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: CORONADO N M HDQTRS, AZ **COOP ID: 022140**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 5,242 Feet** **Lat: 31˚21N** **Lon: 110˚15W**

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	58.3	32.3	45.3	80	1971	18	50.0	2000	6+	1971	4	40.0	1992	610	0	.0	.0	26.8	.1	15.9	.0
Feb	62.3	34.2	48.3	80+	1980	4	52.1	2000	12+	1990	16	42.9	1998	470	0	.0	.0	26.1	.1	11.2	.0
Mar	67.5	37.0	52.3	86+	1989	11	59.1	1972	11	1971	2	45.9	1973	399	3	.0	.0	30.3	.0	8.0	.0
Apr	74.7	42.5	58.6	93+	2000	27	64.9	1989	13	1976	17	53.5	1983	211	19	.0	.2	29.8	.0	3.2	.0
May	82.1	50.0	66.1	100+	2000	29	72.5	1984	27	1964	8	62.7	1987	76	109	.1	4.0	31.0	.0	.1	.0
Jun	91.6	58.1	74.9	106	1960	19	79.6	1990	37	1993	7	71.0	1991	3	298	2.9	19.3	30.0	.0	.0	.0
Jul	89.8	60.9	75.4	104	1979	9	78.7	1980	48	1984	18	72.5	1999	0	321	1.6	16.7	31.0	.0	.0	.0
Aug	86.9	59.2	73.1	100+	1962	14	75.7	1994	48	1987	27	70.1	1971	0	251	.0	9.3	31.0	.0	.0	.0
Sep	84.7	56.1	70.4	98+	1979	6	73.6	1997	39	1965	21	67.6	1975	9	170	.0	5.1	30.0	.0	.0	.0
Oct	76.0	47.8	61.9	94	1980	2	66.5	1979	22	1971	31	56.8	1971	138	42	.0	.8	31.0	.0	.7	.0
Nov	65.8	38.2	52.0	85+	1973	11	57.3	1999	17+	1994	20	45.3	2000	392	1	.0	.0	29.1	.0	7.1	.0
Dec	58.7	32.9	45.8	78+	1980	25	52.1	1980	1	1978	8	40.9	1997	595	0	.0	.0	27.1	.1	15.0	.0
Ann	74.9	45.8	60.3	106	Jun 1960	19	79.6	Jun 1990	1	Dec 1978	8	40.0	Jan 1992	2903	1214	4.6	55.4	353.2	.3	61.2	.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: 1960-2001

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

Issue Date: February 2004

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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	1.87	1.66	2.50	1983	30	7.93	1993	.00	1972
Feb	1.63	1.71	1.91	1997	28	4.40	1998	.00+	1999
Mar	1.21	.79	1.80	1983	3	5.13	1983	.00+	1984
Apr	.45	.24	1.68	1985	27	2.22	1985	.00+	2000
May	.32	.20	.85	1982	2	1.07	1982	.00+	1999
Jun	.64	.44	1.55	1972	7	3.28	2000	.00+	1998
Jul	4.49	4.62	2.80	1971	31	8.58	1998	1.33	1997
Aug	3.74	3.45	2.67	1992	24	6.71	1986	1.21	1979
Sep	1.79	1.55	2.50	1975	6	5.59	1983	.12	2000
Oct	1.95	.84	4.69	2000	11	12.69	2000	.00+	1982
Nov	1.11	.90	2.72	1994	12	5.19	1994	.00+	1999
Dec	1.98	.60	2.18	1978	18	6.95	1984	.00+	2000
Ann	21.18	20.36	4.69	Oct 2000	11	12.69	Oct 2000	.00+	Dec 2000

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.7	3.8	1.3	.3
Feb	4.9	3.3	1.2	.3
Mar	4.2	2.9	.8	.1
Apr	2.3	1.2	.2	@
May	2.1	1.0	.1	.0
Jun	3.5	1.7	.4	@
Jul	13.7	9.1	3.2	.8
Aug	13.9	7.7	2.4	.7
Sep	7.2	3.8	1.1	.4
Oct	5.1	2.9	1.2	.6
Nov	3.1	2.1	.8	.3
Dec	5.3	3.4	1.4	.5
Ann	71.0	42.9	14.1	4.0

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	.02	.10	.30	.54	.84	1.19	1.64	2.23	3.06	4.52	5.99
Feb	.00	.00	.16	.50	.82	1.17	1.57	2.07	2.76	3.85	4.99
Mar	.00	.07	.24	.43	.63	.86	1.14	1.49	1.98	2.80	3.62
Apr	.00	.00	.00	.00	.09	.20	.34	.53	.81	1.28	1.75
May	.00	.00	.00	.02	.09	.17	.26	.39	.57	.87	1.18
Jun	.00	.00	.01	.06	.15	.27	.45	.70	1.08	1.79	2.54
Jul	1.63	2.05	2.66	3.17	3.66	4.15	4.69	5.32	6.13	7.36	8.50
Aug	1.33	1.68	2.19	2.62	3.03	3.45	3.91	4.45	5.13	6.18	7.15
Sep	.21	.35	.61	.86	1.12	1.42	1.76	2.19	2.77	3.72	4.65
Oct	.00	.00	.11	.35	.68	1.08	1.60	2.30	3.31	5.08	6.89
Nov	.00	.04	.18	.34	.53	.74	1.01	1.35	1.82	2.64	3.46
Dec	.00	.00	.09	.33	.65	1.06	1.59	2.31	3.37	5.23	7.15
Ann	12.21	13.81	15.94	17.60	19.11	20.60	22.16	23.92	26.09	29.31	32.15

+ 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: 1960-2001
(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	1.1	.0	#	0	3.0	1973	2	7.0	1982	16	1988	18	1	1988	.5	.4	.1	.0	.0	.2	.1	@	.0
Feb	1.6	.0	#	0	5.0	1979	5	11.0	1985	3	1985	3	#+	1998	.6	.5	.2	.1	.0	.2	@	.0	.0
Mar	1.7	.0	#	0	7.0	1973	13	20.0	1973	4	1973	14	#+	2000	.6	.6	.2	.1	.0	.1	.1	.0	.0
Apr	.2	.0	#	0	4.0	1976	16	4.0	1976	1	1984	28	#+	1999	.1	.1	@	.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	.3	.0	#	0	2.8	1976	13	2.8	1976	1+	1993	15	#+	1993	.2	.1	.0	.0	.0	@	.0	.0	.0
Dec	2.1	.0	#	0	11.0	1978	7	17.5	1982	11	1978	7	#+	1999	.5	.4	.3	.2	@	.2	.1	@	@
Ann	7.0	.0	N/A	N/A	11.0	Dec 1978	7	20.0	Mar 1973	16	Jan 1988	18	1	Jan 1988	2.5	2.1	.8	.4	@	.7	.3	@	@

+ 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	5/12	5/07	5/03	4/30	4/27	4/24	4/21	4/17	4/12
32	5/05	4/29	4/24	4/20	4/17	4/13	4/09	4/05	3/29
28	4/23	4/14	4/08	4/03	3/29	3/24	3/19	3/13	3/04
24	4/06	3/26	3/17	3/10	3/03	2/24	2/17	2/08	1/28
20	3/05	2/21	2/11	2/03	1/27	1/20	1/11	1/01	12/17
16	2/24	2/04	1/18	12/26	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	10/15	10/20	10/23	10/26	10/29	11/01	11/04	11/08	11/12
32	10/22	10/27	10/30	11/02	11/05	11/08	11/11	11/14	11/19
28	10/26	11/02	11/07	11/12	11/16	11/20	11/25	11/30	12/07
24	11/06	11/14	11/20	11/25	11/30	12/05	12/10	12/16	12/24
20	11/23	12/02	12/09	12/15	12/20	12/26	1/01	1/10	1/25
16	12/18	12/30	1/10	1/27	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	204	197	192	188	184	180	176	171	165
32	226	218	212	206	202	197	192	186	177
28	262	251	244	237	231	225	219	211	201
24	317	301	290	280	271	262	253	241	226
20	>365	>365	346	332	322	313	304	293	280
16	>365	>365	>365	>365	>365	>365	>365	>365	323

***** 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	610	470	399	211	76	3	0	0	9	138	392	595	2903
60	455	330	257	107	25	0	0	0	1	57	252	440	1924
57	362	250	184	63	10	0	0	0	0	28	178	351	1426
55	304	200	142	40	5	0	0	0	0	16	135	294	1136
50	167	96	63	10	0	0	0	0	0	3	57	165	561
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	413	454	627	798	1056	1285	1344	1274	1151	927	600	428	10357
55	4	10	56	148	349	595	631	561	461	230	45	8	3098
57	0	5	36	110	292	535	569	499	401	180	27	4	2658
60	0	1	16	65	213	445	476	406	312	116	11	0	2061
65	0	0	3	19	109	298	321	251	170	42	1	0	1214
70	0	0	0	3	42	164	171	105	61	9	0	0	555

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	201	265	400	578	833	1070	1125	1052	936	695	372	212	201	466	866	1444	2277	3347	4472	5524	6460	7155	7527	7739
45	92	144	253	429	678	920	970	897	786	540	240	104	92	236	489	918	1596	2516	3486	4383	5169	5709	5949	6053
50	27	59	138	293	523	770	815	742	636	390	131	36	27	86	224	517	1040	1810	2625	3367	4003	4393	4524	4560
55	1	15	56	170	369	620	660	587	486	247	51	1	1	16	72	242	611	1231	1891	2478	2964	3211	3262	3263
60	0	0	14	70	225	470	505	432	336	124	13	0	0	0	14	84	309	779	1284	1716	2052	2176	2189	2189
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	152	194	281	388	538	681	737	708	618	439	250	154	152	346	627	1015	1553	2234	2971	3679	4297	4736	4986	5140

(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