

Climatography of the United States

No. 20

1971-2000

Station: BOWIE, AZ

COOP ID: 020958

Climate Division: AZ 7

NWS Call Sign:

Elevation: 3,760 Feet Lat: 32° 19N

Lon: 109° 29W

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	60.5	31.9	46.2	83	1905	3	49.7	1986	4	1962	11	42.6	1992	584	0	.0	.0	28.5	@	18.0	.0
Feb	65.8	35.1	50.5	88	1921	14	55.8	1996	9	1965	14	46.5	1998	408	0	.0	.0	27.2	.2	10.5	.0
Mar	72.0	39.3	55.7	98	1921	24	62.0	1972	14	1965	4	49.8	1973	300	10	.0	.1	30.9	.0	5.3	.0
Apr	79.9	44.8	62.4	99+	2000	27	68.9	1989	22	1921	6	55.8	1983	135	55	.0	2.0	30.0	.0	1.6	.0
May	88.1	53.1	70.6	110	1958	28	76.5	2000	28	1922	11	67.0	1975	26	200	.8	13.4	31.0	.0	.0	.0
Jun	97.4	62.2	79.8	115+	1924	28	84.9	1994	36	1972	11	75.9	1995	0	444	11.2	27.4	30.0	.0	.0	.0
Jul	97.1	68.0	82.6	116	1936	20	86.3	1980	49	1912	26	79.9	1986	0	543	11.0	28.4	31.0	.0	.0	.0
Aug	94.2	66.1	80.2	110+	1922	6	83.6	1994	44	1976	4	77.7	1990	0	469	3.0	26.6	31.0	.0	.0	.0
Sep	90.3	60.3	75.3	110+	1923	13	78.6	1997	30	1904	29	72.7	1985	1	310	.9	18.0	30.0	.0	.0	.0
Oct	80.1	49.1	64.6	105	1922	9	68.7	1987	24	1971	30	61.1	1976	86	74	.0	3.1	31.0	.0	.7	.0
Nov	68.5	37.5	53.0	96	1921	6	56.8	1995	15	1928	29	48.0	2000	360	1	.0	.0	29.7	.0	8.4	.0
Dec	60.2	31.7	46.0	80+	1923	9	51.6	1977	3	1978	9	42.0	1997	591	0	.0	.0	28.5	.1	19.1	.0
Ann	79.5	48.3	63.9	116	Jul 1936	20	86.3	Jul 1980	3	Dec 1978	9	42.0	Dec 1997	2491	2106	26.9	119.0	358.8	.3	63.6	.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

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1899-2001

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

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: BOWIE, AZ

COOP ID: 020958

Climate Division: AZ 7

NWS Call Sign:

Elevation: 3,760 Feet Lat: 32°19N

Lon: 109°29W

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	1.02	.72	1.45	1965	20	4.09	1993	.00	1999	5.4	2.9	.5	.0	.02	.09	.22	.36	.53	.72	.94	1.24	1.65	2.35	3.04
Feb	.84	.69	1.30+	1980	14	2.50	1980	.00+	1999	5.1	2.4	.4	@	.00	.00	.16	.30	.45	.61	.80	1.05	1.37	1.93	2.47
Mar	.66	.43	1.95	1912	10	2.25	1973	.00+	1988	4.2	2.2	.3	.0	.00	.00	.11	.21	.33	.46	.62	.82	1.10	1.57	2.04
Apr	.27	.16	1.02	1958	16	1.10	1987	.00+	2000	2.0	.9	.0	.0	.00	.00	.00	.04	.09	.16	.23	.33	.47	.71	.95
May	.41	.16	1.16	1992	18	3.03	1992	.00+	2000	2.5	1.1	.1	@	.00	.00	.00	.01	.08	.17	.30	.47	.71	1.16	1.60
Jun	.49	.22	2.15	2000	19	4.38	2000	.00+	1995	2.7	1.3	.3	.1	.00	.00	.01	.06	.13	.23	.37	.55	.84	1.34	1.88
Jul	2.02	1.84	1.91	1981	30	4.85	1977	.63	1985	9.3	4.7	1.2	.4	.62	.81	1.09	1.34	1.58	1.83	2.10	2.42	2.84	3.48	4.08
Aug	2.22	2.33	2.69	1989	3	5.47	1988	.05	1975	9.2	5.0	1.4	.5	.26	.43	.74	1.05	1.38	1.75	2.18	2.72	3.45	4.65	5.82
Sep	1.04	.92	1.70	1905	3	2.99	1983	.00	1979	5.3	2.7	.7	.1	.06	.17	.33	.48	.64	.82	1.03	1.29	1.64	2.21	2.76
Oct	1.35	1.02	2.75	1951	30	4.39	1972	.00+	1982	4.9	3.1	.9	.4	.00	.04	.18	.37	.59	.85	1.19	1.62	2.24	3.32	4.41
Nov	.76	.57	1.55	1914	11	2.28	1994	.00+	1999	3.4	2.2	.4	.1	.00	.06	.19	.31	.44	.58	.74	.95	1.23	1.69	2.14
Dec	1.26	.70	1.70	1987	18	4.01	1991	.00+	1999	4.8	3.0	.9	.2	.00	.00	.06	.26	.49	.77	1.11	1.55	2.17	3.21	4.30
Ann	12.34	12.30	2.75	Oct 1951	30	5.47	Aug 1988	.00+	May 2000	58.8	31.5	7.1	1.8	8.42	9.17	10.14	10.87	11.53	12.17	12.84	13.57	14.47	15.77	16.91

+ 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: 1899-2001

(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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151 Patton Avenue
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Station: BOWIE, AZ

COOP ID: 020958

Climate Division: AZ 7

NWS Call Sign:

Elevation: 3,760 Feet

Lat: 32° 19N

Lon: 109° 29W

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	.6	.0	#	0	8.5	1978	20	8.7	1978	10	1978	20	1	1978	.2	.1	.1	@	.0	@	@	.0	.0
Feb	.4	.0	#	0	5.0	1971	20	5.0	1971	2	1971	20	#	1971	.2	.1	.1	@	.0	@	.0	.0	.0
Mar	.4	.0	#	0	3.0	1975	15	6.5	1975	2	1976	4	#	1976	.3	.2	@	.0	.0	@	.0	.0	.0
Apr	.1	.0	0	0	1.5	1976	16	1.5	1976	0	0	0	0	0	.1	@	.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	.3	.0	#	0	5.0	1976	13	5.0	1976	5	1976	13	#	1976	.1	.1	@	@	.0	@	@	@	.0
Dec	.8	.0	#	0	8.0	1987	24	11.0	1987	#	1982	31	#	1982	.2	.2	.2	@	.0	.0	.0	.0	.0
Ann	2.6	.0	N/A	N/A	8.5	Jan 1978	20	11.0	Dec 1987	10	Jan 1978	20	1	Jan 1978	1.1	.7	.4	@	.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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No. 20
1971-2000**

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Climate Division: AZ 7

NWS Call Sign:

Elevation: 3,760 Feet

Lat: 32° 19N

Lon: 109° 29W

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	5/09	5/01	4/26	4/22	4/18	4/13	4/09	4/04	3/28
32	4/21	4/15	4/10	4/06	4/02	3/30	3/26	3/21	3/15
28	4/04	3/25	3/18	3/12	3/07	3/01	2/23	2/16	2/07
24	3/05	2/23	2/16	2/10	2/04	1/29	1/23	1/16	1/05
20	2/10	1/28	1/18	1/09	12/30	12/18	11/28	0/00	0/00
16	1/16	12/31	12/09	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	10/12	10/18	10/22	10/25	10/28	11/01	11/04	11/08	11/14
32	10/22	10/27	10/31	11/03	11/05	11/08	11/11	11/15	11/19
28	10/29	11/04	11/09	11/13	11/17	11/20	11/24	11/29	12/05
24	11/04	11/15	11/23	11/30	12/06	12/13	12/20	12/28	1/08
20	11/30	12/05	12/09	12/13	12/17	12/23	0/00	0/00	0/00
16	12/24	1/13	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	222	212	205	199	193	187	181	174	164
32	236	229	224	220	216	212	208	203	197
28	284	274	267	260	254	248	242	235	224
24	342	327	318	310	302	295	287	278	266
20	>365	>365	>365	>365	>365	352	334	320	304
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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Climate Division: AZ 7 NWS Call Sign: Elevation: 3,760 Feet Lat: 32°19N Lon: 109°29W

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	584	408	300	135	26	0	0	0	1	86	360	591	2491
60	429	271	173	59	5	0	0	0	0	28	219	436	1620
57	336	194	115	30	2	0	0	0	0	11	147	344	1179
55	275	147	83	18	0	0	0	0	0	5	106	285	919
50	137	60	27	4	0	0	0	0	0	0	37	151	416
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	439	516	733	910	1196	1434	1566	1492	1299	1011	631	432	11659
55	1	19	103	238	484	744	853	779	609	303	47	4	4184
57	0	10	73	191	423	684	791	717	549	247	28	1	3714
60	0	3	38	130	334	594	698	624	459	171	10	0	3061
65	0	0	10	55	200	444	543	469	310	74	1	0	2106
70	0	0	1	16	97	299	388	314	170	21	0	0	1306

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	213	315	490	676	953	1196	1314	1251	1057	760	393	208	213	528	1018	1694	2647	3843	5157	6408	7465	8225	8618	8826
45	95	186	338	526	798	1046	1159	1096	907	605	258	97	95	281	619	1145	1943	2989	4148	5244	6151	6756	7014	7111
50	24	81	200	380	643	896	1004	941	757	453	133	30	24	105	305	685	1328	2224	3228	4169	4926	5379	5512	5542
55	1	23	95	245	488	746	849	786	607	306	51	0	1	24	119	364	852	1598	2447	3233	3840	4146	4197	4197
60	0	0	30	124	337	596	694	631	457	174	11	0	0	0	30	154	491	1087	1781	2412	2869	3043	3054	3054
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	175	242	353	464	605	724	832	809	683	491	287	176	175	417	770	1234	1839	2563	3395	4204	4887	5378	5665	5841

(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/normal/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
- 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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