

Climatology of the United States

No. 20

1971-2000

Station: MEDICINE CREEK DAM, NE

COOP ID: 255388

Climate Division: NE 7

NWS Call Sign:

Elevation: 2,387 Feet Lat: 40° 23N

Lon: 100° 13W

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	37.3	11.1	24.2	75	1990	11	34.2	1986	-27	1984	18	11.2	1979	1265	0	.0	.0	6.8	10.9	30.9	6.3
Feb	42.6	16.0	29.3	81	1970	18	38.1	1976	-26	1978	18	16.1	1978	1000	0	.0	.0	10.3	7.7	27.3	3.7
Mar	51.4	24.6	38.0	88+	1986	30	44.8	1986	-24	1960	3	31.4	1996	837	0	.0	.0	17.7	3.0	24.8	.7
Apr	62.5	34.3	48.4	95	1980	22	55.7	1981	10+	1997	13	41.4	1997	499	1	.0	.7	24.7	.4	11.8	.0
May	71.8	46.4	59.1	99	2000	30	63.9	1987	21	1967	2	52.6	1995	217	33	.0	.9	30.5	.0	1.3	.0
Jun	82.9	56.3	69.6	109	1988	22	76.4	1988	36+	1998	6	64.3	1982	39	177	.9	7.7	29.9	.0	.0	.0
Jul	88.6	61.8	75.2	110	1954	12	80.0	1980	42	1971	30	69.3	1992	3	319	2.8	15.2	31.0	.0	.0	.0
Aug	87.2	59.2	73.2	107+	1983	17	79.9	1983	42	1985	10	67.0	1992	15	268	1.6	13.3	31.0	.0	.0	.0
Sep	79.3	48.4	63.9	106	1985	1	70.5	1998	19	1984	30	58.7	1993	114	79	.4	5.9	29.7	.0	1.6	.0
Oct	67.8	35.4	51.6	96	1990	6	55.3	1974	9	1997	27	47.5	1976	416	1	.0	.7	28.5	.2	10.6	.0
Nov	50.5	22.6	36.6	85	1980	7	43.5	1999	-11	1952	28	27.5	2000	854	0	.0	.0	15.9	3.2	26.3	.7
Dec	40.5	14.3	27.4	80	1964	24	34.7	1979	-35	1989	23	9.3	1983	1165	0	.0	.0	8.1	8.5	30.8	3.6
Ann	63.5	35.9	49.7	110	Jul 1954	12	80.0	Jul 1980	-35	Dec 1989	23	9.3	Dec 1983	6424	878	5.7	44.4	264.1	33.9	165.4	15.0

+ 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: 1951-2001

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

073-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: MEDICINE CREEK DAM, NE

COOP ID: 255388

Climate Division: NE 7

NWS Call Sign:

Elevation: 2,387 Feet Lat: 40°23N

Lon: 100°13W

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	.39	.30	.92	1988	19	1.40	1992	.00	1986	3.2	1.4	.1	.0	.02	.05	.11	.17	.23	.30	.38	.48	.62	.85	1.08
Feb	.54	.52	.94	1993	11	1.58	2000	.00+	1996	3.4	1.6	.3	.0	.00	.02	.08	.16	.25	.36	.49	.66	.90	1.31	1.73
Mar	1.44	1.07	1.81	1983	5	4.50	1983	.00	1994	6.0	3.4	.8	.3	.04	.14	.33	.54	.77	1.03	1.35	1.76	2.32	3.26	4.20
Apr	2.02	1.57	2.52	1979	25	4.97	1971	.08	1989	6.6	4.0	1.2	.5	.26	.43	.72	1.00	1.29	1.62	2.00	2.47	3.10	4.14	5.14
May	3.38	3.18	3.40	1987	3	7.98	1977	1.07	1992	10.4	7.0	2.2	.6	1.16	1.48	1.94	2.34	2.71	3.10	3.52	4.02	4.65	5.63	6.53
Jun	3.66	3.65	3.50	1975	8	9.83	1975	.66	1978	8.4	5.4	2.1	.9	1.08	1.43	1.95	2.40	2.84	3.29	3.80	4.39	5.16	6.36	7.47
Jul	3.17	2.80	2.75	1966	28	10.11	1993	.77	1997	8.1	5.5	2.4	.9	.85	1.15	1.60	2.01	2.40	2.82	3.28	3.83	4.54	5.66	6.71
Aug	2.67	2.31	2.75	1988	13	6.39	1988	.44	1985	7.1	4.5	1.6	.7	.63	.87	1.27	1.61	1.96	2.33	2.75	3.24	3.89	4.91	5.88
Sep	1.46	1.01	4.76	1963	21	6.25	1973	.03	1984	5.3	2.9	.9	.2	.12	.21	.40	.61	.83	1.08	1.39	1.77	2.31	3.20	4.08
Oct	1.27	.89	1.94	2000	29	4.15	2000	.04	1975	4.3	2.7	.8	.3	.06	.13	.27	.44	.64	.87	1.16	1.52	2.05	2.94	3.84
Nov	1.08	.97	1.54	1971	16	2.44	1975	.00	1989	4.2	2.3	.9	.1	.05	.15	.31	.47	.64	.83	1.05	1.33	1.70	2.32	2.92
Dec	.41	.39	.90	1991	12	1.84	1982	.00+	1995	2.9	1.2	.2	.0	.00	.03	.09	.16	.22	.30	.39	.50	.66	.92	1.18
Ann	21.49	21.38	4.76	Sep 1963	21	10.11	Jul 1993	.00+	Feb 1996	69.9	41.9	13.5	4.5	14.29	15.64	17.40	18.75	19.96	21.13	22.35	23.70	25.35	27.77	29.87

+ 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: 1951-2001

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

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

Climatography of the United States

No. 20 1971-2000

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Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: MEDICINE CREEK DAM, NE

COOP ID: 255388

Climate Division: NE 7

NWS Call Sign:

Elevation: 2,387 Feet

Lat: 40° 23N

Lon: 100° 13W

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	4.1	3.3	2	1	10.0	1990	20	10.0	1990	13	1993	20	9	1993	2.0	1.2	.4	.1	@	7.7	3.6	2.0	.2
Feb	3.7	1.9	1	1	8.0	1978	13	16.0	1978	16	1978	13	8	1978	1.9	1.3	.5	.2	.0	4.5	2.3	1.5	.3
Mar	4.4	3.0	#	#	13.0	1984	19	14.5	1984	13	1984	19	3	1984	1.7	1.3	.3	.2	@	2.6	1.0	.4	.1
Apr	1.2	.0	#	0	6.0	1984	2	9.0	1984	4	1994	12	#+	1996	.5	.4	.3	@	.0	.3	.1	.0	.0
May	.0	.0	0	0	.0	0	0	.0	0	0	0	0	0	0	.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	.0	.0	#	0	.0	0	0	.0	0	6	1985	29	#	1985	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.0	.0	#	0	.5	1980	27	1.0	1980	2+	1997	27	#+	1997	.1	.0	.0	.0	.0	.1	.0	.0	.0
Nov	2.8	2.5	1	#	9.0	2000	12	9.5	2000	12	1975	30	3+	2000	.9	.7	.3	.1	.0	2.4	1.3	.7	.0
Dec	4.1	2.0	1	1	11.0	1982	28	19.0	1982	15	1982	31	7	1983	1.6	1.2	.3	.2	@	4.2	2.0	1.1	.2
Ann	20.3	12.7	N/A	N/A	13.0	Mar 1984	19	19.0	Dec 1982	16	Feb 1978	13	9	Jan 1993	8.7	6.1	2.1	.8	@	21.8	10.3	5.7	.8

+ 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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No. 20 1971-2000

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Climate Division: NE 7

NWS Call Sign:

Elevation: 2,387 Feet

Lat: 40° 23N

Lon: 100° 13W

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	5/25	5/20	5/17	5/14	5/12	5/09	5/07	5/04	4/29
32	5/15	5/11	5/08	5/05	5/03	4/30	4/27	4/24	4/20
28	5/06	4/30	4/27	4/23	4/20	4/17	4/14	4/10	4/05
24	4/24	4/20	4/17	4/14	4/12	4/09	4/07	4/03	3/30
20	4/14	4/09	4/06	4/03	3/31	3/28	3/25	3/22	3/17
16	4/07	4/01	3/28	3/24	3/21	3/17	3/13	3/09	3/03
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	9/17	9/20	9/22	9/24	9/26	9/28	9/30	10/04
32	9/16	9/20	9/24	9/27	9/29	10/02	10/05	10/08	10/13
28	9/28	10/03	10/06	10/09	10/12	10/15	10/18	10/21	10/26
24	10/05	10/10	10/14	10/17	10/20	10/22	10/26	10/29	11/03
20	10/14	10/20	10/25	10/29	11/01	11/05	11/09	11/13	11/20
16	10/24	10/30	11/03	11/06	11/10	11/13	11/16	11/21	11/26
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	148	143	140	137	134	131	128	125	120
32	165	159	156	152	149	146	142	139	133
28	191	186	181	178	174	171	167	163	157
24	210	203	198	194	190	186	182	177	170
20	241	232	225	220	215	209	204	197	188
16	260	251	244	239	233	228	222	216	206

* 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: NE 7 NWS Call Sign: Elevation: 2,387 Feet Lat: 40° 23N Lon: 100° 13W

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	1265	1000	837	499	217	39	3	15	114	416	854	1165	6424
60	1110	860	682	356	116	11	0	3	46	267	704	1010	5165
57	1017	778	589	276	72	4	0	1	22	187	614	917	4477
55	955	727	528	228	50	2	0	0	12	141	555	855	4053
50	802	596	383	127	15	0	0	0	1	57	416	706	3103
32	318	218	50	1	0	0	0	0	0	0	76	252	915

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	77	142	235	493	840	1128	1339	1277	954	608	212	110	7415
55	0	7	1	30	177	440	626	564	277	36	0	0	2158
57	0	2	0	19	137	382	564	502	226	20	0	0	1852
60	0	0	0	8	87	298	471	411	160	7	0	0	1442
65	0	0	0	1	33	177	319	268	79	1	0	0	878
70	0	0	0	0	9	87	181	148	30	0	0	0	455

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	3	36	115	312	610	903	1104	1045	729	380	84	9	3	39	154	466	1076	1979	3083	4128	4857	5237	5321	5330
45	0	11	55	198	456	753	949	890	582	252	34	0	0	11	66	264	720	1473	2422	3312	3894	4146	4180	4180
50	0	1	22	115	314	604	794	735	439	146	8	0	0	1	23	138	452	1056	1850	2585	3024	3170	3178	3178
55	0	0	4	57	191	454	639	580	308	67	0	0	0	0	4	61	252	706	1345	1925	2233	2300	2300	2300
60	0	0	0	25	99	314	485	427	191	23	0	0	0	0	0	25	124	438	923	1350	1541	1564	1564	1564
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	25	54	119	225	376	578	722	677	467	284	90	32	25	79	198	423	799	1377	2099	2776	3243	3527	3617	3649

(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