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: CASHTON, WI **COOP ID: 471280**

Climate Division: WI 4 **NWS Call Sign:** **Elevation: 1,380 Feet** **Lat: 43˚45N** **Lon: 90˚47W**

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	22.0	6.8	14.4	54	1981	25	26.2	1990	-34	1972	15	1.4	1977	1569	0	.0	.0	.2	23.6	30.8	10.3
Feb	28.9	13.3	21.1	59+	2000	29	32.2	1998	-34	1996	2	11.7	1979	1229	0	.0	.0	.8	16.3	27.1	5.8
Mar	40.6	23.4	32.0	83	1986	29	40.8	2000	-22	1962	1	24.9	1975	1023	0	.0	.0	6.8	6.8	25.9	1.3
Apr	56.2	35.5	45.9	92	1952	29	53.0	1977	5	1954	3	39.2	1975	578	2	.0	@	21.7	.4	12.0	.0
May	68.9	47.3	58.1	90	1986	31	66.4	1977	21	1981	10	51.3	1973	259	45	.0	@	30.5	.0	1.4	.0
Jun	77.3	56.4	66.9	100	1988	21	72.5	1988	34	1964	1	61.4	1982	56	113	@	1.5	30.0	.0	.0	.0
Jul	80.8	61.2	71.0	101+	1995	13	76.2	1988	41	1951	5	65.7	1971	18	204	.1	3.5	31.0	.0	.0	.0
Aug	78.3	59.3	68.8	102+	1988	17	74.9	1995	34	1950	20	65.3	1992	37	156	.1	1.8	31.0	.0	.0	.0
Sep	69.6	50.7	60.2	95+	1978	7	66.4	1998	27+	1961	28	54.8	1974	175	30	.0	.3	29.6	.0	.5	.0
Oct	57.4	39.7	48.6	91	1976	1	54.5	1973	16+	1981	24	43.3	1988	511	1	.0	@	25.7	.1	7.3	.0
Nov	39.7	25.9	32.8	73	1964	3	41.9	1999	-12	1950	24	26.4	1995	967	0	.0	.0	7.1	6.7	22.5	.4
Dec	26.2	12.7	19.5	62	2001	5	27.1	1998	-28	1983	18	7.9	1985	1411	0	.0	.0	.5	21.3	30.2	6.3
Ann	53.8	36.0	44.9	102+	Aug 1988	17	76.2	Jul 1988	-34+	Feb 1996	2	1.4	Jan 1977	7833	551	.2	7.1	214.9	75.2	157.7	24.1

+ 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	1.26	1.15	1.30	1998	25	2.89	1980	.22	1981
Feb	1.03	.89	.92+	1981	22	3.03	1971	.02	1995
Mar	1.87	2.00	1.46	1998	31	3.80	1976	.05	1994
Apr	3.45	2.98	3.22	1994	25	8.19	1981	.97	1971
May	3.67	3.52	2.21	1959	20	6.49	1979	1.48	1994
Jun	4.01	3.35	4.04	1996	17	8.36	1998	1.07	1988
Jul	4.82	4.25	4.75	1978	1	10.94	1978	1.12	1975
Aug	4.62	4.05	2.29	1959	27	14.44	1980	.49	1976
Sep	4.23	3.70	3.11	1983	19	10.52	1986	.61	1979
Oct	2.66	2.57	1.91	1961	29	6.98	1979	.50	1975
Nov	2.54	2.41	1.80	1991	1	6.23	1982	.02	1976
Dec	1.30	1.38	.82	1975	14	2.68	1982	.18	1998
Ann	35.46	35.43	4.75	Jul 1978	1	14.44	Aug 1980	.02+	Feb 1995

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.6	3.6	.3	.1
Feb	4.5	2.2	.4	.0
Mar	6.8	3.6	1.0	.1
Apr	7.8	5.6	1.6	.6
May	8.8	6.6	2.1	.5
Jun	7.6	5.5	2.2	.6
Jul	8.7	6.3	2.8	.9
Aug	7.8	5.9	2.5	.9
Sep	7.7	5.3	1.8	.8
Oct	6.8	4.8	1.3	.2
Nov	7.3	4.5	1.4	.3
Dec	6.9	3.2	.3	.0
Ann	88.3	57.1	17.7	5.0

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	.34	.46	.64	.80	.96	1.12	1.31	1.52	1.80	2.24	2.66
Feb	.13	.21	.35	.50	.65	.82	1.01	1.25	1.58	2.12	2.64
Mar	.33	.49	.77	1.02	1.28	1.57	1.89	2.28	2.80	3.64	4.44
Apr	1.18	1.51	1.98	2.39	2.77	3.17	3.60	4.10	4.75	5.75	6.67
May	1.47	1.80	2.28	2.68	3.05	3.43	3.84	4.31	4.91	5.83	6.67
Jun	1.17	1.55	2.13	2.62	3.10	3.61	4.16	4.82	5.66	6.99	8.22
Jul	1.39	1.85	2.54	3.13	3.72	4.33	5.00	5.79	6.82	8.43	9.93
Aug	1.25	1.68	2.35	2.94	3.51	4.11	4.78	5.57	6.60	8.22	9.73
Sep	.82	1.20	1.82	2.39	2.97	3.59	4.30	5.14	6.27	8.08	9.79
Oct	.65	.90	1.29	1.64	1.98	2.34	2.74	3.21	3.84	4.83	5.76
Nov	.43	.65	1.02	1.37	1.72	2.11	2.56	3.09	3.81	4.98	6.09
Dec	.31	.44	.62	.79	.96	1.14	1.34	1.57	1.88	2.37	2.83
Ann	23.92	26.11	28.93	31.09	33.02	34.89	36.83	38.99	41.62	45.45	48.79

\+ 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)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	14.4	13.4	9	9
Feb	10.2	7.5	11	10
Mar	10.4	9.8	4	2
Apr	3.6	3.0	#	#
May	.2	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.5	.0	#	0
Nov	7.3	7.0	1	1
Dec	10.1	8.7	4	3
Ann	56.7	49.4	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	8.0	1979	23	28.0	1979	26	1996	31	18	1999
Feb	10.0	1994	23	25.0	1994	30	1971	5	25	1971
Mar	9.0	1997	13	24.1	1982	21	1975	13	15	1996
Apr	7.0	1993	15	9.8	1996	9	1993	16	2	1975
May	3.0	1997	1	3.0	1997	#+	1998	9	#+	1998
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	.5	1995	22	.5	1995	0	0	0	0	0
Oct	3.0	1981	24	3.0+	1992	2	1981	24	#+	1997
Nov	13.0	1991	23	25.2	1991	13	1991	23	4	1991
Dec	12.0	1985	1	23.3	1977	24	2000	31	18	1985
Ann	13.0	Nov 1991	23	28.0	Jan 1979	30	Feb 1971	5	25	Feb 1971

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	8.2	6.0	2.1	.5	.0
Feb	5.3	3.4	1.4	.4	.1
Mar	4.2	3.4	1.5	.3	.0
Apr	1.9	1.6	.6	.2	.0
May	.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
Oct	.3	.3	.1	.0	.0
Nov	3.2	2.4	.7	.2	.1
Dec	6.8	4.5	1.5	.3	@
Ann	30.0	21.6	7.9	1.9	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	27.0	24.0	17.9	9.4
Feb	22.5	19.4	17.2	11.1
Mar	8.9	5.5	2.7	1.2
Apr	2.4	.8	.4	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.0	.0	.0
Nov	5.7	2.9	1.3	.4
Dec	21.0	16.2	9.6	2.1
Ann	87.6	68.8	49.1	24.2

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

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	9/15	9/19	9/22	9/24	9/26	9/28	10/01	10/03	10/07
32	9/19	9/25	9/29	10/02	10/06	10/09	10/12	10/16	10/22
28	10/04	10/09	10/13	10/16	10/20	10/23	10/26	10/30	11/04
24	10/13	10/19	10/22	10/26	10/29	11/01	11/04	11/08	11/14
20	10/24	10/29	11/01	11/04	11/07	11/10	11/13	11/16	11/21
16	10/28	11/03	11/08	11/11	11/15	11/19	11/22	11/27	12/03

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	156	149	144	140	136	132	127	122	115
32	179	171	165	160	156	151	146	140	132
28	207	198	192	187	182	177	172	166	158
24	223	215	209	204	199	194	189	183	175
20	238	231	226	222	219	215	211	206	199
16	262	253	247	241	236	231	225	218	209

***** 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	1569	1229	1023	578	259	56	18	37	175	511	967	1411	7833
60	1414	1089	868	435	160	16	4	9	82	363	817	1256	6513
57	1321	1005	775	354	112	6	0	2	45	282	727	1163	5792
55	1259	949	713	305	86	3	0	0	28	233	667	1101	5344
50	1104	809	565	195	39	0	0	0	6	131	522	946	4317
32	573	354	150	10	0	0	0	0	0	3	126	436	1652

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	27	49	150	424	809	1047	1209	1141	845	516	149	48	6414
55	0	0	0	29	182	360	496	429	183	34	0	0	1713
57	0	0	0	19	146	303	434	368	140	21	0	0	1431
60	0	0	0	9	101	223	345	282	87	8	0	0	1055
65	0	0	0	2	45	113	204	156	30	1	0	0	551
70	0	0	0	0	16	41	100	69	6	0	0	0	232

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	3	50	235	576	816	978	913	626	313	51	3	0	3	53	288	864	1680	2658	3571	4197	4510	4561	4564
45	0	1	23	135	425	666	823	758	477	188	18	1	0	1	24	159	584	1250	2073	2831	3308	3496	3514	3515
50	0	0	10	76	286	516	668	603	336	103	5	0	0	0	10	86	372	888	1556	2159	2495	2598	2603	2603
55	0	0	3	32	169	370	513	448	212	47	0	0	0	0	3	35	204	574	1087	1535	1747	1794	1794	1794
60	0	0	0	10	88	234	359	295	113	15	0	0	0	0	0	10	98	332	691	986	1099	1114	1114	1114
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	27	146	347	521	656	598	372	171	24	0	0	1	28	174	521	1042	1698	2296	2668	2839	2863	2863

(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