

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: BLACK RIVER PUMPS, AZ

1971-2000

COOP ID: 020808

Climate Division: AZ 7

NWS Call Sign:

Elevation: 6,065 Feet Lat: 33°29N

Lon: 109°45W

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	49.2	20.9	35.1	72	1953	11	39.8	1986	-20	1971	4	29.9	1992	928	0	.0	.0	15.3	1.0	29.4	.7
Feb	52.9	24.0	38.5	75	1986	27	43.4	1995	-15	1965	12	34.0	1985	744	0	.0	.0	18.5	.5	25.9	.1
Mar	57.6	27.2	42.4	79	1997	24	48.7	1972	-5	1953	4	37.3	1973	701	0	.0	.0	24.3	@	25.8	.0
Apr	66.1	32.1	49.1	86	2000	28	54.0	1989	12	1997	13	42.9	1975	478	0	.0	.0	28.0	.0	16.4	.0
May	75.3	40.2	57.8	95	1996	13	63.0	2000	17+	1967	2	54.0	1971	241	15	.0	.5	30.8	.0	3.0	.0
Jun	85.8	49.6	67.7	103+	1994	30	72.3	1990	26	1998	8	64.5	1998	41	123	.4	9.5	30.0	.0	.1	.0
Jul	87.4	56.1	71.8	102+	1998	15	74.2	1998	42	1962	13	69.2	1986	1	209	.3	12.1	31.0	.0	.0	.0
Aug	84.3	55.6	70.0	99	1995	10	74.3	1995	43+	1980	22	67.0	1979	10	163	.0	4.4	31.0	.0	.0	.0
Sep	79.6	49.4	64.5	94	1995	6	69.3	1997	31	1965	21	59.9	1988	80	67	.0	.7	30.0	.0	.0	.0
Oct	69.5	38.5	54.0	94+	1999	27	58.7	1987	14+	1971	29	48.8	1971	346	4	.0	.4	30.2	.0	6.2	.0
Nov	57.5	27.0	42.3	80	1967	16	50.0	1999	-6	1958	18	37.6	1992	683	0	.0	.0	23.6	.1	23.7	@
Dec	50.4	20.9	35.7	72+	1980	28	40.5	1980	-19	1990	23	31.4	1990	910	0	.0	.0	17.6	.7	29.4	.5
Ann	68.0	36.8	52.4	103+	Jun 1994	30	74.3	Aug 1995	-20	Jan 1971	4	29.9	Jan 1992	5163	581	.7	27.6	310.3	2.3	159.9	1.3

+ 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: 1948-2001

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

010-A

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No. 20

1971-2000

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Station: BLACK RIVER PUMPS, AZ

COOP ID: 020808

Climate Division: AZ 7

NWS Call Sign:

Elevation: 6,065 Feet Lat: 33°29N

Lon: 109°45W

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	1.70	1.21	4.01	2001	27	8.27	1993	.00+	1999	7.0	4.4	1.0	.2	.00	.09	.33	.58	.87	1.19	1.59	2.08	2.78	3.96	5.12
Feb	1.65	1.67	1.51	1958	5	5.11	1980	.00+	1984	6.7	4.6	1.0	.1	.00	.25	.58	.84	1.11	1.38	1.70	2.07	2.57	3.38	4.14
Mar	1.62	1.48	2.34	1954	23	4.77	1991	.00	1972	6.5	4.4	.7	.2	.10	.25	.50	.74	.99	1.27	1.59	1.99	2.53	3.42	4.28
Apr	.66	.45	1.17	2001	5	3.73	1988	.00+	2000	4.0	2.1	.3	.0	.00	.00	.00	.16	.30	.45	.62	.84	1.13	1.63	2.10
May	.62	.32	1.29	1973	6	3.56	1992	.00+	2000	3.5	2.0	.3	@	.00	.00	.00	.10	.22	.36	.54	.76	1.08	1.63	2.17
Jun	.72	.35	2.21	1979	5	3.76	1979	.00+	1989	3.2	1.6	.4	.1	.00	.00	.04	.13	.25	.40	.60	.85	1.23	1.88	2.54
Jul	3.27	3.12	2.42	1956	18	7.62	1990	.43	1993	12.3	7.9	1.9	.5	1.01	1.32	1.79	2.18	2.57	2.97	3.41	3.92	4.59	5.62	6.58
Aug	3.18	3.19	2.10	1951	28	6.12	1984	.91	1975	12.1	8.1	1.9	.3	1.20	1.50	1.92	2.28	2.61	2.96	3.33	3.76	4.31	5.15	5.92
Sep	1.82	1.61	2.00	1994	3	3.91	1983	.05	1973	6.8	4.3	.9	.3	.27	.43	.69	.94	1.20	1.49	1.82	2.22	2.77	3.65	4.49
Oct	1.77	1.31	2.02	2000	11	6.84	1972	.00+	1998	5.4	3.7	1.1	.3	.00	.00	.38	.73	1.06	1.40	1.79	2.27	2.91	3.91	4.89
Nov	1.29	1.05	2.00	1994	12	3.56	1978	.00	1999	4.9	3.4	.5	.2	.11	.25	.46	.65	.84	1.05	1.30	1.59	1.98	2.62	3.23
Dec	1.51	.77	1.75	1968	27	4.77	1992	.00	1996	5.8	3.9	.9	.2	.01	.07	.23	.42	.66	.95	1.31	1.80	2.49	3.70	4.93
Ann	19.81	19.31	4.01	Jan 2001	27	8.27	Jan 1993	.00+	May 2000	78.2	50.4	10.9	2.4	12.85	14.15	15.84	17.14	18.31	19.45	20.63	21.95	23.57	25.93	27.99

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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No. 20 1971-2000

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Federal Building
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Asheville, North Carolina 28801
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Station: BLACK RIVER PUMPS, AZ

COOP ID: 020808

Climate Division: AZ 7

NWS Call Sign:

Elevation: 6,065 Feet

Lat: 33°29N

Lon: 109°45W

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	1.3	.0	#	0	12.0	1992	12	12.0	1992	15	1997	15	2	1997	1.4	1.4	.7	.4	.1	.0	.0	.0	.0
Feb	1.5	.0	#	0	12.0	1997	28	12.0+	1997	8	1998	24	1	1998	.9	.8	.5	.3	.1	.2	.1	.1	.0
Mar	.5	.0	#	0	5.0	1986	11	5.0	1986	4	1991	22	#+	1999	.5	.4	.2	.1	.0	.1	.1	.0	.0
Apr	2.7	.0	#	0	12.0	1999	1	19.0	1999	2	1998	6	#+	1998	.7	.7	.3	.1	.1	.1	.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	#	1980	28	#	1980	#	1994	17	#	1994	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.6	.0	0	0	4.0	1994	4	4.4	1994	0	0	0	0	0	.3	.1	.1	.0	.0	.0	.0	.0	.0
Dec	1.6	.0	#	0	6.0	1997	22	9.0	1997	#	1995	21	#	1995	.5	.5	.3	.1	.0	.0	.0	.0	.0
Ann	8.2	.0	N/A	N/A	12.0+	Apr 1999	1	19.0	Apr 1999	15	Jan 1997	15	2	Jan 1997	4.3	3.9	2.1	1.0	.3	.4	.2	.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

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Climatography of the United States

No. 20 1971-2000

Station: BLACK RIVER PUMPS, AZ

COOP ID: 020808

Climate Division: AZ 7

NWS Call Sign:

Elevation: 6,065 Feet

Lat: 33° 29N

Lon: 109° 45W

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	6/07	6/02	5/29	5/26	5/23	5/20	5/17	5/13	5/08
32	5/29	5/24	5/20	5/17	5/14	5/11	5/08	5/04	4/29
28	5/18	5/12	5/07	5/03	4/29	4/25	4/21	4/17	4/10
24	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/06	4/01
20	4/24	4/15	4/09	4/03	3/29	3/24	3/19	3/12	3/03
16	4/04	3/24	3/16	3/09	3/03	2/24	2/18	2/10	1/30
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	9/26	10/01	10/05	10/08	10/11	10/14	10/18	10/21	10/27
32	10/06	10/10	10/13	10/16	10/19	10/21	10/24	10/27	10/31
28	10/12	10/16	10/19	10/22	10/25	10/27	10/30	11/03	11/07
24	10/18	10/24	10/28	11/01	11/04	11/07	11/11	11/15	11/21
20	10/28	11/03	11/07	11/10	11/13	11/16	11/20	11/24	11/30
16	11/12	11/17	11/20	11/22	11/25	11/27	11/30	12/03	12/07
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	162	154	149	145	141	136	132	127	119
32	176	169	165	160	157	153	149	144	138
28	203	194	188	183	178	173	168	162	154
24	224	217	211	206	201	197	192	186	178
20	262	251	242	235	228	222	214	206	194
16	303	291	281	274	266	259	251	242	229

* 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/normal/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: BLACK RIVER PUMPS, AZ

COOP ID: 020808

Climate Division: AZ 7 NWS Call Sign: Elevation: 6,065 Feet Lat: 33° 29N Lon: 109° 45W

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	928	744	701	478	241	41	1	10	80	346	683	910	5163
60	773	604	546	332	126	10	0	1	24	210	533	755	3914
57	680	520	453	251	75	3	0	0	9	143	443	662	3239
55	618	464	393	201	50	1	0	0	4	106	385	600	2822
50	463	325	252	102	13	0	0	0	0	42	248	445	1890
32	39	12	7	0	0	0	0	0	0	0	7	32	97

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	134	192	329	512	797	1072	1231	1176	976	682	314	146	7561
55	0	0	3	23	134	383	518	463	290	75	3	0	1892
57	0	0	1	13	97	325	456	401	235	50	1	0	1579
60	0	0	0	4	55	241	363	309	160	24	0	0	1156
65	0	0	0	0	15	123	209	163	67	4	0	0	581
70	0	0	0	0	2	44	72	57	17	0	0	0	192

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	27	61	134	296	560	839	991	936	745	456	131	30	27	88	222	518	1078	1917	2908	3844	4589	5045	5176	5206
45	4	14	54	171	406	689	836	781	595	312	52	1	4	18	72	243	649	1338	2174	2955	3550	3862	3914	3915
50	0	0	13	75	259	539	681	626	445	185	12	0	0	0	13	88	347	886	1567	2193	2638	2823	2835	2835
55	0	0	0	21	130	390	526	471	300	83	0	0	0	0	0	21	151	541	1067	1538	1838	1921	1921	1921
60	0	0	0	0	47	248	371	316	163	25	0	0	0	0	0	0	47	295	666	982	1145	1170	1170	1170
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	52	87	145	258	397	537	638	610	474	317	141	63	52	139	284	542	939	1476	2114	2724	3198	3515	3656	3719

(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.
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