996	30	2.43	1996	.00+	1999	2.1	1.2	.2	@	.00	.00	.00	.08	.16	.26	.38	.54	.75	1.13	1.50
Nov	.82	.63	1.35	1985	11	2.90	1972	.00+	2000	4.7	2.7	.3	@	.00	.00	.11	.25	.40	.57	.77	1.02	1.37	1.94	2.52
Dec	1.06	.74	1.50+	1977	28	3.27	1996	.00+	1999	5.2	2.9	.6	.1	.00	.09	.26	.43	.61	.80	1.03	1.32	1.71	2.36	2.99
Ann	8.58	8.22	2.44	Feb 1978	10	6.62	Mar 1991	.00+	Nov 2000	38.8	23.2	4.3	.6	3.90	4.66	5.70	6.55	7.34	8.13	8.98	9.95	11.18	13.03	14.70

+ 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: 1927-2001

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

Complete documentation available from:

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

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Station: HANFORD 1 S, CA

COOP ID: 043747

Climate Division: CA 5

NWS Call Sign:

Elevation: 245 Feet

Lat: 36°19N

Lon: 119°38W

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	#	1989	8	#	1989	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	#	1998	20	#	1998	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	#	Feb 1989	8	#	Feb 1989	#	Dec 1998	20	#	Dec 1998	.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:

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No. 20 1971-2000

Station: HANFORD 1 S, CA

COOP ID: 043747

Climate Division: CA 5

NWS Call Sign:

Elevation: 245 Feet

Lat: 36° 19N

Lon: 119° 38W

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	4/24	4/13	4/04	3/29	3/22	3/16	3/09	3/01	2/17
32	4/02	3/20	3/11	3/03	2/24	2/17	2/09	1/31	1/18
28	2/26	2/12	2/02	1/25	1/17	1/08	12/30	12/18	11/26
24	1/31	1/18	1/07	12/27	12/14	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	10/22	10/27	10/31	11/03	11/07	11/10	11/13	11/17	11/22
32	11/07	11/13	11/17	11/20	11/23	11/26	11/30	12/03	12/09
28	11/11	11/22	11/30	12/07	12/13	12/20	12/27	1/06	1/23
24	12/01	12/14	12/24	1/04	1/19	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	268	254	245	237	229	221	213	203	190
32	315	300	289	280	272	263	254	243	228
28	>365	>365	355	338	325	313	301	288	271
24	>365	>365	>365	>365	>365	>365	>365	337	321
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:

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COOP ID: 043747

Climate Division: CA 5 NWS Call Sign: Elevation: 245 Feet Lat: 36°19N Lon: 119°38W

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	630	416	324	179	56	3	0	0	6	102	383	650	2749
60	475	278	198	93	18	0	0	0	0	40	244	495	1841
57	389	200	139	55	8	0	0	0	0	19	171	403	1384
55	331	153	105	36	4	0	0	0	0	10	129	346	1114
50	203	63	41	11	0	0	0	0	0	1	52	209	580
32	6	0	0	0	0	0	0	0	0	0	0	4	10

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	399	508	711	858	1123	1289	1473	1436	1239	1007	609	377	11029
55	11	17	104	204	414	599	760	723	549	304	48	6	3739
57	7	8	75	163	356	539	698	661	489	251	30	1	3278
60	0	2	42	111	273	449	605	568	399	179	13	0	2641
65	0	0	13	46	157	302	450	413	255	86	2	0	1724
70	0	0	3	14	73	168	296	261	132	31	0	0	978

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	173	311	480	632	888	1059	1225	1183	1003	767	379	156	173	484	964	1596	2484	3543	4768	5951	6954	7721	8100	8256
45	78	178	325	482	733	909	1070	1028	853	612	233	58	78	256	581	1063	1796	2705	3775	4803	5656	6268	6501	6559
50	27	75	183	335	578	759	915	873	703	457	118	17	27	102	285	620	1198	1957	2872	3745	4448	4905	5023	5040
55	3	20	82	199	425	609	760	718	553	306	40	0	3	23	105	304	729	1338	2098	2816	3369	3675	3715	3715
60	0	0	23	96	278	459	605	563	403	174	8	0	0	0	23	119	397	856	1461	2024	2427	2601	2609	2609
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	91	180	275	390	555	664	764	744	632	487	234	93	91	271	546	936	1491	2155	2919	3663	4295	4782	5016	5109

(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