

Climatology of the United States

No. 20

1971-2000

Station: EL MORRO NATL MONUMENT, NM

COOP ID: 292785

Climate Division: NM 1

NWS Call Sign:

Elevation: 7,227 Feet Lat: 35°03N

Lon: 108°21W

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	43.6	14.0	28.8	69	1948	16	36.8	1986	-38+	1963	13	23.4	1977	1122	0	.0	.0	7.4	2.8	30.7	4.0
Feb	47.9	19.5	33.7	72	1986	25	39.3	1995	-21	1965	12	26.8	1985	877	0	.0	.0	12.2	1.3	27.5	.9
Mar	54.3	24.1	39.2	77	1974	30	44.7	1972	-15	1948	4	34.2	1987	800	0	.0	.0	21.8	.2	28.5	.1
Apr	63.0	28.3	45.7	81	2000	27	50.2	1989	3	1977	4	40.9	1973	580	0	.0	.0	27.1	@	23.2	.0
May	72.3	35.0	53.7	91+	1951	27	57.8	1984	13+	1967	2	50.7	1995	352	1	.0	.1	30.7	.0	11.6	.0
Jun	82.7	42.9	62.8	104	1977	6	67.6	1974	23	1950	8	59.6	1991	110	44	@	4.1	30.0	.0	1.7	.0
Jul	84.8	51.1	68.0	98	1971	12	70.7	1980	34	1987	2	64.8	1992	15	106	.0	6.3	31.0	.0	.0	.0
Aug	82.0	50.4	66.2	97	1948	28	69.5	1995	33+	1976	6	63.6	1990	32	68	.0	1.9	31.0	.0	.0	.0
Sep	76.6	42.8	59.7	94	1948	1	63.6	1998	23	1971	20	55.9	1996	173	15	.0	.1	30.0	.0	2.3	.0
Oct	66.3	31.6	49.0	87	1980	1	51.9	1978	8+	1970	28	43.4	1984	498	0	.0	.0	29.4	.1	17.9	.0
Nov	52.8	21.5	37.2	78	1980	9	41.3	1999	-20+	1976	28	30.5	1992	836	0	.0	.0	18.7	.9	27.4	.5
Dec	45.1	15.4	30.3	69	1980	27	37.7	1980	-32	1978	8	24.0	1990	1078	0	.0	.0	10.3	2.5	30.4	2.4
Ann	64.3	31.4	47.9	104	Jun 1977	6	70.7	Jul 1980	-38+	Jan 1963	13	23.4	Jan 1977	6473	234	@	12.5	279.6	7.8	201.2	7.9

+ 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

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

034-A

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: EL MORRO NATL MONUMENT, NM

COOP ID: 292785

Climate Division: NM 1

NWS Call Sign:

Elevation: 7,227 Feet Lat: 35°03N

Lon: 108°21W

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	1.24	1.00	1.20	1956	28	4.37	1979	.00	1986	6.7	3.5	.6	.1	.04	.12	.29	.47	.66	.89	1.16	1.51	1.99	2.80	3.60
Feb	.96	.96	1.25	1989	5	2.23	1980	.00+	1999	6.1	3.2	.3	.1	.00	.09	.26	.41	.57	.75	.95	1.20	1.54	2.09	2.63
Mar	1.30	1.17	1.70	2000	28	3.14	1981	.05	1974	7.0	4.3	.6	.1	.13	.23	.40	.59	.78	1.00	1.26	1.59	2.03	2.77	3.49
Apr	.80	.67	2.00	1977	3	2.20	1988	.00+	1992	4.9	2.6	.3	@	.00	.00	.14	.27	.41	.57	.76	.99	1.31	1.85	2.38
May	.78	.54	.70	1978	20	3.82	1992	.00+	2000	4.5	2.4	.3	.0	.00	.00	.09	.25	.41	.58	.77	1.01	1.32	1.83	2.36
Jun	.61	.42	.94	1997	7	2.65	1988	.00+	1998	4.1	1.9	.2	.0	.00	.00	.05	.14	.25	.38	.53	.74	1.03	1.52	2.01
Jul	1.90	1.84	1.42	1950	7	4.41	1998	.08	1993	10.9	4.9	.9	.1	.40	.58	.86	1.11	1.37	1.64	1.95	2.31	2.80	3.57	4.31
Aug	2.79	2.75	2.50	1993	28	7.68	1993	.89	1978	12.5	7.3	1.4	.3	1.08	1.34	1.71	2.02	2.31	2.60	2.92	3.29	3.76	4.48	5.14
Sep	1.56	1.38	2.02	1980	6	3.85	1983	.10	1979	7.2	4.1	.8	.2	.20	.33	.55	.76	.99	1.24	1.54	1.90	2.39	3.20	3.97
Oct	1.35	1.02	1.60	1998	26	4.75	1972	.00+	1999	5.8	3.7	.8	.1	.00	.06	.24	.44	.66	.93	1.24	1.64	2.21	3.17	4.13
Nov	1.00	.96	1.06	1984	25	2.43	1986	.02	1989	5.2	2.8	.3	.1	.12	.20	.34	.48	.63	.79	.99	1.23	1.55	2.09	2.61
Dec	1.01	.84	1.14	1983	28	2.73	1990	.05	1981	5.5	3.3	.4	.1	.12	.20	.34	.48	.63	.80	.99	1.23	1.56	2.09	2.61
Ann	15.30	15.44	2.50	Aug 1993	28	7.68	Aug 1993	.00+	May 2000	80.4	44.0	6.9	1.2	10.71	11.59	12.73	13.59	14.35	15.09	15.86	16.71	17.74	19.24	20.53

+ 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:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: EL MORRO NATL MONUMENT, NM

COOP ID: 292785

Climate Division: NM 1

NWS Call Sign:

Elevation: 7,227 Feet

Lat: 35°03N

Lon: 108°21W

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	12.1	8.7	3	3	13.0	1987	16	34.4	1979	20	1977	2	9	1977	5.2	4.0	1.4	.6	.1	15.4	11.5	6.6	.8
Feb	8.4	7.9	2	1	11.0	1987	25	25.5	1987	17	1987	26	10	1979	4.2	3.2	.9	.3	@	7.7	4.8	2.1	.3
Mar	7.9	5.5	1	#	8.5	1975	11	30.7	1973	12+	2000	22	8	1979	4.2	3.1	1.1	.3	.0	2.5	.9	.3	.1
Apr	3.7	2.7	#	0	4.5	1988	17	13.0	1975	4	1999	3	1	1999	2.1	1.5	.4	.0	.0	.5	.2	.0	.0
May	.6	.0	#	0	4.0	1973	6	6.0	1990	1	1990	4	#+	1990	.4	.2	@	.0	.0	.1	.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	1.2	1986	24	1.2	1986	0	0	0	0	0	@	@	.0	.0	.0	.0	.0	.0	.0
Oct	1.3	.0	#	0	12.0	1994	16	12.0	1994	12	1994	16	1	1991	.8	.5	.3	.1	@	.3	.3	.1	@
Nov	5.5	5.1	#	#	7.5	1976	27	13.3	1997	19	1975	30	1	1997	2.7	2.0	.6	.2	.0	2.1	.7	.2	.0
Dec	10.1	7.9	1	#	8.0	1979	27	27.3	1975	14	1990	21	8	1979	3.9	2.6	1.2	.4	.0	5.7	3.0	1.2	.5
Ann	49.6	37.8	N/A	N/A	13.0	Jan 1987	16	34.4	Jan 1979	20	Jan 1977	2	10	Feb 1979	23.5	17.1	5.9	1.9	.1	34.3	21.4	10.5	1.7

+ 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

Complete documentation available from:

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Climate Division: NM 1

NWS Call Sign:

Elevation: 7,227 Feet

Lat: 35° 03N

Lon: 108° 21W

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	6/30	6/27	6/24	6/22	6/19	6/17	6/15	6/12	6/08
32	6/22	6/17	6/13	6/09	6/06	6/02	5/30	5/26	5/20
28	6/06	6/01	5/28	5/25	5/22	5/19	5/15	5/12	5/06
24	5/22	5/16	5/12	5/09	5/06	5/02	4/29	4/25	4/19
20	5/11	5/04	4/28	4/23	4/19	4/15	4/10	4/05	3/28
16	4/26	4/19	4/13	4/09	4/04	3/31	3/27	3/21	3/14
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	8/29	9/04	9/08	9/12	9/15	9/19	9/22	9/27	10/02
32	9/14	9/17	9/20	9/23	9/25	9/27	9/29	10/02	10/06
28	9/21	9/25	9/28	9/30	10/02	10/05	10/07	10/10	10/14
24	10/02	10/08	10/12	10/15	10/18	10/21	10/25	10/29	11/03
20	10/11	10/16	10/19	10/23	10/26	10/29	11/01	11/04	11/10
16	10/19	10/24	10/28	10/31	11/03	11/06	11/09	11/13	11/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	108	101	95	91	87	83	79	74	67
32	128	122	118	114	110	107	103	99	93
28	154	147	142	137	133	129	125	120	113
24	185	178	173	169	165	161	157	152	145
20	215	206	199	194	189	184	178	172	163
16	239	230	223	217	212	207	201	195	185

* 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:

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Climate Division: NM 1

NWS Call Sign:

Elevation: 7,227 Feet Lat: 35°03N Lon: 108°21W

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	1122	877	800	580	352	110	15	32	173	498	836	1078	6473
60	967	737	645	430	205	38	1	3	73	344	686	923	5052
57	874	653	552	342	130	15	0	0	36	257	596	830	4285
55	812	597	490	286	89	7	0	0	20	202	536	768	3807
50	657	457	337	159	25	0	0	0	3	92	386	613	2729
32	159	64	13	1	0	0	0	0	0	0	26	126	389

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	61	112	237	410	672	924	1114	1059	832	525	181	72	6199
55	0	0	0	5	48	241	401	346	162	15	0	0	1218
57	0	0	0	2	27	189	339	284	118	7	0	0	966
60	0	0	0	0	9	122	247	194	65	2	0	0	639
65	0	0	0	0	1	44	106	68	15	0	0	0	234
70	0	0	0	0	0	9	21	8	1	0	0	0	39

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	16	69	200	432	689	870	817	601	298	49	1	0	16	85	285	717	1406	2276	3093	3694	3992	4041	4042
45	0	0	15	96	281	539	715	662	451	169	10	0	0	0	15	111	392	931	1646	2308	2759	2928	2938	2938
50	0	0	1	30	144	391	560	507	301	70	0	0	0	0	1	31	175	566	1126	1633	1934	2004	2004	2004
55	0	0	0	1	48	245	405	352	163	14	0	0	0	0	0	1	49	294	699	1051	1214	1228	1228	1228
60	0	0	0	0	9	118	251	199	60	0	0	0	0	0	0	0	9	127	378	577	637	637	637	637
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	22	45	106	212	355	491	557	525	413	267	89	26	22	67	173	385	740	1231	1788	2313	2726	2993	3082	3108

(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/normal/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
- 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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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