

Climatology of the United States

No. 20 1971-2000

Station: SEDONA RANGER STN, AZ

COOP ID: 027708

Climate Division: AZ 2

NWS Call Sign:

Elevation: 4,220 Feet

Lat: 34° 52N

Lon: 111° 46W

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	56.5	30.5	43.5	77+	1971	19	51.5	1986	0	1962	14	36.3	1979	667	0	.0	.0	24.5	.1	19.7	.0
Feb	60.6	33.3	47.0	88	1963	3	54.9	1991	10+	1989	6	41.8	1975	506	0	.0	.0	24.4	.2	13.4	.0
Mar	65.1	36.8	51.0	86	1989	10	56.7	1997	9	1971	2	40.6	1973	445	9	.0	.0	28.9	.0	8.8	.0
Apr	73.4	41.9	57.7	93+	1996	27	65.8	1989	18	1972	14	48.0	1975	261	39	.0	.6	29.3	.0	4.0	.0
May	82.2	49.3	65.8	101+	2000	29	73.0	1984	24	1975	6	59.5	1971	100	123	.2	5.0	31.0	.0	.4	.0
Jun	93.3	57.9	75.6	110+	1990	26	80.1	1985	36+	1971	3	70.8	1998	7	325	6.2	21.7	30.0	.0	.0	.0
Jul	96.6	64.0	80.3	110+	1995	28	82.9	1989	43	1968	1	77.2	1986	0	475	10.0	28.0	31.0	.0	.0	.0
Aug	94.2	63.4	78.8	110	1993	1	82.2	1998	45+	1968	22	75.1	1974	0	426	4.8	25.5	31.0	.0	.0	.0
Sep	88.1	57.7	72.9	104+	1950	1	77.0	1983	28	1968	29	67.0	1986	10	247	.9	13.2	30.0	.0	.0	.0
Oct	77.2	47.9	62.6	100	1980	4	68.6	1988	23	1997	25	57.6	1971	142	66	@	2.5	30.9	.0	.9	.0
Nov	64.3	36.4	50.4	88	1965	1	58.9	1999	11	1970	30	44.1	2000	443	4	.0	.0	28.2	.0	9.3	.0
Dec	56.6	30.7	43.7	77+	1950	10	49.2	1980	0	1968	22	36.1	1974	662	0	.0	.0	25.3	.1	19.0	.0
Ann	75.7	45.8	60.8	110+	1995	28	82.9	1989	0+	1968	22	36.1	1974	3243	1714	22.1	96.5	344.5	.4	75.5	.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

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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	2.10	1.87	2.03	1957	27	10.17	1993	.00	1972	5.9	4.0	1.4	.7	.01	.08	.27	.53	.85	1.25	1.77	2.47	3.48	5.26	7.09
Feb	2.16	1.66	2.16	1980	15	7.16	1980	.00+	1989	5.5	3.9	1.7	.5	.00	.19	.55	.89	1.24	1.64	2.11	2.68	3.46	4.76	6.03
Mar	2.47	1.82	2.24	1970	1	7.34	1973	.00+	1997	6.9	5.3	1.9	.3	.00	.16	.53	.91	1.32	1.79	2.35	3.04	4.01	5.63	7.24
Apr	1.16	1.09	1.87	1988	17	5.01	1988	.00+	1996	3.9	2.4	.9	.1	.00	.00	.13	.29	.48	.72	1.02	1.40	1.95	2.90	3.86
May	.71	.61	1.02	1965	13	3.80	1992	.00+	1996	3.8	2.1	.4	.0	.00	.00	.13	.25	.37	.51	.68	.89	1.18	1.66	2.13
Jun	.36	.12	1.36	1955	13	2.39	1972	.00+	1998	2.2	1.0	.2	@	.00	.00	.00	.00	.00	.09	.21	.39	.64	1.08	1.54
Jul	1.65	1.47	2.30	1998	22	3.89	1999	.02	1993	7.7	3.4	1.0	.3	.12	.23	.44	.67	.92	1.21	1.56	2.01	2.62	3.65	4.67
Aug	1.90	1.70	2.88	1971	27	4.84	1971	.14	1975	8.6	4.4	1.1	.3	.36	.53	.81	1.07	1.33	1.61	1.93	2.31	2.82	3.64	4.41
Sep	1.94	1.93	5.50	1970	5	6.47	1983	.00+	2000	5.7	3.6	1.5	.4	.00	.11	.39	.69	1.01	1.38	1.83	2.39	3.17	4.49	5.79
Oct	1.67	1.05	2.11	1972	7	9.83	1972	.00+	1995	4.4	2.9	1.2	.4	.00	.07	.28	.53	.80	1.13	1.52	2.03	2.74	3.96	5.17
Nov	1.38	1.04	3.22	1978	11	5.26	1978	.00+	2000	3.5	2.2	.7	.3	.00	.00	.11	.32	.56	.85	1.21	1.68	2.35	3.48	4.64
Dec	1.51	.86	2.63	1967	19	6.20	1984	.00+	2000	4.0	2.7	.9	.3	.00	.03	.16	.35	.59	.88	1.27	1.78	2.52	3.84	5.18
Ann	19.01	17.79	5.50	Sep 1970	5	10.17	Jan 1993	.00+	Dec 2000	62.1	37.9	12.9	3.6	10.50	11.99	13.98	15.56	16.99	18.41	19.91	21.60	23.69	26.81	29.57

+ 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

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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	.0	#	0	3.0	1992	6	3.0	1992	4	1990	3	#	1990	@	@	@	.0	.0	.0	.0	.0	.0
Feb	.6	.0	#	0	6.5	1997	28	8.5	1997	4	1990	2	#	1990	.2	.2	.1	.1	.0	.0	.0	.0	.0
Mar	.3	.0	#	0	3.0	1976	3	6.0	1976	6	1976	4	#+	1990	.1	.1	.1	.0	.0	.1	.1	@	.0
Apr	.4	.0	#	0	5.0	1997	2	8.0	1997	5	1983	13	#	1983	.1	.1	.1	@	.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	#	1974	29	#	1974	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	#	.0	#	0	#	1986	7	#+	1986	#	1979	20	#	1979	.0	.0	.0	.0	.0	.0	.0	.0	.0
Dec	.3	.0	#	0	4.3	1982	30	4.3	1982	#+	1988	27	#+	1988	.1	.1	@	.0	.0	.0	.0	.0	.0
Ann	1.8	.0	N/A	N/A	6.5	Feb 1997	28	8.5	Feb 1997	6	Mar 1976	4	#+	Mar 1990	.5	.5	.3	.1	.0	.1	.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

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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	5/23	5/16	5/10	5/06	5/01	4/27	4/22	4/17	4/09
32	5/15	5/06	4/29	4/24	4/18	4/13	4/07	4/01	3/22
28	4/24	4/13	4/06	3/31	3/25	3/19	3/12	3/05	2/23
24	4/01	3/19	3/09	3/01	2/22	2/14	2/06	1/28	1/15
20	3/16	2/28	2/17	2/07	1/28	1/18	1/06	12/22	0/00
16	3/01	2/13	1/31	1/18	12/31	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	10/10	10/15	10/19	10/22	10/25	10/28	10/31	11/03	11/08
32	10/17	10/23	10/27	10/31	11/03	11/06	11/10	11/14	11/20
28	10/31	11/05	11/09	11/12	11/15	11/18	11/21	11/25	11/30
24	11/06	11/14	11/19	11/24	11/28	12/02	12/07	12/12	12/20
20	11/19	11/29	12/06	12/13	12/19	12/26	1/02	1/12	0/00
16	12/07	12/24	1/07	1/23	2/17	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	208	197	189	182	176	169	163	155	144
32	232	221	212	205	198	191	184	175	163
28	270	258	249	242	235	228	220	212	200
24	325	309	298	288	278	269	259	248	231
20	>365	>365	363	335	320	307	295	282	264
16	>365	>365	>365	>365	>365	>365	>365	329	300

* 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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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
65	667	506	445	261	100	7	0	0	10	142	443	662	3243
60	512	372	308	163	43	1	0	0	1	67	307	507	2281
57	422	295	236	116	23	0	0	0	0	38	234	416	1780
55	365	246	194	88	14	0	0	0	0	24	190	359	1480
50	229	145	109	38	4	0	0	0	0	6	103	223	857
32	8	2	0	0	0	0	0	0	0	0	0	6	16

Cooling Degree Days (1)

Base	Cooling Degree Days (1)												
	Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
32	364	419	587	769	1046	1307	1498	1449	1228	947	551	368	10533
55	8	20	68	167	347	617	785	736	538	258	51	7	3602
57	3	13	47	134	294	557	723	674	478	210	34	3	3170
60	0	5	26	91	221	468	630	581	389	146	18	0	2575
65	0	0	9	39	123	325	475	426	247	66	4	0	1714
70	0	0	1	15	55	196	320	273	129	22	0	0	1011

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	149	227	352	539	808	1075	1261	1211	995	708	327	154	149	376	728	1267	2075	3150	4411	5622	6617	7325	7652	7806
45	59	120	218	394	653	925	1106	1056	845	555	200	57	59	179	397	791	1444	2369	3475	4531	5376	5931	6131	6188
50	14	48	111	261	498	775	951	901	695	407	101	14	14	62	173	434	932	1707	2658	3559	4254	4661	4762	4776
55	1	10	43	146	350	625	796	746	545	264	38	0	1	11	54	200	550	1175	1971	2717	3262	3526	3564	3564
60	0	0	7	64	210	475	641	591	396	145	8	0	0	0	7	71	281	756	1397	1988	2384	2529	2537	2537
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	129	171	252	367	527	666	784	772	642	448	229	126	129	300	552	919	1446	2112	2896	3668	4310	4758	4987	5113

(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 are 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.

- a. Temperature/ Precipitation Tables
 1. 1971-2000 Monthly Normals
 2. Cooperative Summary of the Day
 3. National Weather Service station records
 4. 1971-2000 serially complete daily data
- b. Degree Day Table
 1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
 2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data
- c. Snow Tables
 1. Snow Climatology
 2. Cooperative Summary of the Day
- d. 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