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: MIAMI, AZ **COOP ID: 025512**

Climate Division: AZ 4 **NWS Call Sign:** **Elevation: 3,560 Feet** **Lat: 33˚24N** **Lon: 110˚52W**

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	57.4	33.6	45.5	81	2000	21	52.6	2000	8	1962	11	40.1	1979	604	0	.0	.0	26.5	.1	13.8	.0
Feb	61.5	36.4	49.0	84	1986	27	55.1	1999	14	1939	10	44.3	1975	451	0	.0	.0	25.1	.1	6.7	.0
Mar	66.3	40.9	53.6	89+	1999	30	60.6	1972	19	1971	2	45.9	1973	369	14	.0	.0	29.6	.0	2.4	.0
Apr	74.5	47.2	60.9	99	2000	28	69.1	1989	29	1921	5	52.8	1975	182	57	.0	.8	29.7	.0	.5	.0
May	83.4	55.7	69.6	106	2000	29	77.6	2000	32+	1975	6	64.4	1977	48	188	.5	6.8	31.0	.0	@	.0
Jun	93.9	64.6	79.3	111	1994	30	83.7	1994	46	1917	1	74.7	1991	1	429	6.2	23.4	30.0	.0	.0	.0
Jul	96.4	70.4	83.4	112+	1998	16	87.5	2000	48	1978	23	79.9	1986	0	570	9.5	27.7	31.0	.0	.0	.0
Aug	94.4	68.6	81.5	109	2001	27	85.6	1998	56+	1979	23	78.4	1984	0	510	4.6	26.1	31.0	.0	.0	.0
Sep	89.5	63.0	76.3	108	1950	1	82.1	2000	43	1986	30	71.3	1985	4	342	1.6	16.1	30.0	.0	.0	.0
Oct	78.8	52.0	65.4	101+	2000	2	71.4	1999	26	1971	30	58.3	1971	102	115	.1	3.6	30.9	.0	.1	.0
Nov	66.0	40.4	53.2	87+	2001	4	63.1	1999	20	1975	30	47.0	1972	364	10	.0	.0	28.8	.0	3.8	.0
Dec	57.6	33.8	45.7	78	1998	31	50.6	2000	14	1953	23	40.4	1971	598	0	.0	.0	26.4	@	12.9	.0
Ann	76.6	50.6	63.6	112+	Jul 1998	16	87.5	Jul 2000	8	Jan 1962	11	40.1	Jan 1979	2723	2235	22.5	104.5	350.0	.2	40.2	.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: 1914-2001

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

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COOP ID: 025512

Climate Division: AZ 4 **NWS Call Sign:** **Elevation: 3,560 Feet** **Lat: 33˚24N** **Lon: 110˚52W**

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	2.13	1.65	2.62	1993	11	10.29	1993	.00+	1996
Feb	2.08	1.65	2.32	1980	15	8.11	1980	.00+	1984
Mar	2.17	1.72	3.96	1954	23	6.69	1991	.00+	1984
Apr	.57	.42	1.86	1929	5	2.06	1999	.00+	1996
May	.47	.16	1.27	1973	5	2.51	1992	.00+	2000
Jun	.32	.07	3.23	1922	27	1.84	1972	.00+	1998
Jul	2.19	1.81	2.88	2001	30	8.63	1984	.20	1995
Aug	2.71	2.58	2.81	1951	27	5.90	1992	.33	1976
Sep	1.55	1.37	2.72	1970	6	5.24	1983	.00+	2000
Oct	1.73	1.04	4.75	1959	30	7.59	1972	.00+	1999
Nov	1.57	1.42	2.99	1978	12	7.11	1978	.00	1999
Dec	2.00	1.14	3.48	1978	18	7.51	1978	.00+	1996
Ann	19.49	18.54	4.75	Oct 1959	30	10.29	Jan 1993	.00+	Sep 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.9	3.9	1.5	.4
Feb	5.7	4.2	1.2	.5
Mar	6.1	4.2	1.6	.4
Apr	3.1	1.6	.3	.1
May	2.5	1.1	.2	@
Jun	2.0	.9	.2	@
Jul	8.2	4.8	1.3	.3
Aug	8.7	5.6	1.6	.6
Sep	4.7	2.9	1.1	.4
Oct	4.4	2.7	1.2	.6
Nov	4.1	2.6	1.0	.4
Dec	4.8	3.3	1.3	.4
Ann	60.2	37.8	12.5	4.1

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	.08	.35	.65	1.00	1.42	1.93	2.58	3.50	5.09	6.68
Feb	.00	.15	.48	.80	1.14	1.54	2.00	2.57	3.36	4.68	5.98
Mar	.00	.10	.40	.72	1.08	1.51	2.02	2.66	3.56	5.10	6.63
Apr	.00	.00	.00	.12	.23	.36	.52	.71	.98	1.43	1.87
May	.00	.00	.00	.03	.10	.20	.33	.52	.80	1.31	1.85
Jun	.00	.00	.00	.00	.01	.07	.17	.32	.55	.97	1.40
Jul	.31	.49	.81	1.11	1.43	1.78	2.18	2.68	3.34	4.43	5.47
Aug	.66	.92	1.31	1.66	2.01	2.38	2.79	3.28	3.91	4.92	5.87
Sep	.00	.00	.21	.45	.71	1.03	1.41	1.90	2.58	3.76	4.93
Oct	.00	.00	.15	.41	.72	1.08	1.53	2.11	2.93	4.32	5.73
Nov	.05	.16	.37	.59	.84	1.13	1.48	1.92	2.53	3.55	4.57
Dec	.00	.00	.21	.49	.82	1.23	1.74	2.41	3.35	5.01	6.68
Ann	10.92	12.42	14.44	16.02	17.46	18.88	20.38	22.07	24.17	27.28	30.03

\+ 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: 1914-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.0	.0	#	0
Feb	.6	.0	#	0
Mar	.1	.0	#	0
Apr	.1	.0	#	0
May	.0	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	#	.0	0	0
Nov	.2	.0	#	0
Dec	.3	.0	#	0
Ann	1.3	.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	.1	1973	2	.1	1973	2	1979	29	#+	1979
Feb	7.0	1985	4	13.0	1985	1	1975	22	#+	1975
Mar	2.5	1976	4	2.5	1976	3	1976	4	#+	1977
Apr	2.0	1976	16	2.0	1976	2	1976	16	#	1976
May	.0	0	0	.0	0	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	#	1971	29	#	1971	0	0	0	0	0
Nov	4.0	1975	29	4.0	1975	4	1975	29	#	1975
Dec	5.0	1974	26	5.0	1974	5	1974	26	#+	1978
Ann	7.0	Feb 1985	4	13.0	Feb 1985	5	Dec 1974	26	#+	Jan 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	@	.0	.0	.0	.0
Feb	.2	.1	.1	.1	.0
Mar	@	@	.0	.0	.0
Apr	@	@	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	@	@	@	.0	.0
Dec	.1	.1	@	@	.0
Ann	.3	.2	.1	.1	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	@	.0	.0	.0
Mar	@	@	.0	.0
Apr	@	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	@	@	.0	.0
Dec	.1	@	@	.0
Ann	.1	@	@	.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

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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	4/25	4/18	4/13	4/08	4/04	3/30	3/26	3/21	3/13
32	4/17	4/05	3/27	3/19	3/12	3/05	2/25	2/16	2/04
28	3/08	2/26	2/18	2/12	2/05	1/30	1/24	1/16	1/06
24	2/15	2/05	1/28	1/19	1/04	0/00	0/00	0/00	0/00
20	2/01	1/11	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	10/21	10/27	10/31	11/03	11/06	11/10	11/13	11/17	11/23
32	11/07	11/12	11/15	11/18	11/21	11/24	11/27	12/01	12/06
28	11/16	11/24	11/29	12/04	12/09	12/13	12/19	12/25	1/03
24	12/05	12/19	12/30	1/13	0/00	0/00	0/00	0/00	0/00
20	12/27	1/25	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	243	233	227	221	216	211	205	199	189
32	295	281	270	262	253	245	237	226	212
28	351	330	319	311	303	296	288	279	267
24	>365	>365	>365	>365	>365	>365	>365	318	300
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

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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	604	451	369	182	48	1	0	0	4	102	364	598	2723
60	449	317	240	99	15	0	0	0	0	45	237	444	1846
57	360	241	178	61	7	0	0	0	0	24	172	354	1397
55	303	195	142	42	3	0	0	0	0	15	135	297	1132
50	175	104	69	14	0	0	0	0	0	4	64	170	600
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	419	473	669	866	1164	1418	1593	1533	1328	1036	636	425	11560
55	9	24	98	218	454	728	880	820	638	338	81	10	4298
57	5	15	71	177	395	668	818	758	578	285	58	4	3832
60	0	6	41	124	311	578	725	665	489	213	33	1	3186
65	0	0	14	57	188	429	570	510	342	115	10	0	2235
70	0	0	3	20	96	285	415	355	207	50	2	0	1433

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	195	278	432	635	926	1192	1355	1292	1095	794	406	202	195	473	905	1540	2466	3658	5013	6305	7400	8194	8600	8802
45	83	153	285	489	771	1042	1200	1137	945	639	264	90	83	236	521	1010	1781	2823	4023	5160	6105	6744	7008	7098
50	26	69	162	343	618	892	1045	982	795	488	146	22	26	95	257	600	1218	2110	3155	4137	4932	5420	5566	5588
55	2	21	72	221	463	742	890	827	645	342	64	1	2	23	95	316	779	1521	2411	3238	3883	4225	4289	4290
60	0	0	24	113	315	592	735	672	495	211	18	0	0	0	24	137	452	1044	1779	2451	2946	3157	3175	3175
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	134	184	268	395	596	760	880	848	722	503	253	138	134	318	586	981	1577	2337	3217	4065	4787	5290	5543	5681

(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