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: LAKE MALOYA, NM **COOP ID: 294742**

Climate Division: NM 2 **NWS Call Sign:** **Elevation: 7,400 Feet** **Lat: 36˚59N** **Lon: 104˚22W**

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	40.6	8.2	24.4	67	1997	3	31.5	1986	-33+	1963	12	16.3	1979	1259	0	.0	.0	7.0	6.3	31.0	5.7
Feb	43.7	10.8	27.3	75	1951	11	33.9	2000	-25	1951	1	22.6	1985	1057	0	.0	.0	9.6	4.3	28.1	3.4
Mar	48.8	17.5	33.2	76	1971	26	39.9	1989	-19	1948	5	26.9	1987	987	0	.0	.0	17.2	2.0	30.5	.9
Apr	55.6	25.1	40.4	82	1989	22	46.2	1981	-6+	1959	12	32.4	1973	739	0	.0	.0	23.0	.7	25.8	.1
May	65.0	34.8	49.9	87+	1953	26	55.7	1996	16	1970	2	45.8	1995	469	0	.0	.0	29.3	.0	9.4	.0
Jun	74.3	42.7	58.5	92	1994	26	62.6	1990	25+	1969	12	55.0	1995	203	8	.0	.3	29.9	.0	.7	.0
Jul	78.2	47.4	62.8	93	1955	9	66.1	1980	33	1974	6	60.8	1992	81	13	.0	.3	31.0	.0	.0	.0
Aug	75.7	46.6	61.2	91	1948	23	63.9	1983	34	1978	21	58.7	1981	131	11	.0	.0	31.0	.0	.0	.0
Sep	69.5	39.1	54.3	92	1956	14	59.1	1998	18	1999	29	51.3	1973	321	1	.0	.0	29.4	.0	3.5	.0
Oct	60.6	29.4	45.0	82	1987	5	49.2	1988	-6+	1993	30	38.1	1984	621	0	.0	.0	27.5	.4	19.8	.0
Nov	47.9	18.5	33.2	72	1973	12	41.3	1999	-17	1976	28	25.3	1972	954	0	.0	.0	15.2	2.8	29.4	.7
Dec	41.1	10.5	25.8	70+	1955	23	33.6	1980	-20+	1996	18	19.9	1983	1215	0	.0	.0	7.7	6.0	30.9	3.8
Ann	58.4	27.6	43.0	93	Jul 1955	9	66.1	Jul 1980	-33+	Jan 1963	12	16.3	Jan 1979	8037	33	.0	.6	257.8	22.5	209.1	14.6

\+ 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

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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	.91	.85	1.34	1960	14	2.31	1987	.11	1981
Feb	1.06	.82	3.50	1960	3	5.86	1984	.05	1972
Mar	1.85	1.51	1.75	1983	16	4.78	1993	.04	1989
Apr	1.98	1.49	2.72	1999	14	6.22	1999	.04	1982
May	2.94	3.04	2.31	1955	18	7.14	1995	.07	1998
Jun	2.58	2.37	3.60	1965	18	6.50	1983	.21	1998
Jul	3.52	3.24	3.20	1991	23	7.40	1973	.69	1980
Aug	3.72	3.46	2.50	1948	7	9.42	1981	1.14	1980
Sep	2.10	2.00	2.35	1985	12	5.50	1989	.13	1992
Oct	1.51	1.39	2.29	1957	19	4.29	1986	.00	1995
Nov	1.43	1.20	3.40	1964	3	3.63	1983	.00	1989
Dec	.77	.68	1.78	1967	9	3.24	1973	.17	1980
Ann	24.37	25.18	3.60	Jun 1965	18	9.42	Aug 1981	.00+	Oct 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.5	2.6	.3	@
Feb	5.0	2.7	.5	.1
Mar	7.5	4.9	1.1	.2
Apr	7.9	4.7	1.0	.3
May	11.2	6.7	1.6	.7
Jun	9.9	6.1	1.8	.4
Jul	13.1	7.8	2.0	.7
Aug	13.9	8.6	1.9	.7
Sep	8.2	4.7	1.2	.4
Oct	5.4	3.7	1.0	.2
Nov	5.6	3.2	.9	.3
Dec	4.9	2.6	.3	.0
Ann	98.1	58.3	13.6	4.0

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	.18	.26	.39	.52	.64	.78	.93	1.11	1.36	1.75	2.12
Feb	.07	.14	.27	.42	.58	.77	1.00	1.29	1.69	2.37	3.04
Mar	.22	.37	.63	.88	1.16	1.46	1.82	2.26	2.85	3.83	4.79
Apr	.20	.35	.62	.90	1.19	1.53	1.92	2.41	3.08	4.19	5.28
May	.44	.69	1.12	1.52	1.94	2.41	2.94	3.59	4.46	5.87	7.23
Jun	.45	.67	1.05	1.40	1.76	2.15	2.60	3.14	3.87	5.03	6.15
Jul	1.07	1.41	1.91	2.34	2.75	3.19	3.66	4.22	4.94	6.07	7.12
Aug	1.27	1.63	2.14	2.57	2.99	3.42	3.88	4.43	5.13	6.21	7.21
Sep	.35	.53	.84	1.13	1.42	1.74	2.11	2.56	3.16	4.13	5.06
Oct	.04	.15	.35	.56	.80	1.08	1.41	1.84	2.43	3.42	4.40
Nov	.13	.30	.53	.74	.95	1.18	1.44	1.76	2.18	2.87	3.52
Dec	.13	.19	.30	.41	.52	.64	.77	.94	1.16	1.51	1.85
Ann	16.74	18.19	20.07	21.50	22.77	24.01	25.29	26.70	28.43	30.94	33.13

\+ 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	14.9	12.0	7	3
Feb	16.5	13.8	6	2
Mar	22.8	22.2	2	1
Apr	14.0	10.0	4	#
May	2.1	.0	#	0
Jun	.0	.0	#	0
Jul	.0	.0	#	0
Aug	.0	.0	0	0
Sep	.6	.0	#	0
Oct	4.6	2.0	#	0
Nov	14.9	12.3	2	#
Dec	15.4	10.5	4	1
Ann	105.8	82.8	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	1999	22	34.0	1975	47	1974	3	36	1974
Feb	25.0	1983	20	65.0	1984	54	1997	27	27	1984
Mar	20.5	1973	31	70.0	1973	45	1973	31	18	1983
Apr	14.0	1980	25	53.5	1983	73	1973	9	47	1973
May	6.0	1990	3	11.5	1978	6	1990	3	#+	1990
Jun	1.0	1975	10	1.0	1975	1	1972	30	#	1972
Jul	.0	0	0	.0	0	#	1987	13	#	1987
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	4.5	1973	26	6.0	1973	4	1973	27	#+	1984
Oct	13.0	1997	25	25.5	1997	25	1997	26	2	1997
Nov	24.0	1997	29	51.3	1997	27	1983	28	11	1972
Dec	20.0	1997	11	55.0	1973	41	1973	24	20	1973
Ann	25.0	Feb 1983	20	70.0	Mar 1973	73	Apr 1973	9	47	Apr 1973

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.6	3.8	1.9	1.0	.2
Feb	3.9	3.5	1.9	1.1	.4
Mar	5.9	4.7	2.9	1.6	.4
Apr	4.0	3.8	1.9	1.0	.2
May	.8	.7	.3	.2	.0
Jun	@	@	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.3	.2	.1	.0	.0
Oct	1.4	1.2	.7	.3	.1
Nov	4.0	3.3	1.8	1.2	.3
Dec	4.0	3.5	1.8	.8	.3
Ann	28.9	24.7	13.3	7.2	1.9

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	11.8	9.9	8.3	6.5
Feb	8.5	7.6	6.3	4.8
Mar	6.4	4.9	3.7	2.0
Apr	3.3	2.3	1.9	1.1
May	.2	.1	@	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.2	.2	.0	.0
Oct	.9	.5	.2	.1
Nov	5.8	4.6	4.0	2.4
Dec	12.6	11.9	10.2	7.0
Ann	49.7	42.0	34.6	23.9

+ 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	7/01	6/25	6/21	6/17	6/13	6/10	6/06	6/02	5/26
32	6/14	6/09	6/05	6/01	5/29	5/26	5/23	5/19	5/13
28	5/24	5/20	5/17	5/14	5/11	5/09	5/06	5/03	4/28
24	5/14	5/09	5/06	5/03	4/30	4/27	4/24	4/21	4/16
20	5/04	4/29	4/25	4/22	4/19	4/16	4/13	4/10	4/05
16	4/21	4/17	4/14	4/11	4/08	4/06	4/03	3/31	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	9/02	9/06	9/09	9/11	9/14	9/17	9/21	9/25
32	9/12	9/16	9/18	9/20	9/22	9/24	9/26	9/29	10/02
28	9/17	9/21	9/24	9/27	9/30	10/02	10/05	10/09	10/13
24	9/27	10/02	10/06	10/09	10/12	10/15	10/18	10/21	10/26
20	10/04	10/09	10/13	10/16	10/19	10/22	10/25	10/29	11/04
16	10/13	10/19	10/24	10/27	10/31	11/03	11/07	11/11	11/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	115	106	100	94	89	84	79	72	63
32	136	129	124	119	115	111	107	102	95
28	161	154	149	145	141	137	132	127	120
24	183	177	172	168	164	160	156	151	145
20	201	195	190	186	182	178	174	169	163
16	224	217	212	208	205	201	197	192	186

***** 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	1259	1057	987	739	469	203	81	131	321	621	954	1215	8037
60	1104	917	832	589	319	92	10	38	182	466	804	1060	6413
57	1011	833	739	500	237	48	1	12	114	374	714	967	5550
55	949	777	677	443	187	28	0	5	77	313	654	905	5015
50	794	637	523	306	90	5	0	0	20	178	506	750	3809
32	261	170	88	24	0	0	0	0	0	3	95	220	861

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	25	37	124	275	554	796	955	904	669	405	132	29	4905
55	0	0	0	4	28	134	243	195	56	2	0	0	662
57	0	0	0	1	16	93	182	141	33	1	0	0	467
60	0	0	0	0	5	47	97	73	12	0	0	0	234
65	0	0	0	0	0	8	13	11	1	0	0	0	33
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	2	30	121	338	577	724	670	461	213	41	1	0	2	32	153	491	1068	1792	2462	2923	3136	3177	3178
45	0	0	4	44	200	428	569	515	315	103	8	0	0	0	4	48	248	676	1245	1760	2075	2178	2186	2186
50	0	0	0	9	92	280	414	361	182	30	0	0	0	0	0	9	101	381	795	1156	1338	1368	1368	1368
55	0	0	0	0	25	146	260	208	78	2	0	0	0	0	0	0	25	171	431	639	717	719	719	719
60	0	0	0	0	0	51	115	73	13	0	0	0	0	0	0	0	0	51	166	239	252	252	252	252
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	18	31	65	138	254	382	456	416	315	196	63	19	18	49	114	252	506	888	1344	1760	2075	2271	2334	2353

(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