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: EAU CLAIRE RGNL AP, WI **COOP ID: 472428**

Climate Division: WI 4 **NWS Call Sign: EAU** **Elevation: 885 Feet** **Lat: 44˚52N** **Lon: 91˚29W**

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	21.3	2.5	11.9	54	1981	25	23.6	1990	-45	1951	30	-.7	1977	1647	0	.0	.0	.1	24.4	31.0	14.3
Feb	28.4	8.7	18.6	63	2000	29	31.6	1998	-35	1996	2	8.4	1989	1301	0	.0	.0	.6	16.5	27.2	8.9
Mar	40.4	20.9	30.7	84+	1986	31	39.7	1973	-35	1962	1	22.5	1975	1064	0	.0	.0	6.5	7.5	26.5	2.5
Apr	56.6	33.4	45.0	90+	1980	22	51.9	1977	5	1954	3	38.7	1975	601	1	.0	.1	20.7	.7	14.2	.0
May	70.2	45.7	58.0	93+	1998	15	66.2	1977	20+	1967	3	52.2	1983	263	44	.0	.8	30.5	.0	2.3	.0
Jun	78.5	55.0	66.8	100	1985	8	71.6	1991	33+	1972	10	61.9	1982	58	111	@	2.6	30.0	.0	.0	.0
Jul	82.6	60.2	71.4	104	1988	15	76.2	1988	42	1972	4	65.5	1992	16	214	.3	5.0	31.0	.0	.0	.0
Aug	79.9	58.1	69.0	104	1988	1	73.8	1995	37+	1967	19	65.1	1992	31	155	.1	2.5	31.0	.0	.0	.0
Sep	70.4	48.4	59.4	97	1978	7	65.7	1998	23	1967	29	53.3	1993	197	28	.0	.7	29.6	.0	1.2	.0
Oct	57.9	36.6	47.3	89+	1997	3	53.8	1973	11+	1976	27	41.3	1988	551	1	.0	.0	24.3	.1	10.6	.0
Nov	40.0	23.5	31.8	76	1999	8	39.3	1999	-18	1964	30	24.2	1991	997	0	.0	.0	6.5	7.6	24.6	1.1
Dec	25.9	9.3	17.6	64	2001	5	26.9	1997	-32	1983	19	4.6	1983	1470	0	.0	.0	.6	21.1	30.5	8.8
Ann	54.3	33.5	44.0	104+	Aug 1988	1	76.2	Jul 1988	-45	Jan 1951	30	-.7	Jan 1977	8196	554	.4	11.7	211.4	77.9	168.1	35.6

\+ 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: 1949-2001

(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	1.04	.93	1.37	1967	24	2.38	1971	.10	1981
Feb	.80	.62	1.00	1951	25	2.36+	1998	.09	1987
Mar	1.86	1.75	2.08	1998	29	6.03	1998	.29	1978
Apr	2.91	2.88	3.07	1975	27	6.06	1975	.65	1987
May	3.69	3.94	2.61	1973	1	9.16	1973	.79	1992
Jun	4.27	3.94	2.74	1980	5	10.42	1990	1.00	1983
Jul	3.94	3.82	4.39	1959	8	8.54	1987	.94	1974
Aug	4.68	4.27	4.12	1993	9	11.64	1980	1.62	1976
Sep	3.74	3.68	5.98	2000	10	10.85	1986	.19	1976
Oct	2.24	2.10	3.17	1949	8	5.40	1984	.29	1976
Nov	1.92	1.67	3.24	1991	1	7.52	1991	.07	1976
Dec	1.03	.96	1.34	1965	12	2.46	1984	.26	1997
Ann	32.12	32.80	5.98	Sep 2000	10	11.64	Aug 1980	.07	Nov 1976

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.6	3.2	.3	.0
Feb	7.3	2.5	.2	.0
Mar	9.1	4.6	1.0	.3
Apr	10.4	6.2	1.9	.5
May	11.4	7.3	2.7	.8
Jun	11.9	7.8	2.8	1.0
Jul	10.9	7.3	2.7	.8
Aug	10.0	6.9	3.1	1.3
Sep	10.7	6.4	2.0	.9
Oct	9.5	4.9	1.2	.4
Nov	9.3	4.1	1.1	.3
Dec	9.6	3.2	.3	.0
Ann	119.7	64.4	19.3	6.3

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	.25	.34	.49	.63	.76	.91	1.06	1.25	1.50	1.90	2.27
Feb	.13	.20	.31	.42	.54	.66	.81	.98	1.22	1.60	1.96
Mar	.38	.55	.82	1.07	1.32	1.59	1.90	2.27	2.75	3.53	4.27
Apr	.88	1.16	1.57	1.93	2.27	2.63	3.03	3.49	4.09	5.02	5.89
May	1.19	1.54	2.06	2.50	2.92	3.36	3.85	4.41	5.14	6.27	7.32
Jun	1.48	1.88	2.47	2.96	3.44	3.93	4.46	5.08	5.88	7.11	8.24
Jul	1.27	1.64	2.19	2.66	3.12	3.59	4.10	4.70	5.48	6.69	7.80
Aug	1.61	2.05	2.70	3.24	3.77	4.30	4.89	5.57	6.45	7.81	9.05
Sep	.52	.83	1.36	1.88	2.43	3.03	3.72	4.57	5.72	7.60	9.41
Oct	.52	.72	1.05	1.34	1.64	1.95	2.30	2.71	3.26	4.12	4.94
Nov	.23	.38	.65	.91	1.20	1.52	1.89	2.35	2.97	4.00	5.00
Dec	.25	.35	.50	.63	.76	.90	1.06	1.24	1.48	1.86	2.22
Ann	22.34	24.22	26.63	28.47	30.11	31.69	33.33	35.15	37.36	40.57	43.35

\+ 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: 1949-2001
(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	13.9	12.2	8	7	11.2	1996	18	32.1	1999	26+	1982	31	18	1979	9.0	4.2	1.5	.6	@	29.6	25.1	20.9	10.2
Feb	7.6	7.1	9	8	6.4	1998	1	20.2	1971	31+	1971	6	23	1979	6.6	2.5	.7	.2	.0	25.6	23.4	19.8	10.5
Mar	9.2	7.5	4	4	10.7	1992	21	25.0	1989	23+	1972	11	12	1972	5.2	2.7	1.0	.4	@	16.7	12.4	9.1	3.9
Apr	2.5	1.9	#	0	7.9	1973	9	9.3	1973	9	1993	1	1+	1993	1.8	1.0	.2	@	.0	1.6	.6	.3	.0
May	#	.0	#	0	#	1989	6	#+	1989	#+	1989	6	#	2000	.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	#	1984	25	#	1984	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.4	#	#	0	3.0	1992	19	3.5	1992	3	1992	20	#	1995	.4	.1	@	.0	.0	.1	@	.0	.0
Nov	5.8	3.7	1	0	8.7	1978	17	16.4	1991	9+	1991	30	4+	1991	4.4	1.9	.6	.3	.0	5.9	3.6	2.5	.0
Dec	10.0	7.3	4	2	8.3	1996	23	25.9	1996	22+	1985	28	17	1985	9.0	3.4	.8	.3	.0	23.5	16.6	9.8	3.3
Ann	49.4	39.7	N/A	N/A	11.2	Jan 1996	18	32.1	Jan 1999	31+	Feb 1971	6	23	Feb 1979	36.4	15.8	4.8	1.8	@	103.0	81.7	62.4	27.9

+ 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

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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	6/08	6/03	5/30	5/26	5/23	5/20	5/17	5/13	5/07
32	5/21	5/16	5/12	5/09	5/07	5/04	5/01	4/27	4/22
28	5/11	5/06	5/02	4/29	4/26	4/23	4/20	4/17	4/12
24	4/27	4/22	4/19	4/16	4/14	4/11	4/09	4/06	4/01
20	4/17	4/13	4/11	4/09	4/07	4/05	4/03	4/01	3/28
16	4/12	4/07	4/03	3/31	3/29	3/26	3/23	3/19	3/14

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	9/12	9/16	9/18	9/21	9/23	9/25	9/27	9/30	10/04
32	9/17	9/21	9/24	9/26	9/29	10/01	10/03	10/06	10/10
28	9/25	9/29	10/02	10/04	10/06	10/08	10/11	10/13	10/17
24	10/07	10/12	10/16	10/19	10/22	10/25	10/28	10/31	11/05
20	10/15	10/20	10/23	10/27	10/29	11/01	11/04	11/08	11/13
16	10/28	11/02	11/05	11/08	11/11	11/14	11/17	11/21	11/26

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	140	134	129	125	122	118	114	110	104
32	163	157	152	148	144	141	137	132	125
28	179	174	169	166	162	159	155	151	145
24	210	203	198	194	190	186	182	177	170
20	220	215	211	208	205	202	198	195	190
16	248	241	235	231	227	223	219	214	206

***** 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)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1647	1301	1064	601	263	58	16	31	197	551	997	1470	8196
60	1492	1161	909	457	163	17	1	6	100	402	847	1315	6870
57	1399	1077	816	375	115	6	0	1	60	319	757	1222	6147
55	1337	1021	754	324	89	3	0	0	40	268	697	1160	5693
50	1182	881	606	210	40	0	0	0	11	160	552	1005	4647
32	647	422	180	12	0	0	0	0	0	5	147	496	1909

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	23	45	139	402	804	1043	1221	1147	822	478	140	49	6313
55	0	0	0	24	180	356	508	434	172	28	0	0	1702
57	0	0	0	15	144	299	446	373	131	17	0	0	1425
60	0	0	0	7	99	220	355	284	81	7	0	0	1053
65	0	0	0	1	44	111	214	155	28	1	0	0	554
70	0	0	0	0	16	40	107	65	6	0	0	0	234

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	40	214	569	812	983	909	587	261	39	2	0	1	41	255	824	1636	2619	3528	4115	4376	4415	4417
45	0	1	18	125	417	662	828	754	441	156	15	1	0	1	19	144	561	1223	2051	2805	3246	3402	3417	3418
50	0	0	6	65	280	512	673	599	305	79	2	0	0	0	6	71	351	863	1536	2135	2440	2519	2521	2521
55	0	0	1	30	166	364	518	445	186	31	1	0	0	0	1	31	197	561	1079	1524	1710	1741	1742	1742
60	0	0	0	10	87	229	366	293	98	9	0	0	0	0	0	10	97	326	692	985	1083	1092	1092	1092
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	28	147	352	517	648	592	356	157	23	0	0	1	29	176	528	1045	1693	2285	2641	2798	2821	2821

(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