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: CLIFTON, AZ **COOP ID: 021849**

Climate Division: AZ 7 **NWS Call Sign:** **Elevation: 3,520 Feet** **Lat: 33˚03N** **Lon: 109˚18W**

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	60.4	31.6	46.0	83	1971	18	50.7	1986	4	1962	12	40.9	1979	588	0	.0	.0	28.4	.0	18.2	.0
Feb	65.5	35.7	50.6	87	1957	14	55.5	1996	17+	1964	15	44.9	1990	404	0	.0	.0	27.3	.1	9.1	.0
Mar	71.5	40.4	56.0	92+	1989	13	65.2	1972	22+	1971	2	49.6	1973	299	18	.0	.6	30.9	.0	2.8	.0
Apr	79.5	46.6	63.1	99+	2000	28	68.6	1989	26	1945	3	56.8	1983	126	67	.0	2.6	29.9	.0	1.0	.0
May	88.0	55.9	72.0	107+	2000	31	79.1	2000	34	1990	3	66.1	1975	21	236	.9	14.2	31.0	.0	.1	.0
Jun	98.1	65.0	81.6	116	1994	26	87.4	1994	30	1990	16	78.6	1975	0	497	12.8	27.7	30.0	.0	.0	.0
Jul	99.4	69.9	84.7	115	1995	27	87.5	1994	42+	1936	12	81.2	1974	0	609	15.5	29.4	31.0	.0	.0	.0
Aug	96.8	68.7	82.8	113+	1940	12	86.6	1994	51	2001	22	79.0	1974	0	550	8.1	28.5	31.0	.0	.0	.0
Sep	91.9	63.4	77.7	110	1948	3	82.3	2000	45	1943	26	74.2	1988	0	380	2.0	20.3	30.0	.0	.0	.0
Oct	81.3	52.2	66.8	102+	1934	7	70.2+	1999	32+	1993	31	61.5	1976	58	112	.0	5.2	31.0	.0	.2	.0
Nov	68.3	38.6	53.5	94	1937	8	58.8	1999	4	1970	28	48.1	2000	350	3	.0	.0	29.6	.0	5.4	.0
Dec	60.0	31.6	45.8	80	1954	4	50.4	1977	12+	1978	10	41.4	1978	595	0	.0	.0	28.3	.0	17.7	.0
Ann	80.1	50.0	65.1	116	Jun 1994	26	87.5	Jul 1994	4+	Nov 1970	28	40.9	Jan 1979	2441	2472	39.3	128.5	358.4	.1	54.5	.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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1893-2001

(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	1.10	.97	2.17	1905	9	4.05	1993	.00+	1972
Feb	1.04	1.12	1.44	1940	2	3.55	1980	.00+	1999
Mar	.86	.73	1.92	1912	10	2.65	1983	.00	1971
Apr	.32	.19	1.30	1958	16	1.54	1988	.00+	2000
May	.42	.22	1.09	1992	5	2.97	1992	.00+	2000
Jun	.36	.17	1.40	1898	22	1.56	1987	.00+	1989
Jul	1.99	1.80	1.96	1925	4	4.84	1999	.46	1995
Aug	2.30	2.19	2.53	1945	17	4.77	1984	.17	1976
Sep	1.48	1.33	2.95+	1985	19	6.21	1985	.00+	1995
Oct	1.25	1.17	1.98	1945	10	4.68	2000	.00+	1999
Nov	.87	.60	1.55	1986	3	3.04	1986	.00+	1999
Dec	1.30	.87	1.80	1906	3	4.19	1991	.00+	1999
Ann	13.29+	12.63+	2.95+	Sep 1985	19	6.21	Sep 1985	.00+	May 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	4.6	3.3	.6	.1
Feb	4.3	2.7	.7	.1
Mar	4.5	2.7	.5	@
Apr	1.8	.9	.2	.0
May	2.2	1.5	.1	@
Jun	2.0	1.2	.1	@
Jul	7.1	5.1	1.0	.2
Aug	8.3	6.2	1.6	.3
Sep	4.9	3.2	1.0	.2
Oct	3.9	2.9	.8	.2
Nov	2.9	2.4	.6	.1
Dec	3.7	2.7	.8	.1
Ann	50.2	34.8	8.0	1.3

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	.00	.06	.21	.37	.56	.77	1.03	1.35	1.80	2.57	3.34
Feb	.00	.04	.18	.32	.50	.70	.95	1.26	1.71	2.47	3.24
Mar	.05	.13	.27	.39	.53	.68	.85	1.06	1.35	1.83	2.29
Apr	.00	.00	.00	.00	.09	.18	.28	.41	.58	.87	1.15
May	.00	.00	.00	.00	.12	.23	.36	.53	.76	1.14	1.51
Jun	.00	.00	.00	.00	.08	.18	.29	.44	.64	.99	1.33
Jul	.70	.89	1.16	1.39	1.61	1.83	2.07	2.36	2.72	3.28	3.80
Aug	.44	.65	.98	1.29	1.61	1.95	2.33	2.80	3.42	4.41	5.35
Sep	.00	.00	.34	.59	.85	1.13	1.46	1.86	2.40	3.29	4.16
Oct	.00	.00	.29	.54	.77	1.01	1.28	1.61	2.05	2.73	3.40
Nov	.00	.00	.20	.35	.50	.67	.86	1.09	1.40	1.92	2.42
Dec	.00	.00	.09	.26	.48	.75	1.10	1.55	2.20	3.33	4.48
Ann	7.81	8.79	10.09	11.11	12.03	12.93	13.88	14.95	16.26	18.21	19.92

\+ 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: 1893-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	.1	.0	0	0	2.5	1990	21	2.5	1990	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Ann	.1	.0	N/A	N/A	2.5	Dec 1990	21	2.5	Dec 1990	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

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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	5/02	4/23	4/16	4/10	4/05	3/30	3/24	3/18	3/08
32	4/21	4/10	4/01	3/25	3/18	3/11	3/04	2/23	2/11
28	3/27	3/14	3/04	2/24	2/17	2/10	2/02	1/23	1/10
24	3/07	2/21	2/11	2/02	1/24	1/13	12/28	0/00	0/00
20	2/01	1/18	1/05	12/15	0/00	0/00	0/00	0/00	0/00
16	12/31	12/03	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	10/22	10/28	11/01	11/04	11/08	11/11	11/14	11/18	11/24
32	11/04	11/10	11/13	11/17	11/20	11/23	11/26	11/30	12/06
28	11/10	11/17	11/22	11/26	11/30	12/03	12/07	12/12	12/19
24	11/22	11/30	12/07	12/13	12/20	12/27	1/10	0/00	0/00
20	12/07	12/21	1/04	0/00	0/00	0/00	0/00	0/00	0/00
16	12/15	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	254	241	232	224	216	209	200	191	178
32	288	273	263	255	246	238	230	219	205
28	330	315	303	294	285	276	266	255	239
24	>365	>365	>365	>365	336	319	306	293	277
20	>365	>365	>365	>365	>365	>365	>365	>365	317
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

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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	588	404	299	126	21	0	0	0	0	58	350	595	2441
60	433	270	180	55	5	0	0	0	0	17	217	440	1617
57	341	196	125	28	1	0	0	0	0	6	149	348	1194
55	282	152	94	17	0	0	0	0	0	3	111	288	947
50	148	69	36	4	0	0	0	0	0	0	44	152	453
32	0	0	0	0	0	0	0	0	0	0	0	0	0

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	435	521	742	932	1238	1487	1632	1573	1369	1078	643	428	12078
55	4	29	123	259	525	797	919	860	679	367	64	3	4629
57	1	17	92	210	464	737	857	798	619	309	42	1	4147
60	0	7	54	147	375	647	764	705	529	226	20	0	3474
65	0	0	18	67	236	497	609	550	380	112	3	0	2472
70	0	0	4	22	126	348	454	395	237	41	0	0	1627

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	210	335	522	708	990	1242	1378	1321	1120	824	424	211	210	545	1067	1775	2765	4007	5385	6706	7826	8650	9074	9285
45	90	202	367	559	835	1092	1223	1166	970	669	285	91	90	292	659	1218	2053	3145	4368	5534	6504	7173	7458	7549
50	21	98	226	414	680	942	1068	1011	820	516	160	20	21	119	345	759	1439	2381	3449	4460	5280	5796	5956	5976
55	0	33	112	276	526	792	913	856	670	365	70	0	0	33	145	421	947	1739	2652	3508	4178	4543	4613	4613
60	0	3	40	157	374	642	758	701	520	228	18	0	0	3	43	200	574	1216	1974	2675	3195	3423	3441	3441
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	176	241	353	465	632	758	868	849	728	529	289	174	176	417	770	1235	1867	2625	3493	4342	5070	5599	5888	6062

(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

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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