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: AUGUSTINE 2 E, NM **COOP ID: 290640**

Climate Division: NM 4 **NWS Call Sign:** **Elevation: 7,000 Feet** **Lat: 34˚05N** **Lon: 107˚37W**

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	46.1	15.8	31.0	69	1953	11	36.2	1999	-33	1962	11	21.1	1992	1056	0	.0	.0	12.7	1.7	30.3	2.2
Feb	50.4	19.1	34.8	73+	1954	26	42.6	1996	-23	1963	14	29.5	1974	848	0	.0	.0	17.5	.8	26.8	.8
Mar	56.4	22.2	39.3	79	1971	27	44.0	1972	-20	1965	3	34.9	1987	796	0	.0	.0	26.0	@	28.3	.1
Apr	63.7	27.5	45.6	87	2001	30	53.6	1989	1	1984	26	38.9	1983	582	0	.0	.0	28.2	@	22.6	.0
May	72.6	36.7	54.7	93	1951	27	62.0	1996	9+	1967	2	51.2	1975	327	5	.0	.6	30.9	.0	9.3	.0
Jun	82.5	45.9	64.2	97+	1957	28	69.1	1996	15+	1962	15	59.9	1973	87	63	@	6.1	30.0	.0	1.5	.0
Jul	83.0	53.8	68.4	102	1963	3	72.0	1996	33	1973	23	65.3	1973	15	120	.1	5.2	31.0	.0	.0	.0
Aug	79.9	52.3	66.1	98	1949	17	70.5	1995	31	1964	22	62.8	1990	48	82	.0	1.7	31.0	.0	.0	.0
Sep	75.3	44.5	59.9	91	1956	19	64.0+	2000	20+	1965	22	55.6	1988	175	22	.0	@	30.0	.0	2.6	.0
Oct	66.4	32.0	49.2	85	1961	8	52.7	1983	5+	1980	24	44.9	1980	491	0	.0	.0	29.9	@	18.7	.0
Nov	55.4	21.7	38.6	74+	1973	10	44.8	1995	-36	1976	28	32.8	1992	793	0	.0	.0	23.3	.2	27.0	.3
Dec	47.2	14.2	30.7	70	1958	8	36.7	1994	-25	1990	24	25.5	1974	1064	0	.0	.0	15.8	1.8	30.0	2.5
Ann	64.9	32.1	48.5	102	Jul 1963	3	72.0	Jul 1996	-36	Nov 1976	28	21.1	Jan 1992	6282	292	.1	13.6	306.3	4.5	197.1	5.9

+ 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

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	.51	.44	1.08	2001	28	1.58	1983	.00+	2000
Feb	.41	.38	1.25	1989	6	1.47	1982	.00+	2000
Mar	.47	.31	.90	1969	11	2.05	1998	.00+	2000
Apr	.26	.18	.64	1952	27	1.41	1985	.00+	2000
May	.74	.48	1.12	1992	23	5.11	1992	.00+	1998
Jun	.59	.42	1.44	1981	30	2.07	1996	.00+	1989
Jul	2.60	2.23	1.61	1968	27	6.89	1999	.64	1987
Aug	2.91	2.43	1.70	1972	21	7.08	1993	.53	1998
Sep	2.01	1.67	2.02	1997	21	5.14	1975	.10	1993
Oct	1.40	1.04	1.52	1978	21	5.03	1972	.00+	1999
Nov	.60	.46	.93	1998	9	1.81	2000	.00+	1999
Dec	.61	.46	.90	1992	8	2.43	1992	.00+	1999
Ann	13.11	13.40	2.02	Sep 1997	21	7.08	Aug 1993	.00+	Apr 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.8	1.5	.2	.0
Feb	3.8	1.2	.1	@
Mar	3.9	1.4	.2	.0
Apr	2.5	.8	.1	.0
May	3.9	2.2	.4	@
Jun	3.7	1.8	.2	@
Jul	10.0	6.2	1.6	.3
Aug	10.9	6.1	1.9	.5
Sep	7.3	4.7	1.2	.3
Oct	5.4	3.3	1.1	.3
Nov	3.2	1.9	.2	.0
Dec	3.3	1.9	.3	.0
Ann	61.7	33.0	7.5	1.4

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	.00	.06	.15	.24	.35	.48	.64	.86	1.23	1.60
Feb	.00	.00	.11	.19	.27	.35	.43	.53	.67	.87	1.08
Mar	.00	.00	.07	.14	.22	.32	.43	.58	.78	1.13	1.48
Apr	.00	.00	.00	.00	.07	.16	.24	.34	.47	.68	.89
May	.00	.00	.05	.14	.25	.40	.60	.86	1.25	1.94	2.65
Jun	.00	.00	.09	.19	.30	.42	.56	.74	.99	1.39	1.79
Jul	.87	1.12	1.48	1.78	2.08	2.38	2.71	3.10	3.60	4.37	5.08
Aug	.73	1.01	1.43	1.81	2.18	2.57	3.01	3.52	4.20	5.27	6.27
Sep	.27	.43	.72	1.00	1.29	1.62	1.99	2.45	3.08	4.10	5.08
Oct	.00	.04	.18	.37	.60	.87	1.22	1.68	2.33	3.47	4.62
Nov	.00	.00	.09	.23	.35	.47	.61	.78	1.01	1.36	1.73
Dec	.00	.00	.06	.15	.26	.39	.55	.75	1.04	1.53	2.02
Ann	7.59	8.58	9.89	10.91	11.85	12.77	13.73	14.82	16.16	18.15	19.90

\+ 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

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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	2.2	.8	#	0
Feb	2.4	1.7	#	0
Mar	.4	.0	#	0
Apr	.3	.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	.4	.0	#	0
Nov	.3	.0	#	0
Dec	1.9	.0	#	0
Ann	7.9	2.5	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	5.0	1990	18	8.7	1990	5	1990	19	1	1987
Feb	12.5	1989	6	12.5	1989	12	1989	6	1	1989
Mar	3.0	1997	25	3.8	1997	3	1997	26	#+	1997
Apr	2.5	1973	20	5.0	1973	4	1973	20	#	1973
May	#	1990	2	#	1990	#	1990	2	#	1990
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	3.5	1996	25	3.5	1996	4	1996	25	#+	1996
Nov	2.0	1996	30	2.0+	2000	5	1976	28	#+	1996
Dec	6.0	1990	21	10.0	1991	11	1987	14	1	1987
Ann	12.5	Feb 1989	6	12.5	Feb 1989	12	Feb 1989	6	1+	Feb 1989

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	.9	.7	.3	.1	.0
Feb	1.6	1.0	.2	.1	.1
Mar	.5	.3	.1	.0	.0
Apr	.2	.2	.0	.0	.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	.1	.1	.1	.0	.0
Nov	.2	.2	.0	.0	.0
Dec	.9	.8	.3	.1	.0
Ann	4.4	3.3	1.0	.3	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.6	.4	.1	.0
Feb	.7	.2	.1	.1
Mar	.2	.1	.0	.0
Apr	.1	@	.0	.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	@	.0	.0
Nov	@	.0	.0	.0
Dec	.1	.0	.0	.0
Ann	1.8	.7	.2	.1

+ 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	7/06	6/30	6/25	6/21	6/18	6/14	6/10	6/05	5/30
32	6/22	6/16	6/11	6/08	6/04	6/01	5/28	5/24	5/18
28	6/07	6/01	5/27	5/24	5/20	5/16	5/13	5/08	5/02
24	5/31	5/25	5/20	5/17	5/13	5/10	5/06	5/01	4/25
20	5/17	5/09	5/04	4/30	4/26	4/21	4/17	4/12	4/05
16	5/04	4/27	4/22	4/18	4/15	4/11	4/07	4/02	3/26

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	8/28	9/03	9/08	9/11	9/15	9/19	9/23	9/27	10/04
32	9/15	9/19	9/22	9/24	9/27	9/29	10/01	10/04	10/09
28	9/20	9/24	9/27	9/30	10/02	10/05	10/07	10/10	10/14
24	9/30	10/04	10/07	10/09	10/12	10/14	10/17	10/20	10/24
20	10/07	10/12	10/16	10/19	10/22	10/25	10/28	10/31	11/06
16	10/14	10/21	10/25	10/29	11/02	11/06	11/10	11/14	11/20

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	118	108	101	95	89	83	77	70	60
32	137	129	123	118	114	109	104	98	90
28	159	151	145	139	134	129	124	118	109
24	175	167	161	156	151	146	141	135	127
20	202	194	188	183	178	174	169	163	155
16	231	220	213	206	201	195	188	181	171

***** 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	1056	848	796	582	327	87	15	48	175	491	793	1064	6282
60	901	708	641	436	195	27	0	8	78	339	643	909	4885
57	808	624	548	352	131	11	0	2	41	253	553	816	4139
55	746	568	486	298	96	5	0	0	24	202	493	754	3672
50	591	428	334	182	37	0	0	0	4	96	348	599	2619
32	124	45	9	5	0	0	0	0	0	0	26	133	342

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	91	122	236	413	701	966	1128	1057	837	533	222	92	6398
55	0	0	0	16	84	281	415	345	171	21	0	0	1333
57	0	0	0	10	57	227	353	284	128	11	0	0	1070
60	0	0	0	4	28	154	261	197	75	3	0	0	722
65	0	0	0	0	5	63	120	82	22	0	0	0	292
70	0	0	0	0	0	15	31	18	3	0	0	0	67

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	7	28	85	219	488	737	888	813	599	303	71	7	7	35	120	339	827	1564	2452	3265	3864	4167	4238	4245
45	0	5	26	111	335	587	733	658	450	169	20	0	0	5	31	142	477	1064	1797	2455	2905	3074	3094	3094
50	0	0	1	42	193	437	578	503	301	71	0	0	0	0	1	43	236	673	1251	1754	2055	2126	2126	2126
55	0	0	0	12	87	291	423	348	163	16	0	0	0	0	0	12	99	390	813	1161	1324	1340	1340	1340
60	0	0	0	0	28	157	268	195	55	1	0	0	0	0	0	0	28	185	453	648	703	704	704	704
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	46	81	152	248	388	510	572	526	413	292	126	49	46	127	279	527	915	1425	1997	2523	2936	3228	3354	3403

(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