

Climatology of the United States

No. 20

1971-2000

Station: FOXHOLM 7 N, ND

COOP ID: 323217

Climate Division: ND 1

NWS Call Sign:

Elevation: 1,675 Feet Lat: 48° 28N

Lon: 101° 34W

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	16.5	-4.0	6.3	53	1987	13	20.6	1986	-40+	1996	20	-12.8	1982	1824	0	.0	.0	.1	23.6	30.8	17.7
Feb	23.8	4.3	14.1	63+	1988	28	25.9	1998	-37+	1996	1	-5.6	1979	1427	0	.0	.0	.8	17.3	27.9	11.3
Mar	36.3	14.9	25.6	75+	1966	30	36.5	1986	-32	1962	1	17.3	1996	1222	0	.0	.0	5.9	10.1	29.7	4.9
Apr	53.4	28.3	40.9	94	1980	21	51.0	1987	-11	1979	6	27.2	1979	726	2	.0	.1	19.4	1.6	19.8	.3
May	67.6	42.4	55.0	101	1988	30	63.1	1977	17+	1979	4	45.4	1979	339	25	@	.8	29.4	@	4.8	.0
Jun	76.1	51.5	63.8	104	1988	21	75.2	1988	27	1969	2	57.6	1985	129	93	.3	2.8	30.0	.0	.1	.0
Jul	82.0	55.2	68.6	109	1988	28	73.9	1989	35	1979	16	61.3	1993	41	151	.6	5.7	31.0	.0	.0	.0
Aug	81.5	52.1	66.8	110	1949	7	72.3	1983	28	1979	14	59.3	1977	96	152	.7	7.0	31.0	.0	.1	.0
Sep	69.8	41.9	55.9	103+	1978	5	61.9	1998	13	1965	26	49.9	1984	297	22	.2	1.5	28.9	.0	3.4	.0
Oct	56.0	30.6	43.3	95	1963	4	48.2	1994	-1	1991	30	38.7	1972	672	0	.0	.1	22.5	.8	16.8	.1
Nov	35.0	15.2	25.1	79	1999	8	36.4	1999	-27	1985	28	9.7	1985	1196	0	.0	.0	5.3	11.4	28.1	3.2
Dec	21.8	2.0	11.9	58	1979	4	25.4	1987	-39	1967	31	-4.1	1983	1647	0	.0	.0	.5	21.3	30.7	12.8
Ann	51.7	27.9	39.8	110	Aug 1949	7	75.2	Jun 1988	-40+	Jan 1996	20	-12.8	Jan 1982	9616	445	1.8	18.0	204.8	86.1	192.2	50.3

+ 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

034-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: FOXHOLM 7 N, ND

COOP ID: 323217

Climate Division: ND 1

NWS Call Sign:

Elevation: 1,675 Feet Lat: 48°28N

Lon: 101°34W

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	.51	.46	.84	1989	6	2.04	1989	.06+	1990	5.3	1.8	.1	.0	.06	.10	.17	.24	.32	.40	.50	.63	.79	1.07	1.33
Feb	.44	.28	2.05	1998	26	3.13	1998	.03	1971	3.6	1.3	.1	@	.03	.05	.10	.16	.23	.31	.41	.53	.71	1.01	1.30
Mar	.80	.75	1.30	1985	29	2.82	1983	.00	1977	4.1	2.5	.4	@	.07	.16	.29	.41	.53	.66	.81	.99	1.23	1.61	1.98
Apr	1.25	1.07	1.90	1953	24	4.18	1975	.00	1987	5.8	3.0	.7	.2	.04	.14	.31	.49	.69	.92	1.19	1.53	2.00	2.78	3.56
May	1.96	1.62	2.04	1985	12	5.89	1999	.00	1980	8.4	4.6	1.2	.3	.20	.43	.76	1.04	1.33	1.64	2.00	2.42	2.99	3.91	4.78
Jun	2.97	2.94	2.81	1952	28	6.72	1973	.71	1986	9.6	6.4	1.9	.6	.89	1.17	1.59	1.96	2.31	2.68	3.09	3.57	4.19	5.15	6.05
Jul	2.60	2.45	2.33	2000	5	7.22	1993	.36	1976	8.3	5.1	1.8	.5	.49	.72	1.10	1.46	1.82	2.20	2.64	3.17	3.87	5.01	6.08
Aug	1.84	1.54	2.76	1948	9	4.38	1974	.46	1984	7.0	3.9	1.0	.4	.45	.63	.90	1.13	1.37	1.62	1.90	2.23	2.66	3.35	4.00
Sep	1.67	1.56	3.54	1971	5	5.70	1971	.15	1976	6.3	3.8	1.0	.2	.25	.39	.63	.87	1.10	1.37	1.67	2.04	2.53	3.34	4.11
Oct	1.39	.71	3.90	1949	29	6.60	1984	.00+	1999	4.7	2.7	.8	.5	.00	.03	.16	.34	.56	.84	1.19	1.65	2.32	3.49	4.69
Nov	.68	.59	1.10	1986	8	1.95	2000	.00	1999	3.9	1.9	.4	.1	.02	.06	.15	.25	.36	.48	.63	.83	1.09	1.55	2.00
Dec	.46	.37	1.20	2001	5	1.35	1991	.00	1987	4.3	1.5	.1	.0	.03	.07	.15	.21	.29	.37	.46	.57	.72	.98	1.22
Ann	16.57	16.63	3.90	Oct 1949	29	7.22	Jul 1993	.00+	Nov 1999	71.3	38.5	9.5	2.8	10.47	11.60	13.08	14.22	15.24	16.25	17.29	18.46	19.89	22.00	23.84

+ 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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www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Climate Division: ND 1

NWS Call Sign:

Elevation: 1,675 Feet

Lat: 48°28N

Lon: 101°34W

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	7.2	6.8	6	5	9.0	1982	22	25.0	1982	29	1989	13	21	1989	4.2	2.8	1.0	.4	.0	24.7	22.3	14.6	2.4
Feb	5.0	4.0	5	3	11.0	1998	26	14.0	1979	21	1982	14	20	1994	3.1	2.0	.6	@	.0	19.7	15.8	11.4	3.8
Mar	5.9	4.0	3	1	10.0	1996	25	18.0	1975	18+	1998	1	18	1998	2.7	2.3	.9	.4	@	14.4	10.1	6.6	2.9
Apr	1.6	.5	1	#	7.0	1984	27	7.5	1979	15	1975	2	6	1975	1.0	.7	.3	.1	.0	2.6	1.9	1.5	.4
May	.2	.0	#	0	3.8	1991	4	3.8	1991	4	1991	4	#+	1991	.1	.1	@	.0	.0	.1	@	.0	.0
Jun	.0	.0	#	0	.0	0	0	.0	0	#	1998	2	#	1998	.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	#	1972	1	#	1972	.0	.0	.0	.0	.0	.0	.0	.0	.0
Sep	.1	.0	0	0	2.0	1972	26	2.0	1972	0	0	0	0	0	.1	@	.0	.0	.0	.0	.0	.0	.0
Oct	1.8	.0	#	0	10.0	1996	21	10.0	1996	11	1991	30	2	1991	.8	.6	.2	.1	@	1.0	.5	.2	.1
Nov	5.2	5.2	1	1	12.0	1996	20	12.0+	1985	15	1993	26	6	1991	2.1	1.7	.7	.4	@	8.9	6.0	3.4	.2
Dec	7.3	7.1	3	2	6.0	1977	17	18.0	1977	12	1977	18	8	1977	3.8	2.8	.8	.2	.0	26.5	16.4	8.2	.9
Ann	34.3	27.6	N/A	N/A	12.0	Nov 1996	20	25.0	Jan 1982	29	Jan 1989	13	21	Jan 1989	17.9	13.0	4.5	1.6	@	97.9	73.0	45.9	10.7

+ 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

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Elevation: 1,675 Feet

Lat: 48°28N

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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	6/15	6/08	6/03	5/30	5/26	5/23	5/19	5/14	5/07
32	5/30	5/26	5/22	5/20	5/17	5/14	5/11	5/08	5/04
28	5/19	5/14	5/11	5/09	5/06	5/03	5/01	4/28	4/23
24	5/11	5/06	5/02	4/29	4/26	4/23	4/20	4/16	4/11
20	5/05	4/29	4/25	4/21	4/18	4/15	4/11	4/07	4/01
16	4/18	4/14	4/11	4/09	4/07	4/04	4/02	3/30	3/26
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	8/18	8/24	8/29	9/02	9/05	9/09	9/12	9/17	9/23
32	8/31	9/06	9/10	9/13	9/17	9/20	9/24	9/28	10/04
28	9/08	9/14	9/19	9/22	9/26	9/29	10/03	10/08	10/14
24	9/21	9/26	9/30	10/03	10/06	10/09	10/13	10/17	10/22
20	10/02	10/08	10/12	10/15	10/18	10/21	10/25	10/28	11/03
16	10/08	10/14	10/18	10/21	10/25	10/28	10/31	11/05	11/10
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	131	121	113	107	101	95	89	81	71
32	143	136	131	126	122	118	114	108	101
28	167	158	152	147	142	137	132	126	117
24	182	175	170	166	163	159	155	150	143
20	207	198	192	187	183	178	173	167	158
16	221	214	209	205	200	196	192	187	179

* 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	1824	1427	1222	726	339	129	41	96	297	672	1196	1647	9616
60	1669	1287	1067	583	222	61	10	42	181	517	1046	1492	8177
57	1576	1203	974	501	165	34	3	24	124	425	956	1399	7384
55	1514	1147	912	449	132	23	0	15	92	365	896	1337	6882
50	1359	1010	767	328	68	7	0	4	36	227	749	1182	5737
32	838	558	306	59	1	0	0	0	0	12	297	664	2735

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	37	55	107	325	710	954	1133	1079	715	362	91	40	5608
55	0	0	1	24	127	286	421	381	118	3	0	0	1361
57	0	0	0	17	98	238	361	327	90	1	0	0	1132
60	0	0	0	9	63	175	275	253	57	0	0	0	832
65	0	0	0	2	25	93	151	152	22	0	0	0	445
70	0	0	0	0	7	37	67	78	7	0	0	0	196

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	0	1	15	162	483	734	899	862	507	202	20	0	0	1	16	178	661	1395	2294	3156	3663	3865	3885	3885
45	0	0	4	89	346	585	744	707	365	113	8	0	0	0	4	93	439	1024	1768	2475	2840	2953	2961	2961
50	0	0	0	42	218	436	589	553	239	47	1	0	0	0	0	42	260	696	1285	1838	2077	2124	2125	2125
55	0	0	0	18	118	292	434	403	136	14	0	0	0	0	0	18	136	428	862	1265	1401	1415	1415	1415
60	0	0	0	5	55	166	283	259	67	2	0	0	0	0	0	5	60	226	509	768	835	837	837	837
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	19	127	312	454	574	545	324	149	21	0	0	1	20	147	459	913	1487	2032	2356	2505	2526	2526

(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