

# Climatology of the United States

## No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: BOSQUE DEL APACHE, NM

1971-2000

COOP ID: 291138

Climate Division: NM 5

NWS Call Sign:

Elevation: 4,512 Feet Lat: 33°46N

Lon: 106°54W

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	55.2	19.6	37.4	79+	1950	24	41.9	1999	-19	1962	11	33.5	1975	856	0	.0	.0	24.5	.4	29.3	.3
Feb	62.1	23.6	42.9	85	1986	26	48.9	1996	-4	1951	1	38.1	1974	620	0	.0	.0	26.0	.3	23.9	@
Mar	69.4	29.8	49.6	91	1989	13	57.9	1972	4	1965	4	43.3	1977	474	0	.0	.1	30.7	.0	19.2	.0
Apr	76.8	36.2	56.5	97	1989	8	61.9	1989	17+	1973	9	49.2	1973	271	15	.0	1.6	29.9	.0	10.4	.0
May	85.6	45.5	65.6	107+	2000	25	71.6	2000	21	1967	2	60.5	1975	88	105	.8	10.4	31.0	.0	1.0	.0
Jun	94.4	53.0	73.7	111+	1990	24	78.6	1990	31	1971	2	70.2	1992	5	266	7.2	24.8	30.0	.0	.1	.0
Jul	95.5	59.5	77.5	111+	1998	1	81.5	2000	42	1995	5	74.5+	1986	0	387	8.3	27.2	31.0	.0	.0	.0
Aug	92.8	58.8	75.8	105+	1972	1	79.6	1995	43	1968	24	72.5	1975	1	336	3.2	24.1	31.0	.0	.0	.0
Sep	87.2	50.6	68.9	102+	1948	6	74.8	1998	31	1993	26	63.5	1975	37	154	.7	13.3	30.0	.0	@	.0
Oct	77.7	38.3	58.0	99+	2000	2	62.1	1988	12	1993	31	53.0	1976	231	15	.0	2.1	30.8	.0	7.2	.0
Nov	65.3	26.2	45.8	88+	1988	3	52.1	1973	-10	1976	29	40.2	1979	578	0	.0	.0	28.6	.1	23.4	.1
Dec	55.2	19.2	37.2	78	1958	4	41.2+	1980	-4+	1987	27	30.9	1992	862	0	.0	.0	23.5	.3	29.4	.2
Ann	76.4	38.4	57.4	111+	Jul 1998	1	81.5	Jul 2000	-19	Jan 1962	11	30.9	Dec 1992	4023	1278	20.2	103.6	347.0	1.1	143.9	.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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(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 (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.39	.26	1.70	2001	28	1.10	1987	.00+	2000	2.6	1.4	.1	.0	.00	.00	.02	.08	.15	.24	.34	.48	.66	.98	1.31
Feb	.41	.23	.99	1948	26	1.33	1987	.00+	1999	2.0	1.2	.2	.0	.00	.00	.02	.08	.16	.25	.36	.50	.70	1.05	1.40
Mar	.36	.23	1.43	2000	23	1.85	2000	.00+	1996	2.2	1.1	.1	@	.00	.00	.00	.06	.14	.23	.33	.46	.64	.94	1.24
Apr	.23	.01	.90	1958	16	1.15	1977	.00+	1996	1.5	.7	.1	.0	.00	.00	.00	.00	.00	.01	.08	.19	.38	.73	1.09
May	.54	.37	1.73	1958	16	2.51	1992	.00+	2000	2.7	1.5	.2	.1	.00	.00	.00	.10	.21	.33	.48	.67	.94	1.40	1.85
Jun	.63	.37	1.98	1996	27	3.42	1996	.00+	1998	2.9	1.4	.4	.1	.00	.00	.03	.10	.20	.33	.50	.73	1.07	1.66	2.28
Jul	1.34	1.21	4.11	1989	24	4.72	1989	.07	1979	6.4	3.3	.6	.2	.17	.28	.47	.65	.85	1.07	1.33	1.64	2.07	2.77	3.45
Aug	1.87	1.61	1.63	1961	12	5.43	1993	.38	1980	7.7	4.7	1.0	.2	.51	.69	.96	1.19	1.43	1.67	1.94	2.26	2.67	3.32	3.93
Sep	1.43	1.50	1.90	1972	3	3.35	1997	.04	2000	5.3	3.4	1.0	.2	.14	.24	.44	.64	.85	1.10	1.39	1.75	2.24	3.06	3.86
Oct	1.31	.81	2.40	1986	6	5.52	1986	.00+	1995	3.9	2.3	.9	.2	.00	.00	.05	.24	.47	.76	1.11	1.58	2.24	3.38	4.56
Nov	.61	.45	1.66	1994	12	1.84	1978	.00+	1999	2.5	1.4	.3	.1	.00	.00	.07	.20	.32	.45	.60	.78	1.03	1.43	1.84
Dec	.73	.32	1.31	1987	25	3.54	1991	.00+	1996	2.7	1.6	.4	.1	.00	.00	.00	.09	.21	.38	.58	.86	1.26	1.97	2.69
Ann	9.85	9.83	4.11	Jul 1989	24	5.52	Oct 1986	.00+	May 2000	42.4	24.0	5.3	1.2	5.18	5.99	7.07	7.93	8.71	9.50	10.33	11.26	12.43	14.17	15.73

+ 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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**Climate Division: NM 5**

**NWS Call Sign:**

**Elevation: 4,512 Feet**

**Lat: 33°46N**

**Lon: 106°54W**

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	.9	.0	#	0	7.1	1987	18	10.0	1987	7	1987	19	1	1987	.4	.3	.1	@	.0	.5	.3	.2	.0
Feb	1.0	.0	#	0	4.5	1973	22	7.1	1986	5	1973	22	#+	1989	.4	.3	.2	.0	.0	.2	.1	@	.0
Mar	.1	.0	#	0	2.5	1987	29	2.5	1987	#+	1987	29	#+	1987	@	@	.0	.0	.0	.0	.0	.0	.0
Apr	.1	.0	#	0	1.0	1997	12	1.4	1997	2	1983	4	#+	1984	.1	@	.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	.3	.0	#	0	4.0	1976	27	4.0	1976	1	1991	31	#	1991	.1	.1	@	.0	.0	@	.0	.0	.0
Nov	.3	.0	#	0	5.0	1976	27	5.0	1976	5	1976	27	1	1976	.2	.2	.1	@	.0	.2	.2	@	.0
Dec	3.1	.0	#	0	16.7	1987	25	25.9	1987	17	1987	25	3	1987	.6	.6	.4	.2	@	.9	.6	.4	.1
Ann	5.8	.0	N/A	N/A	16.7	Dec 1987	25	25.9	Dec 1987	17	Dec 1987	25	3	Dec 1987	1.8	1.5	.8	.2	@	1.8	1.2	.6	.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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**Elevation: 4,512 Feet**

**Lat: 33° 46N**

**Lon: 106° 54W**

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	5/27	5/22	5/19	5/16	5/13	5/11	5/08	5/05	4/30
32	5/18	5/12	5/08	5/05	5/02	4/29	4/25	4/21	4/16
28	5/03	4/28	4/24	4/21	4/18	4/15	4/11	4/08	4/02
24	4/24	4/17	4/13	4/09	4/05	4/01	3/29	3/24	3/18
20	4/14	4/06	4/01	3/27	3/22	3/17	3/13	3/07	2/27
16	3/23	3/15	3/09	3/04	2/27	2/22	2/17	2/11	2/03
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	9/25	9/29	10/02	10/04	10/06	10/09	10/11	10/14	10/18
32	10/03	10/07	10/10	10/13	10/15	10/17	10/20	10/22	10/26
28	10/08	10/13	10/17	10/20	10/22	10/25	10/28	11/01	11/06
24	10/17	10/22	10/26	10/29	11/01	11/04	11/07	11/10	11/15
20	10/31	11/05	11/09	11/11	11/14	11/17	11/20	11/23	11/28
16	11/07	11/14	11/18	11/22	11/26	11/30	12/03	12/08	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	163	157	152	149	145	142	138	134	128
32	186	179	174	169	165	161	157	152	144
28	208	201	195	191	187	183	178	173	166
24	235	226	220	214	209	204	198	192	183
20	265	255	248	242	236	231	225	217	208
16	301	291	284	277	271	265	259	252	241

\* 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

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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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	856	620	474	271	88	5	0	1	37	231	578	862	4023
60	701	480	325	156	33	0	0	0	9	117	431	707	2959
57	608	396	243	103	16	0	0	0	3	69	348	614	2400
55	546	342	194	74	9	0	0	0	1	46	295	552	2059
50	392	213	97	25	1	0	0	0	0	13	180	400	1321
32	22	3	0	0	0	0	0	0	0	0	6	30	61

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	189	307	550	734	1040	1252	1410	1358	1107	807	418	191	9363
55	0	2	31	119	336	562	697	645	417	140	17	0	2966
57	0	0	18	87	281	502	635	583	359	101	10	0	2576
60	0	0	7	50	206	412	542	490	275	56	4	0	2042
65	0	0	0	15	105	266	387	336	154	15	0	0	1278
70	0	0	0	3	41	139	233	191	68	2	0	0	677

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	53	154	334	514	803	1031	1177	1120	885	572	216	51	53	207	541	1055	1858	2889	4066	5186	6071	6643	6859	6910
45	11	67	197	369	648	881	1022	965	735	421	110	14	11	78	275	644	1292	2173	3195	4160	4895	5316	5426	5440
50	0	18	94	233	493	731	867	810	585	276	43	0	0	18	112	345	838	1569	2436	3246	3831	4107	4150	4150
55	0	3	35	121	342	581	712	655	436	153	8	0	0	3	38	159	501	1082	1794	2449	2885	3038	3046	3046
60	0	0	3	40	200	431	557	500	288	57	0	0	0	0	3	43	243	674	1231	1731	2019	2076	2076	2076
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	120	203	322	423	533	609	710	697	558	436	245	116	120	323	645	1068	1601	2210	2920	3617	4175	4611	4856	4972

(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:

[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

## 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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)