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: MOUNTAIN GROVE 2 N, MO **COOP ID: 235834**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,450 Feet** **Lat: 37˚09N** **Lon: 92˚16W**

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	38.4	19.0	28.7	78	1943	24	39.7	1990	-19+	1985	20	16.4	1979	1125	0	.0	.0	7.7	8.8	26.4	1.9
Feb	44.9	23.0	34.0	83	1962	13	43.4	1976	-12+	1929	11	22.2	1978	868	0	.0	.0	12.3	4.8	20.4	.8
Mar	54.6	32.1	43.4	89	1929	24	48.6	1974	-7	1960	5	36.6	1984	671	0	.0	.0	21.8	1.2	13.8	@
Apr	64.3	41.6	53.0	91	1952	30	61.2	1981	15	1920	4	45.8	1983	370	9	.0	.0	27.9	.0	3.9	.0
May	73.1	52.3	62.7	97	1934	30	69.0	1987	28	1960	1	58.6	1984	146	74	.0	.1	31.0	.0	.1	.0
Jun	81.3	61.2	71.3	105	1936	28	74.5	1971	40	1928	6	66.1	1982	17	205	.0	2.8	30.0	.0	.0	.0
Jul	87.0	66.1	76.6	109+	1936	15	82.6	1980	46+	1972	6	73.0	1992	0	358	.7	12.4	31.0	.0	.0	.0
Aug	86.5	64.2	75.4	110	1934	9	81.5	1980	41	1986	29	67.2	1992	12	332	.5	11.9	31.0	.0	.0	.0
Sep	78.1	56.1	67.1	104	1947	4	74.1	1998	27	1989	24	60.1	1974	79	141	.1	2.8	30.0	.0	.2	.0
Oct	67.9	45.2	56.6	95	1938	5	62.6	1971	18	1925	31	51.3	1988	281	19	.0	.1	30.1	.0	3.0	.0
Nov	53.2	33.8	43.5	90	1937	1	53.7	1999	2	1950	25	37.2	1976	645	0	.0	.0	19.3	.9	13.3	.0
Dec	42.6	24.1	33.4	77	1951	31	40.1	1971	-19+	1989	24	18.2	1983	982	0	.0	.0	10.2	5.6	23.7	1.1
Ann	64.3	43.2	53.8	110	Aug 1934	9	82.6	Jul 1980	-19+	Dec 1989	24	16.4	Jan 1979	5196	1138	1.3	30.1	282.3	21.3	104.8	3.8

\+ 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: 1918-2001

(3) Derived from 1971-2000 serially complete daily data

Issue Date: February 2004

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: MOUNTAIN GROVE 2 N, MO **COOP ID: 235834**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,450 Feet** **Lat: 37˚09N** **Lon: 92˚16W**

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	2.35	2.08	3.20	1948	1	5.79	1993	.07	1986
Feb	2.59	2.28	2.88	1945	21	6.85	1990	.26	1996
Mar	4.24	3.60	3.27	1920	26	10.77	1973	1.32	1971
Apr	4.43	4.14	4.17	1983	30	9.92	1983	.38	2000
May	4.77	4.50	4.55	1956	15	12.48	1990	1.10	1975
Jun	4.12	4.29	4.02	1965	24	7.84	1985	.96	1984
Jul	3.92	2.92	4.83	1979	28	10.67	1998	1.03	1985
Aug	3.30	3.02	4.12	1971	22	8.30	1971	.92	1973
Sep	4.12	3.75	4.66	1993	25	13.08	1993	.71	1999
Oct	3.59	2.88	3.67	1998	6	7.62	1973	.70	1992
Nov	4.55	4.39	3.60	1994	5	9.88	1983	.69	1976
Dec	3.59	2.74	7.29	1982	3	15.40	1982	.86	1980
Ann	45.57	46.94	7.29	Dec 1982	3	15.40	Dec 1982	.07	Jan 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.1	5.2	1.3	.4
Feb	7.8	4.4	1.8	.8
Mar	9.7	7.3	3.1	1.0
Apr	10.4	7.2	3.1	1.3
May	11.0	7.8	3.3	1.4
Jun	9.1	6.9	2.7	1.3
Jul	7.2	5.5	2.8	1.2
Aug	6.9	5.5	2.4	.9
Sep	8.2	6.0	2.8	1.2
Oct	7.5	5.4	2.7	1.2
Nov	8.7	6.2	3.2	1.6
Dec	8.1	5.3	2.5	1.1
Ann	102.7	72.7	31.7	13.4

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	.31	.49	.83	1.15	1.50	1.88	2.32	2.87	3.61	4.82	5.99
Feb	.54	.78	1.16	1.51	1.86	2.23	2.65	3.15	3.82	4.88	5.88
Mar	1.32	1.72	2.32	2.84	3.33	3.85	4.42	5.08	5.94	7.28	8.52
Apr	1.02	1.43	2.08	2.66	3.24	3.86	4.54	5.37	6.45	8.17	9.79
May	1.67	2.12	2.78	3.33	3.85	4.39	4.98	5.67	6.55	7.91	9.16
Jun	1.21	1.60	2.19	2.69	3.19	3.71	4.28	4.95	5.82	7.18	8.44
Jul	.98	1.35	1.92	2.43	2.93	3.45	4.04	4.74	5.65	7.09	8.44
Aug	.80	1.11	1.59	2.02	2.45	2.90	3.40	3.99	4.77	6.01	7.17
Sep	.75	1.12	1.72	2.28	2.85	3.47	4.17	5.02	6.15	7.96	9.70
Oct	1.10	1.44	1.95	2.39	2.81	3.25	3.73	4.30	5.03	6.18	7.24
Nov	.88	1.29	1.96	2.57	3.19	3.86	4.62	5.54	6.75	8.70	10.56
Dec	.63	.95	1.48	1.97	2.47	3.01	3.63	4.38	5.38	6.99	8.53
Ann	30.35	33.22	36.94	39.79	42.34	44.82	47.40	50.26	53.75	58.86	63.30

\+ 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: 1918-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: MOUNTAIN GROVE 2 N, MO **COOP ID: 235834**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,450 Feet** **Lat: 37°09N** **Lon: 92°16W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	4.2	2.8	1	1
Feb	3.0	1.5	1	#
Mar	2.3	.6	#	#
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	.0	.0	#	0
Nov	1.3	.0	#	0
Dec	2.3	1.2	#	#
Ann	13.6	6.1	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	8.0	1997	9	13.7	1979	12	1979	31	7	1977
Feb	19.0	1980	8	23.8	1980	24	1980	13	8	1980
Mar	12.0	1999	14	13.0	1999	12	1999	14	1	1999
Apr	6.0	1971	5	7.5	1971	6	1980	14	#+	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	1.0	1993	30	1.0	1993	1	1993	31	#	1993
Nov	5.5	1980	18	10.0	1980	6	1980	18	1	1980
Dec	8.0	2000	13	10.4	2000	10	2000	14	5	2000
Ann	19.0	Feb 1980	8	23.8	Feb 1980	24	Feb 1980	13	8	Feb 1980

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.6	1.7	.6	.1	.0
Feb	2.4	.8	.2	.1	@
Mar	1.3	.6	.3	.1	@
Apr	.3	.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	@	@	.0	.0	.0
Nov	.9	.4	.2	@	.0
Dec	2.2	.8	.2	@	.0
Ann	10.7	4.5	1.6	.4	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	8.8	4.6	2.4	.4
Feb	6.2	3.8	2.3	.6
Mar	2.4	1.0	.4	@
Apr	.3	.1	.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	.1	.0	.0	.0
Nov	1.1	.4	.1	.0
Dec	4.3	1.4	.8	@
Ann	23.2	11.3	6.1	1.0

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

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: MOUNTAIN GROVE 2 N, MO **COOP ID: 235834**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,450 Feet** **Lat: 37˚09N** **Lon: 92˚16W**

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	5/16	5/10	5/06	5/03	4/30	4/26	4/23	4/19	4/13
32	4/26	4/22	4/19	4/16	4/14	4/11	4/08	4/05	4/01
28	4/15	4/11	4/07	4/05	4/02	3/30	3/27	3/24	3/20
24	4/07	4/01	3/28	3/25	3/22	3/18	3/15	3/11	3/05
20	3/29	3/22	3/18	3/14	3/11	3/07	3/03	2/27	2/21
16	3/19	3/10	3/05	2/28	2/23	2/18	2/13	2/07	1/30

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	9/23	9/27	10/01	10/03	10/06	10/09	10/11	10/15	10/19
32	9/28	10/05	10/10	10/14	10/18	10/21	10/25	10/30	11/06
28	10/12	10/19	10/23	10/28	11/01	11/05	11/09	11/14	11/21
24	10/27	11/02	11/07	11/10	11/14	11/17	11/21	11/25	12/01
20	10/29	11/06	11/11	11/16	11/20	11/24	11/29	12/04	12/12
16	11/02	11/13	11/21	11/27	12/04	12/10	12/16	12/24	1/04

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	179	172	167	163	159	155	150	145	138
32	213	204	197	192	186	181	175	168	159
28	237	229	222	217	212	207	202	195	187
24	264	254	248	242	236	231	225	218	209
20	280	271	264	259	254	248	243	236	227
16	314	301	293	286	280	274	267	259	249

***** 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/normals/usnormals.html

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: MOUNTAIN GROVE 2 N, MO **COOP ID: 235834**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,450 Feet** **Lat: 37˚09N** **Lon: 92˚16W**

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	1125	868	671	370	146	17	0	12	79	281	645	982	5196
60	970	728	518	242	71	3	0	2	30	165	502	827	4058
57	877	651	432	178	41	1	0	0	15	110	420	735	3460
55	816	599	375	141	27	0	0	0	8	81	367	677	3091
50	671	470	247	68	7	0	0	0	1	33	251	534	2282
32	234	134	19	0	0	0	0	0	0	0	27	146	560

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	132	190	371	629	951	1178	1381	1343	1053	761	371	187	8547
55	1	10	14	79	265	488	668	630	371	130	22	5	2683
57	0	6	9	56	217	428	606	569	318	96	15	2	2322
60	0	0	1	31	154	341	513	478	243	58	7	0	1826
65	0	0	0	9	74	205	358	332	141	19	0	0	1138
70	0	0	0	2	26	98	211	204	70	4	0	0	615

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	40	105	248	469	745	966	1153	1116	842	547	217	68	40	145	393	862	1607	2573	3726	4842	5684	6231	6448	6516
45	19	55	152	334	590	816	998	961	692	397	133	32	19	74	226	560	1150	1966	2964	3925	4617	5014	5147	5179
50	2	22	85	213	437	666	843	806	544	268	70	10	2	24	109	322	759	1425	2268	3074	3618	3886	3956	3966
55	0	6	38	123	289	516	688	651	400	159	28	0	0	6	44	167	456	972	1660	2311	2711	2870	2898	2898
60	0	1	10	58	166	366	533	496	271	77	8	0	0	1	11	69	235	601	1134	1630	1901	1978	1986	1986
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	31	71	155	284	467	655	794	754	555	334	128	44	31	102	257	541	1008	1663	2457	3211	3766	4100	4228	4272

(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

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