

Climatology of the United States

No. 20

1971-2000

Station: KEAMS CANYON, AZ

COOP ID: 024586

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,205 Feet Lat: 35°49N

Lon: 110°12W

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	44.4	16.6	30.5	64+	1971	21	37.5	1986	-25	1979	30	25.4	1992	1070	0	.0	.0	8.5	2.2	30.0	1.0
Feb	49.9	21.3	35.6	71	1986	26	40.9	1995	-19	1989	6	30.7	1985	824	0	.0	.0	14.7	1.0	26.3	.6
Mar	56.8	25.9	41.4	78+	1989	11	47.7	1972	-5+	1966	4	36.7	1987	733	0	.0	.0	24.4	.1	26.2	@
Apr	65.5	31.1	48.3	89	1987	27	53.7	1989	0	1975	5	42.7	1975	500	0	.0	.0	27.9	.0	17.5	@
May	74.4	38.3	56.4	92+	1958	28	62.2	1984	12+	1975	9	52.8	1995	278	9	.0	.7	30.8	.0	5.5	.0
Jun	86.4	46.6	66.5	101	1956	27	71.3	1994	26	1968	12	62.1	1982	58	103	.1	8.5	30.0	.0	.4	.0
Jul	90.1	55.0	72.6	104+	1976	15	75.7	1971	34+	1978	13	69.5	1993	1	235	.7	16.0	31.0	.0	.0	.0
Aug	87.1	54.7	70.9	100+	1973	11	74.5	1994	34	1968	31	67.5	1980	5	188	.1	6.9	31.0	.0	.0	.0
Sep	80.5	47.1	63.8	98	1971	12	67.5	1984	20	1970	16	59.4	1985	90	54	.0	1.9	30.0	.0	.7	.0
Oct	68.8	35.5	52.2	90	1978	1	57.0	1988	10+	1971	31	45.9	1984	402	3	.0	@	29.8	.0	10.0	.0
Nov	54.6	25.5	40.1	76	1983	3	45.5	1995	-4	1976	29	34.7	2000	748	0	.0	.0	20.5	.2	25.4	.1
Dec	45.4	17.9	31.7	68	1955	21	39.3	1980	-18+	1990	24	24.3	1990	1034	0	.0	.0	10.3	2.0	29.9	.9
Ann	67.0	34.6	50.8	104+	Jul 1976	15	75.7	Jul 1971	-25	Jan 1979	30	24.3	Dec 1990	5743	592	.9	34.0	288.9	5.5	171.9	2.6

+ 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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**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: KEAMS CANYON, AZ

COOP ID: 024586

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,205 Feet Lat: 35°49N

Lon: 110°12W

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	.80	.46	1.03	1993	19	2.99	1993	.00+	1984	3.9	2.2	.4	@	.00	.01	.08	.18	.30	.46	.67	.94	1.34	2.05	2.77
Feb	.97	.83	1.50	1993	28	2.75	1993	.00+	1991	3.9	2.1	.3	.1	.00	.17	.36	.52	.67	.83	1.00	1.21	1.48	1.93	2.35
Mar	1.00	1.07	8.06	1964	24	3.71	1973	.00+	1997	4.3	2.6	.3	.1	.00	.00	.12	.26	.43	.63	.88	1.21	1.67	2.47	3.27
Apr	.53	.36	1.68	1988	17	2.73	1985	.00+	1993	3.3	1.6	.2	@	.00	.00	.06	.13	.22	.33	.46	.64	.89	1.32	1.76
May	.41	.24	.84	1982	12	2.37	1992	.00+	1995	2.6	1.2	.2	.0	.00	.00	.01	.06	.13	.21	.33	.48	.71	1.10	1.51
Jun	.23	.10	1.25	1955	13	1.40	1979	.00+	1995	1.3	.5	@	.0	.00	.00	.00	.01	.05	.11	.18	.27	.40	.62	.85
Jul	1.26	1.16	1.55	1976	25	3.95	1984	.00	1993	4.1	2.5	.5	.1	.06	.17	.36	.54	.74	.96	1.22	1.55	1.99	2.73	3.45
Aug	1.57	1.16	3.05	1972	28	4.46	1984	.00	1974	3.7	2.4	.7	.2	.14	.32	.58	.81	1.04	1.30	1.59	1.94	2.41	3.17	3.90
Sep	.82	.73	1.68	1970	5	2.73	1983	.00+	1994	4.2	2.5	.5	@	.00	.00	.25	.42	.56	.71	.87	1.06	1.31	1.69	2.05
Oct	1.15	1.00	1.88	1981	2	4.67	1972	.00+	1999	3.9	2.6	.8	.2	.00	.06	.23	.40	.59	.81	1.08	1.41	1.88	2.66	3.44
Nov	.66	.65	1.20	1988	15	2.75	1978	.00+	2000	3.6	2.2	.5	.1	.00	.00	.06	.19	.32	.47	.63	.84	1.12	1.57	2.04
Dec	.76	.48	1.50	1987	12	2.35	1991	.00	2000	3.0	2.0	.3	.1	.03	.09	.20	.31	.43	.57	.73	.93	1.21	1.67	2.12
Ann	10.16	9.76	8.06	Mar 1964	24	4.67	Oct 1972	.00+	Dec 2000	41.8	24.4	4.7	.9	5.93	6.68	7.69	8.47	9.18	9.88	10.61	11.43	12.45	13.95	15.28

+ 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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151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: KEAMS CANYON, AZ

COOP ID: 024586

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,205 Feet

Lat: 35° 49N

Lon: 110° 12W

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	2.1	.0	1	#	5.0	1973	26	8.0+	1975	6	1979	31	3	1980	.6	.4	.2	.1	.0	.8	.4	.2	.0
Feb	3.6	.5	1	#	6.0	1990	18	16.5	1990	12	1993	28	4	1982	1.1	.7	.5	.2	.0	.4	.1	.0	.0
Mar	1.3	.3	#	0	4.0	1973	23	7.7	1973	12	1993	1	1	1993	.7	.4	.1	.0	.0	.3	.1	.0	.0
Apr	.5	.0	#	0	8.0	1988	17	8.0	1988	4	1977	2	#	1977	.1	.1	.1	.1	.0	.0	.0	.0	.0
May	#	.0	0	0	#	1978	5	#+	1978	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	.2	.0	#	0	3.0	2000	31	3.0	2000	6	1991	30	#+	1991	.1	.1	.1	.0	.0	.0	.0	.0	.0
Nov	.5	.0	#	0	3.8	1972	12	3.8	1972	5	1985	12	#+	1985	.3	.2	.1	.0	.0	.2	.0	.0	.0
Dec	1.6	.0	#	#	5.0	1974	23	7.0	1978	8	1971	13	2+	1992	.6	.4	.2	.1	.0	1.4	.5	.1	.0
Ann	9.8	.8	N/A	N/A	8.0	Apr 1988	17	16.5	Feb 1990	12+	Mar 1993	1	4	Feb 1982	3.5	2.3	1.3	.5	.0	3.1	1.1	.3	.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: KEAMS CANYON, AZ

COOP ID: 024586

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,205 Feet

Lat: 35° 49N

Lon: 110° 12W

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	6/24	6/18	6/13	6/09	6/06	6/02	5/30	5/25	5/19
32	6/13	6/06	6/02	5/29	5/25	5/21	5/17	5/12	5/06
28	5/24	5/18	5/14	5/11	5/08	5/05	5/02	4/28	4/23
24	5/16	5/08	5/03	4/28	4/23	4/19	4/14	4/09	4/01
20	5/05	4/26	4/19	4/14	4/09	4/04	3/29	3/23	3/14
16	4/16	4/06	3/29	3/23	3/16	3/10	3/04	2/24	2/13
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	9/14	9/19	9/22	9/25	9/28	9/30	10/03	10/06	10/11
32	9/19	9/24	9/28	10/02	10/05	10/08	10/12	10/16	10/21
28	10/02	10/08	10/12	10/15	10/19	10/22	10/26	10/30	11/05
24	10/11	10/16	10/20	10/24	10/27	10/30	11/02	11/06	11/11
20	10/23	10/28	10/31	11/03	11/05	11/07	11/10	11/13	11/18
16	11/01	11/06	11/11	11/14	11/18	11/21	11/25	11/29	12/05
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	135	127	122	117	113	109	104	99	91
32	159	150	143	138	132	127	122	115	106
28	188	179	173	168	163	158	153	147	138
24	214	204	197	191	185	180	174	167	157
20	240	229	222	215	209	203	197	190	179
16	286	272	262	254	246	238	229	219	206

* 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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COOP ID: 024586

Climate Division: AZ 2 NWS Call Sign: Elevation: 6,205 Feet Lat: 35° 49N Lon: 110° 12W

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	1070	824	733	500	278	58	1	5	90	402	748	1034	5743
60	915	684	578	355	154	16	0	0	30	260	598	879	4469
57	822	600	486	273	97	6	0	0	12	186	508	786	3776
55	760	544	426	223	68	3	0	0	6	143	449	724	3346
50	605	404	284	121	21	0	0	0	1	63	304	569	2372
32	124	35	12	0	0	0	0	0	0	0	14	120	305

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	78	136	302	490	755	1035	1257	1206	954	623	255	108	7199
55	0	0	3	23	110	348	544	493	270	54	0	0	1845
57	0	0	1	13	77	291	482	431	216	35	0	0	1546
60	0	0	0	5	41	211	389	338	144	15	0	0	1143
65	0	0	0	0	9	103	235	188	54	3	0	0	592
70	0	0	0	0	1	35	98	68	11	0	0	0	213

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	1	32	119	269	519	785	1009	947	706	386	79	5	1	33	152	421	940	1725	2734	3681	4387	4773	4852	4857
45	0	7	43	144	369	635	854	792	556	251	23	0	0	7	50	194	563	1198	2052	2844	3400	3651	3674	3674
50	0	0	9	56	228	485	699	637	409	136	5	0	0	0	9	65	293	778	1477	2114	2523	2659	2664	2664
55	0	0	0	13	114	337	544	482	264	48	0	0	0	0	0	13	127	464	1008	1490	1754	1802	1802	1802
60	0	0	0	0	35	198	389	327	132	7	0	0	0	0	0	0	35	233	622	949	1081	1088	1088	1088
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	22	57	137	237	389	521	637	615	463	297	95	24	22	79	216	453	842	1363	2000	2615	3078	3375	3470	3494

(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