

Climatology of the United States

No. 20

1971-2000

Station: ALTURAS, CA

COOP ID: 040161

Climate Division: CA 2

NWS Call Sign:

Elevation: 4,400 Feet Lat: 41° 30N

Lon: 120° 33W

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	43.2	18.1	30.7	69	1961	21	40.1	1986	-32	1937	20	15.9	1977	1066	0	.0	.0	6.5	4.1	28.5	2.9
Feb	47.4	21.4	34.4	75+	1934	13	41.3	1991	-33	1989	5	22.9	1989	856	0	.0	.0	9.5	1.6	25.9	1.2
Mar	52.7	25.3	39.0	82+	1966	30	44.2	1986	-7	1971	1	33.8	1977	806	0	.0	.0	18.0	.3	26.1	.2
Apr	59.8	28.2	44.0	85+	1987	28	49.9	1990	7	1997	5	35.3	1975	630	0	.0	.0	23.2	@	22.1	.0
May	68.8	34.1	51.5	95+	1986	31	58.6	1992	17+	1999	16	44.4	1977	423	2	.0	.3	29.0	.0	13.3	.0
Jun	78.6	39.8	59.2	102+	1961	25	64.1+	1992	21+	2001	4	54.3	1980	203	29	@	3.5	29.8	.0	4.0	.0
Jul	88.1	43.8	66.0	107	1960	19	70.6	1988	28+	1993	18	59.3	1993	74	102	.6	13.3	31.0	.0	1.1	.0
Aug	87.6	42.0	64.8	106	1961	4	68.7	1971	26+	1999	31	59.5	1976	73	68	.7	12.5	31.0	.0	1.2	.0
Sep	79.5	35.8	57.7	106	1955	4	61.3	1991	15	1950	30	52.6	1986	232	11	@	3.2	29.9	.0	9.6	.0
Oct	67.3	28.1	47.7	93	1961	15	53.4	1987	8	1996	21	42.5	1984	537	0	.0	.1	28.2	.1	23.8	.0
Nov	51.0	23.3	37.2	82	1962	1	42.9	1995	-17	1985	12	28.2	1985	835	0	.0	.0	14.7	.8	26.0	.4
Dec	43.1	17.7	30.4	71	1939	4	36.7	1981	-34	1972	9	20.8	1990	1073	0	.0	.0	6.5	3.8	28.9	2.4
Ann	63.9	29.8	46.9	107	Jul 1960	19	70.6	Jul 1988	-34	Dec 1972	9	15.9	Jan 1977	6808	212	1.3	32.9	257.3	10.7	210.5	7.1

+ 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: 1931-2001

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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	1.32	.95	2.14	1936	15	3.65	1980	.12	1992	9.2	4.1	.6	@	.17	.28	.47	.65	.84	1.06	1.31	1.61	2.02	2.70	3.35	
Feb	1.28	1.00	10.00	1937	6	5.08	1986	.20	1971	9.2	3.5	.5	.2	.21	.32	.50	.68	.86	1.06	1.28	1.56	1.93	2.52	3.10	
Mar	1.55	1.35	1.99	1986	8	3.34+	1991	.49	1977	10.0	4.4	.6	.2	.50	.64	.86	1.05	1.23	1.41	1.62	1.85	2.16	2.64	3.08	
Apr	1.11	.96	1.60	1995	29	3.24	1995	.11	1977	8.2	3.6	.3	.1	.18	.27	.43	.59	.74	.91	1.11	1.35	1.67	2.19	2.69	
May	1.32	1.02	1.56	1945	17	4.30	1998	.03	1974	7.1	3.8	.6	@	.14	.24	.42	.61	.81	1.03	1.29	1.62	2.06	2.79	3.51	
Jun	.79	.64	1.38	1934	6	1.93	1998	.00+	1974	4.3	2.3	.4	.1	.00	.07	.21	.33	.47	.61	.78	.99	1.27	1.74	2.19	
Jul	.30	.17	1.03	1998	23	1.29	1998	.00+	1994	1.9	.8	.1	@	.00	.00	.02	.05	.10	.17	.25	.35	.51	.78	1.06	
Aug	.37	.13	1.05	1965	2	1.56	1999	.00+	2000	2.0	1.0	.2	.0	.00	.00	.00	.00	.03	.14	.27	.43	.66	1.06	1.46	
Sep	.66	.52	1.00	1998	26	2.21	1998	.00+	1994	3.4	1.7	.4	@	.00	.00	.02	.10	.22	.36	.54	.78	1.13	1.73	2.36	
Oct	.73	.63	1.75	1962	13	1.95	1979	.00+	1978	5.3	2.5	.3	.1	.00	.05	.16	.27	.39	.53	.70	.90	1.19	1.67	2.14	
Nov	1.47	1.23	1.33	1946	19	3.85	1998	.14	1980	8.7	4.4	.5	.1	.21	.33	.54	.75	.96	1.19	1.46	1.79	2.23	2.96	3.65	
Dec	1.23	.90	3.51	1937	11	4.17	1983	.02	1976	8.4	4.0	.4	@	.11	.20	.36	.54	.72	.94	1.19	1.50	1.94	2.67	3.38	
Ann	12.13	11.83	10.00	Feb 1937	6	5.08	Feb 1986	.00+	Aug 2000	77.7	36.1	4.9	.8	7.03	7.94	9.15	10.09	10.95	11.79	12.68	13.67	14.90	16.72	18.33	

+ 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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Lon: 120° 33W

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	4.5	3.5	1	#	8.0	1974	5	19.0	1989	21	1993	13	12	1993	3.7	2.3	1.0	.3	.0	4.5	2.2	1.2	.2
Feb	6.1	4.5	1	0	8.0	1976	29	18.0	1975	10	1989	11	6	1989	3.0	2.2	.8	.3	.0	4.8	2.8	2.0	.1
Mar	4.6	3.0	#	0	9.0	1976	1	18.0	1974	10	1974	3	5	1974	2.2	1.6	.6	.2	.0	1.8	.5	.2	.0
Apr	1.9	1.0	#	0	5.0	1975	14	10.0	1975	4	1982	1	#+	1995	1.3	.9	.2	@	.0	.6	.1	.0	.0
May	.7	.0	#	0	4.0	1991	1	8.0	1991	4	1991	18	#+	1991	.3	.3	.1	.0	.0	.2	.1	.0	.0
Jun	.1	.0	#	0	1.0	1971	1	1.0	1971	1	1971	1	#	1971	.1	.1	.0	.0	.0	@	.0	.0	.0
Jul	#	.0	0	0	#	1987	17	#	1987	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	.2	.0	#	0	2.0	1971	16	2.0	1971	2	1971	16	#+	1992	.2	@	.0	.0	.0	.2	.0	.0	.0
Nov	4.0	2.0	#	0	12.0	1985	10	27.0	1985	12	1985	29	4	1985	2.0	1.4	.6	.1	@	3.2	1.5	.6	.2
Dec	5.1	3.0	1	#	6.0	1994	4	22.0	1994	14	1994	16	8	1994	3.1	2.1	.7	.2	.0	4.5	1.7	.4	.0
Ann	27.2	17.0	N/A	N/A	12.0	Nov 1985	10	27.0	Nov 1985	21	Jan 1993	13	12	Jan 1993	15.9	10.9	4.0	1.1	@	19.8	8.9	4.4	.5

+ 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	7/31	7/26	7/23	7/20	7/17	7/14	7/11	7/07	7/02
32	7/18	7/12	7/08	7/04	6/30	6/26	6/22	6/18	6/12
28	6/26	6/18	6/12	6/07	6/02	5/29	5/24	5/18	5/10
24	6/03	5/27	5/22	5/17	5/13	5/09	5/05	4/30	4/22
20	5/15	5/09	5/04	4/30	4/27	4/23	4/19	4/15	4/08
16	4/25	4/17	4/10	4/05	3/31	3/26	3/20	3/14	3/05
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	8/01	8/05	8/08	8/11	8/13	8/16	8/18	8/21	8/26
32	8/14	8/19	8/23	8/26	8/30	9/02	9/05	9/09	9/14
28	8/30	9/04	9/08	9/11	9/14	9/17	9/20	9/24	9/29
24	9/16	9/21	9/25	9/28	10/01	10/04	10/07	10/11	10/17
20	9/27	10/03	10/08	10/12	10/16	10/19	10/23	10/28	11/03
16	10/07	10/13	10/18	10/21	10/25	10/28	11/01	11/05	11/11
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	49	41	36	31	27	22	18	12	5
32	83	75	69	64	60	55	50	45	37
28	133	122	115	109	103	97	91	83	73
24	170	160	152	146	140	134	128	121	110
20	197	188	182	176	171	166	161	154	145
16	237	227	219	213	207	201	195	188	178

* 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	Ann
65	1066	856	806	630	423	203	74	73	232	537	835	1073	6808
60	911	716	651	481	281	106	22	18	118	384	685	918	5291
57	818	632	558	395	205	64	9	6	69	298	595	825	4474
55	756	576	496	340	162	43	4	2	45	244	537	763	3968
50	614	442	350	213	78	12	0	0	11	132	396	609	2857
32	195	80	24	7	0	0	0	0	0	2	55	158	521

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	152	148	241	368	602	816	1051	1018	769	488	210	108	5971
55	0	0	0	10	51	168	342	306	124	17	1	0	1019
57	0	0	0	5	32	130	286	248	88	9	0	0	798
60	0	0	0	1	15	82	205	167	47	2	0	0	519
65	0	0	0	0	2	29	102	68	11	0	0	0	212
70	0	0	0	0	0	7	35	16	1	0	0	0	59

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	7	23	60	154	344	566	793	758	515	252	50	5	7	30	90	244	588	1154	1947	2705	3220	3472	3522	3527
45	0	2	16	71	212	418	638	603	367	133	11	0	0	2	18	89	301	719	1357	1960	2327	2460	2471	2471
50	0	0	0	21	113	278	485	449	235	56	0	0	0	0	0	21	134	412	897	1346	1581	1637	1637	1637
55	0	0	0	1	44	162	334	299	123	14	0	0	0	0	0	1	45	207	541	840	963	977	977	977
60	0	0	0	0	12	70	199	166	42	0	0	0	0	0	0	0	12	82	281	447	489	489	489	489
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	16	38	76	154	279	407	532	525	418	271	70	11	16	54	130	284	563	970	1502	2027	2445	2716	2786	2797

(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