

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: SAFFORD AGRICULTRL CTR, AZ

1971-2000

COOP ID: 027390

Climate Division: AZ 7

NWS Call Sign: E74

Elevation: 2,954 Feet Lat: 32°49N

Lon: 109°41W

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	60.2	29.0	44.6	79+	1999	26	48.5	1986	9+	1964	12	41.9	1973	633	0	.0	.0	28.3	.0	22.0	.0
Feb	65.3	32.7	49.0	87	1957	15	54.3	1996	9	1955	5	44.5	1974	449	0	.0	.0	27.1	.2	14.4	.0
Mar	71.2	37.7	54.5	92+	1989	12	60.8	1972	16	1965	4	49.6	1973	334	7	.0	.2	30.7	.0	6.1	.0
Apr	79.6	43.1	61.4	100	2000	28	67.7	1989	26+	1977	4	55.2	1975	159	48	@	2.9	29.9	.0	1.8	.0
May	88.7	51.5	70.1	108	2000	30	76.2	2000	28	1967	1	65.7	1975	29	188	1.5	15.0	31.0	.0	@	.0
Jun	98.3	60.7	79.5	114	1994	30	84.5	1994	39	1955	3	75.7	1991	0	435	13.4	27.8	30.0	.0	.0	.0
Jul	98.4	67.9	83.2	113	1995	29	86.6	1971	48+	1954	10	80.2	1986	0	562	14.4	29.0	31.0	.0	.0	.0
Aug	96.1	66.4	81.3	108+	1995	6	84.3	1995	47	1956	31	78.3	1990	0	504	7.2	28.0	31.0	.0	.0	.0
Sep	92.1	59.3	75.7	107+	1950	1	80.5	1997	37	1965	30	72.8	1985	1	322	2.3	21.6	30.0	.0	.0	.0
Oct	82.1	47.2	64.7	100+	2000	2	68.3	1988	23	1971	30	60.6	1976	85	75	.1	6.3	30.9	.0	.9	.0
Nov	69.2	34.9	52.1	89	2001	4	57.6	1999	15+	1992	26	47.4	2000	390	1	.0	.0	29.6	.0	9.9	.0
Dec	60.2	28.6	44.4	78+	1980	28	48.8	1980	7	1974	24	40.7	1974	638	0	.0	.0	27.9	.0	23.2	.0
Ann	80.1	46.6	63.4	114	Jun 1994	30	86.6	Jul 1971	7	Dec 1974	24	40.7	Dec 1974	2718	2142	38.9	130.8	357.4	.2	78.3	.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

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

075-A

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No. 20

1971-2000

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Station: SAFFORD AGRICULTRL CTR, AZ

COOP ID: 027390

Climate Division: AZ 7

NWS Call Sign: E74

Elevation: 2,954 Feet Lat: 32°49N

Lon: 109°41W

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	.74	.46	1.42	1979	18	3.10	1993	.00+	1999	5.0	2.3	.1	.1	.00	.03	.12	.23	.35	.50	.67	.90	1.22	1.77	2.33
Feb	.78	.69	1.23	1988	5	2.64	1980	.00+	1999	4.8	2.3	.4	.1	.00	.00	.08	.21	.35	.51	.71	.96	1.32	1.92	2.52
Mar	.61	.41	.97	1951	27	1.71	1991	.00+	1996	4.5	2.1	.2	.0	.00	.00	.08	.19	.30	.43	.57	.76	1.02	1.43	1.85
Apr	.22	.10	.91	2001	6	1.43	1988	.00+	2000	2.1	.6	.1	.0	.00	.00	.00	.03	.07	.12	.18	.27	.39	.60	.81
May	.27	.10	.77	1984	16	2.28	1992	.00+	2000	2.2	.8	.1	.0	.00	.00	.00	.00	.02	.10	.19	.32	.50	.80	1.10
Jun	.31	.21	1.12	1996	30	1.42	1996	.00+	1998	2.2	1.0	.1	@	.00	.00	.00	.02	.07	.13	.22	.35	.53	.86	1.20
Jul	1.45	1.40	1.76	1966	29	3.24+	1984	.25	1995	7.8	3.8	.8	.1	.33	.47	.68	.87	1.06	1.26	1.49	1.76	2.11	2.67	3.20
Aug	1.72	1.62	2.25	1963	31	4.34	1992	.06	1975	8.0	3.7	.9	.3	.26	.40	.65	.89	1.14	1.41	1.72	2.10	2.62	3.45	4.26
Sep	1.12	.80	2.13	1983	30	3.77	1983	.03	2000	5.3	2.5	.6	.2	.06	.13	.26	.41	.59	.79	1.04	1.35	1.80	2.56	3.32
Oct	1.10	.75	2.51	1983	2	4.39	2000	.00+	1995	4.4	2.5	.7	.2	.00	.00	.13	.29	.47	.70	.97	1.33	1.83	2.71	3.59
Nov	.56	.38	1.52	1994	12	2.39	1986	.00+	1999	3.5	1.5	.2	.1	.00	.04	.13	.21	.31	.41	.53	.69	.90	1.25	1.60
Dec	.91	.46	1.83	1991	21	4.14	1991	.00+	1999	5.1	2.4	.4	.1	.00	.00	.05	.15	.30	.49	.73	1.06	1.55	2.39	3.26
Ann	9.79	9.40	2.51	Oct 1983	2	4.39	Oct 2000	.00+	May 2000	54.9	25.5	4.6	1.2	5.49	6.24	7.25	8.05	8.77	9.49	10.24	11.09	12.14	13.71	15.09

+ 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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Station: SAFFORD AGRICULTRL CTR, AZ

COOP ID: 027390

Climate Division: AZ 7

NWS Call Sign: E74

Elevation: 2,954 Feet

Lat: 32° 49N

Lon: 109° 41W

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	.3	.0	#	0	3.0	1997	14	5.0	1997	1	1979	29	#	1979	.3	.2	@	.0	.0	@	.0	.0	.0
Feb	.2	.0	#	0	2.0	1971	21	2.5	1971	1	1971	20	#	1971	.2	.1	.0	.0	.0	@	.0	.0	.0
Mar	.0	.0	0	0	.5	1976	4	.5	1976	#	1976	4	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Apr	.1	.0	#	0	2.0	1976	16	2.5	1976	2	1976	16	#	1976	.1	.0	.0	.0	.0	@	.0	.0	.0
May	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	1997	.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	#	1976	13	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.2	.0	0	0	1.5	1987	25	2.5	1990	#+	1985	12	0	0	.3	.1	.0	.0	.0	.0	.0	.0	.0
Ann	.8	.0	N/A	N/A	3.0	Jan 1997	14	5.0	Jan 1997	2	Apr 1976	16	#+	May 1997	.9	.4	@	.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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No. 20 1971-2000

Station: SAFFORD AGRICULTRL CTR, AZ

COOP ID: 027390

Climate Division: AZ 7

NWS Call Sign: E74

Elevation: 2,954 Feet

Lat: 32° 49N

Lon: 109° 41W

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	5/08	5/02	4/28	4/24	4/21	4/17	4/14	4/09	4/04
32	4/25	4/18	4/12	4/08	4/03	3/30	3/25	3/20	3/12
28	4/09	4/01	3/26	3/21	3/16	3/11	3/06	2/28	2/19
24	3/13	3/04	2/25	2/19	2/14	2/09	2/03	1/27	1/18
20	2/26	2/13	2/04	1/26	1/18	1/10	1/01	12/21	11/29
16	1/22	1/08	12/27	12/14	11/23	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	10/17	10/20	10/23	10/25	10/28	10/31	11/03	11/08
32	10/24	10/28	10/31	11/02	11/05	11/07	11/10	11/13	11/17
28	11/02	11/06	11/09	11/12	11/15	11/17	11/20	11/23	11/28
24	11/12	11/18	11/21	11/25	11/28	12/01	12/04	12/08	12/14
20	11/22	12/01	12/07	12/13	12/19	12/24	12/30	1/07	1/22
16	12/07	12/18	12/29	1/09	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	210	202	196	192	187	183	178	172	165
32	239	231	225	220	215	210	205	198	190
28	274	263	256	249	243	237	231	223	212
24	317	307	299	292	286	280	273	266	255
20	>365	>365	347	334	325	318	311	303	292
16	>365	>365	>365	>365	>365	>365	>365	>365	344

* 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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1971-2000**

Station: SAFFORD AGRICULTRL CTR, AZ

COOP ID: 027390

Climate Division: AZ 7 NWS Call Sign: E74 Elevation: 2,954 Feet Lat: 32°49N Lon: 109°41W

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	633	449	334	159	29	0	0	0	1	85	390	638	2718
60	478	311	201	77	6	0	0	0	0	28	250	483	1834
57	385	231	137	43	2	0	0	0	0	12	177	390	1377
55	323	182	102	27	1	0	0	0	0	6	134	329	1104
50	177	83	37	7	0	0	0	0	0	1	55	184	544
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	390	475	696	880	1182	1425	1585	1527	1310	1013	601	385	11469
55	0	13	85	217	469	735	872	814	620	305	45	1	4176
57	0	6	59	173	409	675	810	752	560	249	28	0	3721
60	0	2	29	117	320	585	717	659	470	173	11	0	3083
65	0	0	7	48	188	435	562	504	322	75	1	0	2142
70	0	0	1	14	88	289	407	349	184	22	0	0	1354

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	169	279	457	649	944	1192	1345	1287	1083	777	378	173	169	448	905	1554	2498	3690	5035	6322	7405	8182	8560	8733
45	71	154	310	502	789	1042	1190	1132	933	622	243	68	71	225	535	1037	1826	2868	4058	5190	6123	6745	6988	7056
50	12	63	181	357	634	892	1035	977	783	472	130	13	12	75	256	613	1247	2139	3174	4151	4934	5406	5536	5549
55	0	14	83	224	482	742	880	822	633	325	46	0	0	14	97	321	803	1545	2425	3247	3880	4205	4251	4251
60	0	0	24	115	330	592	725	667	483	191	10	0	0	0	24	139	469	1061	1786	2453	2936	3127	3137	3137
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	167	233	333	450	592	708	844	822	680	504	296	173	167	400	733	1183	1775	2483	3327	4149	4829	5333	5629	5802

(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