

Climatology of the United States

No. 20 1971-2000

Station: GRANT GROVE, CA

COOP ID: 043551

Climate Division: CA 5

NWS Call Sign:

Elevation: 6,600 Feet Lat: 36°44N

Lon: 118°58W

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	42.3	27.1	34.7	65	1975	15	42.8	1986	-6	1949	10	28.2	1979	940	0	.0	.0	9.0	3.6	23.7	.0
Feb	42.6	26.8	34.7	67+	1995	20	42.3	1995	-4	1949	13	29.6	1990	848	0	.0	.0	8.8	3.7	21.8	.0
Mar	43.4	27.8	35.6	68	1978	19	43.2	1997	0	1951	3	28.0	1991	896	0	.0	.0	10.2	3.0	23.3	.0
Apr	48.0	31.5	39.8	73+	1989	8	47.7	1989	8	1953	8	29.5	1975	757	0	.0	.0	15.3	1.6	17.4	.0
May	55.6	38.2	46.9	82+	1984	30	54.2	1997	13	1950	4	36.9	1977	568	6	.0	.0	23.2	.2	8.4	.0
Jun	66.4	46.5	56.5	87+	1972	30	61.4	1981	22	1950	7	49.4	1998	270	13	.0	.0	28.5	.0	1.2	.0
Jul	74.0	52.4	63.2	90+	1972	16	67.1	1996	32	1987	18	58.1	1987	108	51	.0	.1	31.0	.0	@	.0
Aug	73.6	52.1	62.9	89	1998	5	67.0	1996	28	1959	21	55.1	1976	119	52	.0	.0	31.0	.0	.0	.0
Sep	67.7	47.5	57.6	88	1950	2	62.9	1974	21	1986	26	48.7	1986	247	24	.0	.0	28.8	.0	1.1	.0
Oct	58.2	40.1	49.2	82	1980	3	57.5	1988	11	1971	29	41.9	1984	501	9	.0	.0	25.1	.1	6.4	.0
Nov	48.1	32.1	40.1	72	1955	10	49.0	1995	8	1975	29	31.0	1994	747	0	.0	.0	15.2	1.8	16.4	.0
Dec	43.4	28.0	35.7	70	1958	4	42.6	1980	-4	1972	9	26.8	1971	907	0	.0	.0	10.9	4.0	21.7	.1
Ann	55.3	37.5	46.4	90+	Jul 1972	16	67.1	Jul 1996	-6	Jan 1949	10	26.8	Dec 1971	6908	155	.0	.1	237.0	18.0	141.4	.1

+ 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	8.23	7.54	7.51	1969	19	24.94	1980	.06	1976	9.2	7.2	4.4	2.9	.39	.82	1.77	2.86	4.12	5.63	7.49	9.88	13.28	19.10	24.93	
Feb	7.58	5.70	6.85	1963	1	18.75	1980	.74	1997	9.4	7.5	4.3	2.6	.80	1.37	2.41	3.47	4.60	5.88	7.38	9.25	11.80	16.03	20.15	
Mar	7.44	6.52	5.82	1995	10	25.55	1991	.00	1972	10.5	8.6	4.7	2.7	.40	1.09	2.23	3.32	4.49	5.79	7.30	9.18	11.73	15.94	20.03	
Apr	3.07	2.25	4.50	1982	11	11.56	1982	.04	1977	7.4	5.2	2.0	.8	.11	.25	.58	.97	1.44	2.01	2.72	3.66	5.00	7.32	9.66	
May	1.50	.99	5.10	1957	19	6.24	1995	.05	1985	4.8	3.1	.9	.3	.04	.10	.25	.44	.66	.94	1.30	1.77	2.45	3.65	4.86	
Jun	.57	.19	1.76	1995	16	3.23	1998	.00+	1994	2.0	1.1	.4	.1	.00	.00	.00	.03	.11	.22	.39	.62	.97	1.61	2.27	
Jul	.23	.03	1.57	1992	12	2.93	1992	.00+	2000	1.2	.5	.1	.1	.00	.00	.00	.00	.00	.03	.09	.20	.37	.71	1.09	
Aug	.11	.04	.41	1967	26	.74	1983	.00+	1997	1.2	.5	.0	.0	.00	.00	.00	.00	.01	.04	.08	.13	.20	.33	.47	
Sep	1.25	.58	4.09	1982	26	7.98	1982	.00+	1996	3.3	1.9	.7	.3	.00	.00	.00	.08	.26	.51	.86	1.37	2.13	3.53	4.99	
Oct	2.23	1.64	4.32	1992	30	6.36	1982	.00+	1995	4.0	2.8	1.3	.8	.00	.00	.31	.65	1.03	1.48	2.03	2.74	3.71	5.39	7.07	
Nov	4.31	2.94	6.12	1950	19	11.97	1983	.03	1995	6.5	5.0	2.3	1.5	.18	.40	.88	1.44	2.11	2.90	3.88	5.16	6.98	10.11	13.26	
Dec	5.55	4.27	10.09	1966	6	18.08	1996	.00	1989	7.0	5.4	3.1	2.1	.16	.55	1.30	2.09	2.97	3.99	5.22	6.77	8.93	12.57	16.17	
Ann	42.07	37.85	10.09	Dec 1966	6	25.55	Mar 1991	.00+	Jul 2000	66.5	48.8	24.2	14.2	19.90	23.55	28.56	32.61	36.36	40.12	44.13	48.71	54.45	63.11	70.90	

+ 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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Lon: 118° 58W

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	35.8	33.0	21	21	23.0	1974	7	92.0	1995	71	1974	7	48+	1995	6.9	6.4	4.0	3.1	1.3	22.6	21.7	21.2	16.6
Feb	33.7	26.0	33	33	24.0	1979	2	93.3	2000	100	1973	15	79	1973	7.3	6.8	4.4	3.1	1.3	23.9	23.4	22.8	21.9
Mar	43.5	33.8	38	34	31.0	1995	23	150.0	1991	111	1973	22	95	1973	8.0	7.8	5.1	3.6	1.4	26.5	25.5	24.2	22.8
Apr	17.8	15.3	25	14	23.0	1982	1	74.8	1998	102	1998	15	84	1998	5.0	4.7	2.3	1.2	.4	14.9	13.6	12.4	9.6
May	4.2	2.0	7	#	13.0	1998	13	25.5	1977	77	1983	1	53	1983	2.1	1.8	.8	.3	@	2.5	2.1	1.7	.9
Jun	.4	.0	#	0	3.0	1995	8	8.5	1995	28	1998	1	7	1998	.2	.1	.1	.0	.0	.1	.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	.2	.0	#	0	3.0	1986	25	4.0	1986	3	1986	25	#	1986	.1	.1	@	.0	.0	.1	@	.0	.0
Oct	3.3	.0	#	0	18.0	1996	30	25.0	1996	19	1996	31	1+	2000	1.0	.9	.4	.2	.1	1.7	.6	.3	.1
Nov	16.8	11.0	4	3	25.0	1985	11	57.0	1972	36	1972	17	19	1972	3.9	3.5	2.1	1.3	.4	11.3	9.6	7.7	3.4
Dec	22.6	19.7	11	9	20.0	1978	19	72.0	1992	54	1971	28	34	1972	5.0	4.5	2.8	1.9	.9	19.0	17.0	14.1	11.6
Ann	178.3	140.8	N/A	N/A	31.0	Mar 1995	23	150.0	Mar 1991	111	Mar 1973	22	95	Mar 1973	39.5	36.6	22.0	14.7	5.8	122.6	113.5	104.4	86.9

+ 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	6/29	6/23	6/19	6/16	6/13	6/10	6/07	6/03	5/28
32	6/24	6/17	6/12	6/08	6/04	5/31	5/27	5/22	5/16
28	6/06	5/30	5/25	5/20	5/16	5/12	5/08	5/03	4/26
24	5/25	5/17	5/11	5/05	5/01	4/26	4/21	4/15	4/06
20	5/11	5/01	4/24	4/18	4/12	4/06	3/31	3/24	3/14
16	5/02	4/18	4/08	3/31	3/23	3/15	3/07	2/25	2/11
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	9/03	9/10	9/15	9/19	9/23	9/27	10/01	10/06	10/13
32	9/19	9/27	10/02	10/07	10/11	10/15	10/20	10/25	11/02
28	10/04	10/11	10/16	10/21	10/25	10/29	11/02	11/07	11/14
24	10/13	10/20	10/26	10/30	11/04	11/08	11/12	11/18	11/25
20	10/30	11/07	11/13	11/18	11/23	11/27	12/02	12/08	12/16
16	11/10	11/21	11/28	12/04	12/10	12/16	12/22	12/30	1/09
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	123	115	110	105	101	97	92	87	79
32	156	146	139	134	128	123	117	110	101
28	187	178	171	166	161	155	150	143	134
24	221	209	200	193	186	179	172	163	152
20	263	249	240	232	224	216	208	198	185
16	317	298	284	272	261	250	239	225	206

* 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	940	848	896	757	568	270	108	119	247	501	747	907	6908
60	785	708	756	609	426	155	35	44	143	362	598	752	5373
57	692	624	663	523	347	103	14	19	96	288	511	659	4539
55	630	568	602	468	299	75	7	11	69	244	456	598	4027
50	476	428	457	335	197	29	0	1	26	151	322	454	2876
32	67	59	80	42	15	0	0	0	0	7	36	80	386

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above													
32	150	135	192	275	476	733	967	956	767	538	279	196	5664
55	0	0	1	11	47	118	261	253	146	62	9	1	909
57	0	0	0	6	33	86	206	200	113	44	4	0	692
60	0	0	0	2	19	48	134	132	70	25	1	0	431
65	0	0	0	0	6	13	51	52	24	9	0	0	155
70	0	0	0	0	0	1	11	12	7	1	0	0	32

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	47	43	53	117	263	508	730	717	538	317	118	60	47	90	143	260	523	1031	1761	2478	3016	3333	3451	3511
45	10	5	15	56	157	367	575	562	395	200	55	18	10	15	30	86	243	610	1185	1747	2142	2342	2397	2415
50	0	0	0	21	73	236	420	409	260	105	16	0	0	0	0	21	94	330	750	1159	1419	1524	1540	1540
55	0	0	0	0	27	128	270	261	146	42	0	0	0	0	0	0	27	155	425	686	832	874	874	874
60	0	0	0	0	4	50	138	131	58	11	0	0	0	0	0	0	4	54	192	323	381	392	392	392
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	25	29	30	65	143	287	440	433	306	170	59	32	25	54	84	149	292	579	1019	1452	1758	1928	1987	2019

(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:

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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