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: CHILTON, WI **COOP ID: 471568**

Climate Division: WI 6 **NWS Call Sign:** **Elevation: 840 Feet** **Lat: 44˚02N** **Lon: 88˚09W**

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	24.1	6.9	15.5	53+	1973	26	27.8	1990	-33	1951	30	2.8	1977	1535	0	.0	.0	.1	22.8	30.6	9.3
Feb	28.9	11.2	20.1	63	2000	27	31.3	1998	-28	1996	3	8.8	1979	1258	0	.0	.0	.6	16.6	27.2	5.6
Mar	40.5	21.9	31.2	78+	1986	30	39.6	2000	-28	1962	1	24.8	1989	1048	0	.0	.0	5.9	6.6	26.0	1.2
Apr	55.1	33.6	44.4	89	1980	22	50.1	1977	8+	1982	4	38.5	1975	621	1	.0	.0	20.1	.5	13.5	.0
May	68.9	44.8	56.9	92	1991	24	64.6	1977	21	1966	10	48.6	1997	297	44	.0	.2	30.3	.0	2.3	.0
Jun	78.2	54.6	66.4	99	1988	20	71.3	1988	31	1949	8	60.4	1982	66	108	.0	2.2	30.0	.0	.0	.0
Jul	82.4	59.6	71.0	103	1995	14	75.2	1983	35	1967	6	64.9	1992	18	203	.1	3.8	31.0	.0	.0	.0
Aug	79.6	57.8	68.7	100	1988	17	74.4	1988	38+	1968	27	64.4	1997	36	151	@	1.8	31.0	.0	.0	.0
Sep	71.3	48.9	60.1	96	1959	8	65.5	1998	24	1949	29	55.7	1993	173	26	.0	.2	29.9	.0	.6	.0
Oct	59.1	38.3	48.7	88+	1963	23	56.4	1971	15	1952	29	44.0	1976	507	1	.0	.0	25.6	@	6.7	.0
Nov	42.8	26.5	34.7	74	1950	1	41.8	1999	-9	1950	25	27.1	1995	912	0	.0	.0	8.0	4.5	21.3	.1
Dec	29.3	14.0	21.7	65	2001	6	29.8	1982	-21+	1989	20	10.5	1983	1344	0	.0	.0	.8	17.7	29.6	4.7
Ann	55.0	34.8	45.0	103	Jul 1995	14	75.2	Jul 1983	-33	Jan 1951	30	2.8	Jan 1977	7815	534	.1	8.2	213.3	68.7	157.8	20.9

\+ 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

Issue Date: February 2004

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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	1.41	1.38	1.48	1969	16	3.68	1999	.03	1981
Feb	1.22	1.12	1.70	1966	8	3.34	1971	.16	1978
Mar	2.16	2.02	3.00	1998	31	5.30	1979	.17	1978
Apr	2.72	2.66	2.44	1967	17	5.53	1993	.66	1997
May	2.93	2.56	3.85	1978	12	7.46	1978	.31	1988
Jun	3.81	3.62	3.38	1957	11	9.14	1999	1.13	1988
Jul	3.57	3.38	3.82	1986	25	6.96	1986	1.17	1995
Aug	3.83	3.41	3.50	1958	30	8.03	1975	1.02	1976
Sep	3.62	2.86	5.31	1986	11	12.70	1986	.13	1979
Oct	2.40	2.46	3.40	1954	3	4.95	1991	.18	1975
Nov	2.26	2.06	1.65	1952	17	5.94	1985	.09	1976
Dec	1.57	1.59	2.11	1959	28	3.88	1971	.18	1993
Ann	31.50	31.21	5.31	Sep 1986	11	12.70	Sep 1986	.03	Jan 1981

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.7	4.1	.7	.1
Feb	7.1	3.6	.8	@
Mar	8.5	5.3	1.2	.4
Apr	10.2	6.1	1.7	.3
May	9.6	6.4	1.7	.6
Jun	10.3	6.9	2.5	.8
Jul	10.0	6.8	2.5	.9
Aug	10.3	7.0	2.7	1.0
Sep	10.1	6.5	2.1	.9
Oct	9.2	5.6	1.4	.3
Nov	9.3	5.8	1.3	.4
Dec	8.7	4.5	.7	.2
Ann	112.0	68.6	19.3	5.9

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	.38	.58	.78	.97	1.18	1.42	1.72	2.10	2.73	3.33
Feb	.21	.31	.49	.66	.83	1.02	1.23	1.49	1.84	2.40	2.93
Mar	.38	.57	.88	1.18	1.48	1.81	2.18	2.64	3.24	4.22	5.15
Apr	1.12	1.37	1.72	2.01	2.28	2.55	2.85	3.19	3.62	4.28	4.88
May	.66	.93	1.35	1.74	2.13	2.54	3.00	3.55	4.27	5.43	6.52
Jun	1.01	1.37	1.92	2.40	2.88	3.38	3.94	4.60	5.46	6.81	8.07
Jul	1.37	1.70	2.18	2.57	2.95	3.33	3.74	4.22	4.83	5.76	6.62
Aug	1.30	1.66	2.19	2.64	3.07	3.52	4.00	4.57	5.29	6.42	7.45
Sep	.55	.86	1.39	1.89	2.41	2.97	3.63	4.42	5.49	7.24	8.91
Oct	.65	.88	1.23	1.53	1.83	2.14	2.48	2.89	3.42	4.25	5.02
Nov	.43	.63	.96	1.27	1.58	1.91	2.29	2.75	3.36	4.34	5.27
Dec	.29	.42	.65	.87	1.09	1.32	1.59	1.91	2.34	3.04	3.70
Ann	23.19	24.82	26.89	28.46	29.85	31.19	32.57	34.09	35.92	38.57	40.86

\+ 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:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	11.4	9.5	6	6
Feb	10.3	8.0	6	5
Mar	7.7	7.3	2	1
Apr	2.0	.1	#	#
May	.3	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.4	.0	#	0
Nov	4.4	2.3	#	#
Dec	10.2	8.6	3	3
Ann	46.7	35.8	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	12.0	1971	4	32.2	1982	27	1979	25	19	1979
Feb	12.0	1973	25	34.0	1974	24	1976	7	20	1979
Mar	10.0	1971	19	20.5	1972	16	1979	2	9	1979
Apr	6.0	1973	9	10.0	1973	10	1973	10	1	1982
May	3.0	1990	10	5.0	1990	5	1990	10	#+	1997
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	2.5	1992	20	2.5+	1997	3+	1997	27	#+	1997
Nov	8.0	1971	27	18.5	1971	12	1971	30	2	1995
Dec	15.0	1971	30	27.0	1971	18	1985	29	13	1985
Ann	15.0	Dec 1971	30	34.0	Feb 1974	27	Jan 1979	25	20	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.2	4.4	1.5	.7	.1
Feb	4.6	3.5	1.2	.4	.1
Mar	3.1	2.6	1.0	.3	.1
Apr	1.1	1.0	.4	@	.0
May	.1	.1	.1	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.2	.2	.0	.0	.0
Nov	2.3	1.7	.6	.2	.0
Dec	5.0	3.6	1.0	.5	.1
Ann	22.6	17.1	5.8	2.1	.4

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	23.2	16.8	10.6	4.9
Feb	21.0	16.9	11.5	5.1
Mar	9.6	6.4	3.1	1.0
Apr	.9	.4	.1	@
May	.1	.1	@	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.1	.0	.0
Nov	4.0	1.2	.6	.1
Dec	16.8	10.4	5.9	1.5
Ann	75.7	52.3	31.8	12.6

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	143	137	133	129	126	123	119	115	110
32	167	160	156	152	148	144	140	136	129
28	204	194	187	181	176	170	164	157	148
24	224	217	212	208	204	200	196	191	184
20	242	235	230	226	222	218	214	209	202
16	261	254	249	245	240	236	232	227	220

***** 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	1535	1258	1048	621	297	66	18	36	173	507	912	1344	7815
60	1380	1118	893	475	193	22	4	8	79	360	762	1189	6483
57	1287	1034	800	392	143	9	0	2	43	279	672	1096	5757
55	1225	978	738	339	113	5	0	0	27	231	612	1034	5302
50	1070	838	588	221	57	1	0	0	5	129	465	879	4253
32	542	375	162	12	0	0	0	0	0	2	87	382	1562

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	29	40	137	382	770	1032	1209	1138	843	520	165	62	6327
55	0	0	0	19	170	347	496	425	180	35	0	0	1672
57	0	0	0	12	138	291	434	365	136	22	0	0	1398
60	0	0	0	6	95	214	344	278	82	9	0	0	1028
65	0	0	0	1	44	108	203	151	26	1	0	0	534
70	0	0	0	0	17	39	99	65	4	0	0	0	224

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	41	205	538	802	963	905	635	310	60	3	0	2	43	248	786	1588	2551	3456	4091	4401	4461	4464
45	0	0	19	115	393	652	808	750	486	188	26	1	0	0	19	134	527	1179	1987	2737	3223	3411	3437	3438
50	0	0	6	58	254	502	653	595	340	102	7	0	0	0	6	64	318	820	1473	2068	2408	2510	2517	2517
55	0	0	1	32	148	357	498	441	217	43	0	0	0	0	1	33	181	538	1036	1477	1694	1737	1737	1737
60	0	0	0	11	76	222	345	289	118	16	0	0	0	0	0	11	87	309	654	943	1061	1077	1077	1077
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	28	129	331	511	644	593	385	171	27	1	0	0	28	157	488	999	1643	2236	2621	2792	2819	2820

(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