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: RIDGELAND 1 NNE, WI **COOP ID: 477174**

Climate Division: WI 4 **NWS Call Sign:** **Elevation: 960 Feet** **Lat: 45˚13N** **Lon: 91˚53W**

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	18.8	-1.9	8.5	54	1981	25	21.6	1990	-47	1977	9	-3.6	1977	1754	0	.0	.0	.1	25.1	30.8	15.8
Feb	25.6	3.8	14.7	59	1981	18	29.8	1998	-38	1996	1	3.1	1979	1409	0	.0	.0	.6	17.0	27.7	10.3
Mar	37.4	17.2	27.3	80+	1986	31	37.1	2000	-41	1962	1	18.5	1975	1169	0	.0	.0	5.5	7.6	27.4	3.6
Apr	54.2	30.6	42.4	91	1980	22	48.2	1977	2	1975	4	35.0	1975	678	0	.0	@	21.2	.5	17.0	.0
May	67.3	42.5	54.9	92	1986	31	62.4	1977	16	1967	3	48.5	1997	336	23	.0	.2	30.5	.0	4.7	.0
Jun	75.8	52.8	64.3	96	1986	19	69.3	1988	29+	1972	10	58.8	1982	97	74	.0	1.2	30.0	.0	.2	.0
Jul	79.8	57.3	68.6	100+	1988	27	74.0	1988	37	1972	4	62.9	1992	36	146	.1	3.1	31.0	.0	.0	.0
Aug	77.2	55.1	66.2	101+	1988	2	71.4	1988	32+	1986	28	62.2	1992	65	101	.1	1.4	31.0	.0	.1	.0
Sep	68.0	45.4	56.7	96	1976	7	62.7	1998	21	1967	29	49.9	1993	262	12	.0	.3	29.6	.0	2.3	.0
Oct	56.4	34.2	45.3	88	1976	1	51.2+	1973	6	1976	27	40.3	1976	611	0	.0	.0	24.5	.2	13.5	.0
Nov	37.9	21.0	29.5	71+	1999	14	38.7	1999	-21	1964	30	21.6	1985	1066	0	.0	.0	6.1	8.2	25.9	1.5
Dec	23.4	5.9	14.7	61+	1998	3	24.4	1997	-42	1983	19	2.3	1983	1562	0	.0	.0	.4	21.5	30.8	9.9
Ann	51.8	30.3	41.1	101+	Aug 1988	2	74.0	Jul 1988	-47	Jan 1977	9	-3.6	Jan 1977	9045	356	.2	6.2	210.5	80.1	180.4	41.1

\+ 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: 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	1.11	.91	1.80	1982	23	3.92	1982	.02	1981
Feb	.81	.72	1.41	1953	20	3.22	1981	.10	1987
Mar	2.13	1.87	1.82	1990	14	6.62	1998	.32	1978
Apr	2.76	2.64	3.04	1975	27	5.67	1975	.38	1987
May	3.38	3.40	1.88	1959	5	6.58	1991	.83	1976
Jun	4.37	3.89	3.78	1953	20	8.31	1979	1.71	1988
Jul	3.82	3.60	3.75	1949	27	9.24	1997	1.21	1976
Aug	4.95	4.71	5.25	1990	18	9.09	1995	1.76	1976
Sep	3.71	3.48	3.27	1978	12	9.34	1986	1.26	1976
Oct	2.49	2.55	2.48	1985	4	5.13	1995	.60	1978
Nov	2.09	1.57	2.75	1991	1	6.01	2000	.03	1976
Dec	1.08	.96	2.10	1965	12	2.68	1982	.27	1999
Ann	32.70	33.21	5.25	Aug 1990	18	9.34	Sep 1986	.02	Jan 1981

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.5	3.4	.4	.1
Feb	5.6	2.5	.4	.0
Mar	7.6	4.7	1.4	.3
Apr	8.7	5.8	2.1	.4
May	10.4	6.5	2.5	.6
Jun	11.2	7.8	2.8	1.0
Jul	11.0	7.5	2.4	.8
Aug	9.9	6.7	3.0	1.6
Sep	10.5	6.6	2.6	1.0
Oct	8.5	5.6	1.4	.5
Nov	7.7	4.6	1.5	.5
Dec	6.5	3.3	.6	.1
Ann	105.1	65.0	21.1	6.9

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	.16	.26	.42	.57	.73	.90	1.11	1.35	1.68	2.22	2.74
Feb	.14	.21	.33	.44	.55	.67	.81	.98	1.21	1.58	1.93
Mar	.46	.66	.97	1.25	1.53	1.83	2.17	2.58	3.12	3.97	4.78
Apr	.85	1.11	1.50	1.83	2.16	2.50	2.87	3.31	3.87	4.75	5.56
May	1.30	1.61	2.06	2.43	2.79	3.15	3.53	3.99	4.56	5.44	6.25
Jun	1.64	2.05	2.63	3.12	3.59	4.06	4.57	5.17	5.93	7.10	8.17
Jul	1.23	1.59	2.13	2.58	3.02	3.48	3.98	4.56	5.32	6.49	7.57
Aug	2.19	2.63	3.25	3.75	4.22	4.69	5.19	5.77	6.50	7.61	8.61
Sep	1.06	1.41	1.94	2.41	2.86	3.33	3.85	4.46	5.26	6.51	7.67
Oct	.73	.97	1.32	1.63	1.93	2.24	2.59	2.99	3.52	4.34	5.11
Nov	.26	.43	.72	1.01	1.32	1.66	2.06	2.55	3.21	4.30	5.35
Dec	.24	.34	.50	.65	.79	.94	1.11	1.32	1.58	2.01	2.41
Ann	23.31	25.13	27.46	29.22	30.79	32.31	33.87	35.60	37.70	40.74	43.37

+ 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	10.2	9.0	9	8
Feb	6.7	6.0	10	9
Mar	10.7	10.3	5	5
Apr	1.9	.9	#	#
May	#	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	#	.0	0	0
Oct	.3	.0	#	0
Nov	5.0	6.3	1	1
Dec	8.9	8.0	5	3
Ann	43.7	40.5	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	10.0	1982	23	25.9	1982	31	1982	24	17	1982
Feb	8.0	1990	16	13.5	1971	32	1979	21	25	1979
Mar	11.0	1997	14	28.5	1985	24+	1989	5	15	1989
Apr	7.0	1992	10	9.0	1983	10	1975	4	5	1975
May	#	1976	2	#+	1976	#	1984	1	#	1984
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	#	1985	24	#	1985	0	0	0	0	0
Oct	2.0	1979	22	2.0+	1987	1	1992	20	#+	1997
Nov	8.0	1993	26	13.0	1993	12	1985	30	4	1991
Dec	7.0	1982	28	20.5	1996	18+	2000	30	13	1985
Ann	11.0	Mar 1997	14	28.5	Mar 1985	32	Feb 1979	21	25	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.9	4.1	1.4	.4	@
Feb	3.9	2.6	.7	.1	.0
Mar	3.6	2.8	1.3	.6	.1
Apr	1.0	.7	.2	@	.0
May	.0	.0	.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	.3	.2	.0	.0	.0
Nov	2.8	2.2	.5	.2	.0
Dec	5.2	3.6	.9	.3	.0
Ann	22.7	16.2	5.0	1.6	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	28.6	26.4	23.5	11.8
Feb	25.8	24.5	20.9	11.5
Mar	18.9	15.3	11.8	6.4
Apr	2.2	1.1	.5	.1
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	6.3	2.5	1.9	.3
Dec	23.1	16.8	11.3	4.5
Ann	105.0	86.6	69.9	34.6

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

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	8/30	9/04	9/07	9/10	9/13	9/15	9/18	9/22	9/26
32	9/09	9/14	9/17	9/20	9/23	9/25	9/28	10/01	10/06
28	9/22	9/25	9/28	9/30	10/02	10/04	10/07	10/09	10/13
24	9/28	10/04	10/07	10/11	10/14	10/17	10/20	10/24	10/29
20	10/12	10/17	10/20	10/23	10/26	10/28	10/31	11/03	11/08
16	10/18	10/23	10/28	10/31	11/03	11/07	11/10	11/14	11/20

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	127	119	113	108	103	98	93	87	79
32	145	138	132	128	124	120	115	110	103
28	170	163	158	154	150	147	142	138	131
24	198	189	183	178	173	169	163	157	149
20	218	211	207	203	199	195	191	187	180
16	238	230	224	219	214	210	205	199	191

***** 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	1754	1409	1169	678	336	97	36	65	262	611	1066	1562	9045
60	1599	1269	1014	531	218	36	8	18	146	458	916	1407	7620
57	1506	1185	921	446	161	17	1	6	93	370	826	1314	6846
55	1444	1129	859	392	128	9	0	3	65	314	766	1252	6361
50	1289	989	707	268	64	2	0	0	21	192	619	1097	5248
32	745	519	251	25	0	0	0	0	0	7	188	571	2306

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	14	33	105	338	710	968	1134	1059	741	420	112	33	5667
55	0	0	0	14	124	287	421	349	116	13	0	0	1324
57	0	0	0	9	95	235	359	290	84	7	0	0	1079
60	0	0	0	4	60	164	273	209	47	2	0	0	759
65	0	0	0	0	23	74	146	101	12	0	0	0	356
70	0	0	0	0	6	22	62	35	2	0	0	0	127

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	0	29	189	516	752	914	846	548	237	34	1	0	0	29	218	734	1486	2400	3246	3794	4031	4065	4066
45	0	0	11	105	372	602	759	691	403	137	13	0	0	0	11	116	488	1090	1849	2540	2943	3080	3093	3093
50	0	0	2	52	239	453	604	536	270	67	2	0	0	0	2	54	293	746	1350	1886	2156	2223	2225	2225
55	0	0	0	23	134	313	449	381	157	27	0	0	0	0	0	23	157	470	919	1300	1457	1484	1484	1484
60	0	0	0	7	66	182	299	236	78	5	0	0	0	0	0	7	73	255	554	790	868	873	873	873
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	23	142	335	484	600	548	338	153	21	0	0	0	23	165	500	984	1584	2132	2470	2623	2644	2644

(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