U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: SHOW LOW AP, AZ **COOP ID: 027855**

Climate Division: AZ 2 **NWS Call Sign: SOW** **Elevation: 6,411 Feet** **Lat: 34˚16N** **Lon: 110˚00W**

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	47.2	22.9	35.1	69	2000	15	41.6	1986	-25	1971	8	26.3	1992	928	0	.0	.0	10.9	2.7	27.7	.9
Feb	52.4	26.4	39.4	71+	1989	26	44.1	1996	-3+	1990	3	35.4	1998	718	0	.0	.0	15.8	1.0	24.1	.2
Mar	57.7	31.4	44.6	77	1989	10	51.1	1972	-7	1966	4	39.7	1973	634	0	.0	.0	23.3	.1	21.4	@
Apr	65.6	36.7	51.2	84	2000	27	58.2	1989	4	1975	3	45.3	1975	418	3	.0	.0	27.3	@	12.8	.0
May	74.4	44.7	59.6	100	1969	31	65.0	1984	14	1967	1	55.1	1995	201	31	.0	.4	30.8	.0	3.4	.0
Jun	84.6	53.2	68.9	98+	1990	28	74.5	1974	30	1974	1	65.4	1983	32	149	.0	5.3	30.0	.0	.1	.0
Jul	86.9	59.4	73.2	98+	1995	28	76.0	1971	38	1974	7	70.3	1987	0	254	.0	8.5	31.0	.0	.0	.0
Aug	83.9	57.7	70.8	95	1995	6	73.6	1995	37+	1975	27	67.6	1987	3	182	.0	2.4	31.0	.0	.0	.0
Sep	79.3	51.4	65.4	93	1979	6	68.7	1998	25	1968	24	62.0	1985	60	71	.0	.4	30.0	.0	.2	.0
Oct	68.8	40.1	54.5	86+	1979	6	58.6	1988	12	1975	25	48.8	1984	334	7	.0	.0	29.7	@	6.7	.0
Nov	56.2	29.9	43.1	77	1980	9	48.6	1999	-14	1976	28	36.6	2000	658	0	.0	.0	21.1	.3	20.5	.2
Dec	47.7	23.0	35.4	68	1995	5	42.7	1977	-22	1990	23	29.8	1990	920	0	.0	.0	12.5	2.5	27.4	.7
Ann	67.1	39.7	53.4	100	May 1969	31	76.0	Jul 1971	-25	Jan 1971	8	26.3	Jan 1992	4906	697	.0	17.0	293.4	6.6	144.3	2.0

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1965-2001

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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/Medians(1) Mean	Means/Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	1.32	1.06	1.81	1993	8	5.25	1993	.04	1972
Feb	1.37	1.02	2.07	1994	8	5.08	1980	.00+	1984
Mar	1.45	1.58	1.45	1989	26	3.62	1973	.00	1972
Apr	.68	.49	1.19	2001	6	2.15	1999	.00+	1989
May	.72	.36	1.37	1969	7	5.34	1992	.00+	2000
Jun	.46	.37	1.01	1980	30	2.25	1972	.00+	1998
Jul	2.18	1.96	1.22	1987	24	5.69	1985	.21	1993
Aug	3.30	3.07	2.12	1992	24	9.03	1988	.64	1973
Sep	1.78	1.63	2.32	1994	3	3.95	1971	.00	1973
Oct	1.76	1.48	2.38	1974	29	6.91	1972	.00+	1999
Nov	1.52	1.32	2.20	1978	12	6.75	1978	.00+	1999
Dec	1.59	1.01	2.23	1971	26	6.21	1971	.00+	1996
Ann	18.13	18.25	2.38	Oct 1974	29	9.03	Aug 1988	.00+	May 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	6.2	3.4	.7	.1
Feb	5.7	3.4	.7	.3
Mar	6.8	3.9	.8	.1
Apr	4.5	2.1	.3	.0
May	4.2	2.0	.3	.0
Jun	3.3	1.5	.2	@
Jul	11.1	5.7	1.1	.2
Aug	13.5	7.5	1.8	.5
Sep	7.2	4.2	.9	.4
Oct	5.6	3.5	1.1	.4
Nov	4.8	2.8	1.0	.3
Dec	5.2	3.3	1.0	.4
Ann	78.1	43.3	9.9	2.7

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.06	.12	.27	.44	.64	.89	1.19	1.57	2.13	3.08	4.04
Feb	.00	.18	.44	.66	.88	1.12	1.39	1.71	2.15	2.87	3.55
Mar	.06	.18	.39	.60	.83	1.09	1.40	1.78	2.31	3.20	4.06
Apr	.00	.04	.14	.24	.36	.49	.64	.84	1.11	1.56	2.01
May	.00	.00	.03	.10	.21	.36	.55	.82	1.21	1.92	2.64
Jun	.00	.00	.00	.09	.19	.30	.42	.58	.80	1.18	1.55
Jul	.52	.73	1.04	1.33	1.61	1.91	2.24	2.64	3.16	3.98	4.76
Aug	.93	1.25	1.72	2.13	2.54	2.96	3.42	3.97	4.68	5.80	6.85
Sep	.15	.35	.64	.90	1.17	1.46	1.79	2.20	2.74	3.61	4.45
Oct	.00	.07	.30	.56	.85	1.20	1.61	2.14	2.90	4.18	5.46
Nov	.00	.00	.28	.53	.79	1.09	1.45	1.90	2.50	3.52	4.52
Dec	.00	.00	.27	.52	.80	1.11	1.49	1.97	2.63	3.74	4.84
Ann	12.03	13.18	14.67	15.81	16.83	17.82	18.86	20.01	21.41	23.46	25.24

\+ 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: 1965-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	4.5	5.0	#	0
Feb	5.3	2.0	#	0
Mar	5.9	4.3	#	0
Apr	2.1	.0	#	0
May	#	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.6	.0	#	0
Nov	2.5	.5	#	0
Dec	5.6	2.5	#	0
Ann	26.5	14.3	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	8.0	1971	3	12.0	1979	11	1979	29	3	1992
Feb	13.0	1987	25	33.1	1987	10+	1979	2	2	1979
Mar	8.0	1973	14	31.0	1973	8	1971	2	1+	1998
Apr	8.0	1973	3	14.0	1999	8	1976	16	#	1999
May	#	1995	7	#+	1995	#	1982	12	#	2000
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	6.0	1971	17	7.0	1991	6	1991	30	#	1991
Nov	13.0	1993	13	14.0	1993	13	1993	13	1+	1993
Dec	10.0	1971	7	29.0	1971	15	1990	22	3+	1995
Ann	13.0+	Nov 1993	13	33.1	Feb 1987	15	Dec 1990	22	3+	Dec 1995

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.8	1.6	.9	.4	.0
Feb	1.6	1.5	.8	.4	@
Mar	2.0	1.9	.9	.4	.0
Apr	.7	.6	.3	.2	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.2	.2	.1	.1	.0
Nov	.9	.9	.3	.2	@
Dec	1.7	1.5	.8	.4	.1
Ann	8.9	8.2	4.1	2.1	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.9	2.2	1.3	.1
Feb	1.2	.6	.4	.1
Mar	1.4	.6	.2	.0
Apr	.4	.2	.1	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.1	@	.0
Nov	.9	.6	.4	.1
Dec	3.6	2.2	1.3	.2
Ann	11.5	6.5	3.7	.5

+ 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	6/15	6/10	6/06	6/02	5/30	5/27	5/24	5/20	5/14
32	5/31	5/25	5/20	5/17	5/13	5/10	5/06	5/01	4/25
28	5/18	5/12	5/08	5/04	5/01	4/28	4/24	4/20	4/14
24	5/06	4/29	4/23	4/19	4/15	4/10	4/06	3/31	3/24
20	4/17	4/08	4/02	3/28	3/23	3/18	3/13	3/07	2/26
16	4/05	3/26	3/18	3/12	3/06	2/28	2/22	2/15	2/04

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	9/20	9/25	9/28	10/01	10/03	10/06	10/09	10/12	10/17
32	9/26	10/02	10/06	10/09	10/13	10/16	10/20	10/24	10/30
28	10/06	10/11	10/15	10/18	10/21	10/25	10/28	11/01	11/06
24	10/16	10/22	10/25	10/29	11/01	11/04	11/07	11/11	11/16
20	10/27	11/01	11/04	11/07	11/10	11/13	11/16	11/20	11/25
16	11/04	11/10	11/15	11/18	11/22	11/25	11/29	12/04	12/10

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	147	140	134	130	126	121	117	111	104
32	176	168	162	157	152	147	142	136	128
28	196	188	182	177	173	168	163	158	150
24	227	218	211	205	199	194	188	181	172
20	258	249	242	237	231	226	221	214	205
16	299	286	276	268	260	252	244	234	221

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	928	718	634	418	201	32	0	3	60	334	658	920	4906
60	773	578	480	280	102	7	0	0	16	204	508	765	3713
57	680	494	391	207	61	2	0	0	5	140	419	672	3071
55	618	438	333	165	41	1	0	0	2	105	361	610	2674
50	467	299	203	82	11	0	0	0	0	43	227	455	1787
32	70	10	4	0	0	0	0	0	0	0	5	61	150

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	165	216	393	575	853	1107	1276	1202	1001	697	337	164	7986
55	0	0	9	50	180	418	563	489	314	88	3	0	2114
57	0	0	5	32	139	359	501	427	257	61	2	0	1783
60	0	0	1	15	87	274	408	334	177	32	0	0	1328
65	0	0	0	3	31	149	254	182	71	7	0	0	697
70	0	0	0	0	7	60	112	59	15	1	0	0	254

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	26	57	143	300	556	825	991	924	728	421	124	28	26	83	226	526	1082	1907	2898	3822	4550	4971	5095	5123
45	0	14	60	178	404	675	836	769	578	283	51	4	0	14	74	252	656	1331	2167	2936	3514	3797	3848	3852
50	0	0	19	87	259	525	681	614	428	157	13	0	0	0	19	106	365	890	1571	2185	2613	2770	2783	2783
55	0	0	0	27	136	377	526	459	285	67	0	0	0	0	0	27	163	540	1066	1525	1810	1877	1877	1877
60	0	0	0	1	51	234	371	304	147	18	0	0	0	0	0	1	52	286	657	961	1108	1126	1126	1126
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	31	72	132	229	372	535	649	606	461	285	114	43	31	103	235	464	836	1371	2020	2626	3087	3372	3486	3529

(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:
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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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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