

Climatology of the United States

No. 20

1971-2000

Station: WAHOO, NE

COOP ID: 258905

Climate Division: NE 6

NWS Call Sign:

Elevation: 1,270 Feet Lat: 41° 13N

Lon: 96° 38W

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	31.0	10.4	20.7	71	1981	25	31.4+	1992	-31	1974	12	7.8	1979	1374	0	.0	.0	3.2	14.6	30.5	6.7
Feb	37.4	15.3	26.4	76	1995	26	35.1	1998	-21+	1996	4	12.3	1978	1083	0	.0	.0	7.1	10.1	26.2	3.5
Mar	49.0	25.7	37.4	89	1986	28	42.7	2000	-14	1998	11	30.7	1996	858	0	.0	.0	16.0	2.6	21.6	.5
Apr	61.8	36.7	49.3	95	1989	27	56.6	1981	3	1975	3	43.8	1983	475	2	.0	.5	25.7	.1	8.6	.0
May	73.2	48.4	60.8	99	1967	24	66.7	1988	23	1976	3	54.8	1995	186	56	.0	1.1	30.9	.0	.7	.0
Jun	83.6	58.5	71.1	105	1988	22	76.4	1988	39	1969	3	66.3	1982	21	203	.4	7.8	30.0	.0	.0	.0
Jul	87.6	63.5	75.6	108	1974	21	82.4	1974	40	1972	5	69.2	1992	6	333	1.5	13.5	31.0	.0	.0	.0
Aug	85.0	61.0	73.0	106	1983	17	80.4	1983	42+	1988	28	67.4	1992	21	268	.7	9.5	31.0	.0	.0	.0
Sep	77.5	51.1	64.3	103	2000	3	70.1	1998	27+	1991	19	58.5	1993	100	80	.1	4.0	29.9	.0	.6	.0
Oct	65.7	38.8	52.3	93	1963	6	56.3	1973	10	1972	19	46.8	1987	397	2	.0	.1	28.6	.1	7.1	.0
Nov	47.3	26.2	36.8	82	1999	14	45.6	1999	-6+	1991	5	27.1	1985	847	0	.0	.0	14.1	3.2	22.1	.4
Dec	34.4	15.3	24.9	70	1964	23	31.0	1999	-23+	1989	23	6.6	1983	1245	0	.0	.0	4.2	10.8	29.8	3.4
Ann	61.1	37.6	49.4	108	Jul 1974	21	82.4	Jul 1974	-31	Jan 1974	12	6.6	Dec 1983	6613	944	2.7	36.5	251.7	41.5	147.2	14.5

+ 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

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

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: WAHOO, NE

COOP ID: 258905

Climate Division: NE 6

NWS Call Sign:

Elevation: 1,270 Feet Lat: 41°13N

Lon: 96°38W

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	.70	.77	1.66	1949	3	1.36	1992	.00+	1986	4.5	2.8	.2	.0	.00	.16	.30	.41	.52	.62	.74	.88	1.06	1.34	1.60
Feb	.82	.73	1.72	1958	27	2.55	1971	.06	1996	4.8	2.7	.3	.1	.11	.17	.29	.41	.53	.66	.81	1.00	1.26	1.68	2.09
Mar	2.62	2.07	2.75	1983	27	7.70	1973	.00	1994	7.4	5.7	1.7	.6	.13	.37	.76	1.15	1.56	2.02	2.56	3.23	4.14	5.64	7.11
Apr	3.47	3.23	2.60	1964	20	8.35	1978	.20	1990	9.8	7.6	2.5	.7	.71	1.02	1.53	2.00	2.47	2.97	3.54	4.22	5.13	6.57	7.95
May	5.02	4.13	4.75	1972	1	11.35	1972	1.28	1997	11.9	9.2	3.2	1.3	1.46	1.94	2.66	3.28	3.88	4.51	5.21	6.03	7.09	8.75	10.29
Jun	4.38	3.30	3.75	1965	29	9.40+	1994	1.15	1976	9.7	7.6	3.0	1.4	1.10	1.51	2.15	2.72	3.28	3.86	4.52	5.30	6.32	7.93	9.44
Jul	3.75	3.70	4.16	1990	26	10.25	1993	.35	1974	8.9	6.7	2.6	1.0	.71	1.05	1.60	2.10	2.62	3.18	3.81	4.57	5.58	7.21	8.75
Aug	4.30	3.55	4.10	1998	21	11.30	1977	.59	1973	8.8	6.6	2.3	1.5	.78	1.16	1.79	2.38	2.98	3.62	4.35	5.24	6.42	8.32	10.14
Sep	3.52	3.05	3.60	1965	7	12.25	1986	.10	1980	7.5	6.0	2.4	1.1	.45	.73	1.23	1.72	2.24	2.82	3.48	4.31	5.42	7.25	9.02
Oct	2.60	2.36	4.10	1980	16	6.12	1984	.00	1999	6.4	5.2	1.4	.7	.10	.31	.69	1.07	1.48	1.95	2.50	3.19	4.14	5.72	7.28
Nov	1.95	1.62	2.00	1977	9	6.22	1983	.03	1976	6.0	4.7	1.3	.5	.14	.27	.52	.78	1.08	1.43	1.84	2.36	3.09	4.32	5.53
Dec	.92	.78	2.40	1984	16	2.80	1984	.00+	1986	5.3	3.2	.2	@	.00	.16	.34	.49	.63	.78	.95	1.15	1.42	1.84	2.25
Ann	34.05	32.98	4.75	May 1972	1	12.25	Sep 1986	.00+	Oct 1999	91.0	68.0	21.1	8.9	22.19	24.41	27.29	29.51	31.50	33.44	35.46	37.71	40.45	44.48	47.99

+ 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

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: WAHOO, NE

COOP ID: 258905

Climate Division: NE 6

NWS Call Sign:

Elevation: 1,270 Feet

Lat: 41° 13N

Lon: 96° 38W

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	6.5	5.5	2	2	8.0	1991	25	16.1	1979	17	1979	13	9	1979	3.2	2.7	.7	.2	.0	-9.9	-9.9	-9.9	-9.9
Feb	6.4	5.5	2	#	13.0	1971	23	17.0	1971	13	1978	14	8	1979	2.3	1.9	.8	.3	.1	-9.9	-9.9	-9.9	-9.9
Mar	4.6	3.5	1	0	10.0	1998	8	22.0	1978	12	1978	6	4	1998	1.7	1.4	.8	.4	@	1.2	1.0	.5	.1
Apr	2.1	.0	#	0	7.0	1992	21	9.0	1997	5+	1997	12	#+	1997	.7	.7	.4	.1	.0	.3	.2	.1	.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	#	1985	29	#	1985	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.6	.0	#	0	8.0	1997	26	8.0	1997	3	1980	28	#+	1982	.2	.2	.1	@	.0	.1	.1	.0	.0
Nov	3.9	3.0	#	0	8.0	1972	14	15.0	1975	10	1991	7	9	1991	1.5	1.4	.5	.1	.0	.4	.1	.0	.0
Dec	8.0	5.0	1	#	10.0	1973	19	28.0	1973	12	2000	23	5+	2000	2.9	2.5	.8	.2	@	-9.9	-9.9	-9.9	-9.9
Ann	32.1	22.5	N/A	N/A	13.0	Feb 1971	23	28.0	Dec 1973	17	Jan 1979	13	9+	Nov 1991	12.5	10.8	4.1	1.3	.1	-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:

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Climate Division: NE 6

NWS Call Sign:

Elevation: 1,270 Feet

Lat: 41° 13N

Lon: 96° 38W

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	5/14	5/10	5/07	5/05	5/02	4/29	4/25	4/21
32	5/09	5/05	5/02	4/29	4/26	4/24	4/21	4/17	4/13
28	4/30	4/25	4/21	4/18	4/16	4/13	4/10	4/06	4/01
24	4/19	4/14	4/11	4/08	4/05	4/02	3/30	3/26	3/21
20	4/10	4/04	3/31	3/28	3/25	3/21	3/18	3/14	3/09
16	3/30	3/25	3/21	3/18	3/15	3/11	3/08	3/04	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	9/13	9/18	9/21	9/23	9/26	9/28	10/01	10/04	10/08
32	9/17	9/23	9/27	10/01	10/04	10/08	10/11	10/16	10/22
28	9/26	10/02	10/06	10/09	10/12	10/15	10/18	10/22	10/28
24	10/14	10/20	10/24	10/27	10/30	11/02	11/06	11/10	11/15
20	10/18	10/25	10/29	11/02	11/06	11/10	11/13	11/18	11/24
16	10/27	11/03	11/08	11/12	11/16	11/20	11/24	11/29	12/06
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	163	156	151	147	143	139	135	131	124
32	182	174	169	165	160	156	152	146	139
28	197	191	186	182	179	175	171	167	160
24	229	222	217	212	208	203	199	193	186
20	251	242	236	231	226	220	215	209	200
16	271	262	256	251	246	241	236	229	221

* 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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NWS Call Sign:

Elevation: 1,270 Feet Lat: 41°13N Lon: 96°38W

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	1374	1083	858	475	186	21	6	21	100	397	847	1245	6613
60	1219	943	703	333	98	4	0	5	37	254	697	1090	5383
57	1126	859	610	256	61	1	0	1	16	181	610	997	4718
55	1064	808	550	209	42	0	0	0	8	139	554	935	4309
50	912	677	407	113	13	0	0	0	0	64	418	785	3389
32	420	278	70	1	0	0	0	0	0	0	90	315	1174

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	69	119	236	518	893	1172	1350	1270	969	628	232	93	7549
55	0	5	2	37	222	482	637	557	288	54	7	0	2291
57	0	0	0	23	179	423	575	496	235	34	3	0	1968
60	0	0	0	10	123	336	482	407	166	14	0	0	1538
65	0	0	0	2	56	203	333	268	80	2	0	0	944
70	0	0	0	0	18	100	198	156	29	0	0	0	501

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	2	31	127	354	684	968	1127	1052	765	430	100	8	2	33	160	514	1198	2166	3293	4345	5110	5540	5640	5648
45	0	10	68	231	529	818	972	897	615	291	43	2	0	10	78	309	838	1656	2628	3525	4140	4431	4474	4476
50	0	1	33	137	382	668	817	742	467	178	16	0	0	1	34	171	553	1221	2038	2780	3247	3425	3441	3441
55	0	0	8	75	246	519	662	587	330	91	3	0	0	0	8	83	329	848	1510	2097	2427	2518	2521	2521
60	0	0	2	32	133	373	507	433	213	37	0	0	0	0	2	34	167	540	1047	1480	1693	1730	1730	1730
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	7	34	96	229	427	637	757	704	495	287	74	14	7	41	137	366	793	1430	2187	2891	3386	3673	3747	3761

(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