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: NEOSHO, MO **COOP ID: 235976**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,011 Feet** **Lat: 36˚52N** **Lon: 94˚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	43.0	20.7	31.9	78	1965	1	40.6	1990	-31	1930	22	19.3	1979	1028	0	.0	.0	11.5	5.7	25.7	1.6
Feb	49.4	25.6	37.5	87	1996	23	47.3	1976	-20	1929	10	25.6	1978	771	0	.0	.0	15.4	3.2	20.1	.8
Mar	58.7	35.1	46.9	92	1929	24	52.1	1974	-11	1948	12	40.6	1996	561	0	.0	.0	24.8	.5	12.6	@
Apr	68.1	43.7	55.9	95	1987	19	63.5	1981	6	1957	13	49.5	1983	289	15	.0	.3	28.8	.0	4.2	.0
May	76.4	53.4	64.9	97	1934	31	70.0	1991	28+	1963	1	60.9	1997	96	93	.0	.4	31.0	.0	.2	.0
Jun	84.4	62.0	73.2	101+	1953	12	76.9	1971	38	1988	10	68.5	1982	10	257	.1	7.1	30.0	.0	.0	.0
Jul	89.8	66.6	78.2	112	1954	14	82.6	1980	44	1970	22	75.4	1989	0	410	1.3	19.5	31.0	.0	.0	.0
Aug	89.2	64.3	76.8	109+	1936	10	81.9	1983	40+	1988	30	70.9	1992	3	366	1.6	18.3	31.0	.0	.0	.0
Sep	80.9	56.8	68.9	105+	1985	2	75.6	1998	27	1984	30	62.2	1974	53	169	.3	6.0	30.0	.0	.3	.0
Oct	71.4	45.3	58.4	95	1939	7	63.4	1971	15	1925	31	51.4	1988	236	29	.0	.3	30.6	.0	3.6	.0
Nov	57.1	34.3	45.7	85	1980	8	53.8	1999	4+	1976	29	39.1	1976	580	0	.0	.0	22.2	.5	12.9	.0
Dec	47.0	25.0	36.0	79	1948	13	43.0	1971	-15+	1989	23	21.8	1983	899	0	.0	.0	15.1	3.7	22.1	.7
Ann	68.0	44.4	56.2	112	Jul 1954	14	82.6	Jul 1980	-31	Jan 1930	22	19.3	Jan 1979	4526	1339	3.3	51.9	301.4	13.6	101.7	3.1

\+ 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: NEOSHO, MO **COOP ID: 235976**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,011 Feet** **Lat: 36˚52N** **Lon: 94˚22W**

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	1.97	1.50	2.60	2001	29	5.14	1990	.00	1986
Feb	2.28	2.18	3.08	1997	21	5.91	1997	.25	1996
Mar	3.85	3.62	3.24	1920	25	9.49	1973	.61	1995
Apr	4.35	3.66	5.19	1945	13	9.79	1994	.93	2000
May	5.19	4.48	5.36	1943	18	13.73	1990	1.07	1994
Jun	5.06	4.87	4.92	1964	13	10.49	1993	.83	1988
Jul	3.28	2.95	4.86	1976	3	7.75	1976	.13	1980
Aug	3.59	2.97	4.86	1928	4	7.73	1974	.48	1999
Sep	4.94	4.11	6.17	1945	24	15.82	1986	.65	1979
Oct	3.97	3.36	4.55	1959	2	8.21	1983	.57	1978
Nov	4.43	3.65	4.80	1972	1	12.09	1985	.07	1989
Dec	2.97	2.60	3.38	1992	14	7.16	1992	.09	1996
Ann	45.88	45.64	6.17	Sep 1945	24	15.82	Sep 1986	.00	Jan 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.8	3.9	1.3	.4
Feb	6.4	4.2	1.7	.5
Mar	8.7	6.5	3.0	.9
Apr	9.3	7.0	3.0	1.3
May	10.4	7.7	3.8	1.6
Jun	9.2	6.7	3.3	1.7
Jul	6.4	4.7	2.2	.8
Aug	7.0	5.2	2.4	1.2
Sep	8.0	5.9	3.3	1.6
Oct	7.5	5.4	2.9	1.4
Nov	7.2	5.6	3.1	1.4
Dec	6.4	4.6	2.3	1.0
Ann	92.3	67.4	32.3	13.8

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	.22	.46	.79	1.07	1.36	1.66	2.01	2.43	2.98	3.86	4.70
Feb	.55	.77	1.10	1.40	1.69	2.00	2.34	2.76	3.30	4.15	4.95
Mar	.88	1.24	1.80	2.31	2.82	3.35	3.96	4.68	5.62	7.12	8.54
Apr	1.28	1.70	2.32	2.85	3.37	3.91	4.51	5.22	6.13	7.55	8.88
May	1.69	2.18	2.91	3.53	4.12	4.73	5.41	6.19	7.20	8.77	10.23
Jun	1.27	1.75	2.48	3.14	3.78	4.46	5.21	6.11	7.29	9.14	10.88
Jul	.58	.87	1.35	1.79	2.25	2.75	3.31	4.00	4.91	6.38	7.79
Aug	.79	1.12	1.65	2.12	2.60	3.11	3.68	4.36	5.26	6.69	8.05
Sep	.97	1.42	2.15	2.81	3.48	4.21	5.03	6.01	7.32	9.41	11.40
Oct	.79	1.15	1.73	2.26	2.81	3.39	4.04	4.84	5.89	7.57	9.16
Nov	.46	.78	1.39	2.01	2.68	3.43	4.31	5.41	6.91	9.41	11.85
Dec	.35	.58	1.00	1.41	1.85	2.34	2.91	3.62	4.59	6.18	7.72
Ann	32.54	35.11	38.42	40.93	43.15	45.31	47.54	50.00	52.98	57.31	61.06

\+ 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: NEOSHO, MO **COOP ID: 235976**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,011 Feet** **Lat: 36°52N** **Lon: 94°22W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	4.5	4.3	#	0
Feb	2.7	2.0	#	0
Mar	2.5	.0	#	0
Apr	#	.0	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	.7	.0	#	0
Dec	2.1	.2	#	0
Ann	12.5	6.5	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	6.0	1995	18	21.8	1979	4	1982	31	1	1985
Feb	7.5	1975	23	10.5	1975	3	1985	5	#+	1989
Mar	22.0	1999	14	22.3	1999	13	1989	6	1	1989
Apr	#	1988	10	#+	1988	0	0	0	0	0
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	#	1989	20	#	1989	0	0	0	0	0
Nov	4.0	1972	19	5.5	1972	3	1974	30	#+	2000
Dec	5.0	1984	5	7.9	1987	7	1987	15	#+	1997
Ann	22.0	Mar 1999	14	22.3	Mar 1999	13	Mar 1989	6	1+	Mar 1989

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.7	1.3	.6	.1	.0
Feb	1.7	.9	.3	.1	.0
Mar	.8	.6	.2	.1	.1
Apr	.0	.0	.0	.0	.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	.0	.0
Nov	.3	.2	.1	.0	.0
Dec	1.2	.8	.2	@	.0
Ann	5.7	3.8	1.4	.3	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	1.1	.3	.0	.0
Feb	-9.9	-9.9	-9.9	-9.9
Mar	.2	.0	.0	.0
Apr	.0	.0	.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	.0
Nov	.1	.1	.0	.0
Dec	.0	.0	.0	.0
Ann	-9.9	-9.9	-9.9	-9.9

+ 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

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: NEOSHO, MO **COOP ID: 235976**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,011 Feet** **Lat: 36˚52N** **Lon: 94˚22W**

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	5/18	5/12	5/08	5/05	5/02	4/29	4/26	4/22	4/16
32	5/04	4/29	4/25	4/22	4/19	4/17	4/13	4/10	4/05
28	4/17	4/12	4/09	4/06	4/03	3/31	3/28	3/24	3/19
24	4/07	4/01	3/28	3/25	3/22	3/18	3/15	3/11	3/05
20	4/03	3/27	3/22	3/17	3/13	3/09	3/05	2/28	2/21
16	3/21	3/14	3/09	3/04	2/28	2/24	2/20	2/15	2/08

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	9/29	10/02	10/04	10/06	10/08	10/11	10/14
32	9/24	9/30	10/05	10/08	10/12	10/16	10/19	10/24	10/30
28	10/11	10/17	10/21	10/25	10/28	11/01	11/04	11/08	11/14
24	10/22	10/28	11/02	11/06	11/10	11/14	11/18	11/22	11/29
20	11/03	11/09	11/14	11/18	11/22	11/26	11/30	12/04	12/11
16	11/07	11/17	11/24	12/01	12/07	12/12	12/19	12/26	1/05

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	173	167	162	158	154	150	146	141	135
32	202	193	186	180	175	169	164	157	147
28	230	222	217	212	208	203	199	193	186
24	260	251	244	238	233	227	221	214	205
20	282	272	265	259	253	247	241	234	224
16	303	293	287	282	277	272	267	261	253

***** 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: NEOSHO, MO **COOP ID: 235976**

Climate Division: MO 4 **NWS Call Sign:** **Elevation: 1,011 Feet** **Lat: 36˚52N** **Lon: 94˚22W**

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	1028	771	561	289	96	10	0	3	53	236	580	899	4526
60	873	634	411	172	37	1	0	0	17	130	438	746	3459
57	780	556	326	117	17	0	0	0	7	83	357	659	2902
55	720	503	272	87	10	0	0	0	4	59	306	602	2563
50	577	379	161	33	2	0	0	0	0	20	197	462	1831
32	173	82	5	0	0	0	0	0	0	0	14	113	387

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	168	235	468	716	1020	1237	1433	1386	1106	816	424	237	9246
55	3	13	22	113	316	547	720	673	420	162	26	13	3028
57	1	9	13	84	262	487	658	611	363	124	17	8	2637
60	0	3	6	49	188	398	565	518	283	78	9	2	2099
65	0	0	0	15	93	257	410	366	169	29	0	0	1339
70	0	0	0	3	34	138	257	225	86	7	0	0	750

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	56	134	308	532	798	1021	1208	1168	893	596	260	97	56	190	498	1030	1828	2849	4057	5225	6118	6714	6974	7071
45	25	72	199	389	644	871	1053	1013	744	447	163	47	25	97	296	685	1329	2200	3253	4266	5010	5457	5620	5667
50	6	36	119	265	491	721	898	858	596	308	91	22	6	42	161	426	917	1638	2536	3394	3990	4298	4389	4411
55	0	16	61	160	346	571	743	703	451	192	45	5	0	16	77	237	583	1154	1897	2600	3051	3243	3288	3293
60	0	3	25	85	211	424	588	548	317	97	13	0	0	3	28	113	324	748	1336	1884	2201	2298	2311	2311
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	49	102	208	345	522	691	813	778	589	390	170	72	49	151	359	704	1226	1917	2730	3508	4097	4487	4657	4729

(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