

Climatography of the United States

No. 20

1971-2000

Station: MCCOOK, NE

COOP ID: 255310

Climate Division: NE 7

NWS Call Sign: MCK

Elevation: 2,530 Feet Lat: 40° 12N

Lon: 100° 37W

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	38.7	14.0	26.4	75	1990	11	36.5	1986	-21	1959	4	12.7	1979	1199	0	.0	.0	7.1	10.3	30.8	4.7
Feb	44.9	18.6	31.8	82	1970	18	39.6	1999	-19	1951	1	20.2	1978	930	0	.0	.0	11.4	7.0	26.7	2.8
Mar	53.6	26.4	40.0	89	1988	28	46.7	1986	-20	1960	3	33.4	1996	775	0	.0	.0	18.5	2.8	23.6	.6
Apr	64.5	36.3	50.4	96+	1989	23	57.6	1981	12+	1997	12	43.9	1983	442	4	.0	.4	25.3	.3	11.1	.0
May	73.4	47.6	60.5	102	1962	11	65.5	1977	23	1989	1	53.8	1995	188	47	.1	1.3	30.6	.0	.8	.0
Jun	84.5	57.7	71.1	108+	1988	22	78.9	1988	36	1951	2	65.9	1982	30	214	1.2	8.8	30.0	.0	.0	.0
Jul	89.9	63.4	76.7	110	1954	11	81.3	1980	46+	1987	13	71.6	1992	1	362	3.5	16.6	31.0	.0	.0	.0
Aug	87.5	61.7	74.6	109	1969	9	81.7	1983	40	1955	30	68.5	1992	9	308	1.6	13.8	31.0	.0	.0	.0
Sep	79.1	51.5	65.3	104+	1976	6	70.9	1998	23	1984	29	59.4	1993	92	101	.4	6.0	29.6	.0	.7	.0
Oct	67.5	38.3	52.9	97	1967	3	55.5	1979	13	1993	30	49.2	1976	376	1	.0	.4	28.4	.2	8.1	.0
Nov	50.8	25.2	38.0	84	1980	7	46.0	1999	-10+	1952	28	29.7	1985	810	0	.0	.0	16.2	3.0	24.4	.4
Dec	41.2	16.9	29.1	81	1964	23	35.6	1979	-27+	1989	23	10.7	1983	1115	0	.0	.0	8.7	7.9	30.2	2.7
Ann	64.6	38.1	51.4	110	Jul 1954	11	81.7	Aug 1983	-27+	Dec 1989	23	10.7	Dec 1983	5967	1037	6.8	47.3	267.8	31.5	156.4	11.2

+ 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

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

071-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: MCCOOK, NE

COOP ID: 255310

Climate Division: NE 7

NWS Call Sign: MCK

Elevation: 2,530 Feet Lat: 40°12N

Lon: 100°37W

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	.50	.40	1.27	1990	20	1.37	1988	.00	1986	3.0	1.7	.3	.1	.01	.05	.11	.18	.26	.35	.47	.61	.81	1.14	1.47
Feb	.64	.42	1.60	1984	18	2.14+	1993	.00	1973	3.4	1.6	.4	.1	.01	.05	.13	.22	.32	.44	.58	.77	1.03	1.48	1.93
Mar	1.41	1.08	1.85	1959	26	4.20	1977	.05	1994	6.6	3.3	.8	.2	.11	.20	.39	.58	.80	1.04	1.34	1.71	2.23	3.09	3.95
Apr	2.22	1.63	2.23	1977	16	5.77	1971	.13	1989	7.4	4.2	1.4	.6	.39	.59	.91	1.22	1.52	1.86	2.24	2.70	3.32	4.31	5.26
May	3.26	2.95	3.43	1969	21	6.17	1995	.35	1994	10.5	6.7	2.0	.7	.83	1.13	1.61	2.03	2.44	2.88	3.36	3.94	4.69	5.88	7.00
Jun	3.22	3.16	4.08	1985	26	7.12	1999	.42	1978	8.4	5.7	2.0	.8	.79	1.10	1.56	1.98	2.39	2.83	3.32	3.90	4.65	5.85	6.98
Jul	3.30	2.88	4.00	1973	19	7.59	1993	.77	1982	9.1	5.5	2.2	.8	1.15	1.47	1.92	2.30	2.66	3.04	3.44	3.92	4.53	5.47	6.33
Aug	2.80	2.96	3.11	1980	11	6.16	1992	.14	1983	7.9	4.9	2.0	.7	.56	.81	1.22	1.60	1.98	2.39	2.85	3.41	4.15	5.33	6.45
Sep	1.37	1.12	3.37	1963	21	7.11	1973	.06	1978	5.6	2.9	1.0	.2	.10	.19	.36	.55	.76	1.01	1.30	1.67	2.18	3.04	3.89
Oct	1.28	1.04	2.00	1997	12	4.88	1997	.04	1999	5.0	2.7	.8	.3	.09	.17	.33	.51	.70	.93	1.20	1.55	2.03	2.85	3.65
Nov	1.09	.82	1.90	1975	20	3.73	1975	.02	1989	4.9	2.1	.9	.1	.08	.15	.29	.44	.61	.80	1.03	1.33	1.73	2.41	3.09
Dec	.53	.40	1.40	1982	28	2.10	1982	.00	1976	3.5	1.3	.3	.1	.01	.04	.10	.17	.26	.36	.48	.64	.86	1.24	1.62
Ann	21.62	21.64	4.08	Jun 1985	26	7.59	Jul 1993	.00+	Jan 1986	75.3	42.6	14.1	4.7	15.71	16.86	18.33	19.44	20.43	21.38	22.35	23.43	24.74	26.63	28.26

+ 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: MCCOOK, NE

COOP ID: 255310

Climate Division: NE 7

NWS Call Sign: MCK

Elevation: 2,530 Feet

Lat: 40° 12N

Lon: 100° 37W

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	6.6	4.5	2	1	15.0	1990	20	20.4	1993	18+	1993	12	6	1993	2.7	2.1	.8	.4	.1	12.2	7.5	4.6	1.5
Feb	5.3	3.0	1	1	8.0	1984	18	14.6	1997	16+	1978	14	8	1978	2.0	1.7	.7	.4	.0	8.3	4.5	2.3	.7
Mar	6.2	4.5	#	1	17.0	1984	19	18.0	1977	17	1984	19	2	1984	2.5	2.1	.8	.4	@	4.0	1.8	.7	.1
Apr	3.0	1.0	#	0	6.5	1994	12	17.1	1994	8	1997	12	1+	1997	1.2	1.0	.4	.1	.0	1.2	.7	.3	.0
May	#	.0	#	0	#	1984	8	#	1984	0	0	0	#	2000	.0	.0	.0	.0	.0	.0	.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	.2	.0	#	0	4.0	1985	29	4.0	1985	4	1985	29	#	1995	.1	.1	@	.0	.0	.1	.1	.0	.0
Oct	.9	.0	#	0	10.0	1997	26	10.0	1997	10	1997	26	1	1997	.3	.2	.1	.1	@	.3	.2	.1	@
Nov	4.3	2.9	1	0	12.0	1975	20	21.0	1975	19+	1975	30	6	1975	1.6	1.5	.6	.2	.1	3.7	2.4	1.3	.7
Dec	5.5	4.1	1	1	18.0	1982	28	21.0	1982	21	1982	28	9	1983	2.3	1.6	.8	.3	@	7.8	4.7	3.0	.7
Ann	32.0	20.0	N/A	N/A	18.0	Dec 1982	28	21.0+	Dec 1982	21	Dec 1982	28	9	Dec 1983	12.7	10.3	4.2	1.9	.2	37.6	21.9	12.3	3.7

+ 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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Elevation: 2,530 Feet

Lat: 40° 12N

Lon: 100° 37W

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	5/20	5/16	5/14	5/11	5/09	5/07	5/04	5/01	4/28
32	5/12	5/07	5/04	5/01	4/28	4/26	4/23	4/20	4/15
28	5/02	4/28	4/24	4/21	4/19	4/16	4/13	4/10	4/05
24	4/20	4/15	4/12	4/09	4/06	4/03	3/31	3/28	3/23
20	4/10	4/05	4/02	3/29	3/27	3/24	3/20	3/17	3/12
16	4/04	3/29	3/24	3/21	3/17	3/13	3/10	3/05	2/27
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	9/14	9/19	9/22	9/24	9/27	9/29	10/02	10/05	10/10
32	9/22	9/27	10/01	10/04	10/07	10/10	10/13	10/17	10/22
28	10/02	10/07	10/10	10/13	10/16	10/19	10/22	10/26	10/31
24	10/08	10/14	10/18	10/22	10/25	10/29	11/01	11/05	11/11
20	10/20	10/26	10/30	11/03	11/06	11/09	11/12	11/16	11/22
16	11/01	11/07	11/11	11/14	11/17	11/20	11/23	11/27	12/02
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	156	151	147	143	140	137	134	130	125
32	181	174	169	165	161	157	153	148	141
28	198	192	187	183	180	176	173	168	162
24	227	218	212	206	202	197	191	185	176
20	247	239	233	228	224	219	214	208	201
16	268	260	254	249	244	240	234	229	220

* 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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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	1199	930	775	442	188	30	1	9	92	376	810	1115	5967
60	1044	790	620	304	97	8	0	1	33	229	660	960	4746
57	951	710	527	231	59	3	0	0	15	152	570	867	4085
55	889	659	466	187	39	1	0	0	8	110	516	805	3680
50	738	529	323	99	11	0	0	0	0	40	378	661	2779
32	273	172	29	0	0	0	0	0	0	0	67	225	766

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	98	166	278	552	882	1174	1384	1322	999	648	247	134	7884
55	0	8	2	50	209	485	671	609	317	45	7	1	2404
57	0	4	0	33	166	426	609	547	264	25	0	0	2074
60	0	0	0	16	111	342	516	455	193	9	0	0	1642
65	0	0	0	4	47	214	362	308	101	1	0	0	1037
70	0	0	0	0	14	115	219	180	43	0	0	0	571

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	13	50	137	329	632	931	1136	1075	759	410	101	22	13	63	200	529	1161	2092	3228	4303	5062	5472	5573	5595
45	0	16	68	213	478	781	981	920	609	275	52	3	0	16	84	297	775	1556	2537	3457	4066	4341	4393	4396
50	0	3	30	123	333	632	826	765	465	164	13	0	0	3	33	156	489	1121	1947	2712	3177	3341	3354	3354
55	0	0	5	61	206	483	671	610	330	81	1	0	0	0	5	66	272	755	1426	2036	2366	2447	2448	2448
60	0	0	0	22	108	340	516	457	211	30	0	0	0	0	0	22	130	470	986	1443	1654	1684	1684	1684
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	26	68	128	236	388	597	741	702	477	285	98	34	26	94	222	458	846	1443	2184	2886	3363	3648	3746	3780

(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.
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