

Climatology of the United States

No. 20

1971-2000

Station: SONORA RS, CA

COOP ID: 048353

Climate Division: CA 5

NWS Call Sign:

Elevation: 1,675 Feet Lat: 37° 58N

Lon: 120° 23W

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	55.6	32.0	43.8	75+	1984	30	48.2	1986	13	1949	25	40.0	1972	656	0	.0	.0	22.2	.1	18.7	.0
Feb	59.2	33.7	46.5	78+	1977	17	52.6	1991	15	1989	5	41.9	1990	519	0	.0	.0	23.2	.1	12.3	.0
Mar	61.9	36.4	49.2	84+	1988	27	54.5	1972	20	1951	3	44.7	1991	492	0	.0	.0	27.7	.0	8.1	.0
Apr	68.0	39.8	53.9	92	1987	27	59.5	1989	24	1963	2	46.1	1975	345	12	.0	.1	29.3	.0	3.3	.0
May	76.8	45.1	61.0	103	1984	28	68.2	1992	24	1961	7	54.4	1977	184	58	.1	3.3	31.0	.0	.5	.0
Jun	86.8	50.8	68.8	113	1961	22	73.9	1981	33	1985	25	64.6	1980	31	146	2.0	12.5	30.0	.0	.0	.0
Jul	94.1	56.2	75.2	113	1972	15	78.8	1996	39+	1987	21	68.2	1987	4	318	6.9	23.9	31.0	.0	.0	.0
Aug	93.5	55.0	74.3	110	1933	14	78.1	1971	40+	1978	21	68.5	1976	3	290	5.0	21.3	31.0	.0	.0	.0
Sep	87.8	50.2	69.0	108+	1955	3	74.0	1991	33	1985	30	60.8	1986	48	167	1.3	12.4	30.0	.0	.0	.0
Oct	77.7	42.2	60.0	100+	1980	2	64.9	1991	25	1971	28	54.2	1984	195	39	.1	3.0	30.9	.0	1.5	.0
Nov	63.0	35.2	49.1	89	1966	3	54.5	1995	21+	1985	12	42.7	1994	477	0	.0	.0	27.3	.0	9.4	.0
Dec	56.1	31.1	43.6	81	1958	4	48.5	1977	8+	1972	10	38.5	1990	664	0	.0	.0	22.6	.2	20.6	.0
Ann	73.4	42.3	57.9	113+	Jul 1972	15	78.8	Jul 1996	8+	Dec 1972	10	38.5	Dec 1990	3618	1030	15.4	76.5	336.2	.4	74.4	.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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1931-2001

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

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: SONORA RS, CA

COOP ID: 048353

Climate Division: CA 5

NWS Call Sign:

Elevation: 1,675 Feet Lat: 37°58N

Lon: 120°23W

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	6.39	4.60	3.49	1982	4	17.13	1995	.25	1991	9.7	7.6	4.4	2.4	.54	.97	1.82	2.71	3.68	4.79	6.12	7.78	10.08	13.93	17.72
Feb	5.76	5.21	5.03	1982	15	14.86	1986	.52	1997	9.6	7.2	4.2	1.9	.67	1.11	1.92	2.72	3.58	4.53	5.65	7.03	8.91	12.01	15.03
Mar	5.65	5.35	4.05	1995	11	14.59	1995	.22	1972	10.2	7.4	3.9	1.7	.57	.99	1.76	2.55	3.40	4.36	5.49	6.90	8.83	12.03	15.15
Apr	2.49	2.12	2.30	1974	2	7.14	1978	.31	1992	5.9	4.1	1.7	.5	.31	.51	.86	1.21	1.57	1.98	2.46	3.05	3.84	5.15	6.42
May	1.22	.63	3.41	1957	19	5.49	1996	.00+	1985	3.7	2.5	.8	.3	.00	.00	.04	.15	.33	.58	.91	1.37	2.07	3.32	4.63
Jun	.26	.06	1.76	1995	16	2.49	1995	.00+	1997	1.5	.7	.2	@	.00	.00	.00	.00	.02	.07	.15	.26	.44	.78	1.13
Jul	.07	.00	.87	1974	10	1.18	1974	.00+	2000	.4	.1	@	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.37
Aug	.14	.00	1.30	1976	15	1.98	1976	.00+	1998	.6	.2	.1	@	.00	.00	.00	.00	.00	.00	.00	.00	.09	.43	.78
Sep	.57	.06	4.25	1959	19	3.50	1978	.00+	1995	1.9	1.0	.4	.2	.00	.00	.00	.00	.02	.09	.24	.50	.92	1.76	2.67
Oct	1.84	1.24	3.05	1991	26	5.91	1982	.00+	1990	4.1	2.8	1.3	.6	.00	.00	.14	.36	.65	1.03	1.51	2.16	3.10	4.77	6.48
Nov	3.83	2.91	2.97+	1982	29	12.72	1983	.27	1992	7.6	5.4	2.6	1.1	.32	.58	1.08	1.61	2.20	2.87	3.66	4.67	6.05	8.37	10.66
Dec	4.26	3.57	4.57	1955	23	15.05	1996	.00	1989	7.9	6.0	2.6	1.2	.24	.65	1.31	1.93	2.60	3.33	4.19	5.25	6.69	9.06	11.36
Ann	32.48	28.26	5.03	Feb 1982	15	17.13	Jan 1995	.00+	Jul 2000	63.1	45.0	22.2	9.9	14.98	17.83	21.77	24.95	27.92	30.89	34.08	37.71	42.28	49.20	55.43

+ 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: 1931-2001

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

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Station: SONORA RS, CA

COOP ID: 048353

Climate Division: CA 5

NWS Call Sign:

Elevation: 1,675 Feet

Lat: 37°58N

Lon: 120°23W

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	3	1972	27	#	1972	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	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	#	1982	23	#	1982	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	#	Nov 1982	23	#	Nov 1982	3	Jan 1972	27	#	Jan 1972	.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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Climate Division: CA 5

NWS Call Sign:

Elevation: 1,675 Feet

Lat: 37° 58N

Lon: 120° 23W

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	6/09	6/01	5/26	5/21	5/16	5/11	5/06	4/30	4/22
32	5/17	5/07	4/30	4/24	4/19	4/13	4/07	4/01	3/22
28	5/01	4/18	4/08	3/31	3/24	3/16	3/08	2/26	2/13
24	3/11	2/25	2/14	2/05	1/27	1/18	1/08	12/28	12/10
20	2/01	1/19	1/08	12/28	12/09	0/00	0/00	0/00	0/00
16	12/30	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	9/27	10/05	10/10	10/15	10/19	10/24	10/28	11/03	11/10
32	10/17	10/23	10/28	11/01	11/04	11/08	11/11	11/16	11/22
28	11/04	11/09	11/13	11/17	11/20	11/23	11/27	12/01	12/07
24	11/14	11/27	12/07	12/15	12/22	12/30	1/08	1/18	2/03
20	12/14	12/24	1/02	1/12	0/00	0/00	0/00	0/00	0/00
16	1/09	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	193	180	171	163	156	148	140	131	118
32	233	221	213	205	199	192	184	176	164
28	281	267	257	249	241	233	224	214	200
24	>365	>365	365	337	322	309	297	284	266
20	>365	>365	>365	>365	>365	>365	>365	>365	346
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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Climate Division: CA 5 NWS Call Sign: Elevation: 1,675 Feet Lat: 37°58N Lon: 120°23W

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	656	519	492	345	184	31	4	3	48	195	477	664	3618
60	501	379	345	220	99	6	0	0	15	99	332	509	2505
57	408	298	261	160	61	2	0	0	6	58	251	417	1922
55	346	246	210	126	42	1	0	0	3	38	202	357	1571
50	201	131	111	57	14	0	0	0	0	10	103	217	844
32	0	0	0	0	0	0	0	0	0	0	0	2	2

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	367	405	531	657	898	1105	1337	1310	1110	867	514	361	9462
55	0	7	28	93	227	415	624	597	423	192	26	3	2635
57	0	3	17	67	184	357	562	535	366	150	15	0	2256
60	0	0	8	37	129	271	469	442	285	98	5	0	1744
65	0	0	0	12	58	146	318	290	167	39	0	0	1030
70	0	0	0	2	20	58	181	154	83	11	0	0	509

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	128	185	289	427	659	880	1107	1061	867	616	269	125	128	313	602	1029	1688	2568	3675	4736	5603	6219	6488	6613
45	45	86	161	283	505	730	952	906	717	463	143	41	45	131	292	575	1080	1810	2762	3668	4385	4848	4991	5032
50	5	31	71	161	354	580	797	751	567	318	58	4	5	36	107	268	622	1202	1999	2750	3317	3635	3693	3697
55	0	1	19	70	221	432	642	596	417	189	17	0	0	1	20	90	311	743	1385	1981	2398	2587	2604	2604
60	0	0	0	25	112	289	487	441	279	92	0	0	0	0	0	25	137	426	913	1354	1633	1725	1725	1725
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	90	126	187	283	428	548	666	644	535	407	187	96	90	216	403	686	1114	1662	2328	2972	3507	3914	4101	4197

(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.
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