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: SCOTIA, CA **COOP ID: 048045**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 133 Feet** **Lat: 40˚29N** **Lon: 124˚06W**

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	56.8	40.0	48.4	76+	1986	13	53.5	1986	20	1949	10	43.8	1972	514	0	.0	.0	27.2	.0	4.0	.0
Feb	58.3	41.2	49.8	79+	1992	26	54.7	1991	23+	1989	7	45.1+	1990	433	0	.0	.0	25.1	.1	2.5	.0
Mar	59.4	41.8	50.6	83	1953	9	55.5	1992	29+	1971	2	46.7	1977	431	0	.0	.0	29.3	.0	.5	.0
Apr	61.9	43.5	52.7	90	1989	10	58.0	1992	32+	1976	2	47.5	1975	368	0	.0	@	29.6	.0	.1	.0
May	64.2	46.6	55.4	93	1939	13	61.0	1997	33	1950	7	52.0	1977	299	2	.0	.0	31.0	.0	.0	.0
Jun	67.0	49.8	58.4	98	1970	1	61.3	2000	40+	1991	5	55.4	1976	200	3	.0	@	30.0	.0	.0	.0
Jul	69.8	52.0	60.9	102	1931	4	64.2	1992	40	1991	11	58.4	1971	134	7	.0	.0	31.0	.0	.0	.0
Aug	71.1	52.4	61.8	96	1968	31	64.3	1990	41	1957	31	57.9	1973	114	14	.0	.1	31.0	.0	.0	.0
Sep	71.8	49.9	60.9	98	1964	25	64.8	1997	37	1950	30	57.9	1972	139	16	.0	.2	30.0	.0	.0	.0
Oct	68.2	46.3	57.3	97+	1996	9	61.0	1987	28	1971	29	51.5	1971	246	5	.0	.3	30.9	.0	.1	.0
Nov	60.6	42.5	51.6	81	1931	3	57.5	1999	27	1978	11	45.7	1985	403	0	.0	.0	29.0	.0	1.0	.0
Dec	56.3	39.1	47.7	73	1963	31	52.5	1995	17	1932	12	42.2	1971	536	0	.0	.0	26.2	.1	4.4	.0
Ann	63.8	45.4	54.6	102	Jul 1931	4	64.8	Sep 1997	17	Dec 1932	12	42.2	Dec 1971	3817	47	.0	.6	350.3	.2	12.6	.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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1931-2001

(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	8.45	7.00	4.74	1997	1	26.41	1995	.55	1985
Feb	7.70	7.61	4.23	1959	15	19.83	1998	.16	1988
Mar	7.40	6.23	4.45	1995	9	16.07	1995	1.36	1988
Apr	3.38	3.28	2.92	1983	23	8.74	1982	.46	1985
May	1.73	1.50	1.46	1942	25	5.06	1993	.05	1982
Jun	.55	.34	1.05	1958	9	3.57	1988	.05	1979
Jul	.11	.04	.71	1991	17	.97	1991	.00+	1999
Aug	.34	.08	1.69	1983	30	3.15	1983	.00+	1996
Sep	.82	.34	2.01	1957	27	3.85	1986	.00+	1999
Oct	2.81	2.33	4.29	1979	25	8.68	1979	.06	1978
Nov	6.87	5.11	4.12	1971	10	21.53	1973	1.10	1995
Dec	8.31	7.51	5.95	1939	10	22.58	1996	.11	1989
Ann	48.47	47.03	5.95	Dec 1939	10	26.41	Jan 1995	.00+	Sep 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	16.4	11.1	5.6	2.6
Feb	15.5	11.1	5.4	2.5
Mar	16.5	11.7	5.2	2.1
Apr	12.6	7.3	2.0	.5
May	9.8	4.3	.8	.2
Jun	5.4	1.3	.2	.0
Jul	2.4	.3	@	.0
Aug	2.4	.8	.1	.1
Sep	3.9	1.8	.5	.2
Oct	7.9	4.9	1.8	.6
Nov	15.2	10.6	4.8	2.1
Dec	16.2	11.5	5.3	2.7
Ann	124.2	76.7	31.7	13.6

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	1.25	1.96	3.18	4.35	5.57	6.90	8.44	10.33	12.86	16.98	20.94
Feb	1.37	2.05	3.18	4.23	5.30	6.46	7.79	9.39	11.52	14.97	18.25
Mar	1.99	2.70	3.76	4.70	5.62	6.59	7.66	8.93	10.58	13.17	15.59
Apr	.69	1.00	1.49	1.95	2.40	2.89	3.45	4.11	5.00	6.41	7.74
May	.18	.31	.55	.79	1.05	1.34	1.68	2.11	2.69	3.65	4.59
Jun	.03	.06	.12	.20	.28	.38	.50	.66	.88	1.26	1.64
Jul	.00	.00	.00	.02	.03	.06	.09	.13	.19	.30	.41
Aug	.00	.00	.00	.02	.05	.12	.21	.35	.58	.99	1.43
Sep	.00	.00	.00	.05	.16	.32	.55	.89	1.40	2.35	3.34
Oct	.25	.45	.82	1.21	1.64	2.13	2.70	3.43	4.42	6.09	7.72
Nov	.93	1.48	2.47	3.42	4.43	5.53	6.82	8.40	10.53	14.02	17.39
Dec	1.04	1.70	2.88	4.04	5.26	6.62	8.20	10.16	12.81	17.15	21.37
Ann	26.76	30.56	35.65	39.67	43.33	46.95	50.77	55.09	60.43	68.38	75.44

\+ 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: 1931-2001
(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	.1	.0	#	0	1.0	1975	31	1.1	1972	1	1975	31	#+	1993	.1	@	.0	.0	.0	@	.0	.0	.0
Feb	.3	.0	#	0	5.0	1989	4	7.5	1989	5	1989	4	#+	1993	.1	.1	@	@	.0	.1	.1	@	.0
Mar	.0	.0	#	0	1.0	1976	2	1.0	1976	#	1976	2	#	1976	@	@	.0	.0	.0	.0	.0	.0	.0
Apr	#	.0	#	0	#	1998	13	#	1998	#	1998	13	#	1998	.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	1.0	1978	13	1.0	1978	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Dec	.2	.0	#	0	3.4	1990	20	3.4	1990	2	1990	20	#+	1998	.1	.1	@	.0	.0	.2	.0	.0	.0
Ann	.6	.0	N/A	N/A	5.0	Feb 1989	4	7.5	Feb 1989	5	Feb 1989	4	#+	Dec 1998	.3	.2	@	@	.0	.3	.1	@	.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	4/30	4/18	4/10	4/02	3/27	3/20	3/13	3/04	2/21
32	3/23	3/08	2/26	2/17	2/09	2/01	1/23	1/12	12/26
28	2/03	1/23	1/14	1/05	12/23	0/00	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	10/22	10/30	11/04	11/09	11/14	11/18	11/23	11/28	12/06
32	11/11	11/22	11/30	12/07	12/14	12/21	12/28	1/07	1/25
28	12/04	12/21	1/04	1/19	2/14	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	270	257	247	239	231	223	215	205	192
32	>365	360	332	316	304	293	281	268	250
28	>365	>365	>365	>365	>365	>365	>365	344	322
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	514	433	431	368	299	200	134	114	139	246	403	536	3817
60	361	292	297	227	161	77	33	27	49	119	262	382	2287
57	274	216	213	152	98	32	7	6	18	66	186	296	1564
55	219	169	164	112	65	14	2	2	8	40	143	240	1178
50	109	82	73	38	15	1	0	0	0	7	62	125	512
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	509	497	576	622	726	792	896	923	866	782	587	487	8263
55	14	22	27	43	78	116	185	211	184	109	40	13	1042
57	8	12	15	24	48	74	128	154	134	73	23	7	700
60	1	5	6	9	18	29	61	82	75	33	9	1	329
65	0	0	0	0	2	3	7	14	16	5	0	0	47
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	248	277	321	368	470	552	651	680	628	534	347	239	248	525	846	1214	1684	2236	2887	3567	4195	4729	5076	5315
45	120	147	180	220	315	402	496	525	478	379	202	114	120	267	447	667	982	1384	1880	2405	2883	3262	3464	3578
50	37	56	67	98	166	252	341	370	328	226	88	35	37	93	160	258	424	676	1017	1387	1715	1941	2029	2064
55	3	12	15	28	59	111	186	215	179	104	22	0	3	15	30	58	117	228	414	629	808	912	934	934
60	0	0	0	1	17	26	50	71	58	29	0	0	0	0	0	1	18	44	94	165	223	252	252	252
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	104	123	142	167	216	267	344	374	344	281	158	104	104	227	369	536	752	1019	1363	1737	2081	2362	2520	2624

(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