

# Climatography of the United States

No. 20

1971-2000

Station: SACATON, AZ

COOP ID: 027370

Climate Division: AZ 6

NWS Call Sign:

Elevation: 1,285 Feet Lat: 33°05N

Lon: 111°44W

## 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	67.0	35.7	51.4	89+	1990	13	56.6	1986	9+	1971	6	46.6	1972	422	0	.0	.0	30.7	.0	10.2	.0
Feb	72.0	38.7	55.4	92+	1986	27	60.9	1996	15	1972	3	51.1	1990	275	4	.0	@	27.8	@	4.7	.0
Mar	77.3	42.0	59.7	100	1988	26	66.0	1972	19+	1971	3	52.9	1991	207	41	@	2.7	31.0	.0	1.3	.0
Apr	86.3	48.2	67.3	106+	1992	28	74.8	1989	28+	1977	3	59.7	1975	86	153	1.3	12.1	30.0	.0	.3	.0
May	95.0	56.7	75.9	117	1910	30	81.2	1997	33+	1965	7	70.2	1980	12	347	8.9	24.0	31.0	.0	.0	.0
Jun	104.8	66.6	85.7	121	1990	27	90.0	1994	43	1908	4	81.7	1991	0	621	24.7	29.5	30.0	.0	.0	.0
Jul	106.7	74.9	90.8	121+	1995	30	93.7	1996	56	1912	4	87.4	1991	0	800	28.8	30.9	31.0	.0	.0	.0
Aug	104.9	72.8	88.9	120	1993	2	92.0	1995	53	1979	21	84.6	1979	0	740	27.0	30.6	31.0	.0	.0	.0
Sep	100.7	66.1	83.4	115	1979	8	87.8	1995	38+	1993	20	78.2	1985	0	552	18.4	28.6	30.0	.0	.0	.0
Oct	90.0	53.8	71.9	110	1980	2	76.7	1999	25	1971	30	65.9	1971	31	245	3.3	16.2	31.0	.0	.2	.0
Nov	77.1	40.5	58.8	98	1915	3	64.5	1995	19+	1956	21	53.4	1972	213	28	.0	1.4	30.0	.0	3.6	.0
Dec	66.8	34.1	50.5	88	1916	1	55.6	1980	12	1954	28	46.4	1974	451	0	.0	.0	30.6	.0	12.0	.0
Ann	87.4	52.5	70.0	121+	Jul 1995	30	93.7	Jul 1996	9+	Jan 1971	6	46.4	Dec 1974	1697	3531	112.4	176.0	364.1	@	32.3	.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: 1908-2001

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

074-A

# 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: SACATON, AZ**

**COOP ID: 027370**

**Climate Division: AZ 6**

**NWS Call Sign:**

**Elevation: 1,285 Feet Lat: 33°05N**

**Lon: 111°44W**

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	.89	.83	1.60	1915	29	3.25	1979	.00+	2000	3.4	2.4	.5	.1	.00	.00	.07	.24	.42	.61	.84	1.13	1.52	2.16	2.83
Feb	.85	.66	1.61	1987	26	2.91	1987	.00+	1989	3.4	2.3	.5	.1	.00	.00	.00	.24	.43	.62	.83	1.10	1.45	2.05	2.60
Mar	1.06	.96	1.90	1926	28	3.36	1983	.00+	1988	3.4	2.7	.6	.1	.00	.00	.16	.40	.61	.83	1.08	1.38	1.78	2.40	3.04
Apr	.32	.07	1.08	1941	12	1.69	1984	.00+	2000	1.3	.9	.2	.0	.00	.00	.00	.00	.00	.09	.20	.36	.58	.96	1.35
May	.18	.00	1.20	1941	2	1.23	1994	.00+	2000	.9	.5	@	.0	.00	.00	.00	.00	.00	.00	.04	.14	.31	.61	.94
Jun	.03	.00	1.01	1949	18	.31	1979	.00+	1999	.4	.1	.0	.0	.00	.00	.00	.00	.00	.00	.00	.01	.06	.12	.19
Jul	.91	.53	4.45	1984	23	6.52	1984	.00	2000	2.1	1.4	.5	.2	.02	.07	.18	.31	.45	.62	.83	1.10	1.48	2.12	2.76
Aug	1.31	1.06	4.00	1990	15	6.31	1990	.01	1980	3.7	2.3	.8	.4	.07	.14	.30	.48	.68	.92	1.20	1.58	2.10	2.99	3.88
Sep	.62	.47	2.72	1946	18	2.83	1984	.00+	2000	2.5	1.4	.4	.1	.00	.00	.00	.22	.36	.49	.64	.81	1.04	1.42	1.77
Oct	.82	.63	2.10	2000	23	3.87	1972	.00+	1999	2.2	1.9	.5	.2	.00	.00	.06	.22	.38	.56	.77	1.04	1.40	2.01	2.62
Nov	.74	.57	1.50	1914	10	2.99	1993	.00+	1999	2.4	1.6	.4	@	.00	.00	.13	.25	.38	.53	.71	.93	1.23	1.73	2.23
Dec	.95	.56	2.02	1967	15	5.42	1984	.00+	2000	3.4	2.2	.8	.1	.00	.00	.00	.15	.34	.55	.82	1.16	1.65	2.48	3.31
Ann	8.68	7.71	4.45	Jul 1984	23	6.52	Jul 1984	.00+	Dec 2000	29.1	19.7	5.2	1.3	4.06	4.81	5.86	6.70	7.49	8.28	9.12	10.08	11.28	13.11	14.74

+ 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: 1908-2001

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

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

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**Station: SACATON, AZ**

**COOP ID: 027370**

**Climate Division: AZ 6**

**NWS Call Sign:**

**Elevation: 1,285 Feet**

**Lat: 33°05N**

**Lon: 111°44W**

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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.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	.0	.0	N/A	N/A	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.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	4/28	4/18	4/11	4/04	3/29	3/24	3/17	3/10	2/28
32	4/03	3/23	3/16	3/09	3/03	2/25	2/18	2/11	1/31
28	3/04	2/21	2/13	2/06	1/31	1/25	1/17	1/09	12/27
24	2/18	2/03	1/22	1/11	12/31	12/16	0/00	0/00	0/00
20	1/23	12/27	0/00	0/00	0/00	0/00	0/00	0/00	0/00
16	12/30	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	10/28	11/02	11/06	11/10	11/13	11/17	11/20	11/24	11/30
32	11/04	11/11	11/15	11/19	11/23	11/27	12/01	12/05	12/12
28	11/11	11/21	11/28	12/04	12/10	12/16	12/22	12/31	1/16
24	12/01	12/12	12/20	12/28	1/05	1/17	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	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	268	254	244	236	228	220	212	202	189
32	305	291	281	272	264	256	247	237	223
28	>365	353	332	320	311	303	294	284	271
24	>365	>365	>365	>365	>365	363	337	320	302
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	422	275	207	86	12	0	0	0	0	31	213	451	1697
60	277	154	112	35	3	0	0	0	0	8	111	299	999
57	198	98	69	19	1	0	0	0	0	3	67	215	670
55	153	68	46	12	0	0	0	0	0	1	45	164	489
50	68	18	14	2	0	0	0	0	0	0	11	70	183
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	601	652	857	1057	1359	1611	1823	1763	1542	1237	804	572	13878
55	40	76	190	379	646	921	1110	1050	852	526	159	23	5972
57	24	50	151	326	584	861	1048	988	792	466	121	12	5423
60	10	22	101	252	493	771	955	895	702	378	75	3	4657
65	0	4	41	153	347	621	800	740	552	245	28	0	3531
70	0	0	13	79	219	471	645	585	404	138	7	0	2561

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	367	464	642	835	1127	1388	1591	1530	1318	1006	570	354	367	831	1473	2308	3435	4823	6414	7944	9262	10268	10838	11192
45	220	321	487	685	972	1238	1436	1375	1168	851	421	210	220	541	1028	1713	2685	3923	5359	6734	7902	8753	9174	9384
50	102	188	336	535	817	1088	1281	1220	1018	697	283	95	102	290	626	1161	1978	3066	4347	5567	6585	7282	7565	7660
55	32	87	199	389	662	938	1126	1065	868	543	160	27	32	119	318	707	1369	2307	3433	4498	5366	5909	6069	6096
60	2	27	96	250	507	788	971	910	718	394	74	1	2	29	125	375	882	1670	2641	3551	4269	4663	4737	4738
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	271	331	432	535	674	802	957	934	798	632	405	273	271	602	1034	1569	2243	3045	4002	4936	5734	6366	6771	7044

(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.  
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.

- 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/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)