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: LUNA R S, NM **COOP ID: 295273**

Climate Division: NM 4 **NWS Call Sign:** **Elevation: 7,050 Feet** **Lat: 33˚49N** **Lon: 108˚57W**

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	49.2	12.4	30.8	71	1950	20	35.5	1986	-32+	1960	18	27.2	1979	1062	0	.0	.0	15.8	.9	30.8	2.9
Feb	52.4	15.5	34.0	73	1986	25	40.0	1996	-29	1965	12	30.0	1979	870	0	.0	.0	18.2	.5	27.4	1.6
Mar	56.9	19.0	38.0	76+	1971	23	42.4	1972	-18	1953	4	33.3	1977	838	0	.0	.0	24.4	.1	29.5	.2
Apr	65.0	22.2	43.6	85+	2000	26	47.6	1989	-5	1999	5	39.1	1983	642	0	.0	.0	28.3	.0	27.6	@
May	72.7	29.3	51.0	96	2000	29	56.5	2000	7	1967	1	48.0	1977	434	0	.0	.2	31.0	.0	21.9	.0
Jun	82.3	36.2	59.3	97+	1998	28	63.2	1990	20+	1951	3	55.3	1982	187	14	.0	3.9	30.0	.0	9.5	.0
Jul	83.2	46.3	64.8	97+	1948	13	67.8	1996	28	1987	6	61.9	1987	50	43	.0	4.4	31.0	.0	.5	.0
Aug	80.2	45.9	63.1	93+	1961	7	65.7	1986	30+	1954	27	60.4	1989	84	24	.0	.6	31.0	.0	.2	.0
Sep	76.3	38.2	57.3	93	1948	2	62.2	1997	20+	1965	30	54.5	1988	236	3	.0	.1	30.0	.0	7.1	.0
Oct	67.9	26.8	47.4	86+	1950	12	51.4	1988	2	1997	25	43.8+	1982	548	0	.0	.0	30.1	.0	24.0	.0
Nov	56.9	17.0	37.0	78	1980	10	40.7	1999	-25	1976	29	32.0	1979	842	0	.0	.0	23.6	.1	28.4	.6
Dec	49.9	11.6	30.8	73	1980	29	35.6	1977	-32	1990	23	25.9	1990	1062	0	.0	.0	16.7	.8	30.5	3.4
Ann	66.1	26.7	46.4	97+	Jun 1998	28	67.8	Jul 1996	-32+	Dec 1990	23	25.9	Dec 1990	6855	84	.0	9.2	310.1	2.4	237.4	8.7

\+ 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	1.01	.81	1.60	1993	19	3.96	1993	.02	1972
Feb	.92	.78	1.60	1976	10	3.29	1980	.00+	1984
Mar	.90	.89	1.20	1982	13	2.53	1981	.00+	1996
Apr	.38	.30	1.27	1988	18	2.04	1988	.00+	2000
May	.74	.34	1.47	1992	6	5.89	1992	.00+	2000
Jun	.63	.56	1.74	1957	11	1.69	1986	.00+	1989
Jul	3.12	3.05	3.27	1998	31	7.70	1998	.39	1993
Aug	3.69	4.01	2.10	1992	24	7.17	1999	1.01	1975
Sep	2.12	1.84	2.14	1983	30	6.16	1983	.19	1973
Oct	1.97	1.68	2.75	2000	11	7.66	2000	.00+	1999
Nov	1.06	.57	1.38	1990	2	4.13	1978	.00	1999
Dec	1.03	.57	1.42	1965	10	3.69	1984	.00+	1996
Ann	17.57	17.72	3.27	Jul 1998	31	7.70	Jul 1998	.00+	May 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.2	2.8	.6	.1
Feb	4.8	2.7	.5	@
Mar	5.2	2.5	.4	@
Apr	3.4	1.2	.1	.1
May	4.4	2.0	.3	@
Jun	4.7	1.8	.2	.0
Jul	14.8	7.7	1.8	.5
Aug	15.9	8.9	2.2	.4
Sep	9.1	5.1	1.3	.3
Oct	5.9	3.9	1.1	.5
Nov	4.2	2.4	.6	.1
Dec	5.0	2.8	.5	.1
Ann	82.6	43.8	9.6	2.1

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	.04	.09	.20	.33	.48	.67	.90	1.20	1.63	2.38	3.13
Feb	.00	.00	.16	.31	.47	.65	.87	1.14	1.51	2.14	2.76
Mar	.00	.06	.20	.34	.49	.66	.86	1.11	1.46	2.05	2.62
Apr	.00	.00	.00	.10	.20	.29	.39	.51	.66	.92	1.16
May	.00	.01	.05	.13	.24	.38	.57	.84	1.23	1.94	2.69
Jun	.00	.00	.16	.27	.38	.50	.63	.80	1.02	1.39	1.75
Jul	1.01	1.31	1.75	2.12	2.47	2.84	3.25	3.72	4.33	5.28	6.15
Aug	1.34	1.69	2.19	2.61	3.01	3.41	3.86	4.37	5.03	6.05	6.98
Sep	.42	.61	.92	1.21	1.50	1.81	2.16	2.58	3.13	4.02	4.87
Oct	.00	.00	.37	.70	1.04	1.43	1.89	2.47	3.24	4.55	5.84
Nov	.02	.08	.21	.35	.52	.72	.96	1.28	1.72	2.49	3.25
Dec	.00	.01	.10	.22	.38	.58	.84	1.20	1.72	2.64	3.59
Ann	11.45	12.59	14.08	15.22	16.25	17.25	18.29	19.45	20.86	22.93	24.74

\+ 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	4.3	1.0	#	0
Feb	4.3	.0	1	0
Mar	2.3	.0	#	0
Apr	.5	.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	.3	.0	#	0
Nov	1.0	.0	#	0
Dec	5.5	.2	1	0
Ann	18.2	1.2	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	12.0	1988	19	24.0	1975	12	1988	19	2	1992
Feb	10.0	1986	4	22.5	1986	18	1986	10	7	1994
Mar	8.0	1975	11	14.0	1981	20	1987	2	2	1987
Apr	5.3	1999	2	6.5	1999	5	1999	2	#	1999
May	.0	0	0	.0	0	0	0	0	0	0
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	3.0	1997	25	3.0	1997	2	1974	29	#+	2000
Nov	5.0	1980	16	6.0	1980	5	1980	16	1	1980
Dec	12.5	1987	25	34.0	1987	18	1987	27	4	1987
Ann	12.5	Dec 1987	25	34.0	Dec 1987	20	Mar 1987	2	7	Feb 1994

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.6	1.3	.7	.4	.1
Feb	1.6	1.3	.5	.2	.1
Mar	1.4	.8	.5	.3	.0
Apr	.4	.2	.1	.1	.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	.4	.3	.1	.1	.0
Dec	1.8	1.3	.9	.4	.2
Ann	7.3	5.3	2.9	1.5	.4

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.9	1.6	.9	.1
Feb	2.2	1.3	.6	.4
Mar	.5	.2	.0	.0
Apr	.1	@	@	.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	@	.0	.0	.0
Nov	.2	@	.0	.0
Dec	2.2	1.3	.5	.0
Ann	8.1	4.4	2.0	.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	7/17	7/12	7/09	7/06	7/03	6/30	6/27	6/24	6/19
32	7/06	7/02	6/29	6/26	6/24	6/21	6/19	6/16	6/11
28	6/26	6/22	6/18	6/15	6/13	6/10	6/07	6/04	5/30
24	6/20	6/13	6/08	6/04	5/31	5/27	5/23	5/18	5/12
20	6/01	5/26	5/22	5/18	5/15	5/12	5/08	5/04	4/28
16	5/18	5/13	5/09	5/05	5/02	4/29	4/26	4/22	4/16

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	8/15	8/21	8/25	8/29	9/01	9/05	9/08	9/12	9/18
32	8/24	8/30	9/04	9/08	9/12	9/15	9/19	9/24	9/30
28	9/14	9/18	9/21	9/23	9/25	9/28	9/30	10/03	10/07
24	9/22	9/26	9/29	10/01	10/03	10/05	10/07	10/10	10/13
20	10/03	10/08	10/11	10/14	10/17	10/20	10/23	10/26	10/31
16	10/07	10/13	10/18	10/21	10/25	10/28	11/01	11/05	11/11

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	82	74	69	64	60	55	51	45	37
32	102	94	88	84	79	75	70	64	57
28	122	116	111	107	104	100	96	92	85
24	147	139	133	128	124	119	114	109	101
20	174	167	162	158	154	151	146	142	135
16	196	189	183	179	175	171	166	161	153

***** 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	1062	870	838	642	434	187	50	84	236	548	842	1062	6855
60	907	730	683	492	284	84	5	16	112	394	692	907	5306
57	814	646	590	402	201	44	1	3	59	303	602	814	4479
55	752	590	528	343	152	26	0	1	35	246	542	752	3967
50	597	450	373	201	59	5	0	0	6	124	392	597	2804
32	98	48	16	0	0	0	0	0	0	0	22	107	291

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	60	102	202	348	589	818	1016	963	758	475	170	68	5569
55	0	0	0	0	28	154	303	251	103	8	0	0	847
57	0	0	0	0	15	112	242	191	67	3	0	0	630
60	0	0	0	0	5	62	154	111	29	1	0	0	362
65	0	0	0	0	0	14	43	24	3	0	0	0	84
70	0	0	0	0	0	1	3	1	0	0	0	0	5

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	11	53	147	353	588	775	723	527	252	40	0	0	11	64	211	564	1152	1927	2650	3177	3429	3469	3469
45	0	0	8	49	208	438	620	568	377	126	3	0	0	0	8	57	265	703	1323	1891	2268	2394	2397	2397
50	0	0	0	9	90	289	465	413	232	39	0	0	0	0	0	9	99	388	853	1266	1498	1537	1537	1537
55	0	0	0	0	24	150	310	258	104	3	0	0	0	0	0	0	24	174	484	742	846	849	849	849
60	0	0	0	0	0	57	160	112	24	0	0	0	0	0	0	0	0	57	217	329	353	353	353	353
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	50	80	134	235	361	476	517	481	404	287	130	60	50	130	264	499	860	1336	1853	2334	2738	3025	3155	3215

(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

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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