

# Climatography of the United States

No. 20

1971-2000

Station: PURDUM, NE

COOP ID: 256970

Climate Division: NE 2

NWS Call Sign:

Elevation: 2,690 Feet Lat: 42°04N

Lon: 100°15W

## 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	35.1	8.3	21.7	72+	1990	11	32.4	1990	-33	1996	31	5.7	1979	1343	0	.0	.0	5.6	12.0	30.7	7.9
Feb	41.2	13.7	27.5	81	1982	22	36.8	1992	-34	1996	3	13.6	1978	1051	0	.0	.0	9.7	7.9	27.3	3.9
Mar	50.0	22.5	36.3	89	1968	30	41.9	1986	-25+	1998	11	29.2	1996	891	0	.0	.0	16.5	3.8	26.0	1.0
Apr	61.1	32.9	47.0	95	1962	25	54.7	1981	-3	1975	3	40.0	1983	542	1	.0	.2	24.2	.4	14.6	@
May	71.3	44.4	57.9	98	1967	25	64.1	1977	19	1954	3	50.6	1995	242	21	.0	.4	30.4	.0	2.3	.0
Jun	81.5	53.9	67.7	105	1952	15	72.8	1988	32+	1995	10	62.3	1982	54	135	.3	5.1	29.9	.0	.1	.0
Jul	87.3	59.5	73.4	109	1954	11	78.2	1974	38+	1971	30	66.9	1992	6	268	1.2	12.6	31.0	.0	.0	.0
Aug	85.8	57.6	71.7	106	1952	26	77.4	1983	37	1964	12	66.1	1992	17	225	.5	10.0	31.0	.0	.0	.0
Sep	77.5	47.1	62.3	101+	1960	5	68.5	1998	16	1984	29	57.6	1993	135	53	.0	4.3	29.7	.0	1.8	.0
Oct	65.9	34.3	50.1	95	1963	4	54.2	1974	7	1991	31	46.0	1976	462	0	.0	.5	27.4	.2	12.5	.0
Nov	47.5	20.5	34.0	84	1999	8	44.5	1999	-19	1976	28	22.7	1985	930	0	.0	.0	13.8	4.5	26.4	1.5
Dec	38.4	11.3	24.9	74+	1998	4	32.6	1991	-36	1983	22	6.8	1983	1244	0	.0	.0	7.7	9.7	30.6	4.8
Ann	61.9	33.8	47.9	109	Jul 1954	11	78.2	Jul 1974	-36	Dec 1983	22	5.7	Jan 1979	6917	703	2.0	33.1	256.9	38.5	172.3	19.1

+ 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

094-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: PURDUM, NE**

**COOP ID: 256970**

**Climate Division: NE 2**

**NWS Call Sign:**

**Elevation: 2,690 Feet Lat: 42°04N**

**Lon: 100°15W**

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	.45	.33	1.90	1949	4	1.85	1988	.00+	1986	3.7	1.4	.2	.0	.00	.05	.13	.20	.27	.35	.45	.56	.71	.97	1.21
Feb	.68	.38	1.05	1977	23	2.16	1984	.00	1983	3.2	1.7	.3	.1	.01	.05	.12	.22	.32	.45	.61	.82	1.11	1.61	2.11
Mar	1.45	1.15	1.50	1992	9	4.50	1992	.13+	1994	5.4	3.7	1.1	.3	.14	.25	.45	.65	.87	1.12	1.41	1.77	2.27	3.10	3.91
Apr	2.31	2.23	2.47	1970	12	4.67	1971	.10	1998	7.4	4.9	1.6	.5	.37	.57	.90	1.22	1.55	1.91	2.32	2.82	3.49	4.57	5.61
May	3.87	3.48	4.87	1977	7	9.17	1991	.49	1992	9.2	6.4	2.5	1.1	1.10	1.47	2.02	2.50	2.98	3.47	4.01	4.66	5.49	6.80	8.01
Jun	3.18	2.81	3.86	1951	14	9.05	1983	.66	1973	8.1	5.8	2.1	.9	1.04	1.34	1.79	2.16	2.53	2.90	3.31	3.79	4.41	5.37	6.26
Jul	3.11	2.91	3.31	1976	15	8.45	1976	.14	1991	7.8	5.3	2.1	.9	.55	.82	1.28	1.70	2.14	2.61	3.14	3.79	4.66	6.06	7.39
Aug	2.37	2.04	2.47	1963	26	6.34	1981	.00	2000	6.6	4.3	1.7	.8	.31	.62	1.02	1.35	1.69	2.04	2.44	2.92	3.54	4.54	5.48
Sep	2.02	1.71	4.00	1987	15	5.18	1973	.08	1983	5.6	3.8	1.2	.6	.17	.31	.58	.86	1.17	1.52	1.94	2.46	3.18	4.39	5.58
Oct	1.32	1.12	1.65	1997	12	3.65	1997	.00	1999	4.5	2.8	.9	.1	.13	.28	.50	.69	.89	1.10	1.34	1.63	2.02	2.65	3.25
Nov	1.11	1.19	1.92	1984	9	2.39	1998	.01	1989	4.2	2.6	.8	.2	.07	.13	.27	.42	.59	.79	1.03	1.34	1.77	2.51	3.24
Dec	.45	.37	.81	1955	4	1.40	1982	.00+	1998	3.1	1.6	.1	.0	.00	.00	.08	.16	.23	.32	.43	.56	.73	1.03	1.33
Ann	22.32	22.73	4.87	May 1977	7	9.17	May 1991	.00+	Aug 2000	68.8	44.3	14.6	5.5	15.20	16.56	18.30	19.64	20.83	21.99	23.19	24.52	26.14	28.50	30.55

+ 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](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

# 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](http://www.ncdc.noaa.gov)

**Station: PURDUM, NE**

**COOP ID: 256970**

**Climate Division: NE 2**

**NWS Call Sign:**

**Elevation: 2,690 Feet**

**Lat: 42°04N**

**Lon: 100°15W**

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	5.1	4.8	2	1	10.0	1988	18	20.5	1988	13	1996	31	10	1984	2.1	1.5	.6	.2	.1	8.6	3.6	1.9	.1
Feb	4.0	3.0	1	#	5.0	1987	27	19.0	1978	12+	1996	6	8	1979	2.2	1.6	.7	.1	.0	6.5	3.3	1.8	.5
Mar	7.1	6.0	1	1	10.0	1971	18	20.0	1980	14	1980	29	3	1987	2.7	2.0	1.0	.5	.1	4.7	2.4	1.7	.4
Apr	2.2	.0	#	#	12.0	1995	18	12.0	1975	12	1975	1	1	1994	.9	.7	.4	.2	.1	.6	.3	.1	.0
May	#	.0	0	0	#	1980	11	#	1980	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	.1	.0	0	0	3.0	1995	21	3.0	1995	0	0	0	0	0	@	@	@	.0	.0	.0	.0	.0	.0
Oct	1.4	.2	#	0	8.0	1997	26	8.0	1997	5	1995	24	1	1995	.7	.5	.1	.1	.0	.3	.2	.1	.0
Nov	6.7	2.5	1	#	8.0	1981	30	19.0	1979	13	1983	28	3	1975	1.8	1.7	.8	.4	.0	5.2	2.8	1.5	.2
Dec	4.3	1.1	1	#	10.0	1987	27	14.0	1982	14	1978	3	9	1978	1.9	1.4	.6	.2	@	6.7	2.4	.9	.1
Ann	30.9	17.6	N/A	N/A	12.0	Apr 1995	18	20.5	Jan 1988	14+	Mar 1980	29	10	Jan 1984	12.3	9.4	4.2	1.7	.3	32.6	15.0	8.0	1.3

+ 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:

[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

# Climatography of the United States

## No. 20 1971-2000

**Station: PURDUM, NE**

**COOP ID: 256970**

**Climate Division: NE 2**

**NWS Call Sign:**

**Elevation: 2,690 Feet**

**Lat: 42° 04N**

**Lon: 100° 15W**

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	6/08	6/02	5/29	5/25	5/22	5/18	5/15	5/10	5/04
32	5/25	5/20	5/17	5/14	5/11	5/08	5/06	5/02	4/27
28	5/13	5/09	5/06	5/03	5/01	4/28	4/26	4/23	4/19
24	5/07	5/03	4/29	4/26	4/24	4/21	4/18	4/15	4/10
20	4/22	4/17	4/14	4/11	4/09	4/06	4/04	3/31	3/27
16	4/17	4/12	4/08	4/05	4/02	3/30	3/27	3/23	3/18
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	9/07	9/11	9/14	9/16	9/19	9/21	9/24	9/27	10/01
32	9/12	9/16	9/19	9/22	9/25	9/27	9/30	10/03	10/07
28	9/20	9/25	9/28	10/01	10/04	10/07	10/10	10/14	10/19
24	9/28	10/04	10/08	10/11	10/14	10/17	10/20	10/24	10/30
20	10/08	10/13	10/17	10/20	10/23	10/26	10/29	11/02	11/07
16	10/14	10/20	10/24	10/27	10/30	11/02	11/05	11/09	11/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	144	135	129	124	119	114	109	103	95
32	156	149	144	140	136	132	128	123	116
28	175	169	164	159	156	152	147	143	136
24	195	187	182	177	173	168	163	158	150
20	215	209	204	200	197	193	189	185	178
16	231	224	219	214	210	206	202	196	189

\* 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:

[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

**Climatography  
of the United States  
No. 20  
1971-2000**

**Station: PURDUM, NE**

**COOP ID: 256970**

**Climate Division: NE 2      NWS Call Sign:      Elevation: 2,690 Feet    Lat: 42°04N      Lon: 100°15W**

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	1343	1051	891	542	242	54	6	17	135	462	930	1244	6917
60	1188	911	736	399	132	16	0	3	56	311	780	1089	5621
57	1095	827	643	319	84	6	0	0	27	227	690	996	4914
55	1033	778	581	269	59	3	0	0	15	178	631	934	4481
50	883	647	435	163	19	0	0	0	2	84	493	785	3511
32	400	258	71	5	0	0	0	0	0	1	124	316	1175

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	80	131	203	454	802	1071	1284	1231	908	562	183	95	7004
55	0	7	0	28	148	383	571	518	233	27	1	0	1916
57	0	0	0	18	111	327	509	457	185	13	0	0	1620
60	0	0	0	8	67	246	416	366	124	4	0	0	1231
65	0	0	0	1	21	135	268	225	53	0	0	0	703
70	0	0	0	0	4	58	138	113	16	0	0	0	329

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	4	37	102	264	567	837	1049	996	678	346	75	18	4	41	143	407	974	1811	2860	3856	4534	4880	4955	4973
45	0	9	49	164	417	687	894	841	531	221	33	0	0	9	58	222	639	1326	2220	3061	3592	3813	3846	3846
50	0	0	16	89	276	539	739	686	389	121	11	0	0	0	16	105	381	920	1659	2345	2734	2855	2866	2866
55	0	0	2	38	162	392	584	532	260	52	2	0	0	0	2	40	202	594	1178	1710	1970	2022	2024	2024
60	0	0	0	14	75	253	429	378	152	17	0	0	0	0	0	14	89	342	771	1149	1301	1318	1318	1318
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	20	47	107	204	357	538	682	648	439	258	77	31	20	67	174	378	735	1273	1955	2603	3042	3300	3377	3408

(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)