

# Climatography of the United States

No. 20

1971-2000

Station: CURTIS 3 NNE, NE

COOP ID: 252100

Climate Division: NE 7

NWS Call Sign:

Elevation: 2,721 Feet Lat: 40°40N

Lon: 100°30W

## 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	37.8	9.3	23.6	75	1951	26	32.8	1986	-27	1963	27	9.6	1979	1285	0	.0	.0	6.6	10.1	30.8	6.4
Feb	44.1	14.1	29.1	80+	1972	29	38.4	1992	-29	1981	11	16.3	1978	1006	0	.0	.0	11.2	6.7	26.9	3.4
Mar	53.1	22.5	37.8	89	1956	25	43.6	1986	-26	1960	3	30.9	1996	843	0	.0	.0	19.0	2.6	26.5	.8
Apr	64.3	32.5	48.4	94+	1980	21	55.0	1981	8	1975	3	41.4	1983	500	1	.0	.5	26.1	.2	14.6	.0
May	73.3	44.5	58.9	100+	1989	29	63.7	1987	17	1989	1	52.3	1995	220	32	@	1.0	30.7	.0	2.6	.0
Jun	84.3	54.7	69.5	113	1952	15	76.2	1988	32	1969	2	64.2	1982	40	174	1.2	8.6	29.9	.0	.0	.0
Jul	90.3	60.2	75.3	114	1954	11	81.0	1980	39+	1971	30	69.5	1992	5	322	3.8	17.2	31.0	.0	.0	.0
Aug	88.5	57.5	73.0	109+	1960	5	79.0	1983	34	1974	4	67.4	1992	14	262	1.9	14.6	31.0	.0	.0	.0
Sep	80.1	46.0	63.1	105+	1959	7	69.5	1998	21+	1983	21	57.1	1974	130	72	.5	6.5	29.6	.0	2.3	.0
Oct	68.2	32.9	50.6	95+	1997	3	53.8	1974	9	1997	27	45.3	1976	450	0	.0	.5	28.6	.2	13.2	.0
Nov	49.8	20.1	35.0	85	1980	6	43.9	1999	-20	1952	28	25.8	1985	902	0	.0	.0	15.7	3.3	27.4	.9
Dec	40.1	11.6	25.9	75	1964	23	32.9	1991	-31	1989	22	7.4	1983	1214	0	.0	.0	8.3	8.1	30.7	4.1
Ann	64.5	33.8	49.2	114	Jul 1954	11	81.0	Jul 1980	-31	Dec 1989	22	7.4	Dec 1983	6609	863	7.4	48.9	267.7	31.2	175.0	15.6

+ 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](http://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

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**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: CURTIS 3 NNE, NE**

**COOP ID: 252100**

**Climate Division: NE 7**

**NWS Call Sign:**

**Elevation: 2,721 Feet Lat: 40°40N**

**Lon: 100°30W**

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	.43	.33	1.20	1949	3	1.39	1976	.00+	1986	3.0	1.3	.3	@	.00	.03	.10	.17	.24	.32	.42	.54	.70	.97	1.24
Feb	.50	.32	1.87	1971	19	2.13	1971	.00+	1996	3.2	1.6	.2	.1	.00	.00	.05	.12	.21	.32	.45	.62	.85	1.25	1.65
Mar	1.35	.86	1.47	1981	4	3.62	1981	.02	1994	5.3	3.2	.7	.2	.11	.20	.38	.57	.77	1.01	1.29	1.64	2.12	2.93	3.73
Apr	1.99	1.86	1.72	1977	16	5.18	1984	.03	1989	6.5	4.3	1.3	.4	.31	.48	.77	1.04	1.32	1.64	1.99	2.43	3.02	3.97	4.88
May	3.29	3.09	3.23	1951	21	5.94	1977	1.42	1992	9.3	6.4	2.2	.6	1.33	1.64	2.06	2.42	2.75	3.08	3.45	3.87	4.40	5.21	5.95
Jun	3.30	3.15	4.52	1963	2	8.55	1975	.61	1978	7.8	5.8	2.5	.8	1.02	1.33	1.80	2.20	2.58	2.99	3.43	3.95	4.62	5.66	6.63
Jul	2.89	2.51	3.32	1973	20	8.25	1993	.63	1999	7.8	5.3	2.1	.7	.79	1.06	1.48	1.84	2.20	2.58	3.00	3.49	4.13	5.14	6.08
Aug	2.40	2.07	2.13	1992	25	6.11	1999	.18	1984	7.0	4.4	1.6	.6	.39	.60	.95	1.28	1.62	1.99	2.41	2.93	3.62	4.74	5.81
Sep	1.55	1.00	2.60	1958	14	5.16	1973	.14	1992	4.9	3.3	.9	.3	.16	.27	.49	.70	.94	1.20	1.50	1.89	2.41	3.28	4.13
Oct	1.25	.92	2.12	1987	30	4.58	1997	.03	1975	4.5	2.7	.8	.3	.05	.11	.25	.41	.60	.83	1.12	1.49	2.02	2.92	3.84
Nov	.84	.69	1.12	2000	12	2.30	1998	.00+	1989	4.0	2.1	.5	.1	.00	.09	.23	.37	.51	.66	.83	1.04	1.33	1.81	2.27
Dec	.38	.31	.75+	1968	22	1.06	1987	.00+	1995	2.9	1.1	.2	.0	.00	.02	.07	.12	.19	.26	.35	.47	.63	.90	1.17
Ann	20.17	20.40	4.52	Jun 1963	2	8.55	Jun 1975	.00+	Feb 1996	66.2	41.5	13.3	4.1	14.42	15.53	16.96	18.04	19.00	19.93	20.89	21.94	23.23	25.09	26.69

+ 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

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Station: CURTIS 3 NNE, NE

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Climate Division: NE 7

NWS Call Sign:

Elevation: 2,721 Feet

Lat: 40° 40N

Lon: 100° 30W

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	5.5	4.0	2	1	11.0	1988	18	16.2	1988	16	1993	10	7	1993	2.6	1.7	.6	.2	.1	10.0	5.2	2.9	1.0
Feb	3.5	2.3	1	#	10.0	1978	13	17.5	1978	15	1978	15	8	1978	2.2	1.5	.6	.2	@	6.3	3.8	2.1	.4
Mar	5.1	5.8	1	#	8.0	1981	7	15.8	1980	10	1980	29	2	1994	2.3	1.9	.5	.2	.0	3.5	1.6	.5	@
Apr	1.5	.0	#	#	5.0	1993	20	8.0+	1997	6	1995	11	1	1995	.8	.6	.2	.1	.0	.7	.3	.1	.0
May	.0	.0	#	0	.0	0	0	.0	0	#	1977	2	#	1977	.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	5.5	1985	28	5.5	1985	5	1985	28	#	1985	@	@	@	@	.0	@	@	@	.0
Oct	.7	.0	#	0	5.0	1991	31	5.8	1991	5	1991	31	#+	1997	.4	.3	.1	@	.0	.2	.1	@	.0
Nov	3.2	2.3	1	#	14.0	2000	12	14.0	2000	14	2000	12	7	2000	1.6	1.2	.3	.2	.0	2.8	1.2	.6	.0
Dec	5.0	4.8	1	1	8.0	1982	28	12.5+	1982	13	1975	1	7	1973	2.2	1.6	.7	.2	.0	6.9	4.0	2.0	.2
Ann	24.7	19.2	N/A	N/A	14.0	Nov 2000	12	17.5	Feb 1978	16	Jan 1993	10	8	Feb 1978	12.1	8.8	3.0	1.1	.1	30.4	16.2	8.2	1.6

+ 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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**Lat:** 40° 40N

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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	6/02	5/28	5/24	5/20	5/17	5/14	5/11	5/07	5/01
32	5/21	5/16	5/13	5/11	5/09	5/06	5/04	5/01	4/26
28	5/13	5/09	5/06	5/03	5/01	4/29	4/26	4/23	4/19
24	5/06	5/01	4/27	4/25	4/22	4/19	4/16	4/13	4/08
20	4/24	4/18	4/15	4/11	4/08	4/05	4/02	3/29	3/23
16	4/15	4/09	4/04	3/31	3/27	3/23	3/19	3/15	3/08
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	9/04	9/09	9/13	9/16	9/19	9/22	9/25	9/29	10/05
32	9/13	9/17	9/20	9/22	9/24	9/27	9/29	10/02	10/06
28	9/17	9/23	9/27	9/30	10/04	10/07	10/11	10/15	10/20
24	9/26	10/01	10/06	10/09	10/13	10/16	10/20	10/24	10/30
20	10/07	10/12	10/16	10/19	10/22	10/25	10/28	11/01	11/06
16	10/18	10/24	10/28	10/31	11/03	11/07	11/10	11/14	11/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	146	138	133	128	124	120	115	110	103
32	158	152	147	142	138	134	130	125	118
28	177	169	164	159	155	151	146	141	133
24	194	187	182	177	173	169	165	160	153
20	215	209	204	200	196	192	188	184	177
16	249	239	232	226	220	215	209	202	192

\* 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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**COOP ID: 252100**

**Climate Division: NE 7      NWS Call Sign:      Elevation: 2,721 Feet    Lat: 40° 40N      Lon: 100° 30W**

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	1285	1006	843	500	220	40	5	14	130	450	902	1214	6609
60	1130	866	688	356	118	11	0	2	57	299	752	1059	5338
57	1037	782	595	276	74	4	0	1	29	216	662	966	4642
55	975	730	533	227	51	2	0	0	17	167	602	904	4208
50	822	600	387	125	16	0	0	0	3	74	462	754	3243
32	335	215	48	1	0	0	0	0	0	0	101	288	988

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	73	132	228	492	834	1124	1341	1271	932	574	189	97	7287
55	0	4	0	29	172	436	628	558	259	28	0	0	2114
57	0	0	0	17	133	378	566	496	211	15	0	0	1816
60	0	0	0	8	84	295	473	405	149	5	0	0	1419
65	0	0	0	1	32	174	322	262	72	0	0	0	863
70	0	0	0	0	8	85	185	143	27	0	0	0	448

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	41	119	308	609	897	1101	1040	716	367	74	12	3	44	163	471	1080	1977	3078	4118	4834	5201	5275	5287
45	0	11	52	194	455	747	946	885	568	240	26	0	0	11	63	257	712	1459	2405	3290	3858	4098	4124	4124
50	0	2	15	107	311	597	791	730	428	137	7	0	0	2	17	124	435	1032	1823	2553	2981	3118	3125	3125
55	0	0	4	54	184	450	636	575	295	63	0	0	0	0	4	58	242	692	1328	1903	2198	2261	2261	2261
60	0	0	0	23	96	309	481	423	180	20	0	0	0	0	0	23	119	428	909	1332	1512	1532	1532	1532
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	25	64	129	244	391	575	707	666	469	299	89	34	25	89	218	462	853	1428	2135	2801	3270	3569	3658	3692

(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](http://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](http://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"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)