U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: WAUSAU AP, WI **COOP ID: 478968**

Climate Division: WI 2 **NWS Call Sign: AUW** **Elevation: 1,196 Feet** **Lat: 44˚56N** **Lon: 89˚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	22.4	3.6	13.0	52	1973	25	24.3	1990	-40	1951	30	1.9	1977	1612	0	.0	.0	.1	25.1	30.8	12.8
Feb	28.7	9.3	19.0	59+	2000	29	32.3	1998	-37	1951	9	9.7	1989	1288	0	.0	.0	.5	17.5	27.1	8.0
Mar	39.8	20.5	30.2	79	1986	31	39.9	2000	-33	1962	1	23.2	1975	1081	0	.0	.0	5.1	7.7	26.5	2.4
Apr	54.8	33.2	44.0	91+	1952	29	50.0	1987	4+	1995	4	38.2	1975	631	1	.0	.0	18.7	.8	14.0	.0
May	68.5	45.1	56.8	94	1986	31	65.2	1977	22	1966	9	50.3	1983	293	40	.0	@	29.9	.0	2.2	.0
Jun	76.7	54.2	65.5	97	1987	14	70.8	1995	33	1964	16	59.7	1982	80	92	.0	1.5	30.0	.0	.0	.0
Jul	80.8	59.3	70.1	102	1995	13	74.2	1983	38	1948	1	64.2	1992	22	179	@	2.5	31.0	.0	.0	.0
Aug	78.3	57.4	67.9	99+	1988	16	72.8	1983	35	1965	29	64.0	1992	42	130	.0	1.3	31.0	.0	.0	.0
Sep	69.0	48.2	58.6	95+	1953	2	64.6	1998	23	1949	29	53.0	1993	214	21	.0	.1	29.3	.0	.9	.0
Oct	56.7	37.3	47.0	91	1976	1	54.0	1971	15+	1969	23	41.2	1987	558	1	.0	@	22.1	.1	9.5	.0
Nov	40.1	24.6	32.4	73	1999	9	40.4	1999	-15	1950	25	24.9	1995	980	0	.0	.0	5.8	8.1	23.8	.5
Dec	26.8	10.6	18.7	61+	2001	5	27.1	1997	-26	1983	19	7.5	1985	1436	0	.0	.0	.3	22.1	30.3	7.7
Ann	53.6	33.6	43.6	102	Jul 1995	13	74.2	Jul 1983	-40	Jan 1951	30	1.9	Jan 1977	8237	464	@	5.4	203.8	81.4	165.1	31.4

\+ 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

(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 Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	1.09	.96	1.48	1996	18	3.08	1996	.07	1981
Feb	.90	.86	1.28	1981	22	2.81	1981	.06	1987
Mar	1.92	1.73	1.64	1979	23	4.66	1977	.24	1999
Apr	2.84	2.77	1.92	1984	29	4.99	1973	.88	1989
May	3.54	3.42	3.05	1992	16	7.01	1973	1.16	1986
Jun	4.18	3.47	4.46	1980	5	9.41	1980	.52	1976
Jul	4.12	3.73	3.36	1953	28	9.27	1978	1.38	1998
Aug	4.53	3.86	2.81	1985	12	13.87	1995	1.29	1994
Sep	4.08	4.12	3.60	1963	2	9.79	1986	.61	1979
Oct	2.63	2.31	1.83	1983	11	6.29	1984	.34	2000
Nov	2.20	1.97	2.04	1985	1	5.51	1991	.02	1976
Dec	1.33	1.14	1.42	1965	12	3.03	1971	.38	1994
Ann	33.36	34.39	4.46	Jun 1980	5	13.87	Aug 1995	.02	Nov 1976

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.4	3.4	.3	@
Feb	7.7	2.6	.3	.1
Mar	9.7	4.8	1.1	.3
Apr	11.2	6.4	1.7	.4
May	11.4	7.2	2.3	.7
Jun	11.4	7.5	2.6	.9
Jul	11.2	7.2	2.5	1.3
Aug	10.9	7.5	3.1	1.4
Sep	12.0	7.4	2.5	1.0
Oct	10.2	5.9	1.7	.4
Nov	10.3	4.9	1.4	.5
Dec	10.3	3.7	.6	.1
Ann	126.7	68.5	20.1	7.1

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	.19	.29	.45	.60	.75	.92	1.11	1.33	1.64	2.13	2.60
Feb	.14	.21	.34	.47	.60	.74	.90	1.10	1.37	1.80	2.22
Mar	.36	.53	.81	1.07	1.34	1.62	1.95	2.34	2.87	3.71	4.51
Apr	1.04	1.31	1.69	2.01	2.32	2.63	2.97	3.37	3.87	4.65	5.36
May	1.41	1.74	2.20	2.58	2.95	3.31	3.71	4.17	4.75	5.64	6.45
Jun	.86	1.24	1.85	2.41	2.98	3.58	4.26	5.09	6.17	7.91	9.56
Jul	1.37	1.76	2.34	2.82	3.29	3.77	4.29	4.91	5.70	6.92	8.05
Aug	1.49	1.92	2.55	3.09	3.60	4.14	4.72	5.41	6.29	7.66	8.92
Sep	1.01	1.39	1.99	2.51	3.04	3.59	4.20	4.93	5.89	7.41	8.83
Oct	.81	1.06	1.43	1.75	2.06	2.38	2.74	3.15	3.69	4.53	5.30
Nov	.26	.43	.74	1.05	1.37	1.74	2.16	2.69	3.41	4.59	5.74
Dec	.33	.45	.65	.82	.99	1.17	1.37	1.61	1.93	2.42	2.89
Ann	24.10	25.91	28.22	29.97	31.52	33.01	34.56	36.26	38.32	41.31	43.89

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	12.4	9.8	9	9	11.5	1996	26	32.1	1996	29	1971	26	22	1971	9.6	4.3	1.1	.5	@	30.6	27.7	24.0	13.6
Feb	8.7	9.7	10	9	7.1	1991	23	19.5	1971	34+	1971	7	26	1971	6.7	2.9	.7	.3	.0	26.9	25.0	22.2	12.4
Mar	10.8	10.1	5	4	10.6	1989	3	35.5	1985	34	1972	5	19	1972	6.3	3.1	1.2	.5	.1	19.3	15.5	12.6	6.8
Apr	3.8	2.0	#	1	9.2	1993	15	19.2	1993	11+	1975	2	2+	1975	2.5	1.1	.4	.2	.0	2.7	1.3	.7	.1
May	.1	.0	#	0	1.3	1996	5	1.3	1996	#+	1996	1	#	2000	.1	.1	.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	#	1995	22	#+	1995	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	1.0	.0	#	0	9.8	1990	10	10.8	1990	3	1990	11	#	1992	.7	.3	.1	@	.0	.2	@	.0	.0
Nov	6.8	5.4	1	1	11.7	1991	23	22.6	1991	12+	1991	27	3	1991	5.6	2.0	.7	.3	@	6.4	2.7	1.3	.3
Dec	13.5	11.3	5	4	11.2	1990	17	36.8	1972	18	1990	18	13	1985	9.2	4.1	1.4	.5	.1	26.3	20.7	13.9	4.2
Ann	57.1	48.3	N/A	N/A	11.7	Nov 1991	23	36.8	Dec 1972	34+	Mar 1972	5	26	Feb 1971	40.7	17.9	5.6	2.3	.2	112.4	92.9	74.7	37.4

+ 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	6/05	5/30	5/26	5/22	5/19	5/15	5/12	5/07	5/01
32	5/20	5/15	5/11	5/08	5/06	5/03	4/30	4/26	4/22
28	5/07	5/01	4/28	4/24	4/21	4/18	4/15	4/11	4/06
24	4/24	4/19	4/16	4/14	4/11	4/09	4/06	4/03	3/30
20	4/17	4/13	4/10	4/07	4/04	4/02	3/30	3/27	3/22
16	4/10	4/05	4/02	3/30	3/27	3/24	3/21	3/18	3/13

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	9/17	9/19	9/21	9/23	9/25	9/27	9/29	10/03
32	9/21	9/25	9/28	9/30	10/02	10/04	10/07	10/09	10/13
28	9/26	10/02	10/07	10/10	10/14	10/17	10/21	10/26	11/01
24	10/14	10/19	10/23	10/26	10/29	10/31	11/03	11/07	11/12
20	10/24	10/28	10/31	11/03	11/05	11/07	11/10	11/13	11/17
16	10/29	11/03	11/07	11/10	11/13	11/16	11/20	11/23	11/29

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	145	139	134	130	126	123	119	114	108
32	167	161	156	152	149	145	142	137	131
28	200	191	185	180	175	170	165	158	150
24	220	213	208	204	200	195	191	186	179
20	231	225	221	217	214	211	207	203	197
16	253	245	240	235	230	226	221	215	207

***** 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

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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	1612	1288	1081	631	293	80	22	42	214	558	980	1436	8237
60	1457	1148	926	485	188	27	5	9	110	409	830	1281	6875
57	1364	1064	833	402	137	12	0	2	66	325	740	1188	6133
55	1302	1008	771	349	108	7	0	1	45	274	680	1126	5671
50	1147	868	620	231	53	1	0	0	12	163	534	971	4600
32	607	399	184	15	0	0	0	0	0	5	131	460	1801

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	19	35	126	375	770	1002	1179	1112	797	470	141	47	6073
55	0	0	0	19	165	319	466	399	152	26	0	0	1546
57	0	0	0	12	132	265	404	339	114	16	0	0	1282
60	0	0	0	6	90	190	316	253	67	6	0	0	928
65	0	0	0	1	40	92	179	130	21	1	0	0	464
70	0	0	0	0	15	30	82	50	4	0	0	0	181

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	27	189	525	765	933	865	557	244	35	2	0	1	28	217	742	1507	2440	3305	3862	4106	4141	4143
45	0	1	11	107	376	615	778	710	410	142	13	1	0	1	12	119	495	1110	1888	2598	3008	3150	3163	3164
50	0	0	3	55	245	465	623	555	273	67	2	0	0	0	3	58	303	768	1391	1946	2219	2286	2288	2288
55	0	0	0	23	144	318	468	400	159	22	0	0	0	0	0	23	167	485	953	1353	1512	1534	1534	1534
60	0	0	0	9	71	193	314	253	82	4	0	0	0	0	0	9	80	273	587	840	922	926	926	926
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	22	120	317	478	614	555	323	131	19	0	0	1	23	143	460	938	1552	2107	2430	2561	2580	2580

(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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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