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: MARYSVILLE, CA **COOP ID: 045385**

Climate Division: CA 2 **NWS Call Sign:** **Elevation: 57 Feet** **Lat: 39˚09N** **Lon: 121˚35W**

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	54.8	37.8	46.3	76	1962	9	51.3	1995	20	1968	3	41.3	1972	579	0	.0	.0	24.9	.0	4.3	.0
Feb	61.7	41.7	51.7	83	1985	28	55.6	1991	23	1989	7	46.5	1990	372	0	.0	.0	27.3	.1	1.2	.0
Mar	66.8	45.1	56.0	89	1988	27	60.0	1997	26	1971	2	51.5	1991	289	9	.0	.0	30.8	.0	.2	.0
Apr	74.2	48.4	61.3	95+	1988	12	65.7	1987	32+	1967	1	55.6	1975	157	45	.0	.8	30.0	.0	.0	.0
May	82.7	54.3	68.5	105+	1984	29	74.7	1992	38+	1974	19	61.8	1998	57	165	.5	7.3	31.0	.0	.0	.0
Jun	90.7	59.0	74.9	113	1961	16	79.6	1981	45+	1966	2	69.3	1980	4	299	4.3	16.2	30.0	.0	.0	.0
Jul	96.3	61.4	78.9	111+	1991	4	84.0	1988	45	1956	2	74.3	1987	0	430	9.2	25.3	31.0	.0	.0	.0
Aug	95.0	59.8	77.4	112	1950	20	81.4	1998	47	1977	9	71.4	1976	0	385	7.2	23.4	31.0	.0	.0	.0
Sep	89.7	56.6	73.2	113	1950	2	78.2	1984	43+	1982	28	67.4	1986	10	255	2.4	15.7	30.0	.0	.0	.0
Oct	80.0	50.4	65.2	104+	2001	4	70.6	1991	32+	1948	31	60.4	1981	88	94	.1	4.2	31.0	.0	.0	.0
Nov	64.5	42.5	53.5	89	1955	10	60.2	1995	27+	1977	19	49.0	1994	350	5	.0	.0	29.3	.0	.6	.0
Dec	55.3	37.1	46.2	79	1953	28	51.9	1995	17	1990	22	40.8	1972	582	0	.0	.0	25.3	@	5.5	.0
Ann	76.0	49.5	62.8	113+	Jun 1961	16	84.0	Jul 1988	17	Dec 1990	22	40.8	Dec 1972	2488	1687	23.7	92.9	351.6	.1	11.8	.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/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	4.26	3.67	3.20	1995	10	11.98	1995	.46	1984
Feb	3.89	2.92	2.11	1975	13	9.48+	1998	.14	1971
Mar	3.54	2.97	2.30	1995	9	11.19	1991	.17	1988
Apr	1.43	1.25	1.83	1988	20	4.06	1996	.04	1977
May	.76	.29	1.42	1998	29	3.83	1998	.00+	1992
Jun	.25	.11	1.36	1995	16	1.75	1995	.00+	1994
Jul	.07	.00	1.45	1974	8	1.68	1974	.00+	2000
Aug	.08	.00	.93	1965	12	.78	1976	.00+	2000
Sep	.40	.18	1.64	1959	18	1.85	1989	.00+	1995
Oct	1.23	.87	4.24	1962	13	3.67	1982	.00+	1995
Nov	2.80	2.47	2.36	1970	29	7.38	1973	.00	1986
Dec	3.36	2.85	7.29	1983	25	14.04	1983	.00	1989
Ann	22.07	20.15	7.29	Dec 1983	25	14.04	Dec 1983	.00+	Aug 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.1	7.4	3.3	1.0
Feb	9.4	6.6	2.9	1.0
Mar	9.8	6.8	2.8	.7
Apr	5.2	3.3	.9	.2
May	3.5	1.8	.4	.1
Jun	1.3	.6	.1	@
Jul	.3	.1	@	@
Aug	.8	.3	.0	.0
Sep	1.8	1.0	.2	@
Oct	3.8	2.6	.9	.4
Nov	7.8	5.5	2.1	.6
Dec	9.4	5.8	2.4	.7
Ann	64.2	41.8	16.0	4.7

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	.56	.91	1.52	2.11	2.73	3.42	4.23	5.21	6.54	8.72	10.83
Feb	.26	.51	1.00	1.53	2.12	2.82	3.65	4.71	6.19	8.69	11.16
Mar	.41	.68	1.17	1.67	2.20	2.78	3.47	4.33	5.49	7.40	9.27
Apr	.11	.20	.39	.59	.80	1.06	1.36	1.74	2.27	3.16	4.03
May	.00	.00	.02	.09	.20	.35	.55	.84	1.28	2.09	2.93
Jun	.00	.00	.00	.00	.05	.11	.19	.30	.44	.70	.96
Jul	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.38
Aug	.00	.00	.00	.00	.00	.00	.00	.03	.11	.26	.42
Sep	.00	.00	.00	.01	.06	.15	.27	.44	.69	1.15	1.63
Oct	.00	.07	.26	.44	.65	.89	1.17	1.52	2.01	2.83	3.65
Nov	.08	.28	.66	1.06	1.51	2.02	2.64	3.42	4.51	6.33	8.14
Dec	.25	.61	1.15	1.64	2.15	2.72	3.36	4.16	5.22	6.96	8.63
Ann	10.20	12.13	14.81	16.97	18.98	20.99	23.15	25.62	28.71	33.40	37.62

\+ 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)

Extremes (2)

Mean Number of Days (1)

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	#	1974	4	#+	1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	#	.0	0	0	#	1976	5	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	#	.0	0	0	#	1976	4	#	1976	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	.5	1972	13	.5	1972	1	1972	13	#	1972	@	.0	.0	.0	.0	@	.0	.0	.0
Ann	#	.0	N/A	N/A	.5	Dec 1972	13	.5	Dec 1972	1	Dec 1972	13	#	Dec 1972	@	.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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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	4/10	3/30	3/22	3/15	3/09	3/02	2/23	2/15	2/04
32	2/26	2/15	2/07	2/01	1/25	1/19	1/12	1/04	12/22
28	2/03	1/22	1/12	1/02	12/21	12/02	0/00	0/00	0/00
24	12/27	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	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

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	11/03	11/09	11/13	11/16	11/20	11/23	11/27	12/01	12/06
32	11/17	11/24	11/30	12/04	12/09	12/13	12/18	12/24	1/02
28	12/06	12/17	12/27	1/05	1/17	0/00	0/00	0/00	0/00
24	1/04	0/00	0/00	0/00	0/00	0/00	0/00	0/00	0/00
20	0/00	0/00	0/00	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	294	280	271	263	255	248	240	230	217
32	361	341	331	323	315	308	300	292	280
28	>365	>365	>365	>365	>365	>365	>365	336	320
24	>365	>365	>365	>365	>365	>365	>365	>365	>365
20	>365	>365	>365	>365	>365	>365	>365	>365	>365
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

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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	579	372	289	157	57	4	0	0	10	88	350	582	2488
60	424	236	162	74	18	0	0	0	1	32	220	428	1595
57	336	162	105	39	8	0	0	0	0	14	154	340	1158
55	279	119	74	23	4	0	0	0	0	7	117	282	905
50	155	42	21	5	0	0	0	0	0	1	49	157	430
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	444	552	743	878	1131	1286	1453	1408	1235	1030	645	441	11246
55	10	26	104	211	422	596	740	695	545	324	72	10	3755
57	5	13	73	167	364	536	678	633	485	269	49	5	3277
60	0	4	37	112	281	446	585	540	396	193	25	1	2620
65	0	0	9	45	165	299	430	385	255	94	5	0	1687
70	0	0	1	13	81	168	280	238	136	35	0	0	952

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	222	360	508	646	890	1053	1218	1177	1013	802	426	227	222	582	1090	1736	2626	3679	4897	6074	7087	7889	8315	8542
45	99	220	354	496	735	903	1063	1022	863	647	278	106	99	319	673	1169	1904	2807	3870	4892	5755	6402	6680	6786
50	29	100	207	350	580	753	908	867	713	492	149	29	29	129	336	686	1266	2019	2927	3794	4507	4999	5148	5177
55	0	25	88	208	426	603	753	712	563	339	57	0	0	25	113	321	747	1350	2103	2815	3378	3717	3774	3774
60	0	2	25	102	278	453	598	557	413	201	12	0	0	2	27	129	407	860	1458	2015	2428	2629	2641	2641
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	99	184	278	386	555	665	754	730	636	494	229	106	99	283	561	947	1502	2167	2921	3651	4287	4781	5010	5116

(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

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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