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: ORLEANS, CA **COOP ID: 046508**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 400 Feet** **Lat: 41˚18N** **Lon: 123˚32W**

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	52.4	35.7	44.1	70	1981	22	49.0	1978	12+	1991	2	40.4	1982	650	0	.0	.0	20.7	.0	10.2	.0
Feb	57.6	38.0	47.8	78+	1992	25	56.2	1995	16+	1990	14	41.2	1990	483	0	.0	.0	24.0	.1	5.4	.0
Mar	63.8	40.0	51.9	86	1986	29	57.1	1986	22	1953	2	47.5	1999	407	1	.0	.0	30.0	.0	3.0	.0
Apr	70.6	41.8	56.2	97	1981	29	61.0	1989	29+	1991	11	50.9	1975	272	8	.0	.6	29.7	.0	.9	.0
May	77.3	45.9	61.6	103	1979	29	68.0	1992	29	1954	1	56.2	1977	147	41	.3	3.7	31.0	.0	@	.0
Jun	84.8	50.5	67.7	111	1966	14	71.4	1985	33	1954	1	63.9	1980	39	118	1.4	9.9	30.0	.0	.0	.0
Jul	92.1	54.2	73.2	112	1972	15	77.5	1996	40+	1955	17	68.8	1983	6	259	6.0	18.5	31.0	.0	.0	.0
Aug	92.0	53.5	72.8	115	1959	7	76.6	1986	39	1995	11	69.2	1976	2	241	5.4	19.7	31.0	.0	.0	.0
Sep	87.6	49.7	68.7	113	1955	3	73.7	1991	28	1950	30	64.3	1986	31	140	2.0	12.6	30.0	.0	.0	.0
Oct	74.2	44.5	59.4	98+	1985	3	65.1	1988	24	1971	29	56.4+	1998	198	23	.0	1.5	31.0	.0	.9	.0
Nov	57.5	40.5	49.0	77	1987	4	54.8	1995	20	1952	24	42.3	1994	480	0	.0	.0	26.4	.0	3.3	.0
Dec	50.9	35.6	43.3	68	1993	10	48.6	1995	5	1990	22	35.0	1990	674	0	.0	.0	19.1	.2	9.9	.0
Ann	71.7	44.2	58.0	115	Aug 1959	7	77.5	Jul 1996	5	Dec 1990	22	35.0	Dec 1990	3389	831	15.1	66.5	333.9	.3	33.6	.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: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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: ORLEANS, CA **COOP ID: 046508**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 400 Feet** **Lat: 41˚18N** **Lon: 123˚32W**

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	8.77	8.76	4.50	1997	1	19.37	1995	.89	1985
Feb	7.98	6.82	2.80+	1956	20	21.09	1986	.20	1988
Mar	7.12	6.71	5.04	1975	18	16.75	1975	1.51	1994
Apr	3.36	3.03	2.13	1974	1	9.29	1993	.18	1985
May	2.09	1.54	2.29	1990	22	9.25	1990	.00	1982
Jun	.75	.52	1.85	2001	27	2.54	1988	.00+	1999
Jul	.18	.02	1.02	1983	1	1.34	1983	.00+	1999
Aug	.47	.20	3.15	1983	30	5.31	1983	.00+	1998
Sep	1.23	.47	1.65	1986	26	7.06	1986	.00+	1999
Oct	3.68	3.15	4.04	1975	25	9.93	1979	.00	1978
Nov	8.08	6.44	5.46	1998	21	22.20	1973	.09	1989
Dec	9.07	8.14	7.38	1964	22	23.92	1996	.37	1976
Ann	52.78	50.11	7.38	Dec 1964	22	23.92	Dec 1996	.00+	Sep 1999

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	13.5	11.1	5.8	3.1
Feb	13.6	10.9	6.0	2.9
Mar	14.4	10.9	4.9	2.2
Apr	9.4	6.8	2.4	.5
May	6.4	4.1	1.1	.4
Jun	3.0	2.0	.4	@
Jul	.9	.4	.1	@
Aug	1.7	1.0	.2	.1
Sep	3.3	2.4	.8	.4
Oct	7.0	5.2	2.7	1.1
Nov	14.0	10.9	5.8	2.5
Dec	13.7	11.5	6.7	3.0
Ann	100.9	77.2	36.9	16.2

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	2.31	3.14	4.41	5.52	6.62	7.78	9.06	10.58	12.56	15.68	18.60
Feb	1.50	2.21	3.38	4.46	5.56	6.75	8.10	9.73	11.89	15.36	18.68
Mar	1.89	2.56	3.59	4.50	5.39	6.33	7.37	8.60	10.20	12.72	15.08
Apr	.52	.81	1.29	1.76	2.24	2.76	3.37	4.10	5.09	6.69	8.23
May	.09	.27	.57	.88	1.21	1.58	2.02	2.56	3.31	4.56	5.78
Jun	.00	.00	.08	.20	.34	.50	.69	.93	1.26	1.82	2.39
Jul	.00	.00	.00	.00	.00	.00	.06	.16	.32	.60	.89
Aug	.00	.00	.00	.00	.02	.11	.25	.46	.79	1.42	2.09
Sep	.00	.00	.00	.11	.30	.56	.92	1.40	2.12	3.42	4.75
Oct	.18	.51	1.07	1.61	2.18	2.83	3.59	4.53	5.82	7.95	10.03
Nov	.76	1.34	2.43	3.55	4.78	6.16	7.80	9.85	12.66	17.35	21.94
Dec	1.23	1.97	3.27	4.53	5.85	7.31	9.00	11.08	13.89	18.49	22.92
Ann	29.27	33.40	38.91	43.25	47.22	51.13	55.26	59.92	65.68	74.27	81.88

\+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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

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: ORLEANS, CA **COOP ID: 046508**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 400 Feet** **Lat: 41˚18N** **Lon: 123˚32W**

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	.7	.0	#	0	5.0	1988	15	6.0	1988	1	1975	9	#+	1996	.6	.3	.1	@	.0	.1	.0	.0	.0
Feb	.3	.0	#	0	3.0	1989	2	7.0	1989	#	1975	6	#	1975	.2	.2	@	.0	.0	.0	.0	.0	.0
Mar	.3	.0	#	0	3.0	1985	26	5.0	1985	1	1973	19	#+	1975	.2	.1	@	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.5	1982	4	.5	1982	0	0	0	0	0	@	.0	.0	.0	.0	.0	.0	.0	.0
May	#	.0	#	0	#	1986	6	#	1986	#	1998	25	#	1998	.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	.2	.0	#	0	5.0	1977	21	5.0	1977	5	1977	21	#	1977	.1	.1	@	@	.0	.0	.0	.0	.0
Dec	1.7	.0	#	0	10.0	1972	6	17.0	1972	13	1972	12	3	1972	.6	.4	.2	.1	.1	.6	.5	.5	.2
Ann	3.2	.0	N/A	N/A	10.0	Dec 1972	6	17.0	Dec 1972	13	Dec 1972	12	3	Dec 1972	1.7	1.1	.3	.1	.1	.7	.5	.5	.2

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: ORLEANS, CA **COOP ID: 046508**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 400 Feet** **Lat: 41˚18N** **Lon: 123˚32W**

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	5/15	5/09	5/04	5/01	4/27	4/24	4/20	4/16	4/10
32	4/29	4/17	4/08	3/31	3/24	3/17	3/09	2/28	2/16
28	3/14	2/27	2/16	2/07	1/29	1/20	1/11	12/30	12/12
24	2/13	2/03	1/26	1/19	1/11	1/02	12/16	0/00	0/00
20	1/28	1/08	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	1/04	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	10/07	10/15	10/22	10/27	11/01	11/06	11/11	11/17	11/26
32	10/19	10/29	11/05	11/12	11/17	11/23	11/29	12/06	12/16
28	11/05	11/17	11/25	12/02	12/09	12/16	12/23	1/02	1/21
24	11/18	12/01	12/11	12/21	12/31	1/13	0/00	0/00	0/00
20	12/29	1/19	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	2/04	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	219	208	200	193	187	181	174	166	155
32	283	267	256	247	238	228	219	208	192
28	>365	355	334	320	308	297	285	272	255
24	>365	>365	>365	>365	>365	353	331	313	293
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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: ORLEANS, CA **COOP ID: 046508**

Climate Division: CA 1 **NWS Call Sign:** **Elevation: 400 Feet** **Lat: 41˚18N** **Lon: 123˚32W**

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	650	483	407	272	147	39	6	2	31	198	480	674	3389
60	495	346	264	150	63	7	0	0	6	95	335	519	2280
57	402	268	188	95	31	2	0	0	1	53	254	428	1722
55	341	219	146	66	18	0	0	0	0	34	204	369	1397
50	197	117	65	18	3	0	0	0	0	7	105	231	743
32	0	0	0	0	0	0	0	0	0	0	0	7	7

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	373	441	617	726	918	1069	1276	1263	1099	848	510	356	9496
55	1	16	50	102	222	380	563	550	410	169	24	5	2492
57	0	9	30	72	174	321	501	488	351	126	13	2	2087
60	0	3	13	36	113	237	408	395	265	75	4	0	1549
65	0	0	1	8	41	118	259	241	140	23	0	0	831
70	0	0	0	0	10	42	131	108	55	4	0	0	350

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	141	234	371	487	674	833	1025	1016	854	602	275	130	141	375	746	1233	1907	2740	3765	4781	5635	6237	6512	6642
45	46	111	227	337	519	683	870	861	704	448	143	42	46	157	384	721	1240	1923	2793	3654	4358	4806	4949	4991
50	2	34	103	198	365	533	715	706	554	295	50	4	2	36	139	337	702	1235	1950	2656	3210	3505	3555	3559
55	0	4	30	91	220	383	560	551	408	161	9	0	0	4	34	125	345	728	1288	1839	2247	2408	2417	2417
60	0	0	0	31	112	240	405	396	264	68	0	0	0	0	0	31	143	383	788	1184	1448	1516	1516	1516
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	55	122	219	310	419	510	620	609	525	375	126	43	55	177	396	706	1125	1635	2255	2864	3389	3764	3890	3933

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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