

Climatology of the United States

No. 20

1971-2000

Station: SACRAMENTO AP, CA

COOP ID: 047630

Climate Division: CA 2

NWS Call Sign: SAC

Elevation: 15 Feet

Lat: 38° 30N

Lon: 121° 30W

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	53.8	38.8	46.3	70+	1991	19	51.4	1986	20	1950	5	41.1	1972	580	0	.0	.0	23.7	.0	5.2	.0
Feb	60.5	41.9	51.2	76+	1992	27	55.0	1991	23	1989	7	47.1	1989	387	0	.0	.0	27.3	@	1.9	.0
Mar	64.7	44.2	54.5	88	1988	26	58.8	1986	26	1971	5	50.1	1975	335	6	.0	.0	30.7	.0	.3	.0
Apr	71.4	46.3	58.9	95	1996	30	63.4	1990	31	1999	9	51.3	1975	208	24	.0	.5	30.0	.0	@	.0
May	80.0	50.9	65.5	105	1984	28	71.9	1997	34	1950	3	58.7	1998	97	110	.5	5.8	31.0	.0	.0	.0
Jun	87.4	55.5	71.5	115	1961	15	75.2	1981	41+	1990	1	66.7	1982	10	204	3.0	12.1	30.0	.0	.0	.0
Jul	92.4	58.3	75.4	114+	1972	14	80.4	1988	48	1983	8	71.8	1987	0	320	5.6	20.7	31.0	.0	.0	.0
Aug	91.4	58.1	74.8	110	1996	10	78.3	1996	48	1950	5	71.9	1980	0	303	4.3	18.6	31.0	.0	.0	.0
Sep	87.5	55.8	71.7	108+	1988	5	75.5	1984	43+	1978	20	66.2	1986	11	210	1.8	12.7	30.0	.0	.0	.0
Oct	78.2	50.6	64.4	104	2001	2	68.8	1991	35+	1949	20	60.8	1971	84	66	.1	3.3	31.0	.0	.0	.0
Nov	63.7	42.8	53.3	87	1960	1	59.3	1995	26+	1993	25	47.2	1982	359	5	.0	.0	29.0	.0	1.4	.0
Dec	53.9	37.7	45.8	72+	1999	19	51.1	1996	18	1990	22	40.6	1972	595	0	.0	.0	23.1	@	6.8	.0
Ann	73.7	48.4	61.1	115	Jun 1961	15	80.4	Jul 1988	18	Dec 1990	22	40.6	Dec 1972	2666	1248	15.3	73.7	347.8	.0	15.6	.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: 1941-2001

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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	Median	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	3.84	3.63	3.05	1967	21	9.14	1978	.16	1984	10.5	6.8	2.4	.8	.28	.53	1.02	1.55	2.14	2.82	3.63	4.67	6.10	8.52	10.92
Feb	3.54	3.13	2.63	1986	17	9.95	1998	.20	1995	9.1	6.3	2.6	.8	.35	.61	1.09	1.58	2.12	2.72	3.43	4.32	5.54	7.56	9.55
Mar	2.80	2.43	1.85	1982	31	8.13	1995	.05	1994	9.4	6.2	1.9	.3	.22	.40	.76	1.15	1.58	2.07	2.66	3.41	4.44	6.18	7.89
Apr	1.02	.85	2.17	1958	2	4.21	1983	.00	1985	4.9	2.8	.6	.1	.06	.16	.31	.46	.62	.80	1.00	1.25	1.60	2.16	2.71
May	.53	.25	1.35	1990	27	2.98	1998	.00+	1992	2.9	1.3	.3	.1	.00	.00	.00	.03	.10	.21	.36	.58	.90	1.51	2.14
Jun	.20	.04	1.14	1993	4	1.26	1993	.00+	1996	1.2	.5	.1	@	.00	.00	.00	.00	.01	.06	.12	.21	.35	.58	.82
Jul	.05	.00	.77	1974	8	.79	1974	.00+	2000	.2	.1	@	.0	**	**	**	**	**	**	**	**	**	**	**
Aug	.06	.00	.65	1965	11	.65	1976	.00+	2000	.4	.2	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.05	.20	.37
Sep	.36	.08	1.79	1989	16	2.78	1989	.00+	1999	1.5	.9	.2	@	.00	.00	.00	.00	.00	.07	.21	.39	.65	1.10	1.55
Oct	.89	.72	3.77	1962	13	2.61	1982	.00+	1995	3.6	1.8	.7	.2	.00	.00	.11	.24	.39	.57	.79	1.08	1.48	2.18	2.89
Nov	2.19	1.66	2.42	1970	28	6.27	1973	.00	1995	7.2	4.5	1.6	.5	.04	.16	.43	.73	1.08	1.50	2.00	2.65	3.57	5.13	6.69
Dec	2.45	2.51	2.87	1955	19	6.39	1996	.00	1989	8.2	4.8	1.9	.4	.13	.36	.73	1.09	1.48	1.90	2.40	3.02	3.86	5.25	6.60
Ann	17.93	16.17	3.77	Oct 1962	13	9.95	Feb 1998	.00+	Aug 2000	59.1	36.2	12.3	3.2	8.04	9.63	11.84	13.63	15.31	16.99	18.80	20.87	23.47	27.42	30.98

+ 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: 1941-2001

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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	#	.0	0	0	#	1974	4	#	1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.1	.0	0	0	2.0	1976	5	2.0	1976	#+	1996	27	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	#	1996	.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	#	1988	28	#+	1988	#	1972	13	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.1	.0	N/A	N/A	2.0	Feb 1976	5	2.0	Feb 1976	#+	Feb 1996	27	#	May 1996	.0	.0	.0	.0	.0	.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	4/18	4/07	3/30	3/24	3/18	3/12	3/05	2/25	2/15
32	3/20	3/07	2/26	2/18	2/10	2/02	1/25	1/15	12/30
28	2/07	1/28	1/20	1/13	1/07	12/30	12/22	12/05	0/00
24	1/02	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	11/03	11/08	11/12	11/15	11/18	11/21	11/24	11/27	12/02
32	11/08	11/17	11/23	11/29	12/04	12/09	12/15	12/22	1/01
28	11/30	12/08	12/14	12/19	12/24	12/30	1/07	0/00	0/00
24	12/30	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	276	265	257	250	244	238	231	224	213
32	354	329	316	305	296	286	277	266	250
28	>365	>365	>365	>365	>365	350	335	321	306
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

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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	580	387	335	208	97	10	0	0	11	84	359	595	2666
60	425	249	201	109	38	1	0	0	1	26	227	441	1718
57	337	173	137	65	19	0	0	0	0	10	162	353	1256
55	280	128	102	42	11	0	0	0	0	5	124	296	988
50	155	47	36	11	2	0	0	0	0	0	56	170	477
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	440	536	696	809	1038	1185	1344	1327	1192	1007	637	426	10637
55	3	15	55	143	328	495	631	614	502	297	47	3	3133
57	1	6	31	101	270	435	569	552	442	240	27	1	2675
60	0	1	10	54	191	346	476	459	352	160	10	0	2059
65	0	0	6	24	110	204	320	303	210	66	5	0	1248
70	0	0	0	2	34	97	178	158	92	17	0	0	578

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	208	333	457	578	799	955	1103	1089	964	765	405	201	208	541	998	1576	2375	3330	4433	5522	6486	7251	7656	7857
45	95	193	303	428	644	805	948	934	814	610	260	87	95	288	591	1019	1663	2468	3416	4350	5164	5774	6034	6121
50	29	79	161	279	489	655	793	779	664	455	135	22	29	108	269	548	1037	1692	2485	3264	3928	4383	4518	4540
55	1	18	61	149	336	505	638	624	514	303	50	0	1	19	80	229	565	1070	1708	2332	2846	3149	3199	3199
60	0	0	9	58	200	355	483	469	366	167	9	0	0	0	9	67	267	622	1105	1574	1940	2107	2116	2116
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	80	160	242	338	487	594	681	680	601	467	221	87	80	240	482	820	1307	1901	2582	3262	3863	4330	4551	4638

(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 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