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: NEWKIRK, NM **COOP ID: 296115**

Climate Division: NM 3 **NWS Call Sign:** **Elevation: 4,563 Feet** **Lat: 35˚04N** **Lon: 104˚15W**

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	52.6	22.6	37.6	82	1974	16	44.2	1986	-17	1971	5	30.4	1979	849	0	.0	.0	20.3	1.9	26.6	.6
Feb	57.8	26.2	42.0	80+	1981	19	49.1	2000	-8	1986	11	36.2	1989	645	0	.0	.0	22.4	1.3	21.1	.2
Mar	64.9	32.2	48.6	88+	1969	18	53.7	1974	6	1996	7	44.9	1998	510	0	.0	.0	28.9	.1	15.7	.0
Apr	72.4	39.6	56.0	97	1989	22	62.3	1981	8	1973	8	49.0	1973	286	16	.0	.4	29.2	.0	6.7	.0
May	81.1	48.9	65.0	103	2000	24	73.2	1996	26	1991	1	61.0	1983	101	101	.2	5.0	31.0	.0	.8	.0
Jun	90.4	58.5	74.5	108	1990	23	80.5	1990	36	1970	8	70.5	1992	6	290	3.2	18.3	30.0	.0	.0	.0
Jul	92.2	63.3	77.8	105+	1995	26	83.2	1980	49	1971	2	74.1	1991	0	395	2.6	23.5	31.0	.0	.0	.0
Aug	89.6	61.9	75.8	104+	1994	17	80.1	1995	45	1976	29	71.4	1971	1	334	.7	18.8	31.0	.0	.0	.0
Sep	83.6	54.4	69.0	100+	1983	3	73.7	1983	29	1999	29	65.0	1991	29	149	.1	7.1	29.9	.0	.1	.0
Oct	74.0	42.7	58.4	94	2000	2	61.7	1979	9	1993	30	53.1	1976	219	12	.0	.5	30.3	.0	3.3	.0
Nov	61.0	31.4	46.2	86	1980	8	51.7	1973	-7	1976	28	39.4	1972	563	0	.0	.0	25.4	.2	17.3	.1
Dec	52.8	23.5	38.2	81	1980	17	46.3	1980	-19	1990	23	32.3	1997	833	0	.0	.0	19.4	1.6	25.1	.5
Ann	72.7	42.1	57.4	108	Jun 1990	23	83.2	Jul 1980	-19	Dec 1990	23	30.4	Jan 1979	4042	1297	6.8	73.6	328.8	5.1	116.7	1.4

\+ 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	.37	.30	.61	1983	31	1.23	1983	.00	2000
Feb	.39	.30	1.37	1949	26	1.44	1987	.00+	2000
Mar	.69	.40	2.11	2001	8	2.76	2000	.00	1996
Apr	.99	.58	4.28	1999	30	5.72	1999	.00+	1996
May	1.48	1.53	1.88	1991	21	3.31	1999	.00+	1998
Jun	1.68	1.54	2.68	1978	28	5.12	1978	.02+	1998
Jul	2.80	2.60	2.69	1981	16	7.63	1990	.37	1987
Aug	2.77	2.90	3.70	1967	31	6.58	1972	.33	1994
Sep	1.68	1.33	2.35	1980	9	4.42	1982	.00	2000
Oct	1.45	.96	3.30	1985	17	6.36	2000	.00+	1980
Nov	.66	.39	1.53	1984	24	2.71	1986	.00+	1999
Dec	.55	.45	1.25	1959	26	3.05	1997	.00+	1993
Ann	15.51	14.61	4.28	Apr 1999	30	7.63	Jul 1990	.00+	Sep 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	3.1	1.4	.1	.0
Feb	2.3	1.2	.2	@
Mar	2.9	1.8	.4	.1
Apr	3.2	1.9	.5	.2
May	4.4	3.3	1.1	.2
Jun	5.2	3.6	1.2	.4
Jul	6.9	5.1	1.9	.7
Aug	8.3	5.6	1.9	.5
Sep	5.3	3.7	.9	.3
Oct	3.7	2.4	.9	.3
Nov	2.7	1.8	.5	.1
Dec	2.9	1.7	.2	@
Ann	50.9	33.5	9.8	2.8

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	.01	.04	.09	.14	.20	.27	.35	.45	.60	.84	1.08
Feb	.00	.00	.00	.10	.18	.27	.37	.50	.66	.94	1.21
Mar	.01	.04	.12	.21	.32	.45	.62	.83	1.13	1.66	2.18
Apr	.00	.00	.09	.22	.38	.58	.83	1.17	1.66	2.51	3.38
May	.00	.00	.36	.62	.88	1.16	1.48	1.88	2.40	3.26	4.10
Jun	.12	.22	.44	.67	.93	1.22	1.58	2.04	2.68	3.75	4.81
Jul	.55	.81	1.22	1.59	1.97	2.38	2.85	3.40	4.14	5.32	6.45
Aug	.71	.97	1.38	1.73	2.08	2.45	2.86	3.34	3.98	4.98	5.92
Sep	.19	.39	.68	.92	1.16	1.42	1.72	2.07	2.54	3.30	4.01
Oct	.00	.04	.21	.40	.64	.92	1.28	1.74	2.40	3.53	4.68
Nov	.00	.00	.11	.23	.35	.48	.64	.83	1.09	1.52	1.94
Dec	.00	.00	.06	.15	.25	.37	.51	.68	.94	1.36	1.78
Ann	8.91	10.09	11.65	12.87	13.98	15.07	16.22	17.51	19.11	21.47	23.57

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	4.9	4.0	#	#
Feb	3.8	2.3	#	#
Mar	1.6	.0	#	0
Apr	1.2	.0	#	0
May	.2	.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	2.2	.0	#	0
Dec	5.5	3.5	#	#
Ann	19.8	9.8	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	7.0	1983	31	16.0	1983	9	1987	18	2	1987
Feb	12.0	1987	19	15.0	1987	12+	1986	9	3	1977
Mar	6.0	1973	30	6.5	1980	5	1999	18	#+	1999
Apr	16.0	1988	1	16.0	1988	7	1997	25	#+	1997
May	6.0	1978	2	6.0	1978	4	1978	2	#	1978
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	4.0	1972	31	4.0	1972	3	1996	22	#+	1999
Nov	10.0	1982	27	13.0	1972	7	2000	7	#+	2000
Dec	13.0	1997	23	28.5	1997	13+	1997	23	6	1984
Ann	16.0	Apr 1988	1	28.5	Dec 1997	13+	Dec 1997	23	6	Dec 1984

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.9	1.7	.6	.2	.0
Feb	1.5	1.0	.5	.2	.1
Mar	.6	.4	.2	.1	.0
Apr	.2	.2	.1	.1	@
May	@	@	@	@	.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	.2	.2	@	.0	.0
Nov	.7	.6	.3	.2	@
Dec	1.7	1.5	.8	.4	.1
Ann	6.8	5.6	2.5	1.2	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.5	.9	.4	.0
Feb	1.2	.8	.5	.1
Mar	.2	@	@	.0
Apr	.2	.1	.1	.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	.2	.1	.0	.0
Nov	.4	.2	.1	.0
Dec	2.0	.9	.5	@
Ann	6.7	3.0	1.6	.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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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	5/19	5/15	5/12	5/09	5/07	5/04	5/01	4/28	4/24
32	5/12	5/07	5/04	5/01	4/28	4/25	4/22	4/18	4/13
28	4/25	4/21	4/18	4/15	4/13	4/11	4/08	4/05	4/01
24	4/18	4/13	4/09	4/06	4/03	3/31	3/28	3/25	3/20
20	4/10	4/03	3/29	3/24	3/20	3/16	3/11	3/06	2/27
16	3/26	3/18	3/13	3/08	3/04	2/27	2/22	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	9/22	9/27	10/01	10/04	10/07	10/10	10/13	10/16	10/21
32	9/30	10/06	10/10	10/13	10/17	10/20	10/23	10/27	11/02
28	10/14	10/19	10/23	10/26	10/29	11/01	11/04	11/07	11/12
24	10/22	10/27	10/31	11/03	11/06	11/08	11/11	11/15	11/20
20	11/02	11/07	11/10	11/14	11/16	11/19	11/22	11/26	12/01
16	11/06	11/12	11/17	11/21	11/25	11/28	12/02	12/07	12/13

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	174	166	161	157	152	148	144	138	131
32	195	187	181	176	171	167	162	156	147
28	218	211	206	202	198	194	190	185	178
24	236	229	224	220	215	211	207	202	195
20	266	258	251	246	241	236	230	224	215
16	297	286	278	272	265	259	253	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	849	645	510	286	101	6	0	1	29	219	563	833	4042
60	694	505	357	170	42	0	0	0	5	106	420	678	2977
57	601	421	269	115	21	0	0	0	1	60	338	585	2411
55	539	366	215	85	12	0	0	0	0	40	287	524	2068
50	391	237	103	31	3	0	0	0	0	10	178	378	1331
32	37	8	0	0	0	0	0	0	0	0	8	37	90

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	211	287	513	720	1024	1274	1418	1356	1110	816	435	228	9392
55	0	1	15	115	323	584	705	643	420	142	24	1	2973
57	0	0	7	85	270	524	643	581	361	101	15	0	2587
60	0	0	2	50	197	435	550	488	275	54	7	0	2058
65	0	0	0	16	101	290	395	334	149	12	0	0	1297
70	0	0	0	4	40	163	243	189	62	1	0	0	702

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	81	147	299	497	795	1049	1188	1124	882	586	236	94	81	228	527	1024	1819	2868	4056	5180	6062	6648	6884	6978
45	31	73	175	357	640	899	1033	969	732	437	135	40	31	104	279	636	1276	2175	3208	4177	4909	5346	5481	5521
50	6	24	86	230	486	749	878	814	583	295	62	10	6	30	116	346	832	1581	2459	3273	3856	4151	4213	4223
55	0	1	31	124	338	599	723	659	436	167	18	0	0	1	32	156	494	1093	1816	2475	2911	3078	3096	3096
60	0	0	4	48	200	450	568	504	294	75	2	0	0	0	4	52	252	702	1270	1774	2068	2143	2145	2145
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	103	154	253	359	516	656	765	733	572	399	193	104	103	257	510	869	1385	2041	2806	3539	4111	4510	4703	4807

(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