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: RAGLAND 3 SSW, NM **COOP ID: 297226**

Climate Division: NM 3 **NWS Call Sign:** **Elevation: 5,060 Feet** **Lat: 34˚47N** **Lon: 103˚45W**

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	49.3	21.4	35.4	77	1974	17	40.7	1986	-15	1963	13	26.7	1979	920	0	.0	.0	16.7	3.3	28.2	.5
Feb	55.0	25.0	40.0	80	1989	25	46.7	2000	-8	1981	11	33.4	1978	699	0	.0	.0	20.2	1.8	22.5	.3
Mar	63.2	30.3	46.8	88	1989	11	52.4	1974	2	1965	20	42.8	1998	567	0	.0	.0	27.7	.4	18.4	.0
Apr	71.4	37.5	54.5	94	1989	21	59.0	1978	14	1973	8	48.4	1997	324	8	.0	.2	28.9	.0	7.1	.0
May	80.0	46.9	63.5	101+	2000	23	70.6	1996	22	1967	2	59.7	1983	118	69	.1	3.1	30.9	.0	.4	.0
Jun	88.8	55.8	72.3	106+	1981	21	79.1	1990	36	1964	1	69.3	1979	13	232	2.0	14.3	30.0	.0	.0	.0
Jul	90.3	60.1	75.2	105	1995	26	80.5	1980	42	1975	26	71.7	1975	0	317	.9	17.3	31.0	.0	.0	.0
Aug	87.6	59.1	73.4	102	1977	4	76.9	2000	46	1976	29	70.1	1971	2	261	.2	12.1	31.0	.0	.0	.0
Sep	81.1	52.1	66.6	100+	1983	4	71.5	1998	29	1983	21	62.0	1974	56	103	.1	3.9	29.8	.0	.2	.0
Oct	71.8	41.2	56.5	92+	1979	7	60.2	1979	9	1993	30	52.1	1976	269	4	.0	.1	30.0	.0	3.0	.0
Nov	58.7	30.1	44.4	84	1980	8	50.3	1981	-7	1976	29	38.1	1972	619	0	.0	.0	23.3	.6	17.3	.1
Dec	49.9	22.4	36.2	77	1980	17	44.4	1980	-12	1978	9	29.2	1983	895	0	.0	.0	16.8	3.1	27.5	.7
Ann	70.6	40.2	55.4	106+	Jun 1981	21	80.5	Jul 1980	-15	Jan 1963	13	26.7	Jan 1979	4482	994	3.3	51.0	316.3	9.2	124.6	1.6

\+ 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	.49	.33	1.20	1999	29	1.78	1983	.00+	2000
Feb	.55	.43	1.33	1990	20	1.83	1990	.00+	2000
Mar	.78	.52	1.80	1985	20	3.85	1985	.00+	1997
Apr	1.04	.82	1.71	1970	17	4.80	1997	.00+	1996
May	1.69	1.34	2.63	1954	16	4.51	1986	.05	1998
Jun	2.26	2.24	2.87	1988	13	9.07	1988	.00	1990
Jul	3.11	2.99	4.10	1993	15	9.64	1991	.10	1995
Aug	3.14	2.93	4.13	1960	10	7.69	1981	.40	2000
Sep	2.27	1.89	3.55	1976	14	5.36	1990	.15	2000
Oct	1.45	1.05	3.98	1960	17	4.30	1974	.00+	1990
Nov	.80	.59	2.10	1978	4	3.55	1986	.00+	1995
Dec	.61	.42	.99	1959	15	2.45	1991	.00+	1990
Ann	18.19	17.04	4.13	Aug 1960	10	9.64	Jul 1991	.00+	Feb 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	2.6	1.6	.1	.1
Feb	2.9	1.7	.3	@
Mar	2.9	2.0	.4	.1
Apr	3.4	2.3	.6	.2
May	5.2	3.6	1.2	.3
Jun	5.8	4.5	1.8	.5
Jul	6.4	4.8	1.7	.9
Aug	7.6	5.7	2.1	.8
Sep	5.7	4.4	1.7	.6
Oct	3.9	3.0	1.0	.4
Nov	2.9	2.0	.5	.2
Dec	2.8	1.8	.3	.0
Ann	52.1	37.4	11.7	4.1

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	.00	.00	.09	.17	.25	.35	.46	.61	.81	1.14	1.47
Feb	.00	.00	.10	.20	.31	.42	.54	.70	.91	1.25	1.58
Mar	.00	.03	.14	.25	.38	.53	.72	.96	1.29	1.85	2.42
Apr	.00	.00	.16	.32	.50	.71	.96	1.28	1.73	2.49	3.25
May	.15	.26	.49	.72	.98	1.27	1.62	2.05	2.65	3.66	4.65
Jun	.04	.17	.44	.75	1.11	1.54	2.06	2.74	3.68	5.31	6.93
Jul	.28	.50	.92	1.35	1.82	2.36	2.99	3.79	4.88	6.70	8.49
Aug	.86	1.16	1.61	2.01	2.40	2.80	3.25	3.78	4.47	5.55	6.56
Sep	.30	.48	.81	1.12	1.46	1.82	2.25	2.77	3.48	4.64	5.77
Oct	.00	.08	.28	.50	.74	1.02	1.36	1.78	2.38	3.38	4.38
Nov	.00	.07	.21	.33	.47	.61	.78	.99	1.28	1.75	2.21
Dec	.00	.00	.07	.16	.27	.39	.54	.74	1.01	1.49	1.96
Ann	11.62	12.84	14.43	15.66	16.76	17.83	18.95	20.20	21.73	23.98	25.94

\+ 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)

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	4.7	3.0	1	#	12.0	1999	29	14.0+	1999	12	1999	29	2	1990	2.2	1.6	.6	.2	@	4.6	1.9	.6	.1
Feb	4.4	3.0	#	#	10.0	1986	7	17.0	1986	14	1986	9	3	1986	1.8	1.5	.6	.2	@	2.1	1.2	.5	@
Mar	2.2	1.3	#	#	6.0	1999	18	10.8	1983	6	1999	18	#+	1999	1.1	.9	.3	.1	.0	.7	.2	@	.0
Apr	2.6	.0	#	0	11.0	1997	25	16.0	1997	11	1997	25	1	1997	.8	.7	.3	.2	.1	.6	.3	.2	.1
May	#	.0	#	0	#	1991	1	#+	1991	2	1978	2	#	1978	.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	.4	.0	#	0	4.0	1991	30	4.0	1991	4	1991	30	#+	1999	.1	.1	.1	.0	.0	.2	.1	.0	.0
Nov	2.3	1.0	#	0	8.0	1982	27	11.0	1980	6+	2000	7	1	1980	.8	.8	.3	.1	.0	.9	.4	.1	.0
Dec	4.4	2.5	1	#	10.0	1999	4	12.5	1973	15	1997	27	6	1997	2.0	1.6	.7	.2	@	3.5	2.2	1.2	.3
Ann	21.0	10.8	N/A	N/A	12.0	Jan 1999	29	17.0	Feb 1986	15	Dec 1997	27	6	Dec 1997	8.8	7.2	2.9	1.0	.1	12.6	6.3	2.6	.5

+ 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	5/16	5/12	5/10	5/07	5/05	5/03	4/30	4/27	4/23
32	5/11	5/05	5/02	4/28	4/25	4/22	4/19	4/15	4/10
28	5/02	4/27	4/23	4/20	4/17	4/14	4/10	4/06	4/01
24	4/13	4/09	4/06	4/04	4/02	3/30	3/28	3/25	3/21
20	4/09	4/02	3/28	3/24	3/20	3/15	3/11	3/06	2/27
16	3/31	3/22	3/16	3/11	3/06	3/01	2/24	2/17	2/09

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	9/26	9/30	10/03	10/06	10/09	10/11	10/14	10/18	10/22
32	10/02	10/08	10/11	10/14	10/17	10/20	10/24	10/27	11/01
28	10/17	10/21	10/25	10/27	10/30	11/02	11/04	11/08	11/12
24	10/22	10/28	11/01	11/04	11/08	11/11	11/14	11/18	11/24
20	10/28	11/04	11/08	11/12	11/16	11/19	11/23	11/27	12/04
16	11/06	11/13	11/18	11/22	11/26	11/30	12/04	12/09	12/16

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	170	165	160	156	152	148	143	135
32	194	187	182	178	174	171	166	162	155
28	215	208	203	199	196	192	188	183	176
24	240	233	228	223	219	215	211	206	199
20	269	259	252	246	240	235	229	221	212
16	295	284	277	271	265	259	252	245	234

***** 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	920	699	567	324	118	13	0	2	56	269	619	895	4482
60	765	559	413	197	48	2	0	0	14	139	471	740	3348
57	672	475	324	136	24	0	0	0	4	81	386	647	2749
55	610	419	268	102	13	0	0	0	2	53	333	585	2385
50	457	288	146	40	2	0	0	0	0	15	212	436	1596
32	63	17	0	0	0	0	0	0	0	0	12	58	150

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	166	242	456	674	974	1210	1340	1281	1038	759	383	186	8709
55	0	0	11	86	274	520	627	568	349	99	14	0	2548
57	0	0	5	60	223	460	565	506	292	65	8	0	2184
60	0	0	1	32	154	371	472	413	211	30	2	0	1686
65	0	0	0	8	69	232	317	261	103	4	0	0	994
70	0	0	0	1	22	119	173	125	37	0	0	0	477

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	62	121	249	449	733	980	1102	1043	809	526	195	70	62	183	432	881	1614	2594	3696	4739	5548	6074	6269	6339
45	17	53	135	309	578	830	947	888	659	382	103	24	17	70	205	514	1092	1922	2869	3757	4416	4798	4901	4925
50	0	16	60	190	425	680	792	733	513	242	40	0	0	16	76	266	691	1371	2163	2896	3409	3651	3691	3691
55	0	0	17	90	281	530	637	578	366	125	12	0	0	0	17	107	388	918	1555	2133	2499	2624	2636	2636
60	0	0	1	28	153	381	482	423	231	44	0	0	0	0	1	29	182	563	1045	1468	1699	1743	1743	1743
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	75	126	222	328	472	617	715	686	515	344	158	75	75	201	423	751	1223	1840	2555	3241	3756	4100	4258	4333

(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