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: LAKE GENEVA, WI **COOP ID: 474457**

Climate Division: WI 9 **NWS Call Sign:** **Elevation: 880 Feet** **Lat: 42˚36N** **Lon: 88˚26W**

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	27.9	12.2	20.1	58+	1996	18	31.2	1990	-27+	1994	18	7.0	1977	1393	0	.0	.0	.5	19.6	29.7	6.6
Feb	33.5	16.9	25.2	67	2000	25	36.9	1998	-25	1996	3	14.4	1979	1114	0	.0	.0	2.1	12.3	25.6	3.8
Mar	44.7	26.2	35.5	81+	1986	31	43.7	2000	-15	1962	1	28.4	1984	917	0	.0	.0	9.4	4.0	23.1	.2
Apr	58.6	36.7	47.7	90	1980	22	53.7	1977	9	1982	7	41.7	1975	524	2	.0	@	23.0	@	9.2	.0
May	71.8	47.6	59.7	94+	1991	28	67.0	1977	27+	1989	7	53.4	1997	220	56	.0	.9	30.7	.0	.8	.0
Jun	81.6	57.4	69.5	104	1988	20	74.2	1988	35	1972	11	64.3	1982	30	165	.2	4.4	30.0	.0	.0	.0
Jul	85.6	63.1	74.4	104	1995	13	79.6	1999	39+	1965	6	69.4	1992	4	295	.3	7.5	31.0	.0	.0	.0
Aug	83.1	61.7	72.4	106	1988	1	78.4	1988	40+	1986	28	67.8	1992	15	244	.3	4.3	31.0	.0	.0	.0
Sep	75.3	53.7	64.5	100	1953	1	69.4	1998	28+	1995	23	58.8	1993	88	73	.0	1.3	30.0	.0	.2	.0
Oct	62.5	42.6	52.6	87+	1982	6	60.6	1971	17	1988	30	46.8	1988	393	7	.0	.0	27.8	.0	4.9	.0
Nov	46.1	30.8	38.5	75+	1978	3	45.6	1999	-6	1950	24	31.3	1996	796	0	.0	.0	11.2	3.0	18.4	.1
Dec	32.9	18.8	25.9	67	2001	5	33.1	1982	-23	1983	24	14.4	1983	1215	0	.0	.0	1.8	13.5	28.3	2.9
Ann	58.6	39.0	48.8	106	Aug 1988	1	79.6	Jul 1999	-27+	Jan 1994	18	7.0	Jan 1977	6709	842	.8	18.4	228.5	52.4	140.2	13.6

\+ 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: LAKE GENEVA, WI **COOP ID: 474457**

Climate Division: WI 9 **NWS Call Sign:** **Elevation: 880 Feet** **Lat: 42˚36N** **Lon: 88˚26W**

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	2.04	1.81	2.41	1960	12	5.23	1999	.20	1981
Feb	1.64	1.36	2.15	2001	9	4.63	1994	.12	1995
Mar	2.67	2.80	2.21	1976	4	6.78	1976	.72	1996
Apr	3.83	3.82	2.15	1972	16	8.55	1973	.97	1971
May	3.53	3.32	2.99	2000	18	8.22	2000	.54	1994
Jun	4.04	3.99	2.91	1986	27	8.79	1999	.58	1987
Jul	3.85	3.39	3.88	1978	20	10.01	1978	1.02	1999
Aug	4.07	3.37	3.00	1995	9	11.30	1979	.94	1973
Sep	3.51	3.44	3.38	1984	25	9.02	1986	.08	1979
Oct	2.69	2.25	2.70	1991	4	7.92	1991	.43	1975
Nov	2.81	2.56	2.33	1952	17	5.99	1985	.39	1999
Dec	2.37	2.21	2.65	1982	2	4.97	1982	.61	1989
Ann	37.05	37.05	3.88	Jul 1978	20	11.30	Aug 1979	.08	Sep 1979

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	13.4	5.8	.9	.2
Feb	9.5	4.3	.8	.2
Mar	11.8	6.5	1.6	.3
Apr	12.8	7.2	2.6	1.0
May	12.5	7.4	2.5	.7
Jun	10.8	7.1	2.6	1.2
Jul	10.5	6.8	2.3	.9
Aug	10.1	6.5	3.0	1.2
Sep	10.0	6.1	2.3	1.0
Oct	10.1	5.4	1.6	.5
Nov	11.9	6.2	1.9	.4
Dec	13.0	5.6	1.3	.3
Ann	136.4	74.9	23.4	7.9

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	.54	.74	1.03	1.29	1.55	1.81	2.11	2.46	2.92	3.64	4.31
Feb	.25	.39	.62	.85	1.09	1.34	1.64	2.00	2.49	3.28	4.04
Mar	.65	.91	1.30	1.64	1.99	2.35	2.75	3.24	3.87	4.87	5.80
Apr	1.42	1.78	2.30	2.72	3.13	3.55	4.00	4.53	5.20	6.22	7.17
May	.99	1.33	1.84	2.28	2.71	3.16	3.66	4.25	5.02	6.22	7.34
Jun	.91	1.29	1.88	2.41	2.94	3.51	4.14	4.90	5.90	7.49	8.99
Jul	1.12	1.49	2.04	2.52	2.98	3.46	4.00	4.63	5.44	6.71	7.90
Aug	1.15	1.54	2.12	2.63	3.13	3.64	4.22	4.89	5.77	7.15	8.43
Sep	.57	.88	1.39	1.87	2.37	2.91	3.53	4.28	5.29	6.93	8.50
Oct	.52	.76	1.15	1.52	1.89	2.29	2.74	3.28	4.00	5.16	6.26
Nov	.74	1.00	1.41	1.77	2.12	2.49	2.90	3.39	4.02	5.02	5.96
Dec	.77	.99	1.33	1.61	1.88	2.16	2.47	2.83	3.29	4.01	4.68
Ann	28.25	30.00	32.22	33.88	35.35	36.76	38.21	39.80	41.71	44.47	46.83

\+ 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: LAKE GENEVA, WI **COOP ID: 474457**

Climate Division: WI 9 **NWS Call Sign:** **Elevation: 880 Feet** **Lat: 42°36N** **Lon: 88°26W**

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	14.5	13.2	5	4	13.2	1978	26	33.2	1999	25	1999	15	15	1982	11.1	4.7	1.2	.4	.2	21.9	17.2	13.3	4.3
Feb	9.4	8.0	5	3	12.3	1974	6	30.9+	1994	30	1979	1	24	1979	7.0	2.8	1.0	.4	@	17.8	13.9	9.9	3.6
Mar	7.0	5.8	1	1	10.4	1972	29	24.4	1971	13	1971	19	5	1979	5.8	2.2	.7	.3	@	6.4	3.6	1.7	.2
Apr	2.4	.6	#	#	8.8	1982	5	13.9	1982	8	1982	5	1	1982	2.1	.7	.1	.1	.0	1.1	.6	.3	.0
May	.1	.0	0	0	1.0	1989	6	1.0+	1990	0	0	0	0	0	.1	.1	.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	.1	.0	#	0	.8	1980	27	1.1	1989	1	1980	27	#+	1991	.3	.0	.0	.0	.0	@	.0	.0	.0
Nov	3.7	3.9	#	#	7.6	1997	15	10.2	1977	8	1977	27	1	1997	3.9	1.1	.3	.1	.0	2.6	.9	.3	.0
Dec	11.9	10.4	2	2	11.2	1987	15	38.5	2000	21	2000	30	11	2000	9.8	3.9	1.2	.4	@	14.2	8.1	4.4	.4
Ann	49.1	41.9	N/A	N/A	13.2	Jan 1978	26	38.5	Dec 2000	30	Feb 1979	1	24	Feb 1979	40.1	15.5	4.5	1.7	.2	64.0	44.3	29.9	8.5

+ 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: LAKE GENEVA, WI **COOP ID: 474457**

Climate Division: WI 9 **NWS Call Sign:** **Elevation: 880 Feet** **Lat: 42˚36N** **Lon: 88˚26W**

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	5/30	5/24	5/20	5/17	5/14	5/10	5/07	5/03	4/28
32	5/14	5/09	5/06	5/03	4/30	4/27	4/24	4/21	4/16
28	5/01	4/26	4/23	4/20	4/17	4/14	4/11	4/08	4/03
24	4/17	4/13	4/10	4/08	4/06	4/03	4/01	3/29	3/26
20	4/11	4/07	4/03	3/31	3/29	3/26	3/23	3/20	3/15
16	4/04	3/29	3/25	3/21	3/18	3/15	3/11	3/07	3/01

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	161	154	149	145	141	137	133	128	121
32	180	174	170	166	163	159	156	151	145
28	209	202	197	192	188	184	179	174	167
24	230	224	219	216	212	209	205	200	194
20	255	246	239	234	229	223	218	211	202
16	276	268	261	256	251	246	240	234	225

***** 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: LAKE GENEVA, WI **COOP ID: 474457**

Climate Division: WI 9 **NWS Call Sign:** **Elevation: 880 Feet** **Lat: 42˚36N** **Lon: 88˚26W**

Degree Days to Selected Base Temperatures (˚F)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1393	1114	917	524	220	30	4	15	88	393	796	1215	6709
60	1238	974	762	380	128	7	0	2	30	259	646	1060	5486
57	1145	890	669	301	86	2	0	0	13	191	558	967	4822
55	1083	834	608	252	63	1	0	0	6	151	500	905	4403
50	928	696	462	148	25	0	0	0	1	76	363	753	3452
32	425	268	89	3	0	0	0	0	0	1	53	286	1125

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	55	78	195	471	859	1125	1313	1252	974	637	247	94	7300
55	0	0	1	31	209	436	600	539	291	75	4	0	2186
57	0	0	0	20	170	378	538	477	237	52	2	0	1874
60	0	0	0	9	119	292	445	386	165	27	0	0	1443
65	0	0	0	2	56	165	295	244	73	7	0	0	842
70	0	0	0	0	20	71	159	131	22	0	0	0	403

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	9	73	268	614	880	1056	989	721	384	94	7	0	9	82	350	964	1844	2900	3889	4610	4994	5088	5095
45	0	2	35	159	461	730	901	834	571	250	45	2	0	2	37	196	657	1387	2288	3122	3693	3943	3988	3990
50	0	0	12	84	315	580	746	679	427	144	16	0	0	0	12	96	411	991	1737	2416	2843	2987	3003	3003
55	0	0	5	43	200	433	591	524	289	73	4	0	0	0	5	48	248	681	1272	1796	2085	2158	2162	2162
60	0	0	0	15	108	293	436	370	171	28	0	0	0	0	0	15	123	416	852	1222	1393	1421	1421	1421
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	3	44	159	375	573	718	662	449	220	46	2	0	3	47	206	581	1154	1872	2534	2983	3203	3249	3251

(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