

Climatology of the United States

No. 20

1971-2000

Station: FRIANT GOVERNMENT CAMP, CA

COOP ID: 043261

Climate Division: CA 5

NWS Call Sign:

Elevation: 410 Feet

Lat: 37°00N

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	54.7	38.1	46.4	77+	1986	29	52.4	1986	17	1949	10	39.9	1972	576	0	.0	.0	23.6	.0	7.7	.0
Feb	61.0	41.3	51.2	79+	1988	27	56.2	1991	19	1962	27	46.8	1971	388	0	.0	.0	27.0	.0	3.0	.0
Mar	65.4	43.0	54.2	88	1960	21	58.8	1997	24+	1966	3	49.3	1973	342	6	.0	.0	30.6	.0	1.9	.0
Apr	73.3	44.1	58.7	98	1987	28	64.1	1987	24	1955	3	51.8	1975	219	30	.0	1.2	30.0	.0	.9	.0
May	83.5	49.4	66.5	108	2001	31	73.6	1992	32+	1975	6	60.2	1977	84	129	1.2	8.9	31.0	.0	.1	.0
Jun	92.4	55.6	74.0	117	1961	22	78.4	1981	37	1997	14	69.2	1980	6	277	6.8	20.2	30.0	.0	.0	.0
Jul	98.6	60.7	79.7	116	1950	2	84.1	1988	45+	1987	23	74.0	1983	0	454	15.7	28.7	31.0	.0	.0	.0
Aug	97.4	59.9	78.7	114	1996	14	82.1	1996	38	1980	31	72.9	1976	0	424	13.5	27.4	31.0	.0	.0	.0
Sep	91.2	56.7	74.0	112+	1955	4	78.8	1991	36	1950	30	67.4	1986	10	278	4.8	19.3	30.0	.0	.0	.0
Oct	80.7	49.8	65.3	102	1980	5	70.1	1991	29+	1975	28	59.6	1984	97	104	.4	5.9	31.0	.0	.2	.0
Nov	65.1	41.4	53.3	92	1949	6	60.3	1995	21	1958	16	48.1	1994	359	6	.0	.0	29.5	.0	2.2	.0
Dec	55.4	36.5	46.0	77	1979	4	51.3	1995	16	1990	23	41.0	1978	591	0	.0	.0	24.8	@	8.8	.0
Ann	76.6	48.0	62.3	117	Jun 1961	22	84.1	Jul 1988	16	Dec 1990	23	39.9	Jan 1972	2672	1708	42.4	111.6	349.5	@	24.8	.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	2.78	2.23	3.05	1993	14	7.72	1993	.08	1976	10.1	5.8	1.9	.5	.20	.37	.73	1.11	1.54	2.03	2.62	3.37	4.42	6.19	7.93	
Feb	2.73	2.09	2.42	1969	25	8.11	2000	.12	1997	8.5	5.6	2.1	.5	.23	.42	.78	1.16	1.58	2.05	2.62	3.33	4.31	5.95	7.56	
Mar	2.86	2.52	2.45	1995	11	9.38	1991	.00	1972	8.8	6.0	2.1	.6	.14	.39	.82	1.24	1.69	2.20	2.79	3.52	4.53	6.20	7.82	
Apr	1.04	.80	1.60	1969	6	3.79	1978	.00+	1997	4.4	2.5	.6	.2	.00	.03	.15	.29	.46	.66	.92	1.25	1.72	2.54	3.36	
May	.42	.12	1.59	1990	28	2.11	1990	.00+	1997	2.5	1.2	.2	@	.00	.00	.00	.01	.06	.14	.26	.44	.72	1.23	1.78	
Jun	.21	.04	1.38	1998	7	1.59	1998	.00+	1994	1.1	.5	.1	@	.00	.00	.00	.00	.00	.04	.11	.21	.36	.66	.97	
Jul	.02	.00	.21	1958	29	.21	1979	.00+	2000	.4	.0	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.03	.07	.10	
Aug	.02	.00	.22	1976	20	.26	1976	.00+	2000	.4	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.01	.07	.14	
Sep	.27	.04	2.70	1959	19	1.63	1982	.00+	1999	1.5	.7	.1	.1	.00	.00	.00	.00	.00	.00	.16	.32	.53	.86	1.19	
Oct	.84	.63	1.58	1996	30	3.16	2000	.00+	1999	2.9	1.7	.6	.2	.00	.00	.00	.12	.27	.46	.70	1.01	1.46	2.25	3.03	
Nov	1.60	1.22	1.59	1973	18	4.32	1983	.00	1995	6.8	3.4	1.3	.2	.03	.12	.32	.54	.80	1.10	1.46	1.93	2.59	3.72	4.85	
Dec	1.92	1.64	1.87	1977	18	6.27	1996	.00	1989	8.1	4.1	1.3	.3	.10	.28	.57	.85	1.15	1.49	1.88	2.36	3.02	4.12	5.18	
Ann	14.71	12.67	3.05	Jan 1993	14	9.38	Mar 1991	.00+	Aug 2000	55.5	31.6	10.3	2.6	6.90	8.18	9.95	11.37	12.70	14.03	15.44	17.06	19.09	22.17	24.93	

+ 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	.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	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	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	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.0	.0	N/A	N/A	.0	0	0	.0	0	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	5/10	5/01	4/25	4/19	4/14	4/09	4/04	3/28	3/20
32	5/01	4/15	4/03	3/24	3/15	3/06	2/24	2/13	1/28
28	3/23	3/04	2/19	2/07	1/26	1/14	12/30	12/08	0/00
24	2/04	1/21	1/07	12/17	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	10/25	10/31	11/04	11/07	11/10	11/13	11/16	11/20	11/25
32	10/30	11/08	11/14	11/19	11/24	11/29	12/04	12/11	12/19
28	11/13	11/28	12/09	12/19	12/29	1/08	1/21	2/15	0/00
24	12/13	12/25	1/07	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	239	229	221	215	209	203	196	189	178
32	314	291	275	263	251	240	228	213	194
28	>365	>365	>365	362	331	313	298	282	262
24	>365	>365	>365	>365	>365	>365	>365	>365	317
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)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Below													
65	576	388	342	219	84	6	0	0	10	97	359	591	2672
60	427	252	206	121	32	0	0	0	1	39	229	436	1743
57	340	175	141	77	16	0	0	0	0	19	163	348	1279
55	286	131	106	52	9	0	0	0	0	11	125	290	1010
50	171	51	38	16	2	0	0	0	0	2	54	164	498
32	4	0	0	0	0	0	0	0	0	0	0	1	5

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above													
32	451	537	688	801	1068	1261	1477	1447	1258	1030	637	433	11088
55	20	23	80	164	364	571	764	734	568	328	71	10	3697
57	12	12	54	128	308	511	702	672	508	274	49	5	3235
60	5	4	26	82	232	421	609	579	419	201	26	0	2604
65	0	0	6	30	129	277	454	424	278	104	6	0	1708
70	0	0	0	8	57	151	303	272	157	43	1	0	992

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	215	332	435	559	823	1027	1235	1210	1032	799	409	209	215	547	982	1541	2364	3391	4626	5836	6868	7667	8076	8285
45	107	196	283	410	668	877	1080	1055	882	644	267	96	107	303	586	996	1664	2541	3621	4676	5558	6202	6469	6565
50	39	85	154	270	513	727	925	900	732	489	144	32	39	124	278	548	1061	1788	2713	3613	4345	4834	4978	5010
55	5	25	61	147	360	577	770	745	582	339	65	1	5	30	91	238	598	1175	1945	2690	3272	3611	3676	3677
60	0	2	12	63	227	430	615	590	432	205	17	0	0	2	14	77	304	734	1349	1939	2371	2576	2593	2593
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	109	181	260	366	520	618	728	713	628	503	248	117	109	290	550	916	1436	2054	2782	3495	4123	4626	4874	4991

(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