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: CHAMA, NM **COOP ID: 291664**

Climate Division: NM 2 **NWS Call Sign:** **Elevation: 7,850 Feet** **Lat: 36˚55N** **Lon: 106˚35W**

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	37.1	4.8	21.0	57	1996	12	28.5	1981	-30	1971	5	15.4	1979	1366	0	.0	.0	1.6	8.6	31.0	10.4
Feb	41.7	9.4	25.6	61	1986	25	32.2	2000	-30	1949	15	19.7	1974	1104	0	.0	.0	3.5	3.7	28.2	5.3
Mar	48.3	16.6	32.5	69	1972	21	39.1	1972	-19	1950	13	28.1	1980	1009	0	.0	.0	11.9	.7	30.6	1.8
Apr	56.8	23.2	40.0	77	1969	22	45.6	2000	-7	1980	1	33.7	1973	751	0	.0	.0	23.3	.1	27.2	.3
May	65.6	30.6	48.1	87	1951	27	52.6	2000	7	1967	1	44.6	1995	525	0	.0	.0	29.8	.0	19.3	.0
Jun	76.4	37.4	56.9	95	1954	20	59.9	1974	18	1990	2	54.3	1976	246	3	.0	.3	30.0	.0	6.5	.0
Jul	80.8	44.3	62.6	95	1948	6	65.1	2000	28+	1982	2	59.6	1992	94	17	.0	.7	31.0	.0	.7	.0
Aug	78.2	44.3	61.3	103	1949	12	64.7	2000	30	1987	16	58.1	1987	130	14	.0	.2	31.0	.0	.3	.0
Sep	72.0	36.9	54.5	90+	1948	2	58.3	1998	16+	1985	30	49.8	1986	317	1	.0	.0	29.8	.0	7.5	.0
Oct	61.3	26.6	44.0	80+	1963	1	47.2	1999	-2	1993	31	37.9	1984	652	0	.0	.0	27.4	.2	25.3	@
Nov	46.2	15.7	31.0	71	1999	11	38.7	1999	-17+	1952	27	24.1	1992	1022	0	.0	.0	11.6	2.8	29.4	2.2
Dec	38.2	7.6	22.9	60+	1980	27	31.3	1980	-30	1990	23	17.0	1978	1305	0	.0	.0	2.4	7.0	31.0	7.1
Ann	58.6	24.8	41.7	103	Aug 1949	12	65.1	Jul 2000	-30+	Dec 1990	23	15.4	Jan 1979	8521	35	.0	1.2	233.3	23.1	237.0	27.1

\+ 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: 1948-2001

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

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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	1.98	1.56	1.86	1980	29	5.87	1980	.08	1986
Feb	1.82	1.68	1.44	1994	8	5.16	1993	.15	1974
Mar	2.20	2.08	1.98	1995	6	4.97	1975	.04	1997
Apr	1.50	1.26	1.51	1999	5	4.35	1999	.01	1989
May	1.45	1.37	1.52	1948	9	3.52	1992	.02	1996
Jun	1.11	1.01	.89	1988	24	3.20	1984	.00	1980
Jul	2.14	1.86	1.86	1966	21	6.16	1998	.25	1993
Aug	2.89	2.89	2.02	1993	28	5.76	1993	.99	1978
Sep	2.10	1.79	2.15	1997	22	4.96	1986	.59	1987
Oct	2.12	1.76	2.01	1990	20	7.49	1972	.00	1995
Nov	1.98	2.05	1.40	1994	12	4.03	1994	.00	1989
Dec	1.67	1.17	1.63	1978	18	4.68	1983	.04	1999
Ann	22.96	23.27	2.15	Sep 1997	22	7.49	Oct 1972	.00+	Oct 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.1	4.9	1.1	.3
Feb	7.7	5.0	1.0	.1
Mar	9.2	5.6	1.1	.4
Apr	7.5	4.2	.8	.1
May	8.6	4.4	.5	.1
Jun	6.2	3.2	.5	.0
Jul	11.8	6.2	1.1	.1
Aug	13.8	7.7	1.5	.3
Sep	8.5	5.0	1.2	.3
Oct	7.2	4.8	1.4	.4
Nov	6.9	4.7	1.4	.3
Dec	7.8	4.7	.9	.1
Ann	103.3	60.4	12.5	2.5

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	.20	.34	.62	.89	1.19	1.53	1.92	2.42	3.09	4.22	5.31
Feb	.27	.42	.68	.94	1.20	1.48	1.81	2.22	2.76	3.64	4.49
Mar	.28	.46	.77	1.08	1.40	1.76	2.17	2.69	3.38	4.51	5.61
Apr	.16	.27	.48	.69	.91	1.17	1.46	1.83	2.33	3.17	3.98
May	.15	.25	.45	.65	.87	1.11	1.40	1.76	2.26	3.07	3.87
Jun	.05	.15	.32	.48	.66	.85	1.08	1.36	1.75	2.38	3.01
Jul	.50	.70	1.01	1.29	1.57	1.86	2.19	2.59	3.10	3.92	4.70
Aug	1.42	1.67	2.00	2.27	2.52	2.76	3.03	3.32	3.70	4.26	4.76
Sep	.60	.80	1.10	1.37	1.62	1.88	2.18	2.52	2.97	3.67	4.33
Oct	.10	.28	.60	.91	1.25	1.62	2.06	2.61	3.36	4.60	5.82
Nov	.31	.58	.92	1.19	1.46	1.74	2.06	2.43	2.91	3.68	4.40
Dec	.17	.30	.53	.76	1.01	1.29	1.62	2.03	2.60	3.53	4.44
Ann	15.42	16.84	18.68	20.09	21.35	22.57	23.84	25.25	26.96	29.47	31.65

\+ 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:
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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	26.2	23.4	18	16
Feb	19.7	19.7	21	23
Mar	17.2	17.0	15	16
Apr	5.9	4.0	4	1
May	.8	.0	#	0
Jun	#	.0	#	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	3.9	1.0	#	0
Nov	13.0	12.4	3	2
Dec	18.5	12.8	8	7
Ann	105.2	90.3	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	17.0	2000	3	58.5	1997	46	1979	26	34+	1993
Feb	24.0	1994	8	48.6	1993	49	1993	25	44	1993
Mar	16.5	1991	1	60.0	1975	47	1993	1	41	1980
Apr	11.0	1999	5	19.0	1971	41	1980	2	28	1980
May	8.0	1978	6	14.0	1978	11	1978	6	1	1978
Jun	#	1993	5	#	1993	#	1993	5	#	1993
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	15.5	1991	30	21.6	1991	16	1991	31	4	1984
Nov	14.5	1975	27	35.1	1983	23	1983	21	8	1991
Dec	13.0	1983	23	62.7	1983	38	1983	28	23	1983
Ann	24.0	Feb 1994	8	62.7	Dec 1983	49	Feb 1993	25	44	Feb 1993

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.0	5.9	3.2	2.0	.4
Feb	6.2	5.3	2.8	1.5	.2
Mar	5.2	4.4	2.6	1.2	.2
Apr	2.0	1.8	.8	.3	.1
May	.3	.3	.1	@	.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	1.2	1.1	.5	.2	.1
Nov	3.8	3.3	1.7	.9	.2
Dec	6.2	5.0	2.5	1.3	.1
Ann	31.9	27.1	14.2	7.4	1.3

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	-9.9	-9.9	-9.9	-9.9
Feb	-9.9	-9.9	-9.9	-9.9
Mar	-9.9	-9.9	-9.9	-9.9
Apr	3.7	3.0	2.5	1.8
May	.2	.1	.1	@
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	1.3	1.0	.7	.2
Nov	5.7	4.1	3.2	1.2
Dec	14.5	13.9	13.1	7.0
Ann	-9.9	-9.9	-9.9	-9.9

+ 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	7/19	7/14	7/10	7/07	7/04	7/01	6/28	6/24	6/19
32	7/09	7/04	6/30	6/27	6/24	6/22	6/18	6/15	6/10
28	6/26	6/21	6/17	6/13	6/10	6/07	6/04	5/31	5/26
24	6/11	6/05	5/31	5/27	5/24	5/20	5/16	5/12	5/06
20	5/27	5/21	5/17	5/13	5/09	5/06	5/02	4/28	4/22
16	5/16	5/08	5/03	4/28	4/23	4/19	4/14	4/08	3/31

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	8/10	8/17	8/21	8/25	8/29	9/02	9/06	9/10	9/17
32	8/25	8/31	9/04	9/08	9/11	9/15	9/18	9/22	9/28
28	9/10	9/14	9/17	9/20	9/22	9/25	9/27	9/30	10/04
24	9/19	9/23	9/26	9/29	10/02	10/04	10/07	10/11	10/15
20	9/25	9/30	10/03	10/06	10/09	10/12	10/15	10/19	10/24
16	10/06	10/11	10/15	10/18	10/21	10/24	10/27	10/31	11/05

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	79	71	65	60	56	51	46	40	32
32	101	93	88	83	78	74	69	63	55
28	123	116	111	107	103	100	95	91	84
24	154	146	140	135	130	126	121	115	107
20	177	168	162	157	152	147	142	136	128
16	206	197	191	185	180	175	170	163	154

***** 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	1366	1104	1009	751	525	246	94	130	317	652	1022	1305	8521
60	1211	964	854	601	370	121	18	39	179	497	872	1150	6876
57	1118	880	761	511	280	66	3	13	112	405	782	1057	5988
55	1056	824	699	451	223	40	1	5	76	344	722	995	5436
50	901	684	544	310	104	7	0	0	21	206	572	840	4189
32	355	203	97	18	0	0	0	0	0	5	130	296	1104

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	11	23	111	257	498	747	947	908	674	376	98	14	4664
55	0	0	0	0	8	97	234	200	60	2	0	0	601
57	0	0	0	0	3	63	175	146	37	1	0	0	425
60	0	0	0	0	0	27	96	78	14	0	0	0	215
65	0	0	0	0	0	3	17	14	1	0	0	0	35
70	0	0	0	0	0	0	0	0	0	0	0	0	0

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	0	0	13	83	261	511	700	661	435	168	13	0	0	0	13	96	357	868	1568	2229	2664	2832	2845	2845
45	0	0	0	22	132	362	545	506	290	66	0	0	0	0	0	22	154	516	1061	1567	1857	1923	1923	1923
50	0	0	0	0	45	220	390	351	155	16	0	0	0	0	0	0	45	265	655	1006	1161	1177	1177	1177
55	0	0	0	0	3	99	237	197	53	1	0	0	0	0	0	0	3	102	339	536	589	590	590	590
60	0	0	0	0	0	24	96	63	11	0	0	0	0	0	0	0	0	24	120	183	194	194	194	194
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	5	40	124	247	399	476	439	331	192	43	0	0	5	45	169	416	815	1291	1730	2061	2253	2296	2296

(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