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: MOUNT DIABLO JUNCTION, CA **COOP ID: 045915**

Climate Division: CA 4 **NWS Call Sign:** **Elevation: 2,170 Feet** **Lat: 37˚53N** **Lon: 121˚56W**

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	55.6	39.3	47.5	77	1983	13	53.1	1976	18+	1962	23	43.5+	1982	545	0	.0	.0	24.4	.0	4.0	.0
Feb	57.2	40.7	49.0	80	1977	18	54.8	1977	14	1989	6	44.4	1998	451	0	.0	.0	23.2	.1	3.0	.0
Mar	59.2	40.7	50.0	84	1972	17	56.7	1972	25+	1989	3	44.5	1991	451	1	.0	.0	27.7	.0	2.6	.0
Apr	64.8	43.3	54.1	89	1989	10	60.2	1977	26	2001	3	47.5	1975	337	8	.0	.0	28.7	.0	.6	.0
May	70.8	47.4	59.1	102	1987	6	66.4	1997	31	1988	1	50.2	1998	237	53	@	1.1	30.8	.0	.1	.0
Jun	78.7	53.2	66.0	107	1961	16	73.0	1981	37	1995	5	58.8	1980	105	132	.3	5.3	30.0	.0	.0	.0
Jul	85.2	59.6	72.4	111	1972	15	78.6	1996	34	1955	5	66.4	2000	29	259	1.2	10.3	31.0	.0	.0	.0
Aug	85.1	59.5	72.3	107+	1978	9	76.8	1998	41	2001	22	67.7	1991	12	239	1.1	10.4	31.0	.0	.0	.0
Sep	82.2	57.5	69.9	107+	1988	5	75.3	1975	37	1959	28	62.6	1986	44	188	.7	6.6	30.0	.0	.0	.0
Oct	74.4	51.8	63.1	99	2001	2	70.1	1978	31	1971	28	58.1	1984	147	89	.0	2.3	31.0	.0	@	.0
Nov	61.9	43.7	52.8	90	1966	2	59.8	1976	26	1985	13	44.9	1994	379	13	.0	.0	28.6	.0	1.3	.0
Dec	56.2	39.7	48.0	77+	1980	27	55.9	1976	14	1990	22	41.4	1971	530	1	.0	.0	25.0	.0	3.8	.0
Ann	69.3	48.0	58.7	111	Jul 1972	15	78.6	Jul 1996	14+	Dec 1990	22	41.4	Dec 1971	3267	983	3.3	36.0	341.4	.1	15.4	.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: 1952-2001

(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	4.76	3.66	5.02	1967	21	11.63	1995	.31	1984
Feb	4.49	4.00	4.73	1963	1	13.54	1998	.37	1995
Mar	3.83	3.16	2.23	1986	8	10.43	1991	.13	1988
Apr	1.46	1.35	2.35	1958	3	4.28	1982	.15	1973
May	.85	.35	1.65	1996	16	4.64	1998	.00+	1992
Jun	.15	.03	1.08	1995	16	1.34	1995	.00+	1999
Jul	.05	.00	.55	1974	9	.56	1974	.00+	2000
Aug	.08	.00	.61	1976	19	1.11	1976	.00+	1998
Sep	.36	.09	2.01	1959	19	1.78	1989	.00+	1997
Oct	1.31	1.01	4.80	1962	13	3.36	1972	.00+	1995
Nov	3.27	2.69	3.60	1994	6	7.72	1983	.06	1995
Dec	3.35	2.79	4.85	1955	23	8.84	1995	.00	1989
Ann	23.96	22.69	5.02	Jan 1967	21	13.54	Feb 1998	.00+	Jul 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.8	8.0	3.2	1.3
Feb	9.7	7.2	3.1	1.3
Mar	10.6	7.2	2.7	.9
Apr	6.1	3.9	.9	.1
May	3.6	1.9	.6	.1
Jun	1.1	.4	@	@
Jul	.3	.1	@	.0
Aug	.7	.2	.1	.0
Sep	1.8	1.1	.2	.0
Oct	3.8	2.6	1.0	.2
Nov	8.0	5.5	2.3	.9
Dec	8.8	6.1	2.2	.8
Ann	65.3	44.2	16.3	5.6

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	.36	.68	1.29	1.95	2.68	3.52	4.52	5.79	7.55	10.50	13.42
Feb	.35	.65	1.23	1.85	2.54	3.32	4.27	5.46	7.11	9.88	12.61
Mar	.37	.64	1.16	1.69	2.27	2.93	3.70	4.67	5.99	8.20	10.37
Apr	.18	.29	.50	.70	.92	1.16	1.44	1.79	2.26	3.03	3.78
May	.00	.00	.00	.05	.17	.35	.60	.95	1.46	2.39	3.34
Jun	.00	.00	.00	.00	.00	.02	.08	.16	.28	.48	.68
Jul	.00	.00	.00	.00	.00	.00	.00	.00	.01	.12	.30
Aug	.00	.00	.00	.00	.00	.00	.00	.01	.08	.27	.49
Sep	.00	.00	.00	.00	.02	.11	.23	.40	.64	1.07	1.51
Oct	.00	.00	.26	.48	.71	.96	1.26	1.64	2.14	2.99	3.82
Nov	.19	.38	.78	1.22	1.72	2.31	3.03	3.95	5.24	7.44	9.62
Dec	.29	.66	1.21	1.70	2.20	2.75	3.37	4.14	5.15	6.81	8.39
Ann	11.36	13.43	16.28	18.58	20.71	22.85	25.13	27.73	30.99	35.91	40.34

\+ 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: 1952-2001
(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	.2	.0	#	0	3.0	1972	27	3.0	1972	3	1972	27	#+	1972	.2	.1	@	.0	.0	@	@	.0	.0
Feb	.0	.0	#	0	.8	1971	27	.8	1971	1	1996	27	#+	1996	@	.0	.0	.0	.0	@	.0	.0	.0
Mar	.1	.0	#	0	1.0	1985	6	1.5	1985	2	1991	26	#	1991	.1	.1	.0	.0	.0	.0	.0	.0	.0
Apr	.7	.0	0	0	6.0	1975	4	17.0	1975	0	0	0	0	0	.1	.1	.1	@	.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	.1	.0	0	0	2.0	1982	9	2.0	1982	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Dec	.1	.0	#	0	1.5	1984	15	1.5	1984	2	1988	27	#	1988	.1	@	.0	.0	.0	.0	.0	.0	.0
Ann	1.2	.0	N/A	N/A	6.0	Apr 1975	4	17.0	Apr 1975	3	Jan 1972	27	#+	Feb 1996	.5	.3	.1	@	.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	5/13	5/05	4/30	4/25	4/20	4/16	4/11	4/05	3/29
32	5/02	4/15	4/03	3/23	3/13	3/03	2/21	2/09	1/22
28	3/07	2/18	2/04	1/23	1/10	12/24	0/00	0/00	0/00
24	1/10	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	10/29	11/06	11/11	11/16	11/20	11/24	11/29	12/04	12/12
32	11/12	11/23	11/30	12/07	12/13	12/20	12/26	1/03	1/14
28	12/01	12/16	12/27	1/06	1/17	1/30	2/22	0/00	0/00
24	1/11	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	241	232	225	219	213	207	201	194	185
32	331	309	295	283	272	262	251	237	219
28	>365	>365	>365	>365	>365	>365	365	337	315
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)

Base — Heating Degree Days (1)

Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	545	451	451	337	237	105	29	12	44	147	379	530	3267
60	390	314	325	207	143	47	9	1	14	73	253	384	2160
57	304	237	246	144	98	26	3	0	6	43	190	300	1597
55	247	188	199	110	72	17	1	0	3	28	154	248	1267
50	130	95	109	43	28	4	0	0	0	8	81	144	642
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	478	473	556	661	839	1017	1253	1250	1135	965	624	493	9744
55	12	18	43	81	198	344	541	537	447	281	88	29	2619
57	6	10	27	55	162	293	481	475	391	233	64	18	2215
60	0	3	13	28	114	224	394	382	308	170	37	9	1682
65	0	0	1	8	53	132	259	239	188	89	13	1	983
70	0	0	0	1	20	64	153	123	101	36	3	0	501

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	247	271	317	429	599	785	1009	1009	903	722	396	262	247	518	835	1264	1863	2648	3657	4666	5569	6291	6687	6949
45	121	148	182	284	444	635	854	854	753	567	255	142	121	269	451	735	1179	1814	2668	3522	4275	4842	5097	5239
50	51	63	84	161	301	485	699	699	603	415	134	54	51	114	198	359	660	1145	1844	2543	3146	3561	3695	3749
55	13	25	31	78	184	343	545	544	455	273	63	15	13	38	69	147	331	674	1219	1763	2218	2491	2554	2569
60	0	2	4	32	104	221	395	392	314	156	21	0	0	2	6	38	142	363	758	1150	1464	1620	1641	1641
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	109	124	158	241	358	494	659	656	582	436	202	119	109	233	391	632	990	1484	2143	2799	3381	3817	4019	4138

(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