

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: CHANDLER HEIGHTS, AZ

1971-2000

COOP ID: 021514

Climate Division: AZ 6

NWS Call Sign:

Elevation: 1,425 Feet Lat: 33° 12N

Lon: 111° 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	64.1	39.2	51.7	86	1971	20	57.1	1986	14	1971	6	47.6	1973	415	0	.0	.0	30.4	.0	5.3	.0
Feb	68.7	42.2	55.5	90	1957	15	60.0	1996	20	1985	1	51.0	1975	272	4	.0	.0	27.8	@	2.1	.0
Mar	74.6	45.9	60.3	97+	1988	26	67.2	1972	23	1971	2	54.0	1973	197	50	.0	1.1	31.0	.0	.6	.0
Apr	83.5	51.3	67.4	102+	1992	29	75.0	1989	32+	1975	3	58.5	1975	81	153	.4	8.8	30.0	.0	.1	.0
May	92.5	59.9	76.2	112	1983	29	82.7	1997	34	1959	5	70.8	1975	11	359	5.4	22.8	31.0	.0	.0	.0
Jun	101.9	69.1	85.5	117	1990	26	89.2	1996	50	1950	8	81.6	1991	0	614	22.1	29.3	30.0	.0	.0	.0
Jul	103.8	76.0	89.9	116+	1995	28	92.9	1996	59	1974	11	87.6	1976	0	771	27.0	30.9	31.0	.0	.0	.0
Aug	101.2	74.5	87.9	115	1972	2	91.7	1998	54	1975	18	84.2	1978	0	708	23.2	30.5	31.0	.0	.0	.0
Sep	96.5	68.8	82.7	111	1948	3	87.3	1979	47+	1985	12	76.5	1985	0	529	11.7	27.7	30.0	.0	.0	.0
Oct	85.6	57.0	71.3	107+	1980	3	76.9	1988	29	1971	30	65.6	1971	30	226	1.2	12.9	31.0	.0	.1	.0
Nov	71.9	44.5	58.2	93	1962	1	64.3	1999	22	1956	20	52.2	2000	228	24	.0	.3	30.0	.0	1.3	.0
Dec	63.4	38.9	51.2	83+	1981	10	55.5	1980	19	1974	24	45.9	1974	429	0	.0	.0	30.3	.0	5.2	.0
Ann	84.0	55.6	69.8	117	Jun 1990	26	92.9	Jul 1996	14	Jan 1971	6	45.9	Dec 1974	1663	3438	91.0	164.3	363.5	@	14.7	.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

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Station: CHANDLER HEIGHTS, AZ

COOP ID: 021514

Climate Division: AZ 6

NWS Call Sign:

Elevation: 1,425 Feet Lat: 33°12N

Lon: 111°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	.95	.76	1.20	1995	4	4.28	1993	.00+	2000	3.4	2.3	.7	.1	.00	.00	.00	.18	.37	.59	.85	1.18	1.65	2.44	3.22
Feb	1.08	.80	1.75	1987	24	4.01	1998	.00+	2000	3.5	2.3	.7	.2	.00	.00	.00	.34	.58	.82	1.09	1.41	1.84	2.55	3.21
Mar	1.27	1.30	1.85	2000	6	3.68	1983	.00+	1984	3.8	2.7	.9	.2	.00	.00	.25	.46	.68	.93	1.22	1.59	2.08	2.91	3.72
Apr	.38	.15	1.44	1988	21	2.82	1988	.00+	2000	1.1	.8	.2	.1	.00	.00	.00	.00	.00	.10	.24	.42	.68	1.13	1.59
May	.19	.01	.82	1992	5	1.40	1992	.00+	2000	.9	.5	.1	.0	.00	.00	.00	.00	.00	.00	.05	.15	.31	.61	.93
Jun	.05	.00	.91	1949	18	.30	1972	.00+	1999	.4	.2	.0	.0	.00	.00	.00	.00	.00	.00	.00	.00	.06	.18	.30
Jul	.89	.51	2.01	1992	24	2.56	1986	.00	2000	3.2	1.8	.4	.2	.01	.06	.16	.28	.42	.59	.79	1.06	1.45	2.11	2.78
Aug	1.31	.87	2.43	1992	23	4.77	1992	.00	1996	3.9	2.6	.8	.3	.01	.06	.19	.36	.56	.82	1.13	1.55	2.16	3.22	4.30
Sep	.76	.47	2.05	1966	13	3.57	1984	.00+	2000	2.4	1.5	.5	.2	.00	.00	.00	.12	.27	.44	.66	.93	1.32	2.00	2.68
Oct	.77	.50	1.57	1959	30	3.79	1972	.00+	1999	2.7	1.8	.6	.1	.00	.00	.00	.16	.32	.49	.70	.96	1.32	1.94	2.54
Nov	.95	.77	2.10	1995	2	3.53	1993	.00+	1999	2.2	1.8	.8	.2	.00	.00	.12	.26	.43	.62	.86	1.16	1.59	2.33	3.07
Dec	1.08	.67	2.10	1992	28	4.48	1992	.00+	2000	2.9	2.0	.8	.2	.00	.00	.00	.13	.41	.70	1.01	1.39	1.91	2.77	3.59
Ann	9.68	8.64	2.43	Aug 1992	23	4.77	Aug 1992	.00+	Dec 2000	30.4	20.3	6.5	1.8	4.51	5.35	6.52	7.46	8.33	9.21	10.15	11.22	12.56	14.59	16.42

+ 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: CHANDLER HEIGHTS, AZ

COOP ID: 021514

Climate Division: AZ 6

NWS Call Sign:

Elevation: 1,425 Feet

Lat: 33° 12N

Lon: 111° 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	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Feb	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Mar	.0	.0	0	0	.0	0	0	.0	0	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	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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Ann	.0	.0	N/A	N/A	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.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

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COOP ID: 021514

Climate Division: AZ 6

NWS Call Sign:

Elevation: 1,425 Feet

Lat: 33° 12N

Lon: 111° 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	4/13	4/03	3/27	3/20	3/15	3/09	3/03	2/23	2/13
32	3/19	3/08	2/27	2/21	2/14	2/08	2/01	1/24	1/12
28	2/21	2/09	1/31	1/23	1/15	1/06	12/24	0/00	0/00
24	1/29	1/14	1/01	12/15	0/00	0/00	0/00	0/00	0/00
20	12/28	0/00	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	11/01	11/07	11/11	11/14	11/18	11/21	11/25	11/29	12/05
32	11/12	11/18	11/22	11/26	11/29	12/03	12/06	12/11	12/17
28	12/04	12/11	12/16	12/21	12/26	12/31	1/09	0/00	0/00
24	12/13	12/23	1/01	1/16	0/00	0/00	0/00	0/00	0/00
20	1/17	0/00	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	284	271	262	255	247	240	232	223	211
32	325	312	303	295	287	280	272	262	249
28	>365	>365	>365	>365	359	339	327	315	302
24	>365	>365	>365	>365	>365	>365	>365	363	325
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

Complete documentation available from:

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Station: CHANDLER HEIGHTS, AZ

COOP ID: 021514

Climate Division: AZ 6 NWS Call Sign: Elevation: 1,425 Feet Lat: 33° 12N Lon: 111° 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	415	272	197	81	11	0	0	0	0	30	228	429	1663
60	266	151	107	33	2	0	0	0	0	7	123	280	969
57	184	95	65	17	0	0	0	0	0	3	76	197	637
55	138	65	44	11	0	0	0	0	0	1	53	149	461
50	54	16	14	2	0	0	0	0	0	0	15	61	162
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	608	656	876	1062	1371	1604	1794	1731	1519	1220	786	594	13821
55	33	77	207	382	658	914	1081	1018	829	508	148	29	5884
57	18	51	166	329	597	854	1019	956	769	447	112	16	5334
60	6	23	115	255	506	764	926	863	679	359	69	6	4571
65	0	4	50	153	359	614	771	708	529	226	24	0	3438
70	0	0	17	78	229	464	616	553	381	121	5	0	2464

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	386	475	646	841	1146	1381	1556	1503	1300	995	577	380	386	861	1507	2348	3494	4875	6431	7934	9234	10229	10806	11186
45	241	333	491	691	991	1231	1401	1348	1150	840	429	235	241	574	1065	1756	2747	3978	5379	6727	7877	8717	9146	9381
50	117	198	340	541	836	1081	1246	1193	1000	686	288	110	117	315	655	1196	2032	3113	4359	5552	6552	7238	7526	7636
55	38	93	202	396	681	931	1091	1038	850	533	171	38	38	131	333	729	1410	2341	3432	4470	5320	5853	6024	6062
60	4	28	98	256	526	781	936	883	700	383	79	4	4	32	130	386	912	1693	2629	3512	4212	4595	4674	4678
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	247	304	411	537	714	834	963	942	826	642	370	240	247	551	962	1499	2213	3047	4010	4952	5778	6420	6790	7030

(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