

Climatology of the United States

No. 20

1971-2000

Station: MOUNT HAMILTON, CA

COOP ID: 045933

Climate Division: CA 4

NWS Call Sign:

Elevation: 4,206 Feet Lat: 37° 21N

Lon: 121° 39W

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	49.4	37.5	43.5	73	1976	16	49.1	1986	10+	1962	22	38.1+	1993	669	0	.0	.0	14.6	.6	9.4	.0
Feb	49.6	36.9	43.3	78	1954	3	51.2	1991	12	1949	12	36.4	1998	608	0	.0	.0	13.4	.6	8.5	.0
Mar	50.4	37.0	43.7	77	1966	31	51.6	1972	17	1953	2	35.5	1991	645	0	.0	.0	16.7	.4	9.8	.0
Apr	55.8	40.0	47.9	84	1989	7	58.8	1989	19	1953	8	39.7	1975	520	7	.0	.0	21.4	.1	7.1	.0
May	63.4	46.8	55.1	91	1984	28	62.8	1992	25	1953	1	45.6+	1998	346	39	.0	@	28.1	.0	2.0	.0
Jun	72.0	55.3	63.7	94+	1972	30	69.1	1981	28	1953	2	56.5	1998	130	89	.0	.3	29.7	.0	.1	.0
Jul	78.2	63.1	70.7	100	1972	14	77.7	1988	34	1955	4	63.5	1987	37	212	@	1.6	31.0	.0	.0	.0
Aug	77.9	62.8	70.4	103	1978	5	75.7	1998	37+	1953	29	63.7	1976	30	196	.1	1.7	31.0	.0	.0	.0
Sep	73.8	58.2	66.0	98	1988	3	72.6	1991	35+	1971	30	55.4	1986	112	142	.0	.6	29.8	.0	.0	.0
Oct	65.3	50.8	58.1	93+	1980	3	66.6	1988	20	1971	29	51.6	1984	272	56	.0	.1	28.6	.0	.7	.0
Nov	53.9	41.0	47.5	81	1976	4	56.9	1976	18	1958	16	37.6	1994	533	6	.0	.0	20.5	.1	4.3	.0
Dec	49.9	37.3	43.6	76	1980	16	52.2	1980	7	1990	21	35.4	1971	664	0	.0	.0	15.9	.9	8.7	.0
Ann	61.6	47.2	54.5	103	Aug 1978	5	77.7	Jul 1988	7	Dec 1990	21	35.4	Dec 1971	4566	747	.1	4.3	280.7	2.7	50.6	.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

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

Climatography of the United States

No. 20 1971-2000

Station: MOUNT HAMILTON, CA

COOP ID: 045933

Climate Division: CA 4

NWS Call Sign:

Elevation: 4,206 Feet Lat: 37°21N

Lon: 121°39W

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	4.42	3.80	2.50	1993	17	11.93	1998	.16	1991	10.7	7.8	3.4	1.2	.40	.70	1.29	1.91	2.58	3.34	4.25	5.38	6.94	9.55	12.11	
Feb	4.02	3.96	2.54	1954	13	12.13	1998	.19	1988	10.6	7.4	2.7	1.1	.50	.82	1.39	1.95	2.54	3.20	3.96	4.91	6.19	8.29	10.33	
Mar	3.90	3.56	2.53	1952	14	12.05	1995	.14	1994	11.3	8.2	2.5	.8	.47	.78	1.33	1.87	2.45	3.09	3.84	4.76	6.02	8.08	10.09	
Apr	1.77	1.37	1.87	1965	9	4.94	1974	.20	1977	7.0	5.0	1.1	.1	.27	.42	.68	.92	1.18	1.45	1.77	2.16	2.68	3.53	4.34	
May	.95	.58	1.92	1996	16	4.69	1998	.00+	1992	4.6	2.5	.4	.1	.00	.00	.02	.14	.30	.50	.77	1.12	1.63	2.52	3.45	
Jun	.24	.03	.73	2000	8	1.12	1995	.00+	1996	1.7	.7	.1	.0	.00	.00	.00	.00	.00	.05	.16	.29	.46	.75	1.02	
Jul	.05	.00	.50	1980	2	.50	1980	.00+	2000	.3	.2	@	.0	.00	.00	.00	.00	.00	.00	.00	.00	.04	.18	.32	
Aug	.09	.00	.75	1975	18	.95	1976	.00+	1998	.7	.2	@	.0	.00	.00	.00	.00	.00	.00	.00	.00	.07	.29	.55	
Sep	.44	.08	.94	1990	22	1.73	1986	.00+	1996	2.0	1.0	.4	.0	.00	.00	.00	.00	.04	.12	.25	.45	.75	1.32	1.92	
Oct	1.51	1.09	2.10	1991	26	3.59	1979	.00+	1995	4.2	2.7	1.0	.4	.00	.00	.26	.50	.76	1.06	1.42	1.87	2.49	3.54	4.58	
Nov	3.23	2.58	5.85	1950	18	9.76	1983	.34	1980	9.1	6.0	2.1	.7	.45	.71	1.17	1.62	2.09	2.61	3.21	3.95	4.94	6.56	8.13	
Dec	3.11	2.23	6.87	1955	23	11.63	1996	.04	1989	9.7	6.8	2.2	.5	.28	.49	.91	1.34	1.81	2.35	2.99	3.79	4.90	6.74	8.56	
Ann	23.73	20.60	6.87	Dec 1955	23	12.13	Feb 1998	.00+	Jul 2000	71.9	48.5	15.9	4.9	11.57	13.60	16.37	18.59	20.64	22.70	24.88	27.37	30.49	35.18	39.38	

+ 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:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Climatology of the United States

No. 20 1971-2000

Station: MOUNT HAMILTON, CA

COOP ID: 045933

Climate Division: CA 4

NWS Call Sign:

Elevation: 4,206 Feet

Lat: 37°21N

Lon: 121°39W

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	2.9	1.0	#	#	11.0	1974	3	17.0	1974	17	1974	5	3	1982	1.3	.8	.4	.2	@	.6	.2	.1	.0
Feb	1.9	.0	#	#	14.0	1990	18	19.5	1994	11	1989	4	2	1989	1.3	.9	.4	.1	.1	.7	.2	@	@
Mar	3.7	.3	#	#	10.0	1981	13	32.0	1982	18	1976	3	2	1991	1.4	1.1	.5	.3	.1	1.0	.4	.3	.0
Apr	1.1	.0	#	0	6.0	1975	5	10.8	1999	8	1975	8	1+	1999	.7	.5	.1	@	.0	.6	.3	.2	.0
May	.0	.0	#	0	.5	1991	1	.5	1991	#	1998	26	#	1998	@	.0	.0	.0	.0	.0	.0	.0	.0
Jun	.0	.0	0	0	.5	1999	3	.5	1999	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	#	1974	29	#	1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.1	.0	#	0	3.0	1994	26	3.0	1994	4	1982	10	#+	2000	.2	.1	@	.0	.0	.1	.0	.0	.0
Dec	.7	.0	#	#	7.0	1971	27	7.0	1971	6	1988	28	1	1988	.6	.4	.2	@	.0	.6	@	.0	.0
Ann	10.4	1.3	N/A	N/A	14.0	Feb 1990	18	32.0	Mar 1982	18	Mar 1976	3	3	Jan 1982	5.5	3.8	1.6	.6	.2	3.6	1.1	.6	@

+ 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

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Climatography of the United States

No. 20 1971-2000

Station: MOUNT HAMILTON, CA

COOP ID: 045933

Climate Division: CA 4

NWS Call Sign:

Elevation: 4,206 Feet

Lat: 37° 21N

Lon: 121° 39W

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	6/17	6/10	6/06	6/02	5/29	5/26	5/22	5/17	5/11
32	6/06	5/27	5/20	5/14	5/08	5/02	4/26	4/19	4/09
28	5/14	5/03	4/26	4/19	4/13	4/07	3/31	3/23	3/13
24	4/14	3/26	3/13	2/28	2/15	2/01	1/10	0/00	0/00
20	2/06	1/21	1/06	12/15	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	10/07	10/14	10/19	10/23	10/27	10/31	11/04	11/09	11/15
32	10/19	10/28	11/04	11/10	11/15	11/20	11/26	12/03	12/12
28	11/07	11/17	11/25	12/01	12/07	12/13	12/19	12/26	1/06
24	11/16	12/05	12/19	1/02	1/16	2/02	3/04	0/00	0/00
20	12/09	12/28	1/16	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	178	169	162	156	150	144	138	131	121
32	229	216	206	198	190	183	174	165	151
28	279	265	254	245	237	229	220	210	196
24	>365	>365	>365	>365	>365	353	304	273	240
20	>365	>365	>365	>365	>365	>365	>365	>365	323
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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

Climatology of the United States

No. 20 1971-2000

Station: MOUNT HAMILTON, CA

COOP ID: 045933

Climate Division: CA 4

NWS Call Sign:

Elevation: 4,206 Feet Lat: 37° 21N

Lon: 121° 39W

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	669	608	645	520	346	130	37	30	112	272	533	664	4566
60	514	468	515	384	237	62	11	8	53	174	397	518	3341
57	426	389	429	309	183	36	4	2	31	126	321	432	2688
55	367	336	374	264	151	24	1	1	21	99	275	377	2290
50	233	215	253	169	83	7	0	0	7	47	178	255	1447
32	9	9	22	10	2	0	0	0	0	0	11	23	86

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	364	325	386	486	717	949	1198	1189	1020	808	474	382	8298
55	9	8	24	50	153	283	486	477	351	193	48	24	2106
57	5	4	17	36	123	235	427	416	301	159	34	16	1773
60	0	0	10	21	84	172	341	329	233	114	20	9	1333
65	0	0	0	7	39	89	212	196	142	56	6	0	747
70	0	0	0	1	16	35	116	100	72	24	0	0	364

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	166	155	178	269	478	721	959	946	790	573	258	176	166	321	499	768	1246	1967	2926	3872	4662	5235	5493	5669
45	84	78	87	161	336	572	804	791	640	427	151	88	84	162	249	410	746	1318	2122	2913	3553	3980	4131	4219
50	41	32	40	89	222	424	649	636	495	292	75	37	41	73	113	202	424	848	1497	2133	2628	2920	2995	3032
55	12	10	11	40	130	297	494	482	357	185	33	7	12	22	33	73	203	500	994	1476	1833	2018	2051	2058
60	0	0	0	14	67	182	349	334	232	103	7	0	0	0	0	14	81	263	612	946	1178	1281	1288	1288
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	63	61	69	130	260	446	646	634	502	322	110	69	63	124	193	323	583	1029	1675	2309	2811	3133	3243	3312

(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