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: WISCONSIN RAPIDS, WI **COOP ID: 479335**

Climate Division: WI 5 **NWS Call Sign:** **Elevation: 1,040 Feet** **Lat: 44˚23N** **Lon: 89˚48W**

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	23.4	3.9	13.7	57	1981	25	23.2	1990	-38	1982	17	2.1	1977	1592	0	.0	.0	.2	24.0	30.8	13.2
Feb	30.3	9.1	19.7	62+	2000	29	31.8	1998	-33	1951	9	10.5	1979	1270	0	.0	.0	1.1	16.2	27.4	8.8
Mar	41.3	20.2	30.8	81	1986	29	39.7	1973	-34	1962	1	24.2	1996	1063	0	.0	.0	6.8	6.7	27.3	2.6
Apr	56.3	32.4	44.4	92	1980	22	50.6	1977	2	1982	7	38.8	1975	621	1	.0	@	20.8	.5	15.6	.0
May	69.8	44.1	57.0	93+	1978	26	65.8	1977	21	1967	5	49.4	1997	291	41	.0	.5	30.4	.0	3.5	.0
Jun	78.1	53.4	65.8	100	1988	21	70.3	1995	31	1956	2	60.0	1982	71	93	@	2.9	30.0	.0	.0	.0
Jul	82.2	58.5	70.4	107	1995	13	74.8	1983	38	1952	29	63.1	1992	25	191	.2	4.8	31.0	.0	.0	.0
Aug	79.6	56.3	68.0	107	1948	24	73.4	1995	32	1965	29	63.0	1992	48	138	.1	2.3	31.0	.0	.0	.0
Sep	70.3	47.2	58.8	99	1948	16	64.5	1998	19	1949	29	53.1	1993	209	20	.0	.5	29.6	.0	2.0	.0
Oct	58.0	35.9	47.0	91	1976	1	54.1	1971	9	1988	30	40.6	1987	561	1	.0	@	24.6	.0	12.0	.0
Nov	41.3	23.4	32.4	75	1964	3	39.7	1999	-14	1950	25	24.8	1995	980	0	.0	.0	7.1	6.5	24.8	.9
Dec	27.9	10.4	19.2	64	1998	3	26.4	1987	-26	1972	7	7.8	1989	1422	0	.0	.0	.6	20.2	30.4	7.9
Ann	54.9	32.9	43.9	107+	Jul 1995	13	74.8	Jul 1983	-38	Jan 1982	17	2.1	Jan 1977	8153	485	.3	11.0	213.2	74.1	173.8	33.4

\+ 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	1.13	1.01	1.05	1967	24	2.40	1996	.09	1981
Feb	1.03	.89	1.29	1983	2	3.00	1981	.22	1993
Mar	2.03	2.06	1.65	1986	18	3.68	1977	.13	1999
Apr	2.99	2.74	2.25	1981	3	5.63	1973	.98	1989
May	3.38	3.25	3.12	1989	29	8.82	1989	.73	1988
Jun	3.86	3.45	3.50+	1998	24	9.73	1998	.95	1988
Jul	4.18	3.71	3.08	1971	23	9.57	1999	.64	1998
Aug	4.29	3.70	3.51	1975	23	10.66	1995	1.21	1976
Sep	3.59	3.00	3.52	1978	11	8.85	1986	.18	1979
Oct	2.49	2.17	4.05	1954	2	8.81	1984	.26	2000
Nov	2.07	1.69	1.78	1992	20	4.39	1991	.04	1976
Dec	1.38	1.42	1.37	1985	1	2.70	1971	.31+	1994
Ann	32.42	33.68	4.05	Oct 1954	2	10.66	Aug 1995	.04	Nov 1976

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.7	4.0	.2	.0
Feb	7.2	3.1	.6	.1
Mar	8.7	5.2	1.3	.2
Apr	10.8	6.6	2.2	.5
May	11.2	6.5	2.4	.8
Jun	11.0	7.3	2.3	.8
Jul	10.6	7.3	2.6	1.0
Aug	11.0	7.3	3.0	1.1
Sep	11.3	6.4	2.4	.9
Oct	9.8	5.7	1.6	.4
Nov	9.7	4.9	1.2	.3
Dec	9.6	4.4	.5	@
Ann	120.6	68.7	20.3	6.1

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	.30	.41	.57	.71	.86	1.00	1.17	1.36	1.62	2.02	2.39
Feb	.16	.25	.40	.54	.69	.85	1.03	1.26	1.56	2.04	2.51
Mar	.46	.65	.95	1.22	1.48	1.77	2.08	2.46	2.96	3.75	4.49
Apr	1.23	1.50	1.89	2.21	2.50	2.81	3.13	3.51	3.98	4.70	5.36
May	.96	1.28	1.76	2.18	2.60	3.03	3.50	4.07	4.80	5.94	7.01
Jun	.86	1.22	1.78	2.29	2.80	3.34	3.95	4.68	5.64	7.16	8.61
Jul	1.24	1.64	2.24	2.75	3.25	3.77	4.34	5.01	5.88	7.24	8.51
Aug	1.45	1.86	2.45	2.96	3.44	3.93	4.48	5.11	5.93	7.19	8.35
Sep	.62	.93	1.45	1.95	2.45	3.00	3.62	4.38	5.39	7.03	8.60
Oct	.53	.76	1.13	1.46	1.79	2.15	2.54	3.02	3.65	4.66	5.61
Nov	.27	.43	.73	1.02	1.32	1.66	2.05	2.53	3.18	4.25	5.29
Dec	.33	.46	.66	.84	1.02	1.21	1.42	1.67	2.01	2.54	3.03
Ann	24.96	26.44	28.33	29.74	30.98	32.18	33.40	34.74	36.36	38.68	40.67

\+ 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	11.2	9.6	7	6	8.9	1980	6	22.7	1971	23	1982	23	16	1982	8.2	3.9	1.5	.4	.0	26.8	21.5	16.3	6.5
Feb	9.9	8.0	7	5	9.0	1977	23	25.5	1971	21+	1982	3	16+	1986	6.7	3.3	.8	.4	.0	23.6	20.0	15.6	5.5
Mar	10.6	11.1	3	2	20.0	1997	13	26.6	1972	24+	1971	3	11	1971	4.9	3.5	1.0	.5	.1	14.4	9.1	6.4	2.3
Apr	2.9	.5	#	0	7.8	1977	1	22.6	1977	7	1973	9	1	1972	1.1	.8	.3	.2	.0	1.1	.5	.1	.0
May	#	.0	#	0	#	1989	6	#+	1989	0	0	0	#	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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.3	.0	#	0	3.0	1990	10	3.0	1990	3+	1992	19	#	1992	.2	.1	.1	.0	.0	.1	.1	.0	.0
Nov	2.7	2.2	1	0	7.0	1992	25	7.5	1988	12	1991	27	3+	1993	2.8	1.1	.4	.1	.0	5.4	2.0	.7	.1
Dec	10.1	6.3	4	3	13.7	1985	1	26.0	1972	19	1985	5	13	1985	7.1	3.2	1.1	.4	@	22.5	15.9	8.9	3.4
Ann	47.7	37.7	N/A	N/A	20.0	Mar 1997	13	26.6	Mar 1972	24+	Mar 1971	3	16+	Feb 1986	31.0	15.9	5.2	2.0	.1	93.9	69.1	48.0	17.8

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	6/14	6/08	6/04	5/31	5/28	5/24	5/21	5/16	5/10
32	5/26	5/22	5/19	5/16	5/13	5/11	5/08	5/04	4/30
28	5/12	5/08	5/05	5/03	5/01	4/28	4/26	4/23	4/19
24	4/30	4/26	4/22	4/20	4/17	4/14	4/12	4/08	4/04
20	4/22	4/18	4/15	4/13	4/11	4/09	4/07	4/04	3/31
16	4/13	4/08	4/04	3/31	3/28	3/25	3/22	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	9/01	9/06	9/09	9/12	9/15	9/18	9/21	9/24	9/29
32	9/14	9/18	9/20	9/23	9/25	9/27	9/30	10/03	10/06
28	9/22	9/26	9/29	10/02	10/04	10/06	10/09	10/12	10/16
24	9/30	10/06	10/10	10/14	10/18	10/21	10/25	10/29	11/05
20	10/14	10/19	10/23	10/26	10/29	11/01	11/04	11/08	11/13
16	10/24	10/28	11/01	11/03	11/06	11/08	11/11	11/14	11/19

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	133	125	119	114	110	105	100	94	86
32	153	146	142	138	134	131	127	122	116
28	172	166	162	159	156	152	149	145	139
24	208	199	193	188	183	178	173	167	158
20	221	214	209	204	200	196	192	186	179
16	242	235	230	226	222	218	213	209	202

***** 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	1592	1270	1063	621	291	71	25	48	209	561	980	1422	8153
60	1437	1130	908	475	187	23	6	12	105	413	830	1267	6793
57	1344	1046	815	390	136	9	0	3	62	330	740	1174	6049
55	1282	990	753	337	107	5	0	1	42	279	680	1112	5588
50	1127	850	601	218	52	1	0	0	11	170	534	957	4521
32	591	383	168	10	0	0	0	0	0	7	130	445	1734

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	22	37	128	380	772	1013	1189	1114	802	470	140	47	6114
55	0	0	0	17	166	328	476	402	153	29	0	0	1571
57	0	0	0	10	133	272	414	342	114	18	0	0	1303
60	0	0	0	5	91	195	327	258	67	8	0	0	951
65	0	0	0	1	41	93	191	138	20	1	0	0	485
70	0	0	0	0	15	30	95	59	3	0	0	0	202

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	2	38	200	533	782	950	874	573	251	38	2	0	2	40	240	773	1555	2505	3379	3952	4203	4241	4243
45	0	1	19	114	385	632	795	719	425	150	14	1	0	1	20	134	519	1151	1946	2665	3090	3240	3254	3255
50	0	0	6	57	252	482	640	564	288	73	2	0	0	0	6	63	315	797	1437	2001	2289	2362	2364	2364
55	0	0	2	28	146	337	485	409	175	32	0	0	0	0	2	30	176	513	998	1407	1582	1614	1614	1614
60	0	0	0	11	77	206	333	259	90	6	0	0	0	0	0	11	88	294	627	886	976	982	982	982
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	1	29	142	338	502	626	566	349	155	25	0	0	1	30	172	510	1012	1638	2204	2553	2708	2733	2733

(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