

# Climatology of the United States

## No. 20

### 1971-2000

**Station: TRONA, CA**

**COOP ID: 049035**

**Climate Division: CA 7**

**NWS Call Sign:**

**Elevation: 1,695 Feet Lat: 35°46N**

**Lon: 117°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	56.0	35.7	45.9	83	1975	26	54.1	1996	10	1949	5	41.1+	1994	593	0	.0	.0	27.5	.0	10.8	.0
Feb	63.7	41.0	52.4	88+	1996	10	63.9	1996	16+	1972	3	48.1	1975	355	6	.0	.0	27.3	.0	5.1	.0
Mar	68.7	46.1	57.4	93	1956	24	65.7	1997	20	1966	5	50.6	1977	275	40	.0	.2	30.7	.0	1.2	.0
Apr	76.9	52.0	64.5	102+	1989	10	72.9	1989	25	1965	11	54.7	1975	142	125	.2	3.7	30.0	.0	.0	.0
May	85.1	60.3	72.7	111	1951	27	80.8	1997	33	1959	2	63.0	1977	50	288	2.5	13.0	31.0	.0	.0	.0
Jun	94.4	69.0	81.7	118+	1994	30	90.2	1996	41	1969	10	74.1	1995	2	507	14.1	25.4	30.0	.0	.0	.0
Jul	99.8	74.5	87.2	118	1972	14	92.2	1996	50	1977	10	82.4	1987	0	686	24.0	30.4	31.0	.0	.0	.0
Aug	98.0	74.0	86.0	118+	1981	8	94.0	1996	50	1978	21	79.1	1976	0	651	22.2	30.2	31.0	.0	.0	.0
Sep	91.1	67.6	79.4	116	1950	3	85.5	1997	40	1948	26	70.8	1985	7	437	9.2	22.8	30.0	.0	.0	.0
Oct	79.6	55.4	67.5	105	1980	2	74.1	1988	23	1971	31	60.8	1972	93	171	1.0	8.2	31.0	.0	.1	.0
Nov	65.5	42.1	53.8	96	1949	1	60.4	1999	23+	1975	24	47.7	1994	347	11	.0	.0	29.8	.0	2.8	.0
Dec	55.6	33.9	44.8	83	1964	24	51.1	1995	8	1990	23	39.4	1978	628	0	.0	.0	28.3	.1	13.0	.0
Ann	77.9	54.3	66.1	118+	Jun 1994	30	94.0	Aug 1996	8	Dec 1990	23	39.4	Dec 1978	2492	2922	73.2	133.9	357.6	.1	33.0	.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](http://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	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	.89	.70	1.35	1952	18	5.01	1995	.00+	1984	3.0	1.9	.6	.1	.00	.00	.02	.12	.26	.45	.70	1.03	1.52	2.39	3.29	
Feb	.87	.36	1.67	1998	23	4.72	1998	.00+	1997	2.6	2.0	.7	.2	.00	.00	.00	.00	.20	.43	.70	1.06	1.56	2.42	3.27	
Mar	.62	.38	1.07	1991	26	2.51	1978	.00+	1999	2.6	1.6	.4	@	.00	.00	.00	.00	.20	.40	.60	.83	1.13	1.61	2.07	
Apr	.13	.00	.65	1965	4	.73	1980	.00+	2000	1.1	.6	.0	.0	.00	.00	.00	.00	.00	.00	.00	.17	.28	.42	.56	
May	.12	.00	.62	1977	8	.89	1977	.00+	2000	.9	.3	.1	.0	.00	.00	.00	.00	.00	.00	.05	.13	.23	.41	.58	
Jun	.10	.00	1.23	1972	8	1.29	1972	.00+	2000	.4	.2	.1	@	.00	.00	.00	.00	.00	.00	.00	.00	.06	.30	.62	
Jul	.08	.00	.68	1965	18	1.01	1984	.00+	2000	.7	.3	.0	.0	.00	.00	.00	.00	.00	.00	.03	.08	.15	.27	.39	
Aug	.26	.00	2.25	1984	15	2.66	1984	.00+	1997	.9	.6	.2	.1	.00	.00	.00	.00	.00	.00	.00	.04	.27	.87	1.60	
Sep	.25	.02	1.54	1997	25	2.52	1976	.00+	2000	1.0	.5	.1	.1	.00	.00	.00	.00	.00	.00	.05	.17	.38	.82	1.29	
Oct	.12	.00	1.92	1963	18	.88+	1987	.00+	2000	.7	.3	.1	.0	.00	.00	.00	.00	.00	.00	.00	.09	.21	.41	.62	
Nov	.25	.01	1.50	1984	22	1.83	1981	.00+	2000	1.0	.6	.2	.1	.00	.00	.00	.00	.00	.00	.05	.18	.39	.82	1.27	
Dec	.42	.13	1.48	1992	7	2.60	1984	.00+	2000	1.5	1.0	.2	@	.00	.00	.00	.00	.02	.10	.24	.43	.73	1.26	1.81	
Ann	4.11	4.06	2.25	Aug 1984	15	5.01	Jan 1995	.00+	Dec 2000	16.4	9.9	2.7	.6	.63	.98	1.58	2.15	2.73	3.38	4.11	5.02	6.23	8.19	10.08	

+ 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:  
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Climate Division: CA 7

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Lat: 35° 46N

Lon: 117° 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	1.0	1979	30	1.0	1979	9	1974	5	#	1974	@	@	.0	.0	.0	.0	.0	.0	.0	.0
Feb	#	.0	0	0	#	1989	8	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	#	.0	0	0	#	1976	3	#	1976	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	.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	.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	.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	.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	.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	.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	.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	.0
Dec	#	.0	0	0	#	1987	16	#	1987	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	1.0	Jan 1979	30	1.0	Jan 1979	9	Jan 1974	5	#	Jan 1974	@	@	.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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<b>Freeze Data</b>									
<b>Spring Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of later date in spring (thru Jul 31) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	4/16	4/04	3/26	3/18	3/11	3/04	2/24	2/15	1/31
<b>32</b>	3/30	3/18	3/09	3/02	2/22	2/15	2/07	1/29	1/14
<b>28</b>	3/03	2/20	2/11	2/04	1/28	1/20	1/10	12/23	0/00
<b>24</b>	2/09	1/29	1/21	1/14	1/06	12/28	12/15	0/00	0/00
<b>20</b>	1/10	12/31	12/21	0/00	0/00	0/00	0/00	0/00	0/00
<b>16</b>	1/07	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>Fall Freeze Dates (Month/Day)</b>									
<b>Temp (F)</b>	<b>Probability of earlier date in fall (beginning Aug 1) than indicated(*)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	10/21	11/02	11/10	11/17	11/23	11/30	12/07	12/16	12/30
<b>32</b>	11/01	11/12	11/20	11/28	12/04	12/11	12/19	12/29	1/16
<b>28</b>	11/14	11/23	11/30	12/06	12/12	12/19	12/28	0/00	0/00
<b>24</b>	11/25	12/06	12/15	12/23	1/01	1/11	1/29	0/00	0/00
<b>20</b>	12/14	12/20	12/27	0/00	0/00	0/00	0/00	0/00	0/00
<b>16</b>	1/01	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>Freeze Free Period</b>									
<b>Temp (F)</b>	<b>Probability of longer than indicated freeze free period (Days)</b>								
	<b>.10</b>	<b>.20</b>	<b>.30</b>	<b>.40</b>	<b>.50</b>	<b>.60</b>	<b>.70</b>	<b>.80</b>	<b>.90</b>
<b>36</b>	>365	285	270	260	250	242	232	222	207
<b>32</b>	>365	321	302	290	280	270	260	249	233
<b>28</b>	>365	>365	>365	335	318	306	295	284	270
<b>24</b>	>365	>365	>365	>365	>365	346	329	314	296
<b>20</b>	>365	>365	>365	>365	>365	>365	>365	>365	348
<b>16</b>	>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

Complete documentation available from:

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NWS Call Sign:

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Lon: 117°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
65	593	355	275	142	50	2	0	0	7	93	347	628	2492
60	445	231	172	74	21	0	0	0	1	42	223	474	1683
57	361	169	123	46	11	0	0	0	0	23	159	387	1279
55	307	133	94	32	7	0	0	0	0	15	123	329	1040
50	193	63	40	12	1	0	0	0	0	4	56	201	570
32	8	0	0	0	0	0	0	0	0	0	0	5	13

### Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	438	575	788	973	1261	1494	1709	1674	1419	1100	654	400	12485
55	24	64	169	315	555	804	996	961	729	402	87	11	5117
57	16	43	136	269	497	744	934	899	669	349	63	6	4625
60	8	22	92	208	414	654	841	806	581	275	36	0	3937
65	0	6	40	125	288	507	686	651	437	171	11	0	2922
70	0	0	15	63	186	364	531	498	304	94	3	0	2058

### 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	241	381	560	760	1043	1309	1533	1501	1250	927	487	223	241	622	1182	1942	2985	4294	5827	7328	8578	9505	9992	10215
45	122	245	406	610	888	1159	1378	1346	1100	772	340	106	122	367	773	1383	2271	3430	4808	6154	7254	8026	8366	8472
50	46	128	258	460	733	1009	1223	1191	950	618	209	36	46	174	432	892	1625	2634	3857	5048	5998	6616	6825	6861
55	10	53	140	317	579	859	1068	1036	800	463	102	1	10	63	203	520	1099	1958	3026	4062	4862	5325	5427	5428
60	0	15	56	185	428	709	913	881	650	315	38	0	0	15	71	256	684	1393	2306	3187	3837	4152	4190	4190
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	148	241	340	470	674	821	948	939	803	594	303	139	148	389	729	1199	1873	2694	3642	4581	5384	5978	6281	6420

(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](http://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](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)