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: CLINTONVILLE, WI **COOP ID: 471676**

Climate Division: WI 5 **NWS Call Sign:** **Elevation: 800 Feet** **Lat: 44˚37N** **Lon: 88˚45W**

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	23.3	3.7	13.5	53	1964	22	23.3	1990	-35	1982	17	1.8	1977	1597	0	.0	.0	.1	23.3	30.8	12.6
Feb	28.7	8.4	18.6	59	2000	27	30.0	1998	-31+	1996	4	8.0	1979	1302	0	.0	.0	.5	16.2	27.7	8.2
Mar	39.3	19.4	29.4	78	2000	8	38.9	2000	-26	1962	2	22.3	1989	1105	0	.0	.0	5.3	6.7	27.7	2.1
Apr	54.1	31.9	43.0	92	1980	23	48.9	1986	6	1954	3	36.7	1975	659	0	.0	@	19.2	.6	15.7	.0
May	67.7	43.5	55.6	93	1959	2	62.7	1977	19	1961	5	49.6	1983	320	28	.0	.1	29.9	.0	2.8	.0
Jun	76.5	52.9	64.7	101	1988	21	70.5	1988	31+	1972	10	59.0	1982	95	86	@	2.1	30.0	.0	@	.0
Jul	80.6	57.8	69.2	106	1995	14	74.0	1988	38+	1972	4	63.6	1992	23	154	.1	3.0	31.0	.0	.0	.0
Aug	77.8	54.8	66.3	104	1955	21	72.4	1995	34	1967	31	62.7	1977	66	106	.1	1.3	31.0	.0	.0	.0
Sep	69.4	45.2	57.3	97	1953	2	63.9	1998	22	1974	22	51.2	1974	247	16	.0	.3	29.9	.0	1.7	.0
Oct	57.5	34.3	45.9	89	1963	6	53.2	1971	15+	1976	28	40.6	1976	593	0	.0	.0	24.6	.0	12.7	.0
Nov	41.5	23.5	32.5	73+	1999	10	39.3	1999	-10+	1976	30	25.6	1976	975	0	.0	.0	7.0	5.3	24.9	.5
Dec	27.9	10.8	19.4	62+	2001	6	27.5	1997	-23	1989	21	8.9	1976	1416	0	.0	.0	.6	19.0	30.4	7.1
Ann	53.7	32.2	43.0	106	Jul 1995	14	74.0	Jul 1988	-35	Jan 1982	17	1.8	Jan 1977	8398	390	.2	6.8	209.1	71.1	174.4	30.5

+ 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	1.28	1.22	1.52	1971	4	2.94	1996	.10	1981
Feb	.98	.94	1.25	1977	24	2.91	1981	.18	1982
Mar	2.11	2.02	2.30	1973	7	5.11	1977	.19	1999
Apr	2.63	2.40	2.34	1981	4	4.87	1981	.59	1989
May	3.48	2.91	3.72	1970	31	8.00	1973	.92	1988
Jun	3.62	2.80	2.86	1993	9	10.31	1993	.88	1988
Jul	4.08	3.78	3.01	1953	28	8.64	1993	1.09	1981
Aug	4.15	3.92	3.45	1958	10	9.44	1995	1.21	1999
Sep	3.61	3.40	3.45	1965	19	8.50	1986	.39	1976
Oct	2.39	2.32	2.62	1960	31	5.84	1995	.32	2000
Nov	2.28	1.93	2.50	1984	1	5.39	1985	.00	1976
Dec	1.43	1.44	1.25	1968	19	3.09	1971	.24	1993
Ann	32.04	32.72	3.72	May 1970	31	10.31	Jun 1993	.00	Nov 1976

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.9	4.2	.5	.1
Feb	6.7	3.1	.4	@
Mar	8.2	5.0	1.3	.3
Apr	9.7	6.3	1.7	.4
May	9.7	6.7	2.3	.8
Jun	10.0	6.9	2.4	.8
Jul	10.1	6.9	2.7	1.2
Aug	10.3	7.4	2.9	1.1
Sep	10.3	6.7	2.5	.8
Oct	8.4	5.2	1.6	.6
Nov	8.3	4.9	1.4	.5
Dec	8.6	4.6	.6	.1
Ann	109.2	67.9	20.3	6.7

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	.42	.60	.77	.94	1.12	1.31	1.55	1.86	2.35	2.82
Feb	.18	.27	.41	.55	.68	.83	1.00	1.20	1.46	1.89	2.30
Mar	.36	.55	.86	1.14	1.44	1.76	2.13	2.57	3.17	4.13	5.05
Apr	.87	1.12	1.49	1.80	2.10	2.41	2.75	3.14	3.65	4.44	5.16
May	1.16	1.49	1.97	2.38	2.78	3.18	3.63	4.15	4.81	5.85	6.80
Jun	.83	1.17	1.70	2.18	2.65	3.16	3.72	4.39	5.28	6.68	8.01
Jul	1.40	1.78	2.34	2.82	3.28	3.75	4.26	4.86	5.62	6.81	7.90
Aug	1.23	1.62	2.21	2.72	3.22	3.74	4.31	4.99	5.86	7.22	8.49
Sep	.79	1.12	1.65	2.13	2.61	3.12	3.70	4.38	5.29	6.73	8.09
Oct	.64	.86	1.21	1.51	1.81	2.12	2.47	2.88	3.42	4.27	5.06
Nov	.35	.65	1.04	1.36	1.67	2.00	2.37	2.80	3.37	4.27	5.11
Dec	.30	.43	.64	.83	1.02	1.22	1.45	1.73	2.10	2.69	3.24
Ann	23.69	25.33	27.42	29.00	30.39	31.74	33.12	34.65	36.49	39.15	41.44

\+ 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	12.5	10.0	7	7	16.0	1971	4	32.0	1971	24	1971	31	20	1971	6.9	4.7	1.4	.4	.1	28.5	22.1	18.5	7.5
Feb	8.1	8.0	7	6	8.0	1971	22	22.5	1971	25	1971	5	20+	1979	4.6	3.1	.8	.2	.0	23.8	20.3	16.5	7.4
Mar	7.9	5.9	4	2	14.0	1997	14	21.0	1972	25	1972	7	16	1975	3.8	2.7	1.0	.4	@	12.3	8.1	6.5	4.1
Apr	2.6	1.5	#	#	7.0	1977	4	16.0	1977	14	1975	1	5	1975	1.1	.9	.3	.1	.0	1.9	.9	.5	.3
May	#	.0	#	0	#	1997	1	#+	1997	#	1997	1	#	1997	.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	.2	.0	#	0	2.7	1992	20	2.7	1992	3	1992	20	#+	1997	.2	.1	.0	.0	.0	.1	@	.0	.0
Nov	4.0	3.3	#	#	7.0	1971	26	13.2	1995	9	1977	28	2	1985	2.3	1.4	.5	.2	.0	3.6	1.5	.6	.0
Dec	10.1	9.8	3	2	11.0	1985	2	24.4	1985	17	1985	6	12	1985	5.9	4.0	1.3	.4	@	21.8	12.9	7.4	2.6
Ann	45.4	38.5	N/A	N/A	16.0	Jan 1971	4	32.0	Jan 1971	25+	Mar 1972	7	20+	Feb 1979	24.8	16.9	5.3	1.7	.1	92.0	65.8	50.0	21.9

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	137	130	125	121	117	113	109	104	98
32	162	156	151	147	143	139	135	130	124
28	187	179	173	168	164	159	154	149	141
24	213	205	199	194	189	185	180	174	166
20	229	224	220	216	213	210	206	202	197
16	252	245	241	236	233	229	225	220	213

***** 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	1597	1302	1105	659	320	95	23	66	247	593	975	1416	8398
60	1442	1162	950	512	206	37	4	19	136	442	825	1261	6996
57	1349	1078	857	425	150	18	0	7	86	356	735	1168	6229
55	1287	1022	795	370	118	10	0	3	60	302	675	1106	5748
50	1132	882	642	244	57	2	0	0	19	185	527	951	4641
32	593	408	192	13	0	0	0	0	0	6	117	435	1764

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	19	30	109	344	731	981	1153	1063	758	436	132	42	5798
55	0	0	0	10	137	301	440	353	129	19	0	0	1389
57	0	0	0	6	107	248	378	295	94	11	0	0	1139
60	0	0	0	2	69	177	289	214	54	4	0	0	809
65	0	0	0	0	28	86	154	106	16	0	0	0	390
70	0	0	0	0	9	28	62	37	3	0	0	0	139

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	31	180	510	764	929	847	556	245	40	1	0	1	32	212	722	1486	2415	3262	3818	4063	4103	4104
45	0	0	10	100	362	614	774	692	409	141	16	0	0	0	10	110	472	1086	1860	2552	2961	3102	3118	3118
50	0	0	3	51	231	465	619	537	272	68	2	0	0	0	3	54	285	750	1369	1906	2178	2246	2248	2248
55	0	0	0	23	133	321	464	383	159	26	0	0	0	0	0	23	156	477	941	1324	1483	1509	1509	1509
60	0	0	0	7	63	190	310	235	80	5	0	0	0	0	0	7	70	260	570	805	885	890	890	890
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	23	123	314	483	608	542	338	154	25	0	0	0	23	146	460	943	1551	2093	2431	2585	2610	2610

(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