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: TUCSON CAMP AVE EXP FM, AZ **COOP ID: 028796**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 2,330 Feet** **Lat: 32˚17N** **Lon: 110˚57W**

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	66.6	34.6	50.6	90	1953	10	55.0	1981	9	1950	6	46.2	1989	446	0	.0	.0	30.4	.0	12.7	.0
Feb	70.2	37.3	53.8	92	1957	14	58.4	1995	15+	1972	3	48.3	1990	318	3	.0	.0	27.6	.1	7.1	.0
Mar	75.0	41.5	58.3	96	1988	27	63.4	1972	17	1965	4	51.2	1973	230	20	.0	.6	31.0	.0	2.6	.0
Apr	82.7	46.4	64.6	101+	2000	27	69.9	2000	30+	1983	5	59.2	1975	95	81	.1	6.0	30.0	.0	.4	.0
May	91.3	54.9	73.1	108+	2000	28	79.5	2000	31+	1967	2	68.7	1971	15	266	2.8	19.6	31.0	.0	.0	.0
Jun	100.6	64.2	82.4	115	1990	26	87.0	1994	43	1971	3	79.0	1991	0	522	18.4	29.1	30.0	.0	.0	.0
Jul	100.7	71.8	86.3	114	1995	28	88.7	2000	54	1973	24	82.6	1984	0	658	19.3	30.3	31.0	.0	.0	.0
Aug	98.8	70.9	84.9	110+	1986	1	88.4	1994	52	1954	27	81.1	1972	0	615	15.2	29.7	31.0	.0	.0	.0
Sep	95.7	65.0	80.4	109	1950	1	84.3	2000	38	1965	30	76.0	1985	0	461	6.8	26.7	30.0	.0	.0	.0
Oct	86.1	52.6	69.4	106	1955	1	73.0	1999	25	1971	30	64.7	1971	37	170	.6	11.3	31.0	.0	.1	.0
Nov	74.7	39.8	57.3	94	1999	6	63.9	1999	19	1956	21	51.8	1972	247	14	.0	.6	30.0	.0	4.6	.0
Dec	66.9	34.6	50.8	88	1954	3	56.4	1980	12	1974	24	46.4	1974	443	0	.0	.0	30.1	.0	12.9	.0
Ann	84.1	51.1	67.7	115	Jun 1990	26	88.7	Jul 2000	9	Jan 1950	6	46.2	Jan 1989	1831	2810	63.2	153.9	363.1	.1	40.4	.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: 1949-2001

(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: TUCSON CAMP AVE EXP FM, AZ **COOP ID: 028796**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 2,330 Feet** **Lat: 32°17N** **Lon: 110°57W**

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	1.07	.73	1.41	1993	8	5.91	1993	.00+	2000
Feb	1.07	.91	1.29	1963	10	4.20	1998	.00+	1999
Mar	1.01	1.03	1.12	1968	10	2.90	1973	.00+	1984
Apr	.37	.26	1.70	1952	20	1.36	1988	.00+	1996
May	.21	.07	.82	1978	6	.89	1978	.00+	2000
Jun	.25	.03	2.48	1950	22	3.03	2000	.00+	1999
Jul	1.82	1.38	2.20	1955	23	7.32	1999	.09	1993
Aug	2.10	2.06	2.12	1951	2	5.99	1971	.25	1977
Sep	1.18	.99	2.92	1962	26	3.98	1974	.00+	1979
Oct	1.26	.59	3.45	1983	2	6.05	1983	.00+	1999
Nov	.81	.67	1.51	1994	11	2.04	1978	.00+	1999
Dec	1.25	.67	1.94	1967	15	3.93	1992	.00+	1999
Ann	12.40	12.25	3.45	Oct 1983	2	7.32	Jul 1999	.00+	May 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.9	2.4	.7	.1
Feb	4.0	2.5	.8	.1
Mar	4.0	2.9	.7	@
Apr	1.8	.9	.2	@
May	1.7	.6	.1	.0
Jun	1.2	.6	.1	@
Jul	6.8	4.1	1.1	.4
Aug	8.5	5.2	1.3	.3
Sep	4.4	2.6	.7	.2
Oct	3.5	2.1	.9	.3
Nov	2.8	2.2	.6	@
Dec	4.1	2.5	.9	.2
Ann	46.7	28.6	8.1	1.6

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	.00	.00	.04	.21	.40	.64	.93	1.31	1.84	2.76	3.70
Feb	.00	.00	.11	.28	.47	.70	.97	1.32	1.81	2.64	3.47
Mar	.00	.00	.24	.42	.59	.78	1.00	1.27	1.63	2.22	2.79
Apr	.00	.00	.00	.00	.09	.19	.31	.45	.66	1.00	1.34
May	.00	.00	.00	.00	.03	.08	.15	.24	.37	.60	.84
Jun	.00	.00	.00	.00	.00	.00	.06	.18	.39	.82	1.30
Jul	.14	.25	.49	.74	1.02	1.34	1.72	2.21	2.88	4.02	5.14
Aug	.40	.59	.90	1.18	1.47	1.78	2.14	2.56	3.13	4.04	4.91
Sep	.00	.07	.25	.43	.63	.86	1.13	1.46	1.92	2.71	3.48
Oct	.00	.00	.05	.19	.38	.64	.98	1.45	2.14	3.37	4.65
Nov	.00	.00	.31	.46	.58	.72	.86	1.03	1.25	1.59	1.92
Dec	.00	.00	.08	.23	.42	.67	1.00	1.45	2.10	3.26	4.45
Ann	7.08	8.03	9.28	10.27	11.16	12.05	12.97	14.02	15.31	17.23	18.92

\+ 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: 1949-2001
(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: TUCSON CAMP AVE EXP FM, AZ **COOP ID: 028796**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 2,330 Feet** **Lat: 32°17N** **Lon: 110°57W**

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	.2	.0	#	0	3.5	1990	19	3.5	1990	#	1997	7	#	1997	.1	.1	@	.0	.0	.0	.0	.0	.0
Feb	.0	.0	#	0	1.0	1990	15	1.0	1990	1	1990	15	#+	1998	@	@	.0	.0	.0	@	.0	.0	.0
Mar	#	.0	0	0	#	1991	21	#+	1991	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	#+	1996	14	#+	1996	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.0	.0	#	0	.0	0	0	.0	0	#	1996	25	#	1996	.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	.2	.0	0	0	3.0	1971	8	3.0+	1987	0	0	0	0	0	.1	.1	.1	.0	.0	.0	.0	.0	.0
Ann	.4	.0	N/A	N/A	3.5	Jan 1990	19	3.5	Jan 1990	1	Feb 1990	15	#+	Feb 1998	.2	.2	.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:
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: TUCSON CAMP AVE EXP FM, AZ **COOP ID: 028796**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 2,330 Feet** **Lat: 32˚17N** **Lon: 110˚57W**

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	4/22	4/15	4/09	4/04	3/29	3/23	3/17	3/07
32	4/11	4/02	3/26	3/20	3/14	3/09	3/03	2/24	2/14
28	3/19	3/06	2/24	2/16	2/09	2/01	1/24	1/14	1/01
24	2/18	2/08	1/31	1/23	1/16	1/06	12/20	0/00	0/00
20	2/01	1/13	12/25	0/00	0/00	0/00	0/00	0/00	0/00
16	12/28	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	10/24	10/28	11/01	11/03	11/06	11/09	11/11	11/15	11/19
32	11/05	11/10	11/14	11/17	11/19	11/22	11/25	11/29	12/04
28	11/10	11/17	11/22	11/26	11/30	12/04	12/08	12/13	12/20
24	11/25	12/06	12/14	12/22	12/30	1/10	0/00	0/00	0/00
20	12/12	12/27	1/12	0/00	0/00	0/00	0/00	0/00	0/00
16	1/17	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	249	237	229	222	216	209	202	194	182
32	284	272	264	256	250	243	235	227	215
28	336	320	309	300	292	284	275	265	251
24	>365	>365	>365	>365	>365	328	316	307	296
20	>365	>365	>365	>365	>365	>365	>365	>365	329
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: TUCSON CAMP AVE EXP FM, AZ **COOP ID: 028796**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 2,330 Feet** **Lat: 32˚17N** **Lon: 110˚57W**

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	446	318	230	95	15	0	0	0	0	37	247	443	1831
60	296	193	122	34	3	0	0	0	0	9	134	294	1085
57	212	131	75	15	0	0	0	0	0	3	83	211	730
55	162	98	50	8	0	0	0	0	0	1	57	162	538
50	70	35	14	1	0	0	0	0	0	0	17	72	209
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	577	609	813	976	1274	1512	1681	1638	1451	1157	757	580	13025
55	25	63	149	294	561	822	968	925	761	445	125	29	5167
57	14	41	112	241	499	762	906	863	701	385	91	16	4631
60	5	18	67	170	408	672	813	770	611	298	51	6	3889
65	0	3	20	81	266	522	658	615	461	170	14	0	2810
70	0	0	4	27	148	375	503	460	314	77	2	0	1910

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	340	413	573	744	1031	1280	1442	1401	1218	917	521	346	340	753	1326	2070	3101	4381	5823	7224	8442	9359	9880	10226
45	196	271	420	594	876	1130	1287	1246	1068	762	373	202	196	467	887	1481	2357	3487	4774	6020	7088	7850	8223	8425
50	83	147	272	445	721	980	1132	1091	918	607	237	89	83	230	502	947	1668	2648	3780	4871	5789	6396	6633	6722
55	26	61	150	301	566	830	977	936	768	455	126	25	26	87	237	538	1104	1934	2911	3847	4615	5070	5196	5221
60	0	9	59	173	411	680	822	781	618	307	44	0	0	9	68	241	652	1332	2154	2935	3553	3860	3904	3904
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	267	307	395	492	642	764	902	887	772	584	378	272	267	574	969	1461	2103	2867	3769	4656	5428	6012	6390	6662

(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