U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

Climatography of the United States No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: MINERAL, CA **COOP ID: 045679**

Climate Division: CA 2 **NWS Call Sign:** **Elevation: 4,874 Feet** **Lat: 40˚21N** **Lon: 121˚37W**

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	41.6	21.8	31.7	64	1953	11	36.7	1986	-6	1949	23	25.5	1993	1033	0	.0	.0	5.8	3.1	29.3	.2
Feb	43.4	23.1	33.3	67	1954	24	40.1	1991	-7	1949	12	26.6	1990	890	0	.0	.0	6.8	2.3	26.6	.3
Mar	46.5	25.5	36.0	73	1960	24	40.9	1972	-2	1951	2	31.3	1991	884	0	.0	.0	11.3	1.0	28.3	.0
Apr	53.1	28.4	40.8	79	1954	18	46.4	1990	5	1999	9	32.5	1975	728	0	.0	.0	18.2	.1	24.1	.0
May	62.1	33.3	47.7	86	1950	31	54.8	1992	16+	1974	19	40.7	1998	536	0	.0	.0	26.1	.0	15.0	.0
Jun	71.4	38.9	55.2	94	1950	30	59.9+	2000	25+	1999	10	49.4	1980	300	5	.0	.3	29.2	.0	4.1	.0
Jul	80.0	42.4	61.2	99	1972	16	65.6	1996	27	1975	2	55.6	1987	157	39	.0	2.5	30.9	.0	.8	.0
Aug	80.1	40.9	60.5	100+	1981	9	65.6	1971	28+	1978	23	54.6	1976	167	28	.1	3.1	31.0	.0	.9	.0
Sep	73.2	37.1	55.2	100	1955	4	60.1	1991	19	1968	20	46.5	1986	305	9	.0	.6	29.1	.0	5.7	.0
Oct	62.1	31.3	46.7	88+	1952	2	53.7	1988	15+	1984	18	39.5	1984	567	0	.0	.0	25.8	@	18.7	.0
Nov	47.3	26.1	36.7	77	1967	1	44.1	1995	3	1985	13	28.3	1994	848	0	.0	.0	11.6	1.1	26.4	.0
Dec	41.8	22.4	32.1	65+	1959	3	37.0	1980	-9	1972	8	25.6	1971	1021	0	.0	.0	5.9	3.5	28.9	.4
Ann	58.6	30.9	44.8	100+	Aug 1981	9	65.6+	Jul 1996	-9	Dec 1972	8	25.5	Jan 1993	7436	81	.1	6.5	231.7	11.1	208.8	.9

\+ 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/normals/usnormals.html

(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

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	9.45	7.58	6.50	1997	1	28.76	1995	.55	1984
Feb	8.77	7.74	5.70	1957	24	28.33	1986	.40	1997
Mar	8.40	5.93	5.65	1986	8	24.23	1983	2.01+	1994
Apr	4.14	3.57	4.36	1982	11	11.61	1995	.52	1985
May	2.97	2.32	2.79	1995	1	9.73	1998	.01	1976
Jun	1.49	.97	2.66	1958	12	4.42	1995	.04	1979
Jul	.33	.06	1.48	1982	3	2.55	1974	.00+	2000
Aug	.47	.13	2.43	1979	30	3.21	1979	.00+	1998
Sep	1.53	1.04	5.25	1957	27	6.00	1986	.00+	1995
Oct	3.73	2.71	10.03	1962	12	10.80	1982	.00+	1995
Nov	7.17	5.25	6.88	1981	16	25.93	1973	.24	1995
Dec	7.86	5.38	7.98	1964	22	30.70	1996	.00	1989
Ann	56.31	51.41	10.03	Oct 1962	12	30.70	Dec 1996	.00+	Jul 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	12.3	10.4	5.8	3.1
Feb	11.9	10.2	5.4	3.1
Mar	13.5	10.7	5.3	2.6
Apr	9.3	6.8	3.0	1.2
May	7.3	5.5	2.2	.7
Jun	4.1	2.9	1.0	.3
Jul	1.0	.7	.2	.1
Aug	1.6	1.1	.2	.1
Sep	3.3	2.5	1.0	.4
Oct	6.0	4.5	2.2	1.1
Nov	10.6	8.5	4.5	2.2
Dec	11.3	9.1	4.7	2.2
Ann	92.2	72.9	35.5	17.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.80	1.44	2.69	4.00	5.44	7.08	9.04	11.50	14.91	20.60	26.20
Feb	.87	1.51	2.71	3.93	5.25	6.75	8.50	10.70	13.71	18.70	23.59
Mar	1.40	2.13	3.35	4.51	5.69	6.98	8.46	10.26	12.65	16.54	20.26
Apr	.69	1.05	1.65	2.22	2.80	3.44	4.17	5.05	6.24	8.16	9.99
May	.15	.32	.67	1.06	1.52	2.06	2.72	3.58	4.78	6.83	8.88
Jun	.05	.12	.28	.47	.70	.98	1.32	1.77	2.42	3.53	4.66
Jul	.00	.00	.00	.00	.00	.04	.15	.32	.57	1.04	1.52
Aug	.00	.00	.00	.00	.03	.13	.28	.49	.82	1.42	2.05
Sep	.00	.00	.04	.24	.50	.82	1.25	1.81	2.62	4.03	5.50
Oct	.00	.23	.78	1.35	1.97	2.69	3.54	4.60	6.08	8.57	11.03
Nov	.50	.95	1.86	2.84	3.94	5.21	6.74	8.69	11.40	15.98	20.51
Dec	.39	1.09	2.27	3.43	4.66	6.05	7.67	9.68	12.43	16.98	21.43
Ann	25.74	30.70	37.57	43.13	48.30	53.50	59.07	65.43	73.44	85.55	96.48

\+ 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

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	26.1	27.8	16	13
Feb	31.3	23.9	19	16
Mar	29.7	22.5	14	9
Apr	10.6	7.0	5	1
May	2.5	.5	#	#
Jun	.2	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	#	0
Oct	1.6	.0	#	0
Nov	7.3	4.5	2	#
Dec	23.2	21.7	7	5
Ann	132.6	107.9	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	30.0	1993	1	69.3	1973	89	1993	12	73	1993
Feb	23.5	1975	2	91.0	1998	92	1993	24	70	1993
Mar	36.0	1982	31	103.5	1991	80	1993	1	45	1973
Apr	13.0	1975	8	45.8	1975	55	1975	8	37	1975
May	9.0	1980	10	12.5	1980	19	1975	1	3	1975
Jun	2.0	1975	24	2.0+	1988	2	1975	24	#+	1999
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	1.0	1972	12	1.0+	1985	1+	1986	19	#+	1986
Oct	7.0	1984	17	12.0	1984	8	1984	17	1	1996
Nov	10.0	1994	16	27.5	1984	30	1994	18	17	1994
Dec	26.0	1979	25	63.5	1971	47	1979	25	28	1994
Ann	36.0	Mar 1982	31	103.5	Mar 1991	92	Feb 1993	24	73	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.8	6.4	3.9	2.3	.7
Feb	7.8	6.5	4.0	2.5	.7
Mar	7.8	6.8	3.3	2.0	.7
Apr	4.1	3.5	1.4	.7	.1
May	1.2	.8	.3	.1	.0
Jun	.2	.2	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.1	.1	.0	.0	.0
Oct	.8	.7	.2	@	.0
Nov	4.0	2.9	1.3	.7	@
Dec	6.5	5.3	3.0	1.7	.5
Ann	40.3	33.2	17.4	10.0	2.7

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	23.2	21.5	20.8	16.4
Feb	19.1	17.5	15.7	12.1
Mar	16.4	14.5	11.8	8.9
Apr	6.9	5.5	4.2	3.0
May	1.3	.7	.3	.2
Jun	.1	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.1	.0	.0	.0
Oct	.7	.2	@	.0
Nov	6.7	4.1	2.7	.9
Dec	17.6	14.3	12.5	8.9
Ann	92.1	78.3	68.0	50.4

+ 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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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	7/30	7/25	7/21	7/18	7/15	7/12	7/09	7/05	6/30
32	7/18	7/10	7/05	7/01	6/27	6/22	6/18	6/13	6/05
28	6/21	6/14	6/09	6/05	6/02	5/29	5/25	5/20	5/13
24	5/22	5/16	5/11	5/07	5/04	4/30	4/26	4/22	4/15
20	5/11	5/01	4/24	4/17	4/12	4/06	3/31	3/24	3/14
16	4/26	4/14	4/05	3/29	3/22	3/16	3/08	2/28	2/16

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	8/10	8/12	8/15	8/17	8/20	8/24
32	8/12	8/20	8/26	9/01	9/05	9/10	9/15	9/21	9/29
28	9/09	9/15	9/20	9/24	9/27	10/01	10/05	10/09	10/16
24	10/06	10/13	10/17	10/21	10/25	10/28	11/01	11/06	11/12
20	10/26	11/02	11/06	11/10	11/14	11/18	11/21	11/26	12/02
16	11/03	11/12	11/19	11/25	11/30	12/06	12/11	12/18	12/28

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	45	39	35	31	27	24	20	16	10
32	106	93	85	77	70	63	56	47	35
28	142	134	127	122	117	112	107	100	92
24	197	189	183	178	173	169	164	158	150
20	252	240	231	223	216	208	200	191	179
16	298	282	271	261	252	243	233	222	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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1033	890	884	728	536	300	157	167	305	567	848	1021	7436
60	878	750	743	578	386	173	72	76	181	416	698	866	5817
57	785	666	650	489	301	113	36	37	123	330	608	773	4911
55	723	610	588	431	249	80	21	21	91	276	548	711	4349
50	568	470	434	294	140	26	4	3	34	161	403	556	3093
32	97	71	45	17	2	0	0	0	0	3	48	105	388

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	87	105	170	280	489	695	905	883	694	459	190	107	5064
55	0	0	0	3	23	86	212	191	95	19	0	0	629
57	0	0	0	1	13	58	165	146	67	11	0	0	461
60	0	0	0	0	5	28	108	91	35	4	0	0	271
65	0	0	0	0	0	5	39	28	9	0	0	0	81
70	0	0	0	0	0	0	10	6	0	0	0	0	16

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	1	10	31	103	267	463	667	644	466	237	46	2	1	11	42	145	412	875	1542	2186	2652	2889	2935	2937
45	0	0	0	35	148	323	512	489	324	129	10	0	0	0	0	35	183	506	1018	1507	1831	1960	1970	1970
50	0	0	0	4	68	193	359	339	194	51	0	0	0	0	0	4	72	265	624	963	1157	1208	1208	1208
55	0	0	0	0	23	90	217	193	91	15	0	0	0	0	0	0	23	113	330	523	614	629	629	629
60	0	0	0	0	2	32	100	83	26	0	0	0	0	0	0	0	2	34	134	217	243	243	243	243
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	7	19	39	97	212	332	468	463	355	211	48	7	7	26	65	162	374	706	1174	1637	1992	2203	2251	2258

(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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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