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: CHEVELON R S, AZ **COOP ID: 021574**

Climate Division: AZ 2 **NWS Call Sign:** **Elevation: 7,006 Feet** **Lat: 34˚33N** **Lon: 110˚55W**

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	42.2	18.8	30.5	67+	1971	31	36.9	1986	-21	1963	13	24.0	1992	1069	0	.0	.0	9.0	3.8	29.7	.9
Feb	45.7	22.2	34.0	69	1981	19	38.8	1996	-12	1985	1	29.6	1998	870	0	.0	.0	12.2	2.0	25.7	.4
Mar	50.6	26.4	38.5	71+	1989	11	44.8	1972	-3	1966	4	31.6	1973	822	0	.0	.0	18.9	.6	24.6	@
Apr	58.2	32.2	45.2	80	1962	18	53.2	1989	5	1975	7	39.6	1983	594	0	.0	.0	25.2	.2	15.6	.0
May	67.2	39.4	53.3	88	2000	29	61.0	1984	19	1971	13	48.0	1980	372	9	.0	.1	30.3	.0	6.1	.0
Jun	78.2	48.0	63.1	95+	1973	27	68.2	1974	27	1993	7	59.4	1991	116	59	.0	2.0	30.0	.0	.5	.0
Jul	81.2	55.5	68.4	96	1973	4	71.4	1972	37	1992	2	65.3	1976	15	119	.0	2.7	31.0	.0	.0	.0
Aug	78.3	53.9	66.1	93+	1972	1	69.6	1972	35+	1976	19	63.5	1976	39	72	.0	.6	31.0	.0	.0	.0
Sep	72.8	46.8	59.8	87+	1979	7	63.5	1997	25	1978	20	56.5+	1988	170	13	.0	.0	29.9	.0	.5	.0
Oct	62.3	36.0	49.2	85	1959	12	53.7	1988	5	1971	30	43.5	1971	492	0	.0	.0	28.7	.1	9.3	.0
Nov	50.3	25.6	38.0	75	1980	9	44.3	1995	-7	1976	28	32.5	1979	813	0	.0	.0	18.0	1.2	24.2	.1
Dec	43.3	19.6	31.5	70	1980	27	39.5	1977	-18	1990	23	26.0	1990	1040	0	.0	.0	10.7	3.2	28.6	.7
Ann	60.9	35.4	48.1	96	Jul 1973	4	71.4	Jul 1972	-21	Jan 1963	13	24.0	Jan 1992	6412	272	.0	5.4	274.9	11.1	164.8	2.1

\+ 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: 1959-2001

(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	1.48	1.11	2.35	1993	8	4.96	1993	.00	1972
Feb	1.40	1.20	1.93	1980	20	4.73	1980	.00	1972
Mar	1.70	1.60	1.90	2000	6	5.66	1991	.00+	1997
Apr	.77	.63	1.25	1988	22	2.16	1999	.00+	1993
May	.80	.49	2.21	1981	28	2.91	1981	.00+	2000
Jun	.45	.29	.97	1972	22	2.62	1988	.00+	1998
Jul	2.72	2.43	2.32	1998	20	5.61	1985	.44	2000
Aug	3.41	3.34	3.50	1971	27	9.50	1971	.54	1973
Sep	1.82	1.56	2.11	1970	5	4.73	1996	.00	1973
Oct	1.63	1.37	2.10	1972	19	6.30	1972	.00+	1999
Nov	1.62	1.36	2.78	1978	11	5.79	1978	.00+	1999
Dec	1.39	.92	2.76	1978	18	5.04	1992	.00+	1981
Ann	19.19	18.72	3.50	Aug 1971	27	9.50	Aug 1971	.00+	May 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.8	3.8	.7	.2
Feb	5.7	3.5	.9	.3
Mar	6.4	4.3	1.1	.2
Apr	4.2	2.5	.2	.1
May	4.4	2.4	.4	@
Jun	3.1	1.2	.2	.0
Jul	11.4	6.5	1.6	.5
Aug	11.3	7.0	1.7	.6
Sep	7.2	4.2	1.1	.3
Oct	5.2	3.2	1.0	.4
Nov	4.5	2.9	.9	.3
Dec	4.5	3.1	.8	.2
Ann	73.7	44.6	10.6	3.1

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	.03	.12	.31	.51	.75	1.03	1.36	1.80	2.40	3.44	4.47
Feb	.07	.20	.41	.62	.84	1.08	1.37	1.73	2.21	3.01	3.79
Mar	.00	.19	.50	.77	1.05	1.35	1.70	2.12	2.69	3.63	4.53
Apr	.00	.00	.14	.29	.43	.59	.76	.98	1.27	1.73	2.19
May	.00	.03	.13	.25	.38	.54	.73	.97	1.32	1.91	2.50
Jun	.00	.00	.00	.05	.12	.22	.35	.52	.78	1.24	1.70
Jul	.68	.94	1.33	1.68	2.03	2.40	2.81	3.29	3.93	4.93	5.88
Aug	.74	1.05	1.55	2.01	2.46	2.94	3.49	4.14	5.00	6.37	7.67
Sep	.08	.23	.50	.76	1.05	1.38	1.76	2.24	2.89	3.99	5.06
Oct	.00	.00	.45	.73	1.01	1.31	1.65	2.07	2.61	3.50	4.36
Nov	.00	.17	.46	.72	.98	1.28	1.61	2.02	2.57	3.48	4.37
Dec	.00	.06	.24	.44	.67	.94	1.27	1.69	2.28	3.29	4.29
Ann	13.90	14.93	16.25	17.25	18.13	18.98	19.86	20.83	22.01	23.71	25.18

\+ 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: 1959-2001
(3) Derived from 1971-2000 serially complete daily data

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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	9.4	3.5	2	#
Feb	7.3	3.7	1	#
Mar	8.0	5.0	1	#
Apr	3.7	.0	#	0
May	.3	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	#	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.4	.0	#	0
Nov	3.6	1.3	#	0
Dec	4.3	4.0	1	#
Ann	37.0	17.5	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	18.0	1988	18	30.5	1979	31	1997	15	12	1997
Feb	16.0	1985	4	38.5	1973	20	1979	2	9	1979
Mar	16.0	1973	12	51.0	1973	20	1973	14	5	1985
Apr	17.0	1977	2	18.0	1977	19	1999	2	2	1999
May	2.5	1995	7	3.0	1982	3	1995	7	#+	1995
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	4	1998	20	#	1998
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	2.0	1980	15	3.5	1996	5	1972	30	#+	1996
Nov	22.0	1993	15	22.0	1993	16	1972	12	3	1983
Dec	9.0	1985	12	16.0	1978	19	1992	5	5	1992
Ann	22.0	Nov 1993	15	51.0	Mar 1973	31	Jan 1997	15	12	Jan 1997

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.6	2.3	1.3	.6	.2
Feb	2.2	1.6	1.0	.7	.2
Mar	2.0	1.9	.9	.5	@
Apr	.9	.8	.5	.3	.1
May	.2	.2	.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	.4	.2	.0	.0	.0
Nov	.9	.9	.4	.3	.1
Dec	1.6	1.5	.8	.4	.0
Ann	10.8	9.4	4.9	2.8	.6

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	3.6	2.5	1.8	.4
Feb	2.4	1.8	1.4	.2
Mar	1.6	.9	.3	.2
Apr	.5	.2	.1	.1
May	.2	@	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.3	.0	.0	.0
Nov	1.5	1.1	.9	.3
Dec	2.8	2.1	1.3	.0
Ann	12.9	8.6	5.8	1.2

+ 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	6/21	6/17	6/14	6/11	6/08	6/06	6/03	5/31	5/27
32	6/11	6/06	6/02	5/30	5/27	5/24	5/20	5/17	5/11
28	5/31	5/26	5/21	5/18	5/14	5/11	5/08	5/03	4/28
24	5/18	5/11	5/06	5/01	4/27	4/23	4/19	4/14	4/07
20	5/06	4/27	4/20	4/15	4/09	4/04	3/30	3/23	3/14
16	4/15	4/06	3/31	3/25	3/20	3/15	3/09	3/03	2/22

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	9/07	9/12	9/16	9/19	9/23	9/26	9/29	10/03	10/08
32	9/21	9/26	9/30	10/03	10/06	10/09	10/12	10/16	10/21
28	9/28	10/04	10/09	10/12	10/16	10/19	10/23	10/27	11/02
24	10/11	10/16	10/20	10/23	10/26	10/29	11/01	11/05	11/10
20	10/22	10/28	11/01	11/04	11/07	11/10	11/14	11/18	11/23
16	11/02	11/07	11/11	11/14	11/17	11/19	11/22	11/26	12/01

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	127	119	114	110	105	101	97	92	84
32	151	144	139	135	132	128	124	119	112
28	178	170	164	158	154	149	143	137	129
24	207	198	192	186	181	176	171	164	155
20	245	234	225	218	211	204	197	189	177
16	274	263	254	247	241	234	227	219	208

***** 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	1069	870	822	594	372	116	15	39	170	492	813	1040	6412
60	914	730	667	446	239	48	1	4	70	341	663	885	5008
57	821	646	574	361	173	24	0	1	34	257	573	792	4256
55	759	590	514	307	135	14	0	0	18	207	513	730	3787
50	604	450	368	186	63	3	0	0	3	104	366	575	2722
32	131	48	34	4	0	0	0	0	0	0	28	117	362

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	86	102	236	400	660	933	1128	1056	833	531	205	100	6270
55	0	0	2	12	82	257	415	343	162	25	0	0	1298
57	0	0	0	7	58	207	353	282	117	13	0	0	1037
60	0	0	0	2	31	141	260	193	63	4	0	0	694
65	0	0	0	0	9	59	119	72	13	0	0	0	272
70	0	0	0	0	1	16	30	12	1	0	0	0	60

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	12	40	91	211	440	713	901	835	612	317	84	21	12	52	143	354	794	1507	2408	3243	3855	4172	4256	4277
45	0	8	33	109	295	563	746	680	464	194	24	0	0	8	41	150	445	1008	1754	2434	2898	3092	3116	3116
50	0	1	2	43	163	414	591	525	318	87	2	0	0	1	3	46	209	623	1214	1739	2057	2144	2146	2146
55	0	0	0	9	71	272	436	371	180	25	0	0	0	0	0	9	80	352	788	1159	1339	1364	1364	1364
60	0	0	0	0	25	147	281	216	71	3	0	0	0	0	0	0	25	172	453	669	740	743	743	743
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	28	51	87	165	294	467	586	524	377	219	84	34	28	79	166	331	625	1092	1678	2202	2579	2798	2882	2916

(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