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: REST LAKE, WI **COOP ID: 477092**

Climate Division: WI 2 **NWS Call Sign:** **Elevation: 1,610 Feet** **Lat: 46˚07N** **Lon: 89˚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	18.5	-4.1	7.2	49	1973	25	17.5	1990	-47	1950	30	-4.3	1977	1794	0	.0	.0	.0	27.4	30.9	15.4
Feb	25.0	.2	12.6	58	1991	9	28.3	1998	-49	1996	3	2.1	1989	1467	0	.0	.0	.5	20.0	27.9	11.1
Mar	36.0	11.8	23.9	72	1986	31	32.8	2000	-39	1962	1	13.5	1996	1274	0	.0	.0	3.8	10.6	28.5	5.6
Apr	51.3	25.4	38.4	90	1952	28	45.3	1998	-11	1982	7	31.2	1975	799	0	.0	.0	17.4	1.5	20.9	.2
May	66.0	39.1	52.6	91	1959	2	61.1	1977	19+	1990	2	44.9	1997	410	23	.0	@	29.0	.0	6.8	.0
Jun	72.8	48.4	60.6	96+	1995	19	66.5	1995	27	1992	21	53.9	1982	170	38	.0	.4	29.9	.0	.5	.0
Jul	76.4	53.2	64.8	97+	1999	31	69.4	1983	33	2000	19	58.6	1992	84	79	.0	1.0	31.0	.0	.0	.0
Aug	74.2	51.5	62.9	99	1948	24	68.1	1995	32+	1992	13	57.6	1977	123	56	.0	.3	31.0	.0	@	.0
Sep	64.6	42.8	53.7	92+	1998	12	60.5	1998	21+	1991	28	48.8	1993	342	3	.0	.1	29.2	.0	2.5	.0
Oct	53.3	32.2	42.8	85	1953	2	49.7	1971	6	1988	29	35.0	1988	689	0	.0	.0	20.1	.4	14.2	.0
Nov	35.8	19.6	27.7	70+	1990	2	36.6	1990	-21	1976	30	18.9	1995	1118	0	.0	.0	4.2	11.6	26.3	1.4
Dec	22.7	4.1	13.4	58+	1998	3	22.5	1997	-36	1989	21	2.0	1989	1600	0	.0	.0	.2	25.2	30.9	9.9
Ann	49.7	27.0	38.4	99	Aug 1948	24	69.4	Jul 1983	-49	Feb 1996	3	-4.3	Jan 1977	9870	199	.0	1.8	196.3	96.7	189.4	43.6

\+ 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

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: REST LAKE, WI **COOP ID: 477092**

Climate Division: WI 2 **NWS Call Sign:** **Elevation: 1,610 Feet** **Lat: 46˚07N** **Lon: 89˚53W**

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	1.19	1.15	2.20	1996	18	2.74	1996	.00	1990
Feb	.79	.61	1.12	1951	26	3.16	1971	.00	1991
Mar	1.67	1.61	1.60	1984	13	3.63	1977	.22	1993
Apr	2.21	2.10	3.02	1954	26	5.95	1991	.41	1988
May	3.52	3.45	2.97	1953	21	6.33	1999	.31	1986
Jun	4.06	3.86	3.20	1990	12	6.78	1981	1.43	1987
Jul	4.25	4.31	4.18	1955	30	9.33	1996	.45	1989
Aug	4.67	4.36	5.17	1978	23	9.97	1972	1.31	1993
Sep	3.87	3.40	2.69	1968	4	8.01	1994	.82	1989
Oct	2.98	3.00	2.74	1954	14	7.53	1995	.63	1976
Nov	2.14	2.09	2.26	1975	10	5.04	1975	.27	1981
Dec	1.29	1.08	.97	1975	14	3.15	1996	.21	1994
Ann	32.64	32.75	5.17	Aug 1978	23	9.97	Aug 1972	.00+	Feb 1991

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.7	3.8	.4	@
Feb	6.1	2.7	.2	@
Mar	7.7	3.8	.9	.2
Apr	8.2	5.6	1.4	.3
May	9.5	6.6	2.6	.7
Jun	10.5	7.9	2.8	.8
Jul	9.7	8.1	3.1	.8
Aug	10.0	7.0	3.2	1.0
Sep	10.7	8.2	2.6	1.0
Oct	9.9	6.6	1.9	.6
Nov	8.6	5.0	1.5	.3
Dec	9.6	4.6	.5	.0
Ann	109.2	69.9	21.1	5.7

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	.11	.24	.44	.61	.79	.98	1.20	1.47	1.83	2.41	2.96
Feb	.04	.11	.23	.35	.47	.61	.77	.97	1.25	1.70	2.14
Mar	.32	.47	.72	.94	1.17	1.42	1.69	2.03	2.47	3.19	3.87
Apr	.50	.70	1.02	1.32	1.61	1.92	2.27	2.69	3.23	4.11	4.93
May	1.07	1.40	1.90	2.33	2.75	3.18	3.66	4.22	4.95	6.08	7.13
Jun	1.79	2.15	2.66	3.07	3.45	3.84	4.25	4.73	5.33	6.24	7.06
Jul	1.05	1.45	2.07	2.62	3.16	3.74	4.38	5.14	6.14	7.72	9.19
Aug	1.38	1.83	2.49	3.07	3.63	4.21	4.85	5.60	6.58	8.11	9.52
Sep	1.20	1.56	2.11	2.58	3.03	3.51	4.02	4.63	5.42	6.64	7.77
Oct	1.13	1.41	1.81	2.14	2.45	2.77	3.12	3.53	4.04	4.83	5.55
Nov	.54	.74	1.05	1.33	1.60	1.89	2.21	2.59	3.09	3.88	4.62
Dec	.32	.44	.62	.79	.96	1.13	1.32	1.55	1.86	2.33	2.78
Ann	22.98	24.84	27.23	29.05	30.66	32.23	33.84	35.63	37.80	40.95	43.68

\+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: REST LAKE, WI **COOP ID: 477092**

Climate Division: WI 2 **NWS Call Sign:** **Elevation: 1,610 Feet** **Lat: 46°07N** **Lon: 89°53W**

Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	20.4	22.3	15	14
Feb	12.5	11.7	16	16
Mar	12.4	11.9	11	8
Apr	4.9	3.0	3	1
May	.5	.0	#	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.1	.0	0	0
Oct	1.2	.0	#	#
Nov	8.0	5.5	2	1
Dec	18.6	18.6	7	6
Ann	78.6	73.0	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	14.0	1997	26	37.0	1971	50	1997	31	38	1997
Feb	14.0	1971	5	35.0	1971	54	1997	1	34	1971
Mar	12.1	1985	31	26.7	1985	34	1971	3	30	1971
Apr	12.0	1982	3	18.0	1974	24	1971	2	13	1972
May	6.0	1973	2	6.0	1973	5	1973	2	#+	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	2.0	1995	22	2.0	1995	0	0	0	0	0
Oct	9.0	1982	20	9.0	1982	9	1982	20	1	1982
Nov	16.0	1996	11	20.8	1983	16+	1996	11	5	1995
Dec	12.0	1995	14	36.3	1978	44	1996	31	20	1985
Ann	16.0	Nov 1996	11	37.0	Jan 1971	54	Feb 1997	1	38	Jan 1997

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.7	5.2	2.5	1.1	@
Feb	4.5	3.5	1.3	.6	.1
Mar	4.0	3.3	1.2	.6	.1
Apr	1.8	1.5	.6	.3	@
May	.1	.1	.1	@	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	@	@	.0	.0	.0
Oct	.4	.4	.1	@	.0
Nov	3.6	3.3	1.0	.5	.1
Dec	6.6	5.4	1.9	.5	.1
Ann	27.7	22.7	8.7	3.6	.4

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	29.3	29.3	29.2	25.6
Feb	27.8	27.8	27.7	25.0
Mar	20.3	19.9	19.5	12.2
Apr	7.6	5.8	3.7	1.4
May	.3	.1	@	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.6	.2	.1	.0
Nov	10.9	5.1	2.8	.8
Dec	28.8	26.7	19.3	5.7
Ann	125.6	114.9	102.3	70.7

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: REST LAKE, WI **COOP ID: 477092**

Climate Division: WI 2 **NWS Call Sign:** **Elevation: 1,610 Feet** **Lat: 46˚07N** **Lon: 89˚53W**

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

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	8/23	8/29	9/02	9/06	9/09	9/13	9/16	9/20	9/26
32	9/04	9/09	9/13	9/17	9/20	9/23	9/27	10/01	10/06
28	9/16	9/21	9/25	9/29	10/02	10/06	10/09	10/13	10/19
24	9/28	10/05	10/10	10/15	10/19	10/23	10/28	11/02	11/10
20	10/12	10/18	10/23	10/26	10/30	11/02	11/06	11/10	11/16
16	10/22	10/27	10/31	11/03	11/06	11/09	11/12	11/16	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	115	107	101	96	91	86	81	75	66
32	142	133	127	121	116	111	105	99	90
28	169	160	154	148	143	138	133	126	117
24	203	193	186	180	174	168	162	155	145
20	216	208	203	198	194	189	185	179	172
16	233	226	221	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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: REST LAKE, WI **COOP ID: 477092**

Climate Division: WI 2 **NWS Call Sign:** **Elevation: 1,610 Feet** **Lat: 46˚07N** **Lon: 89˚53W**

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	1794	1467	1274	799	410	170	84	123	342	689	1118	1600	9870
60	1639	1327	1119	652	287	85	24	48	208	537	968	1445	8339
57	1546	1243	1026	565	225	49	9	21	141	448	878	1352	7503
55	1484	1187	964	508	188	31	5	12	104	391	818	1290	6982
50	1329	1047	809	374	111	9	0	1	40	262	670	1135	5787
32	776	563	311	58	5	0	0	0	0	22	215	599	2549

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	5	20	60	249	641	858	1018	955	650	355	86	22	4919
55	0	0	0	8	111	199	309	254	64	12	0	0	957
57	0	0	0	5	86	157	252	202	42	7	0	0	751
60	0	0	0	2	55	103	173	135	19	2	0	0	489
65	0	0	0	0	23	38	79	56	3	0	0	0	199
70	0	0	0	0	8	10	21	14	0	0	0	0	53

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	16	132	449	667	817	757	463	185	24	0	0	0	16	148	597	1264	2081	2838	3301	3486	3510	3510
45	0	0	2	72	310	518	662	602	324	100	6	0	0	0	2	74	384	902	1564	2166	2490	2590	2596	2596
50	0	0	0	32	194	375	507	447	203	45	0	0	0	0	0	32	226	601	1108	1555	1758	1803	1803	1803
55	0	0	0	15	112	236	355	298	111	14	0	0	0	0	0	15	127	363	718	1016	1127	1141	1141	1141
60	0	0	0	4	55	126	213	165	50	2	0	0	0	0	0	4	59	185	398	563	613	615	615	615
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	13	101	291	413	522	471	269	112	11	0	0	0	13	114	405	818	1340	1811	2080	2192	2203	2203

(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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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