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: CHESTER, CA **COOP ID: 041700**

Climate Division: CA 2 **NWS Call Sign:** **Elevation: 4,525 Feet** **Lat: 40˚18N** **Lon: 121˚14W**

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	41.8	20.1	31.0	62	1962	8	36.3	1986	-11	1962	23	24.8	1993	1055	0	.0	.0	4.7	2.2	29.7	.9
Feb	45.7	22.7	34.2	70	1986	27	40.0	1991	-10+	1989	7	28.0	1990	863	0	.0	.0	9.4	1.6	27.0	.5
Mar	51.1	26.1	38.6	77	1960	23	43.8	1997	-3	1966	3	33.5	1991	819	0	.0	.0	17.0	.4	28.0	.0
Apr	58.5	29.3	43.9	84	1981	30	49.5	1987	5	1999	9	36.4	1975	633	0	.0	.0	23.6	.2	22.7	.0
May	67.5	35.2	51.4	93	1986	30	58.7	1992	14	1965	6	40.8	1998	431	7	.0	.1	29.3	.0	13.0	.0
Jun	76.4	41.5	59.0	96+	1988	24	64.3	1985	24	1982	5	53.0	1998	210	28	.0	1.5	29.8	.0	2.4	.0
Jul	84.4	45.8	65.1	101	1960	18	69.2	1996	27	1961	6	59.3	1983	80	82	.1	6.6	31.0	.0	.3	.0
Aug	83.8	44.1	64.0	103	1972	7	67.6	1988	27	1978	23	59.1	1976	84	52	.2	6.1	31.0	.0	.5	.0
Sep	77.3	39.0	58.2	98	1988	3	62.4	1991	15	1965	19	52.4	1986	218	14	.0	1.7	29.8	.0	4.4	.0
Oct	66.0	32.2	49.1	89	1980	3	56.0	1988	12	1971	29	42.9	1998	495	1	.0	.0	28.6	.0	18.6	.0
Nov	49.8	26.1	38.0	76	1966	1	43.4	1995	3+	1985	13	29.3	1994	812	0	.0	.0	14.1	.2	26.3	.0
Dec	42.0	20.7	31.4	62+	1979	3	36.4	1981	-16+	1990	21	23.4	1990	1043	0	.0	.0	5.3	2.8	29.4	.9
Ann	62.0	31.9	47.0	103	Aug 1972	7	69.2	Jul 1996	-16+	Dec 1990	21	23.4	Dec 1990	6743	184	.3	16.0	253.6	7.4	202.3	2.3

\+ 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	5.91	5.07	4.61	1995	10	23.41	1995	.22	1976
Feb	5.62	4.31	4.06	1950	4	15.22	1986	.26	1997
Mar	4.90	3.61	5.02	1995	9	19.43	1995	.47	1977
Apr	2.04	1.77	1.67	1953	27	5.53	1995	.19	1977
May	1.59	1.50	1.46	1995	1	5.06	1998	.01	1975
Jun	.79	.70	2.17	1958	12	2.28	1998	.00	1973
Jul	.37	.19	.94+	1980	2	1.04	1974	.00+	2000
Aug	.39	.13	1.49	1975	19	2.29	1976	.00+	2000
Sep	.90	.80	1.78	1957	27	3.73	1986	.00+	1999
Oct	2.00	1.59	5.90	1962	13	6.78	1981	.00+	1995
Nov	3.84	2.39	2.84	1970	28	11.90	1981	.12	1975
Dec	4.62	3.60	3.89	1955	19	14.40	1996	.00	1989
Ann	32.97	30.47	5.90	Oct 1962	13	23.41	Jan 1995	.00+	Aug 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.0	8.6	4.2	1.7
Feb	9.7	8.4	3.9	1.9
Mar	10.2	8.2	3.3	1.2
Apr	7.3	4.9	1.0	.4
May	6.4	4.1	1.0	.1
Jun	3.7	2.3	.3	@
Jul	1.5	.8	.2	.0
Aug	1.9	1.0	.2	.1
Sep	3.8	2.5	.3	.1
Oct	5.4	3.8	1.4	.5
Nov	8.7	6.6	2.9	.8
Dec	9.0	7.4	3.1	1.4
Ann	77.6	58.6	21.8	8.2

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	.48	.88	1.66	2.47	3.38	4.41	5.64	7.19	9.34	12.93	16.47
Feb	.57	.99	1.76	2.54	3.39	4.34	5.46	6.86	8.78	11.95	15.06
Mar	.54	.91	1.59	2.27	3.00	3.83	4.79	5.98	7.61	10.31	12.94
Apr	.32	.50	.79	1.08	1.37	1.68	2.05	2.49	3.08	4.05	4.97
May	.05	.12	.29	.49	.73	1.03	1.40	1.89	2.59	3.80	5.04
Jun	.02	.07	.18	.29	.42	.56	.74	.97	1.28	1.81	2.34
Jul	.00	.00	.00	.05	.11	.19	.30	.43	.63	.98	1.33
Aug	.00	.00	.00	.01	.06	.15	.27	.43	.68	1.12	1.58
Sep	.00	.00	.09	.23	.39	.58	.81	1.10	1.53	2.23	2.94
Oct	.00	.10	.38	.68	1.01	1.40	1.86	2.45	3.27	4.67	6.06
Nov	.31	.57	1.07	1.61	2.19	2.86	3.66	4.67	6.07	8.41	10.71
Dec	.14	.46	1.09	1.76	2.49	3.34	4.36	5.65	7.43	10.44	13.42
Ann	15.59	18.45	22.38	25.55	28.49	31.44	34.58	38.17	42.67	49.47	55.58

\+ 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	28.5	21.0	13	10
Feb	29.2	25.0	16	13
Mar	18.3	11.1	10	4
Apr	5.8	4.0	2	0
May	.6	.0	#	0
Jun	.1	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	0	0
Oct	.4	.0	#	0
Nov	11.6	7.5	1	#
Dec	22.0	15.5	6	4
Ann	116.6	84.1	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	24.0	1993	1	104.0	1993	79	1993	16	66	1993
Feb	25.0	1975	1	88.0	1998	66	1993	23	53	1993
Mar	46.0	1995	22	78.5	1982	54+	1993	1	42	1993
Apr	20.0	1999	8	23.1	1975	40	1982	2	21	1975
May	2.0	1974	17	4.0	1980	1	1979	7	#+	1998
Jun	2.0	1988	7	2.0	1988	#	1995	16	#	1995
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	2.0	1986	19	2.0	1986	0	0	0	0	0
Oct	4.0	1984	16	4.0	1984	3	1984	16	#+	2000
Nov	12.0	1994	9	54.0	1994	26	1994	18	15	1994
Dec	28.0	1992	28	52.0	1979	60	1992	31	32	1994
Ann	46.0	Mar 1995	22	104.0	Jan 1993	79	Jan 1993	16	66	Jan 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.6	6.5	4.1	2.5	1.0
Feb	5.8	5.8	3.6	2.4	.7
Mar	4.6	4.5	2.3	1.4	.3
Apr	2.2	2.1	.7	.4	.1
May	.4	.4	.0	.0	.0
Jun	.1	.1	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	.0	.0	.0
Oct	.2	.2	@	.0	.0
Nov	3.2	3.1	1.5	.8	.1
Dec	5.0	4.8	3.1	2.0	.8
Ann	28.1	27.5	15.3	9.5	3.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	22.7	20.4	18.2	14.4
Feb	22.8	21.5	20.0	16.1
Mar	15.4	13.7	12.1	8.9
Apr	3.6	3.1	2.7	2.0
May	@	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	@	.0	.0
Nov	5.0	2.9	1.8	1.0
Dec	17.0	14.3	11.1	6.1
Ann	86.6	75.9	65.9	48.5

+ 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	7/22	7/16	7/11	7/07	7/03	6/30	6/26	6/21	6/14
32	7/02	6/25	6/20	6/16	6/12	6/08	6/04	5/30	5/23
28	6/08	6/01	5/28	5/23	5/20	5/16	5/12	5/07	4/30
24	5/19	5/12	5/07	5/02	4/28	4/24	4/20	4/15	4/07
20	4/29	4/20	4/13	4/07	4/02	3/28	3/22	3/16	3/06
16	4/11	4/01	3/25	3/19	3/14	3/08	3/03	2/24	2/14

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	8/03	8/11	8/17	8/23	8/27	9/01	9/06	9/12	9/20
32	8/24	8/31	9/05	9/09	9/14	9/18	9/22	9/27	10/04
28	9/15	9/22	9/27	10/01	10/05	10/09	10/13	10/18	10/24
24	10/03	10/09	10/14	10/18	10/22	10/26	10/30	11/04	11/11
20	10/22	10/29	11/03	11/08	11/12	11/16	11/21	11/26	12/03
16	11/04	11/12	11/17	11/22	11/26	11/30	12/04	12/10	12/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	90	78	69	61	54	47	40	31	19
32	125	114	106	99	93	86	80	72	61
28	167	157	149	143	137	132	125	118	108
24	206	196	189	182	176	170	164	157	146
20	261	248	238	231	223	216	208	199	186
16	296	282	272	264	256	248	240	230	217

***** 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	1055	863	819	633	431	210	80	84	218	495	812	1043	6743
60	900	723	664	486	294	113	23	21	111	348	662	888	5233
57	807	639	571	401	223	70	9	7	65	267	572	795	4426
55	745	583	509	346	182	48	4	2	42	218	513	733	3925
50	590	443	362	222	99	15	0	0	11	118	368	578	2806
32	107	55	27	10	1	0	0	0	0	1	34	125	360

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	75	116	232	367	599	808	1025	991	785	530	212	104	5844
55	0	0	1	13	67	165	316	280	137	34	0	0	1013
57	0	0	0	7	47	128	259	223	100	21	0	0	785
60	0	0	0	2	25	80	180	144	56	9	0	0	496
65	0	0	0	0	7	28	82	52	14	1	0	0	184
70	0	0	0	0	0	7	22	9	1	0	0	0	39

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	0	14	50	153	354	567	773	738	541	289	45	0	0	14	64	217	571	1138	1911	2649	3190	3479	3524	3524
45	0	0	9	64	215	418	618	583	394	165	8	0	0	0	9	73	288	706	1324	1907	2301	2466	2474	2474
50	0	0	0	11	109	275	463	428	252	72	0	0	0	0	0	11	120	395	858	1286	1538	1610	1610	1610
55	0	0	0	0	41	152	309	277	129	19	0	0	0	0	0	0	41	193	502	779	908	927	927	927
60	0	0	0	0	8	63	167	140	43	3	0	0	0	0	0	0	8	71	238	378	421	424	424	424
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	5	30	74	153	286	400	518	510	410	259	62	9	5	35	109	262	548	948	1466	1976	2386	2645	2707	2716

(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