

# Climatography of the United States No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: SAN CARLOS RESERVOIR, AZ

1971-2000

COOP ID: 027480

Climate Division: AZ 4

NWS Call Sign:

Elevation: 2,532 Feet Lat: 33° 11N

Lon: 110° 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	59.3	33.5	46.4	83	1971	19	51.0	1986	11	1971	8	42.7+	1975	578	0	.0	.0	28.2	.0	13.4	.0
Feb	64.6	37.3	51.0	86+	1986	27	56.2	1996	20	1964	15	47.3	1998	393	0	.0	.0	27.0	.1	4.9	.0
Mar	70.4	41.6	56.0	91+	1989	10	63.2	1972	25+	1976	6	49.1	1973	301	21	.0	.2	30.4	.0	1.6	.0
Apr	78.9	47.9	63.4	102	1989	22	71.6	1989	32+	1983	5	54.9	1975	138	90	.1	2.9	29.9	.0	.2	.0
May	88.5	56.9	72.7	108	1996	13	78.9	2000	19	1971	23	67.5	1975	22	260	1.2	14.8	31.0	.0	.0	.0
Jun	98.7	66.4	82.6	116+	1994	30	87.1	1990	42	1993	8	77.2	1991	0	527	14.5	27.3	30.0	.0	.1	.0
Jul	100.2	72.9	86.6	116+	1995	29	89.7	1980	50	1975	1	82.9	1975	0	669	18.6	29.7	31.0	.0	.0	.0
Aug	98.0	71.5	84.8	116	1985	25	88.4	1994	45	1976	16	80.5	1975	0	612	12.5	28.7	31.0	.0	.0	.0
Sep	93.8	65.5	79.7	110	1950	1	84.3	1997	43+	1979	17	76.0	1985	0	439	5.0	22.9	30.0	.0	.0	.0
Oct	82.4	53.5	68.0	103	2000	2	73.1	1988	30+	1974	31	61.3	1971	62	153	.3	6.9	31.0	.0	.1	.0
Nov	68.9	40.5	54.7	89+	1999	8	60.0	1995	22+	1975	30	49.5	2000	316	7	.0	.0	29.5	.0	3.2	.0
Dec	59.4	33.8	46.6	78	1950	11	50.8	1977	12	1974	24	43.1	1974	570	0	.0	.0	28.6	.0	12.8	.0
Ann	80.3	51.8	66.0	116+	Jul 1995	29	89.7	Jul 1980	11	Jan 1971	8	42.7+	Jan 1975	2380	2778	52.2	133.4	357.6	.1	36.3	.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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(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

077-A

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**Lon: 110°32W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.81	1.34	2.82	1993	11	10.57	1993	.00	1999	6.0	3.9	1.1	.2	.02	.09	.27	.50	.78	1.13	1.57	2.15	2.99	4.45	5.93
Feb	1.81	1.82	2.17	1994	8	4.73	1998	.00+	1984	5.3	3.8	1.2	.3	.00	.15	.44	.73	1.03	1.36	1.76	2.24	2.91	4.03	5.11
Mar	1.74	1.36	3.40	1954	23	5.03	1991	.00+	1988	5.4	3.9	1.1	.2	.00	.00	.45	.76	1.05	1.38	1.75	2.20	2.79	3.77	4.72
Apr	.46	.30	.86	1988	29	2.60	1988	.00+	1993	2.7	1.5	.2	@	.00	.00	.03	.10	.18	.27	.39	.55	.78	1.17	1.57
May	.41	.07	1.96	1993	16	2.67	1992	.00+	2000	2.3	1.0	.2	@	.00	.00	.00	.00	.00	.07	.21	.42	.73	1.28	1.83
Jun	.21	.03	1.05	1955	14	1.50	1979	.00+	1999	1.4	.8	.1	.0	.00	.00	.00	.00	.00	.03	.10	.21	.37	.67	.98
Jul	1.46	1.39	1.98	1954	21	3.13	1988	.00	1995	6.4	3.5	.6	.1	.18	.36	.60	.81	1.02	1.25	1.50	1.80	2.20	2.84	3.44
Aug	2.23	1.96	2.02	1954	2	4.96	1988	.24	1973	8.8	4.4	1.2	.5	.53	.74	1.07	1.36	1.64	1.95	2.29	2.70	3.23	4.07	4.86
Sep	1.38	1.27	2.00	1994	3	3.46	1983	.03	1973	5.0	3.0	.9	.2	.15	.25	.44	.64	.84	1.08	1.35	1.69	2.15	2.91	3.66
Oct	1.43	1.01	2.92	1983	2	5.96	1972	.00+	1999	4.0	2.6	.9	.4	.00	.00	.16	.40	.66	.96	1.32	1.78	2.42	3.47	4.53
Nov	1.24	1.14	2.05	1978	25	5.40	1978	.00+	1999	3.8	2.8	.6	.3	.00	.14	.37	.56	.77	.99	1.24	1.55	1.96	2.65	3.30
Dec	1.69	.88	3.00	1978	18	6.68	1978	.00+	2000	4.9	3.0	1.2	.4	.00	.00	.07	.32	.62	.99	1.45	2.05	2.90	4.36	5.87
Ann	15.87	15.19	3.40	Mar 1954	23	10.57	Jan 1993	.00+	Dec 2000	56.0	34.2	9.3	2.6	8.82	10.06	11.72	13.02	14.21	15.38	16.62	18.01	19.74	22.31	24.59

+ 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:

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**COOP ID: 027480**

**Climate Division: AZ 4**

**NWS Call Sign:**

**Elevation: 2,532 Feet**

**Lat: 33° 11N**

**Lon: 110° 32W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.4	.0	0	0	8.0	1985	4	9.0	1985	0	0	0	0	0	.1	.1	@	@	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.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	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.4	.0	N/A	N/A	8.0	Feb 1985	4	9.0	Feb 1985	0	0	0	0	0	.1	.1	@	@	.0	.0	.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

Complete documentation available from:

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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	5/01	4/21	4/13	4/07	4/01	3/26	3/19	3/12	3/01
32	4/10	3/28	3/19	3/11	3/03	2/24	2/15	2/06	1/24
28	3/18	3/04	2/22	2/14	2/06	1/28	1/20	1/09	12/23
24	1/31	1/19	1/09	12/28	0/00	0/00	0/00	0/00	0/00
20	1/03	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	10/30	11/04	11/07	11/10	11/12	11/15	11/18	11/21	11/26
32	11/10	11/15	11/19	11/22	11/25	11/28	12/02	12/05	12/11
28	11/18	11/27	12/04	12/10	12/16	12/21	12/27	1/04	1/15
24	12/04	12/18	12/31	1/16	0/00	0/00	0/00	0/00	0/00
20	12/25	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	260	248	239	232	225	218	210	202	190
32	307	293	283	275	267	258	250	240	226
28	>365	354	335	322	311	301	291	279	263
24	>365	>365	>365	>365	>365	>365	>365	351	327
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:  
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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	578	393	301	138	22	0	0	0	0	62	316	570	2380
60	423	258	184	69	5	0	0	0	0	22	189	415	1565
57	330	184	129	40	2	0	0	0	0	9	127	324	1145
55	271	140	98	26	1	0	0	0	0	5	92	266	899
50	138	58	38	8	0	0	0	0	0	1	33	137	413
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	445	531	743	942	1261	1517	1692	1635	1429	1113	682	453	12443
55	3	27	128	278	549	827	979	922	739	405	84	6	4947
57	1	15	97	231	488	767	917	860	679	348	58	2	4463
60	0	5	59	170	398	677	824	767	589	267	31	0	3787
65	0	0	21	90	260	527	669	612	439	153	7	0	2778
70	0	0	6	37	147	379	514	457	293	71	1	0	1905

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	217	331	504	713	1017	1268	1452	1396	1183	873	445	222	217	548	1052	1765	2782	4050	5502	6898	8081	8954	9399	9621
45	92	200	352	565	862	1118	1297	1241	1033	719	301	99	92	292	644	1209	2071	3189	4486	5727	6760	7479	7780	7879
50	18	87	212	417	707	968	1142	1086	883	566	171	23	18	105	317	734	1441	2409	3551	4637	5520	6086	6257	6280
55	0	24	102	281	552	819	987	931	733	413	78	0	0	24	126	407	959	1778	2765	3696	4429	4842	4920	4920
60	0	2	37	158	403	669	832	776	583	271	22	0	0	2	39	197	600	1269	2101	2877	3460	3731	3753	3753
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	156	227	326	458	650	780	925	898	762	557	293	159	156	383	709	1167	1817	2597	3522	4420	5182	5739	6032	6191

(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](http://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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)