

Climatology of the United States

No. 20

1971-2000

Station: FRESNO YOSEMITE INTL, CA

COOP ID: 043257

Climate Division: CA 5

NWS Call Sign: FAT

Elevation: 333 Feet Lat: 36°47N

Lon: 119°43W

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	53.6	38.4	46.0	78	1986	28	53.0	1986	18	1949	10	40.0	1972	578	0	.0	.0	23.0	.0	6.5	.0
Feb	61.3	41.4	51.4	80+	1991	26	55.3	1991	24+	1990	15	47.1	1971	377	0	.0	.0	27.3	.0	2.1	.0
Mar	66.1	44.9	55.5	90	1972	17	60.2	1972	26+	1966	3	49.8	1973	283	3	.0	@	30.7	.0	.4	.0
Apr	74.0	48.4	61.2	100	1981	30	66.6	1989	32+	1982	7	53.3	1975	140	40	@	1.9	29.9	.0	.1	.0
May	82.7	54.9	68.8	107+	1984	30	75.3	1997	36+	1975	5	62.0	1998	37	170	1.2	9.1	31.0	.0	.0	.0
Jun	90.9	61.2	76.1	110+	1964	25	82.0	1981	44	1955	1	71.5	1998	4	351	6.0	19.8	30.0	.0	.0	.0
Jul	96.6	66.1	81.4	112	1991	5	86.2	1984	50	1955	6	76.2	1987	0	524	13.5	28.2	31.0	.0	.0	.0
Aug	94.8	64.9	79.9	112	1996	13	84.1	1998	49	1966	30	71.8	1976	0	478	10.4	26.4	31.0	.0	.0	.0
Sep	88.8	60.4	74.6	111	1955	3	80.0	1984	37	1950	30	70.3	1986	3	307	3.5	17.2	30.0	.0	.0	.0
Oct	78.1	51.9	65.0	102	1980	4	69.5	1991	27	1972	30	59.8	1971	73	89	.2	4.3	31.0	.0	.1	.0
Nov	63.0	42.3	52.7	89	1949	5	58.7	1995	26	1975	29	47.1	1994	354	1	.0	.0	29.3	.0	1.5	.0
Dec	53.4	37.0	45.2	76	1958	15	50.5	1977	18	1990	23	40.1	1972	598	0	.0	.0	23.2	.1	7.8	.0
Ann	75.3	51.0	63.2	112+	Aug 1996	13	86.2	Jul 1984	18+	Dec 1990	23	40.0	Jan 1972	2447	1963	34.8	106.9	347.4	.1	18.5	.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

(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: FRESNO YOSEMITE INTL, CA

COOP ID: 043257

Climate Division: CA 5

NWS Call Sign: FAT

Elevation: 333 Feet Lat: 36°47N

Lon: 119°43W

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	2.16	2.09	2.21	1969	25	5.42	1995	.04	1976	8.0	5.0	1.5	.1	.15	.29	.56	.86	1.19	1.57	2.03	2.62	3.44	4.81	6.18	
Feb	2.12	1.31	1.87	2000	27	6.12	2000	.09	1977	8.0	5.0	1.4	.3	.16	.30	.58	.87	1.19	1.57	2.01	2.58	3.36	4.67	5.96	
Mar	2.20	2.10	2.38	1995	10	7.24	1991	.00	1972	8.0	5.5	1.3	.2	.10	.28	.61	.93	1.28	1.67	2.13	2.71	3.49	4.81	6.09	
Apr	.76	.60	1.39	1983	30	2.85	1978	.00	1997	3.8	2.0	.4	@	.01	.03	.11	.21	.33	.47	.66	.90	1.26	1.88	2.51	
May	.39	.06	1.11	1990	28	1.65	1990	.00+	1997	1.9	1.1	.2	@	.00	.00	.00	.00	.02	.09	.20	.38	.65	1.18	1.74	
Jun	.23	.01	1.80	1998	6	1.93	1998	.00+	1994	.8	.4	.2	.1	.00	.00	.00	.00	.00	.00	.04	.15	.35	.76	1.22	
Jul	.01	.00	.22	1992	12	.22	1992	.00+	2000	.2	@	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.08	
Aug	.01	.00	.25	1964	31	.21	1976	.00+	2000	.3	@	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.09	
Sep	.26	.02	.92	1978	4	1.19	1976	.00+	1999	1.2	.7	.1	.0	.00	.00	.00	.00	.00	.00	.14	.29	.49	.83	1.16	
Oct	.65	.45	1.50	1996	29	2.45	2000	.00+	1999	2.6	1.4	.4	.1	.00	.00	.01	.08	.18	.32	.50	.75	1.11	1.76	2.44	
Nov	1.10	.76	1.35	1953	14	3.50	1972	.00+	1995	5.6	2.7	.7	@	.00	.02	.13	.27	.45	.66	.94	1.30	1.83	2.75	3.68	
Dec	1.34	1.21	1.72	1955	23	4.27	1996	.00	1989	6.3	3.5	.8	.1	.06	.18	.38	.58	.79	1.02	1.30	1.65	2.13	2.92	3.70	
Ann	11.23	10.07	2.38	Mar 1995	10	7.24	Mar 1991	.00+	Aug 2000	46.7	27.3	7.0	.9	5.39	6.36	7.69	8.76	9.74	10.73	11.79	12.99	14.50	16.77	18.81	

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Elevation: 333 Feet

Lat: 36° 47N

Lon: 119° 43W

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	#	1972	26	#	1972	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	#	.0	0	0	#	1994	18	#+	1994	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	.5	1998	20	.5	1998	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	.5	Dec 1998	20	.5	Dec 1998	0	0	0	0	0	.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

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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	4/13	4/03	3/27	3/21	3/15	3/10	3/04	2/25	2/15
32	3/20	3/05	2/22	2/13	2/04	1/27	1/17	1/06	12/19
28	2/06	1/25	1/16	1/07	12/29	12/17	0/00	0/00	0/00
24	1/22	1/08	12/20	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	11/02	11/07	11/11	11/14	11/17	11/20	11/23	11/26	12/01
32	11/06	11/15	11/22	11/27	12/03	12/08	12/14	12/21	1/01
28	11/27	12/07	12/14	12/21	12/29	1/09	0/00	0/00	0/00
24	12/28	1/18	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	280	268	260	252	246	239	231	223	211
32	>365	342	318	304	293	283	273	262	246
28	>365	>365	>365	>365	>365	350	332	317	300
24	>365	>365	>365	>365	>365	>365	>365	>365	351
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	578	377	283	140	37	4	0	0	3	73	354	598	2447
60	437	246	184	87	19	0	0	0	0	39	237	459	1708
57	350	171	127	51	9	0	0	0	0	19	167	369	1263
55	294	127	95	34	5	0	0	0	0	10	127	311	1003
50	175	48	34	10	0	0	0	0	0	2	52	179	500
32	4	0	0	0	0	0	0	0	0	0	0	2	6

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	449	553	743	892	1158	1341	1549	1507	1302	1048	642	429	11613
55	6	25	87	218	446	651	836	794	612	340	51	3	4069
57	3	12	56	170	385	591	774	732	552	283	31	1	3590
60	0	3	24	109	298	501	681	639	462	204	11	0	2932
65	0	0	3	40	170	351	524	478	307	89	1	0	1963
70	0	0	0	10	83	219	372	330	179	33	0	0	1226

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	217	353	502	661	921	1111	1311	1268	1073	807	412	199	217	570	1072	1733	2654	3765	5076	6344	7417	8224	8636	8835
45	104	211	347	511	766	961	1156	1113	923	652	266	87	104	315	662	1173	1939	2900	4056	5169	6092	6744	7010	7097
50	36	95	207	361	611	811	1001	958	773	497	141	27	36	131	338	699	1310	2121	3122	4080	4853	5350	5491	5518
55	4	28	95	228	456	661	846	803	623	349	55	0	4	32	127	355	811	1472	2318	3121	3744	4093	4148	4148
60	0	0	26	114	305	511	691	648	473	208	11	0	0	0	26	140	445	956	1647	2295	2768	2976	2987	2987
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	96	186	278	399	573	698	815	796	682	505	231	98	96	282	560	959	1532	2230	3045	3841	4523	5028	5259	5357

(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