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: DANBURY, WI **COOP ID: 471978**

Climate Division: WI 1 **NWS Call Sign:** **Elevation: 925 Feet** **Lat: 46˚00N** **Lon: 92˚22W**

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	19.8	-1.6	9.1	53	1981	24	21.2	1990	-46	1950	30	-1.8	1977	1735	0	.0	.0	.1	25.9	31.0	16.4
Feb	27.0	5.4	16.2	58	1958	23	31.3	1998	-43	1996	1	4.1	1989	1366	0	.0	.0	.7	17.4	27.6	11.0
Mar	38.3	18.3	28.3	80	1986	31	36.4	2000	-39	1962	1	20.3	1975	1137	0	.0	.0	5.2	8.0	27.5	3.8
Apr	54.1	30.7	42.4	92	1980	21	48.2	1987	-3	1954	3	35.7	1975	678	0	.0	@	19.8	.7	17.1	@
May	67.6	42.4	55.0	93	1959	2	62.2	1977	14	1953	13	48.9	1979	332	22	.0	.2	29.9	.0	4.9	.0
Jun	75.2	51.5	63.4	99	1949	12	67.8	1995	20	1964	1	57.9	1982	106	57	.0	1.1	30.0	.0	.3	.0
Jul	79.0	57.1	68.1	101	1988	16	72.9	1988	35+	1967	5	61.9	1992	41	135	.1	2.2	31.0	.0	.0	.0
Aug	77.0	55.2	66.1	98+	1988	1	70.6	1983	30+	1964	14	61.5	1977	67	101	.0	1.0	31.0	.0	@	.0
Sep	67.6	46.1	56.9	96	1976	7	63.2	1998	20+	1957	26	51.5	1993	257	12	.0	.1	29.5	.0	2.9	.0
Oct	56.4	35.2	45.8	88	1953	2	51.5	1973	4+	1952	20	39.6	1987	596	0	.0	.0	23.1	.1	13.5	.0
Nov	38.2	22.0	30.1	81	1950	1	39.1	1999	-25+	1976	30	23.1	1976	1047	0	.0	.0	5.3	9.4	25.8	1.5
Dec	24.1	5.7	14.9	58+	1962	4	25.5	1997	-44	1955	19	1.8	1983	1555	0	.0	.0	.3	23.0	30.8	11.1
Ann	52.0	30.7	41.4	101	Jul 1988	16	72.9	Jul 1988	-46	Jan 1950	30	-1.8	Jan 1977	8917	327	.1	4.6	205.9	84.5	181.4	43.8

\+ 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	.98	.86	1.20	1975	11	3.20	1975	.03	1981
Feb	.79	.61	1.04	1998	27	3.27	1981	.06+	1997
Mar	1.68	1.44	1.47	1977	12	4.10	1977	.48	1987
Apr	2.08	2.05	3.07	1954	26	5.00	1986	.24	1987
May	3.30	3.14	4.15	1982	11	7.14	1982	.44	1976
Jun	4.12	3.66	4.55	1985	26	7.37	1972	.56	1987
Jul	4.52	4.58	4.78	2000	9	8.56	1972	.62	1975
Aug	4.38	3.67	5.18	1953	3	9.32	1995	1.38	1996
Sep	3.34	3.17	3.55	1994	15	7.62	1994	.66	1976
Oct	2.32	2.15	2.09	1970	8	6.45	1971	.32	1978
Nov	1.92	1.71	1.90	1991	1	5.34	1975	.25	1981
Dec	.96	.76	1.84	1968	13	2.49	1982	.10	1991
Ann	30.39	31.28	5.18	Aug 1953	3	9.32	Aug 1995	.03	Jan 1981

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.0	3.0	.3	.1
Feb	5.5	2.6	.3	.1
Mar	6.7	4.5	1.1	.2
Apr	8.4	5.5	1.3	.2
May	10.0	6.6	2.3	.6
Jun	11.6	8.1	2.5	.8
Jul	9.8	7.4	3.0	1.2
Aug	10.0	7.4	3.3	1.1
Sep	10.0	7.0	2.2	.6
Oct	8.7	5.5	1.5	.4
Nov	7.5	4.3	1.2	.5
Dec	7.2	3.3	.4	.0
Ann	102.4	65.2	19.4	5.8

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	.14	.23	.37	.50	.65	.80	.98	1.20	1.50	1.98	2.44
Feb	.08	.14	.24	.36	.47	.61	.77	.96	1.24	1.68	2.12
Mar	.47	.63	.87	1.08	1.29	1.50	1.74	2.02	2.38	2.95	3.48
Apr	.48	.67	.98	1.25	1.52	1.81	2.14	2.52	3.03	3.84	4.61
May	1.06	1.38	1.84	2.23	2.61	3.01	3.44	3.94	4.59	5.60	6.53
Jun	1.35	1.74	2.31	2.80	3.27	3.76	4.30	4.92	5.72	6.97	8.12
Jul	1.48	1.91	2.54	3.07	3.59	4.12	4.71	5.39	6.27	7.64	8.89
Aug	1.69	2.09	2.67	3.16	3.61	4.08	4.58	5.16	5.90	7.04	8.08
Sep	.92	1.23	1.71	2.13	2.55	2.98	3.46	4.02	4.76	5.91	6.99
Oct	.55	.77	1.11	1.41	1.71	2.03	2.39	2.81	3.37	4.25	5.08
Nov	.30	.47	.75	1.01	1.28	1.58	1.92	2.34	2.90	3.80	4.67
Dec	.18	.26	.40	.53	.67	.81	.97	1.17	1.43	1.85	2.25
Ann	20.73	22.57	24.94	26.75	28.37	29.93	31.56	33.36	35.56	38.75	41.53

\+ 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	11.3	9.5	11	11
Feb	7.6	5.5	13	11
Mar	8.6	7.0	8	5
Apr	3.4	2.2	1	#
May	.2	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	#	0
Oct	.7	.0	#	0
Nov	7.4	5.5	2	#
Dec	10.8	9.2	5	4
Ann	50.0	38.9	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	13.0	1982	23	25.7	1976	34	1997	11	31	1997
Feb	8.0	1990	16	17.6	1979	31	1997	1	27	1996
Mar	11.0	1985	4	22.0	1985	30	1996	27	26	1996
Apr	7.0	1983	15	13.0	1983	20	1975	2	11	1996
May	2.0	1979	5	3.5	1979	1	1984	1	#+	1991
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	#	1995	22	#	1995	#	1995	22	#	1995
Oct	6.0	1977	11	6.0	1977	2	1987	22	#+	1999
Nov	17.0	1991	1	23.0	1983	31	1991	10	27	1991
Dec	10.0	1982	28	28.4	1996	21	1996	31	16	1985
Ann	17.0	Nov 1991	1	28.4	Dec 1996	34	Jan 1997	11	31	Jan 1997

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	7.0	4.6	1.3	.5	.1
Feb	4.8	3.1	.9	.3	.0
Mar	3.8	2.8	1.3	.5	@
Apr	1.4	1.0	.3	.2	.0
May	.1	.1	.0	.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	.5	.3	@	@	.0
Nov	3.9	2.7	1.0	.4	.1
Dec	6.6	4.5	.8	.3	@
Ann	28.1	19.1	5.6	2.2	.2

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	29.7	26.8	24.2	16.5
Feb	25.7	25.3	23.6	17.1
Mar	18.3	15.9	14.2	9.7
Apr	3.4	2.4	1.8	.5
May	.1	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.2	.0	.0	.0
Nov	6.1	2.7	1.5	.3
Dec	23.8	18.4	12.4	5.6
Ann	107.3	91.5	77.7	49.7

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

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	8/26	8/31	9/03	9/06	9/09	9/11	9/14	9/18	9/22
32	9/08	9/13	9/16	9/18	9/21	9/23	9/26	9/29	10/03
28	9/20	9/23	9/26	9/28	9/30	10/02	10/04	10/06	10/10
24	9/28	10/03	10/07	10/10	10/14	10/17	10/20	10/24	10/29
20	10/10	10/15	10/18	10/21	10/24	10/27	10/30	11/02	11/07
16	10/20	10/25	10/29	11/02	11/05	11/08	11/11	11/15	11/21

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	113	107	103	99	95	92	88	83	77
32	143	136	130	126	122	118	113	108	101
28	161	155	151	147	144	141	137	133	127
24	197	189	182	177	172	167	162	156	147
20	212	205	200	196	192	188	184	179	172
16	232	225	220	216	212	208	204	199	192

***** 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	1735	1366	1137	678	332	106	41	67	257	596	1047	1555	8917
60	1580	1226	982	531	215	39	9	19	142	445	897	1400	7485
57	1487	1142	889	445	158	18	2	7	89	358	807	1307	6709
55	1425	1086	827	389	125	10	0	3	63	304	747	1245	6224
50	1270	946	674	263	61	2	0	0	20	187	600	1090	5113
32	728	481	219	19	0	0	0	0	0	8	173	564	2192

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	15	39	105	331	713	940	1117	1057	745	435	116	33	5646
55	0	0	0	11	124	260	404	347	117	19	0	0	1282
57	0	0	0	6	95	208	344	289	84	11	0	0	1037
60	0	0	0	3	59	140	258	208	47	4	0	0	719
65	0	0	0	0	22	57	135	101	12	0	0	0	327
70	0	0	0	0	6	14	54	35	2	0	0	0	111

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	22	168	499	719	893	825	525	225	30	0	0	1	23	191	690	1409	2302	3127	3652	3877	3907	3907
45	0	0	8	95	354	569	738	670	380	126	11	0	0	0	8	103	457	1026	1764	2434	2814	2940	2951	2951
50	0	0	1	45	223	421	583	515	249	58	2	0	0	0	1	46	269	690	1273	1788	2037	2095	2097	2097
55	0	0	0	16	124	279	428	361	142	23	0	0	0	0	0	16	140	419	847	1208	1350	1373	1373	1373
60	0	0	0	4	63	157	280	220	73	4	0	0	0	0	0	4	67	224	504	724	797	801	801	801
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	16	128	324	455	581	527	317	137	16	0	0	0	16	144	468	923	1504	2031	2348	2485	2501	2501

(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