

Climatology of the United States

No. 20

1971-2000

Station: GANADO, AZ

COOP ID: 023303

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,340 Feet Lat: 35°43N Lon: 109°34W

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	42.0	16.4	29.2	65+	2000	19	35.9	1986	-26	1963	13	22.1	1992	1110	0	.0	.0	6.9	4.7	30.4	1.9
Feb	47.4	20.8	34.1	69+	1989	28	40.8	1995	-16	1955	20	29.1	1985	866	0	.0	.0	11.2	2.1	27.2	.6
Mar	55.3	26.2	40.8	88	1970	27	46.0	1972	-9	1966	4	35.4	1973	752	0	.0	.0	20.8	.4	25.9	.1
Apr	63.7	30.8	47.3	85	1989	10	53.1	1989	5	1970	1	41.1	1983	532	0	.0	.0	26.2	.0	18.0	.0
May	72.8	39.2	56.0	92+	2000	30	62.0	2000	15	1967	1	51.4	1995	287	9	.0	.2	30.6	.0	5.2	.0
Jun	84.3	47.4	65.9	100	1990	25	69.7	1990	27	1950	8	62.1+	1998	64	90	@	5.2	30.0	.0	.3	.0
Jul	88.6	55.3	72.0	101	1971	14	74.5	1971	36	1995	2	68.5	1993	2	216	.1	12.1	31.0	.0	.0	.0
Aug	85.9	55.1	70.5	98	1977	7	72.9	2000	35	1968	23	67.9	1974	4	175	.0	6.0	31.0	.0	.0	.0
Sep	79.0	47.2	63.1	96	1995	5	67.7	1998	27+	2001	27	58.8	1985	106	49	.0	.8	30.0	.0	.7	.0
Oct	67.1	36.3	51.7	89+	2001	1	55.6	1988	11	1949	20	45.3	1984	414	2	.0	.0	29.1	@	9.1	.0
Nov	52.3	24.2	38.3	76	1980	10	43.1	1999	-7	1975	30	32.6	2000	802	0	.0	.0	18.5	.8	26.5	.1
Dec	43.4	17.0	30.2	66+	1999	1	37.3	1980	-20	1968	22	24.2	1990	1080	0	.0	.0	8.9	4.1	29.8	1.0
Ann	65.2	34.7	49.9	101	Jul 1971	14	74.5	Jul 1971	-26	Jan 1963	13	22.1	Jan 1992	6019	541	.1	24.3	274.2	12.1	173.1	3.7

+ 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

039-A

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: GANADO, AZ

COOP ID: 023303

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,340 Feet Lat: 35°43N

Lon: 109°34W

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	.76	.63	.80	1993	18	2.57	1993	.00+	1999	4.6	3.0	.2	.0	.00	.00	.11	.24	.38	.54	.73	.96	1.28	1.81	2.33
Feb	.81	.75	1.50	1990	2	2.94	1982	.00+	1989	4.2	2.5	.5	.1	.00	.00	.16	.29	.43	.59	.77	1.01	1.32	1.85	2.37
Mar	1.04	.93	1.10	1970	31	3.26	2000	.00	1997	5.1	3.3	.5	.0	.02	.07	.19	.33	.50	.70	.94	1.25	1.69	2.45	3.21
Apr	.66	.56	1.44	1985	29	3.25	1985	.00+	1991	3.0	1.7	.3	.1	.00	.08	.20	.31	.42	.53	.67	.83	1.05	1.41	1.76
May	.61	.38	1.05	1992	10	3.14	1992	.00+	2000	3.0	1.7	.2	@	.00	.00	.04	.14	.25	.39	.55	.76	1.04	1.52	2.02
Jun	.30	.22	1.07	1955	13	1.07	1972	.00+	1998	1.8	1.0	.1	.0	.00	.00	.00	.00	.09	.19	.28	.40	.54	.78	1.00
Jul	1.50	1.26	1.89	1974	16	5.41	1999	.00+	1994	5.9	4.1	.8	.1	.00	.09	.30	.53	.78	1.07	1.41	1.84	2.44	3.46	4.46
Aug	1.73	1.47	3.00	1959	7	4.83	1982	.23	1974	6.2	3.8	1.1	.3	.35	.51	.77	1.00	1.23	1.48	1.76	2.10	2.55	3.27	3.95
Sep	1.14	.98	1.90	1971	30	4.13	1986	.00+	1989	4.2	3.1	.5	.1	.00	.13	.34	.52	.70	.91	1.14	1.42	1.80	2.43	3.03
Oct	1.17	1.05	1.19	1961	30	3.87	1972	.00+	1999	4.0	3.0	.7	.1	.00	.00	.19	.38	.59	.82	1.10	1.46	1.94	2.77	3.58
Nov	.97	.86	1.00	1986	3	4.33	1978	.00+	1999	3.5	2.4	.6	.1	.00	.00	.28	.45	.61	.79	.99	1.23	1.54	2.05	2.54
Dec	.90	.61	1.10	1991	12	2.96	1978	.00	1989	4.4	2.8	.5	@	.01	.05	.15	.26	.41	.58	.79	1.08	1.48	2.19	2.90
Ann	11.59	11.44	3.00	Aug 1959	7	5.41	Jul 1999	.00+	May 2000	49.9	32.4	6.0	.9	6.92	7.76	8.87	9.74	10.52	11.29	12.10	13.01	14.12	15.77	17.22

+ 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
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Station: GANADO, AZ

COOP ID: 023303

Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,340 Feet

Lat: 35° 43N

Lon: 109° 34W

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	1.3	.0	#	#	4.0	1993	3	8.0	1975	6	1977	9	3	1974	.5	.5	.3	.0	.0	.2	.0	.0	.0
Feb	4.2	.5	#	0	10.0	1988	3	12.0	1988	6	1987	25	1	1973	1.0	.8	.2	.2	@	.5	.1	.1	.0
Mar	2.8	.0	#	0	6.0	1971	2	13.6	1992	7	1973	23	1	1973	1.2	.8	.3	.1	.0	.4	.0	.0	.0
Apr	.8	.0	#	0	4.0	1980	2	5.0	1975	8	1977	3	7	1973	.5	.4	.1	.0	.0	.5	.1	.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	.3	.0	#	0	2.0	1972	31	4.0	1994	2	1973	30	#+	1997	.2	.2	.0	.0	.0	.1	.0	.0	.0
Nov	2.1	.1	#	0	4.0	1975	29	9.0	1972	5	1973	19	1	1973	.5	.4	.2	.0	.0	.3	.1	.0	.0
Dec	4.3	1.5	#	0	11.0	1991	12	16.0	1978	8+	1991	1	2	1975	1.3	1.2	.5	.2	@	.1	.0	.0	.0
Ann	15.8	2.1	N/A	N/A	11.0	Dec 1991	12	16.0	Dec 1978	8+	Dec 1991	1	7	Apr 1973	5.2	4.3	1.6	.5	@	2.1	.3	.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

Complete documentation available from:

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No. 20
1971-2000**

Station: GANADO, AZ

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Climate Division: AZ 2

NWS Call Sign:

Elevation: 6,340 Feet

Lat: 35° 43N

Lon: 109° 34W

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	6/21	6/16	6/12	6/08	6/05	6/01	5/29	5/25	5/19
32	6/09	6/03	5/30	5/27	5/23	5/20	5/16	5/12	5/06
28	5/25	5/20	5/16	5/12	5/09	5/06	5/03	4/29	4/23
24	5/15	5/08	5/02	4/27	4/23	4/18	4/13	4/08	3/31
20	4/29	4/23	4/19	4/15	4/11	4/08	4/04	3/31	3/25
16	4/20	4/11	4/04	3/29	3/24	3/19	3/14	3/07	2/26
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	9/18	9/21	9/23	9/25	9/28	9/30	10/03	10/07
32	9/22	9/26	9/29	10/02	10/05	10/07	10/10	10/13	10/18
28	10/07	10/11	10/14	10/17	10/19	10/21	10/24	10/27	10/31
24	10/15	10/19	10/22	10/25	10/28	10/31	11/02	11/06	11/10
20	10/19	10/24	10/28	11/01	11/04	11/07	11/11	11/15	11/20
16	10/28	11/02	11/06	11/10	11/13	11/16	11/19	11/23	11/28
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	132	125	120	116	112	108	104	99	92
32	153	146	141	137	134	130	126	121	114
28	179	173	169	165	162	159	155	151	146
24	214	205	198	193	188	182	177	170	162
20	233	224	217	211	206	201	195	188	179
16	263	253	245	239	233	227	220	212	202

* 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	Ann
65	1110	866	752	532	287	64	2	4	106	414	802	1080	6019
60	955	726	597	385	162	18	0	0	38	269	652	925	4727
57	862	642	504	302	104	7	0	0	16	193	562	832	4024
55	800	586	444	249	73	3	0	0	8	148	502	770	3583
50	645	446	299	139	24	0	0	0	1	64	355	615	2588
32	163	57	14	1	0	0	0	0	0	0	25	137	397

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	76	115	285	459	745	1015	1237	1194	933	611	213	80	6963
55	0	0	2	17	105	328	524	481	251	46	0	0	1754
57	0	0	0	10	74	272	462	419	200	28	0	0	1465
60	0	0	0	3	39	194	369	326	131	12	0	0	1074
65	0	0	0	0	9	90	216	175	49	2	0	0	541
70	0	0	0	0	1	28	84	55	10	0	0	0	178

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	2	22	103	241	492	771	979	935	689	373	81	5	2	24	127	368	860	1631	2610	3545	4234	4607	4688	4693
45	0	2	36	131	345	622	824	780	539	239	27	0	0	2	38	169	514	1136	1960	2740	3279	3518	3545	3545
50	0	0	8	53	206	472	669	625	391	128	1	0	0	0	8	61	267	739	1408	2033	2424	2552	2553	2553
55	0	0	0	13	95	326	514	470	250	47	0	0	0	0	0	13	108	434	948	1418	1668	1715	1715	1715
60	0	0	0	0	27	189	359	315	125	9	0	0	0	0	0	0	27	216	575	890	1015	1024	1024	1024
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	23	46	108	212	355	510	629	605	445	278	93	23	23	69	177	389	744	1254	1883	2488	2933	3211	3304	3327

(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/normals/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