

# Climatology of the United States

## No. 20 1971-2000

Station: REDLANDS, CA

COOP ID: 047306

Climate Division: CA 6

NWS Call Sign:

Elevation: 1,318 Feet

Lat: 34°03N

Lon: 117°11W

### 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	65.4	40.4	52.9	93	1990	9	58.8	1986	19	2000	2	48.2	1979	375	0	.0	.1	30.4	.0	2.6	.0
Feb	67.3	42.5	54.9	92	1986	26	61.5	1991	25+	1985	1	51.5	1998	287	3	.0	.1	27.7	.0	.9	.0
Mar	68.6	44.5	56.6	97+	1988	26	62.9	1997	29+	1954	14	50.7	1973	282	20	.0	.5	30.9	.0	.2	.0
Apr	74.9	47.6	61.3	106	1989	6	67.3	1987	31	1953	9	53.4	1975	172	59	.1	2.7	29.9	.0	.0	.0
May	79.2	52.5	65.9	109	1984	29	73.7	1997	36	1938	3	59.5	1977	102	128	.9	5.4	31.0	.0	.0	.0
Jun	87.7	56.7	72.2	112	1961	15	77.3	1981	41+	1988	9	64.6	1982	22	238	3.4	14.3	30.0	.0	.0	.0
Jul	94.4	61.5	78.0	115	1934	27	81.6	1984	49+	2001	19	73.7	1987	0	400	7.3	25.7	31.0	.0	.0	.0
Aug	94.7	62.1	78.4	112	1998	29	83.5	1998	46	1954	27	73.9	1976	0	415	8.0	25.4	31.0	.0	.0	.0
Sep	89.8	59.4	74.6	115	1971	13	80.9	1984	43+	1971	29	69.0	1986	8	297	5.1	17.0	30.0	.0	.0	.0
Oct	81.5	52.3	66.9	110	1987	4	72.2	1991	28	1971	30	61.9	1972	67	126	.9	7.1	31.0	.0	@	.0
Nov	72.9	44.2	58.6	97	1988	5	63.8	1995	26	1931	23	53.1	1994	219	25	.0	.8	30.0	.0	.6	.0
Dec	66.5	39.8	53.2	90	1958	3	57.1	2000	23+	1978	8	46.6	1971	370	3	.0	.0	30.4	.0	2.7	.0
Ann	78.6	50.3	64.5	115+	Sep 1971	13	83.5	Aug 1998	19	Jan 2000	2	46.6	Dec 1971	1904	1714	25.7	99.1	363.3	.0	7.0	.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: 1927-2001

(3) Derived from 1971-2000 serially complete daily data

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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	2.98	1.92	3.41	1969	25	11.69	1993	.00+	1976	7.1	5.3	2.1	.8	.00	.17	.61	1.06	1.56	2.13	2.81	3.66	4.85	6.85	8.82	
Feb	3.04	2.43	3.05	1991	28	12.10	1998	.00	1997	6.5	4.5	2.2	1.0	.05	.22	.59	1.00	1.49	2.06	2.76	3.67	4.95	7.14	9.33	
Mar	2.58	2.33	3.08	1938	3	7.56	1991	.00	1997	7.5	5.4	1.6	.5	.06	.21	.54	.90	1.31	1.79	2.38	3.13	4.18	5.96	7.74	
Apr	.81	.46	1.88	1983	29	3.37	1988	.00+	1993	4.4	2.3	.3	.1	.00	.01	.08	.18	.31	.47	.68	.95	1.36	2.07	2.79	
May	.42	.12	1.16	1998	13	3.11	1977	.00+	1997	2.7	.9	.2	.1	.00	.00	.00	.03	.09	.17	.29	.46	.71	1.18	1.68	
Jun	.13	.03	1.00	1993	5	1.09	1993	.00+	2000	1.1	.3	.1	@	.00	.00	.00	.00	.00	.01	.04	.11	.22	.42	.64	
Jul	.10	.01	.90	1957	12	.78	1979	.00+	2000	.8	.3	@	.0	.00	.00	.00	.00	.00	.00	.02	.07	.15	.32	.51	
Aug	.22	.01	1.93	1977	17	2.55	1983	.00+	1999	1.0	.4	.1	@	.00	.00	.00	.00	.00	.00	.02	.09	.27	.62	1.10	
Sep	.42	.03	1.55	1939	24	3.81	1976	.00+	1999	1.6	.8	.3	.1	.00	.00	.00	.00	.00	.02	.11	.29	.63	1.27	2.05	
Oct	.50	.29	2.78	1936	30	2.66	1987	.00+	1999	2.9	1.5	.3	.1	.00	.00	.06	.14	.23	.33	.46	.62	.85	1.22	1.60	
Nov	.91	.58	2.62	1965	23	3.18	1982	.00+	1992	3.7	2.2	.5	.1	.00	.02	.11	.23	.38	.56	.78	1.08	1.51	2.25	3.01	
Dec	1.51	1.30	2.64	1966	6	5.13	1984	.00	1989	5.1	3.1	1.0	.3	.01	.07	.22	.41	.65	.94	1.31	1.79	2.49	3.71	4.95	
Ann	13.62	11.68	3.41	Jan 1969	25	12.10	Feb 1998	.00+	Jul 2000	44.4	27.0	8.7	3.1	5.10	6.37	8.19	9.71	11.16	12.64	14.24	16.09	18.46	22.10	25.44	

+ 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: 1927-2001

(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:  
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Lon: 117°11W

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	2	1979	28	#	1979	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	#	0	.0	0	0	.0	0	#	1987	24	#	1987	.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	#	1978	20	#	1978	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	#	.0	N/A	N/A	#	Dec 1978	20	#	Dec 1978	2	Jan 1979	28	#+	Feb 1987	.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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<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>	4/21	4/08	3/30	3/22	3/15	3/08	2/28	2/19	2/07
<b>32</b>	3/08	2/22	2/12	2/04	1/26	1/17	1/07	12/22	0/00
<b>28</b>	1/28	1/17	1/08	12/30	12/18	0/00	0/00	0/00	0/00
<b>24</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>20</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>16</b>	0/00	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>	11/02	11/10	11/16	11/22	11/26	12/01	12/06	12/12	12/21
<b>32</b>	11/15	11/25	12/02	12/08	12/15	12/22	12/30	1/15	0/00
<b>28</b>	12/01	12/15	12/26	1/07	1/24	0/00	0/00	0/00	0/00
<b>24</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>20</b>	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
<b>16</b>	0/00	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>	303	287	275	265	255	246	236	224	207
<b>32</b>	>365	>365	>365	347	322	308	295	283	267
<b>28</b>	>365	>365	>365	>365	>365	>365	>365	340	318
<b>24</b>	>365	>365	>365	>365	>365	>365	>365	>365	>365
<b>20</b>	>365	>365	>365	>365	>365	>365	>365	>365	>365
<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

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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	375	287	282	172	102	22	0	0	8	67	219	370	1904
60	232	163	167	91	42	5	0	0	0	21	118	231	1070
57	158	105	114	54	22	2	0	0	0	9	73	160	697
55	117	74	84	36	14	1	0	0	0	4	50	122	502
50	43	20	30	11	3	0	0	0	0	0	15	48	170
32	0	0	0	0	0	0	0	0	0	0	0	0	0

### Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Above													
32	648	640	761	876	1049	1207	1423	1438	1279	1083	796	656	11856
55	52	71	132	222	350	517	710	725	589	374	155	65	3962
57	30	45	100	180	296	458	648	663	529	316	119	41	3425
60	12	19	59	128	223	372	555	570	439	236	73	19	2705
65	0	3	20	59	128	238	400	415	297	126	25	3	1714
70	0	0	5	20	58	131	249	267	172	53	6	0	961

### 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	422	453	531	652	812	982	1192	1205	1053	847	570	428	422	875	1406	2058	2870	3852	5044	6249	7302	8149	8719	9147
45	272	309	377	502	657	832	1037	1050	903	692	421	279	272	581	958	1460	2117	2949	3986	5036	5939	6631	7052	7331
50	140	174	230	354	502	682	882	895	753	537	276	147	140	314	544	898	1400	2082	2964	3859	4612	5149	5425	5572
55	51	78	114	219	351	532	727	740	603	383	147	56	51	129	243	462	813	1345	2072	2812	3415	3798	3945	4001
60	8	27	41	107	213	382	572	585	453	238	57	10	8	35	76	183	396	778	1350	1935	2388	2626	2683	2693
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	260	273	313	393	491	609	742	753	657	522	359	276	260	533	846	1239	1730	2339	3081	3834	4491	5013	5372	5648

(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)