

# Climatology of the United States

## No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

**Station: NORTH PELICAN, WI**

**1971-2000**

**COOP ID: 476122**

**Climate Division: WI 2**

**NWS Call Sign:**

**Elevation: 1,610 Feet Lat: 45° 38N**

**Lon: 89° 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	22.6	-1.4	10.6	49+	1989	31	22.2	1990	-46	1996	31	-.2	1977	1688	0	.0	.0	.0	26.3	31.0	16.1
Feb	29.6	2.1	15.9	58+	2000	29	29.1	1998	-47	1996	4	5.9	1979	1376	0	.0	.0	.7	18.7	28.0	12.8
Mar	40.4	13.5	27.0	75	2000	8	36.5	1973	-40	1962	1	19.1	1996	1180	0	.0	.0	4.3	9.4	29.2	6.5
Apr	54.9	26.9	40.9	88	1980	23	49.5	1987	-7	1982	7	34.4	1996	723	0	.0	.0	16.8	1.2	22.1	.3
May	69.8	39.2	54.5	92	1959	2	62.9	1977	15	1990	2	46.3	1997	356	30	.0	.1	29.0	.0	8.8	.0
Jun	76.5	48.8	62.7	97	1963	30	67.7	1988	25	1998	5	57.8	1982	126	56	.0	.6	29.9	.0	1.2	.0
Jul	80.0	53.4	66.7	98	1955	26	72.3	1988	28	1990	31	60.4	1996	75	128	.0	.9	31.0	.0	.2	.0
Aug	77.1	51.6	64.4	97+	1988	3	70.2	1988	29	1998	30	58.7	1997	104	83	.0	.4	31.0	.0	.3	.0
Sep	67.5	43.3	55.4	93	1998	11	59.4	1978	19+	1995	23	49.0	1993	295	6	.0	@	28.9	.0	3.8	.0
Oct	55.5	33.2	44.4	86	1992	2	52.0	1971	4	1988	30	39.4	1987	640	0	.0	.0	20.3	.4	16.2	.0
Nov	38.6	20.9	29.8	72	1950	1	36.0	1975	-17	1976	29	19.4	1995	1058	0	.0	.0	4.3	10.2	27.1	1.3
Dec	26.3	5.9	16.1	58	1998	3	23.4	1997	-35	1983	19	5.2	1983	1516	0	.0	.0	.3	24.0	30.8	10.8
Ann	53.2	28.1	40.7	98	Jul 1955	26	72.3	Jul 1988	-47	Feb 1996	4	-.2	Jan 1977	9137	303	.0	2.0	196.5	90.2	198.7	47.8

+ 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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### Precipitation (inches)

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	1.22	1.06	1.33	1967	25	3.07	1996	.19	1981	11.4	4.3	.3	.1	.30	.41	.59	.75	.90	1.07	1.26	1.48	1.76	2.22	2.65
Feb	.91	.84	1.50	1999	25	2.90	1999	.08	1993	8.1	3.0	.3	@	.15	.23	.37	.49	.62	.76	.91	1.11	1.36	1.78	2.17
Mar	1.77	1.72	1.65	1973	7	3.93	1977	.20	1978	9.7	4.6	1.0	.2	.32	.48	.74	.98	1.22	1.49	1.79	2.16	2.64	3.43	4.17
Apr	2.40	2.39	1.90	1984	30	4.50	1977	.50	1971	11.1	6.0	1.3	.2	.85	1.08	1.41	1.68	1.94	2.21	2.51	2.85	3.29	3.97	4.59
May	3.26	2.97	2.56	1982	17	6.70	1991	.91	1986	11.6	7.0	2.3	.6	1.07	1.38	1.83	2.22	2.59	2.97	3.39	3.88	4.52	5.50	6.40
Jun	3.49	3.13	5.76	1981	14	11.06	1981	1.22	1988	12.9	7.7	2.1	.5	1.12	1.45	1.94	2.36	2.76	3.18	3.64	4.17	4.86	5.94	6.93
Jul	4.10	3.30	7.80	1986	28	12.02	1986	1.00	1998	12.5	7.4	2.5	.9	.97	1.35	1.95	2.49	3.02	3.59	4.22	4.97	5.96	7.52	8.99
Aug	4.12	3.61	3.18	1976	5	8.54	1972	1.46	1981	11.9	7.4	2.9	1.0	1.72	2.09	2.62	3.06	3.46	3.88	4.32	4.83	5.48	6.47	7.37
Sep	3.90	4.03	2.91	1993	14	6.98	1994	.64	1976	12.7	7.4	2.4	1.0	.97	1.33	1.90	2.41	2.91	3.43	4.02	4.72	5.63	7.07	8.43
Oct	2.55	2.32	2.02	1966	15	5.85	1995	.28	1976	12.5	6.1	1.5	.4	.73	.97	1.33	1.65	1.96	2.29	2.65	3.07	3.62	4.48	5.28
Nov	2.12	1.78	2.14	1975	10	5.50	1991	.24	1976	11.3	5.7	1.3	.3	.52	.72	1.03	1.30	1.58	1.86	2.19	2.57	3.07	3.87	4.62
Dec	1.32	1.28	1.21	1975	14	2.58	1984	.39	1994	11.2	4.5	.3	@	.41	.54	.73	.89	1.04	1.20	1.38	1.59	1.85	2.27	2.65
Ann	31.16	31.54	7.80	Jul 1986	28	12.02	Jul 1986	.08	Feb 1993	136.9	71.1	18.2	5.2	22.13	23.88	26.12	27.82	29.33	30.79	32.30	33.97	36.00	38.93	41.47

+ 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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**Climate Division: WI 2**

**NWS Call Sign:**

**Elevation: 1,610 Feet**

**Lat: 45° 38N**

**Lon: 89° 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	14.8	13.7	13	12	10.0	2000	2	37.2	1971	34	1971	30	24	1971	13.2	5.0	1.2	.4	@	30.7	30.3	28.7	20.3
Feb	9.3	8.4	16	15	6.0	1971	5	25.3	1971	39	1971	6	33	1971	8.5	3.5	.7	.2	.0	27.8	27.7	27.4	21.9
Mar	10.8	9.7	13	11	10.0	1976	2	23.6	1972	37	1972	9	29	1972	7.1	3.1	1.1	.4	@	25.1	22.8	21.1	15.9
Apr	4.3	4.0	3	1	8.3	1996	30	14.5	1996	28	1971	3	18	1996	2.9	1.5	.4	.2	.0	6.6	4.8	3.7	2.2
May	.4	.0	#	0	5.0	1979	6	5.5	1979	5	1979	6	#+	1997	.2	.2	.1	@	.0	.2	.1	@	.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	25	#+	1985	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	1.2	.6	#	#	4.5	1995	21	4.5	1995	4	1995	21	#+	2000	1.0	.5	.1	.0	.0	.9	.1	.0	.0
Nov	6.5	5.3	1	1	7.4	1991	23	18.2	1979	12	1991	25	4	1991	6.8	2.7	.6	.1	.0	9.1	5.0	1.8	.0
Dec	14.8	15.1	6	6	6.0	1972	30	26.1+	1996	20+	1996	31	13	1995	12.2	5.4	1.4	.2	.0	28.8	25.4	18.9	5.7
Ann	62.1	56.8	N/A	N/A	10.0+	Jan 2000	2	37.2	Jan 1971	39	Feb 1971	6	33	Feb 1971	51.9	21.9	5.6	1.5	@	129.2	116.2	101.6	66.0

+ 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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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	7/18	7/07	6/29	6/21	6/15	6/08	6/01	5/24	5/13
32	7/01	6/21	6/14	6/07	6/01	5/26	5/20	5/12	5/02
28	6/11	6/02	5/27	5/21	5/16	5/10	5/05	4/28	4/19
24	5/17	5/10	5/06	5/02	4/28	4/25	4/21	4/16	4/10
20	5/07	5/02	4/28	4/25	4/22	4/19	4/16	4/12	4/07
16	4/29	4/23	4/19	4/16	4/12	4/09	4/06	4/02	3/27
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	8/12	8/19	8/24	8/29	9/02	9/06	9/10	9/16	9/23
32	8/21	8/30	9/05	9/11	9/16	9/22	9/27	10/04	10/13
28	9/08	9/15	9/20	9/24	9/28	10/02	10/06	10/11	10/18
24	9/27	10/04	10/08	10/12	10/16	10/20	10/24	10/28	11/04
20	10/04	10/11	10/16	10/20	10/24	10/28	11/02	11/07	11/14
16	10/17	10/23	10/27	10/30	11/02	11/05	11/09	11/13	11/18
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	129	112	99	88	78	68	57	44	27
32	158	140	128	117	106	96	85	72	54
28	176	162	151	143	135	127	118	108	94
24	201	190	183	176	170	164	157	150	139
20	214	204	196	190	184	179	172	165	155
16	226	218	212	208	203	199	194	189	181

\* 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	1688	1376	1180	723	356	126	75	104	295	640	1058	1516	9137
60	1533	1236	1025	576	241	53	24	37	169	488	908	1361	7651
57	1440	1152	932	490	184	27	11	17	109	400	818	1268	6848
55	1378	1096	870	435	151	16	6	9	78	344	758	1206	6347
50	1223	956	715	307	83	3	0	0	26	220	609	1051	5193
32	681	479	237	34	2	0	0	0	0	12	166	520	2131

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	15	26	80	301	699	919	1076	1002	701	395	99	28	5341
55	0	0	0	13	134	245	370	299	88	14	0	0	1163
57	0	0	0	8	106	196	312	244	60	8	0	0	934
60	0	0	0	4	70	133	232	172	30	3	0	0	644
65	0	0	0	0	30	56	128	83	6	0	0	0	303
70	0	0	0	0	11	15	54	28	0	0	0	0	108

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	0	17	117	422	639	784	721	439	176	17	0	0	0	17	134	556	1195	1979	2700	3139	3315	3332	3332
45	0	0	4	60	285	489	629	566	298	92	6	0	0	0	4	64	349	838	1467	2033	2331	2423	2429	2429
50	0	0	0	28	173	347	474	411	176	42	0	0	0	0	0	28	201	548	1022	1433	1609	1651	1651	1651
55	0	0	0	13	93	213	320	263	95	14	0	0	0	0	0	13	106	319	639	902	997	1011	1011	1011
60	0	0	0	4	43	113	184	136	45	2	0	0	0	0	0	4	47	160	344	480	525	527	527	527
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	16	103	289	398	501	448	258	113	10	0	0	1	17	120	409	807	1308	1756	2014	2127	2137	2137

(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:

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## 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.

- a. Temperature/ Precipitation Tables
  - 1. 1971-2000 Monthly Normals
  - 2. Cooperative Summary of the Day
  - 3. National Weather Service station records
  - 4. 1971-2000 serially complete daily data
- b. Degree Day Table
  - 1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals
  - 2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data
- c. Snow Tables
  - 1. Snow Climatology
  - 2. Cooperative Summary of the Day
- d. Freeze Data Table  
1971-2000 serially complete daily data

## 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)