

# Climatography of the United States

No. 20

1971-2000

Station: GURNEY, WI

COOP ID: 473332

Climate Division: WI 2

NWS Call Sign:

Elevation: 970 Feet Lat: 46° 28N Lon: 90° 31W

## 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	19.6	-.5	9.6	58	1981	25	20.4	1987	-36	1972	15	-.8	1977	1720	0	.0	.0	.1	25.2	30.8	14.3
Feb	26.0	3.6	14.8	63	1976	24	30.8	1998	-37	1996	2	4.8	1972	1405	0	.0	.0	1.1	17.8	27.4	9.9
Mar	36.4	14.8	25.6	73	2000	8	34.0	2000	-33	1962	1	16.9	1972	1221	0	.0	.0	5.1	9.2	27.8	4.1
Apr	49.7	28.2	39.0	92	1980	22	44.7	1991	-4+	1972	8	32.5	1996	782	0	.0	@	16.2	1.2	20.2	.1
May	63.9	39.7	51.8	92+	1975	23	60.6	1977	17	1966	9	45.1	1997	422	14	.0	.2	28.3	@	6.9	.0
Jun	72.1	48.5	60.3	100	1961	28	64.8+	1997	27	1972	10	54.2	1982	172	31	.0	.7	29.8	.0	.8	.0
Jul	76.7	54.3	65.5	99	1999	31	70.6	1983	33	1988	1	60.2	1992	76	91	.0	2.0	31.0	.0	.0	.0
Aug	74.7	52.5	63.6	99	1976	19	68.9	1983	32+	1976	15	58.7	1986	118	74	.0	1.1	31.0	.0	@	.0
Sep	65.9	43.7	54.8	99	1976	7	61.2	1998	25+	1964	15	49.1	1974	314	7	.0	.2	29.3	.0	1.8	.0
Oct	54.8	33.9	44.4	87+	1992	3	50.2	2000	12+	1996	31	38.5	1988	640	0	.0	.0	21.7	.3	11.7	.0
Nov	38.1	21.6	29.9	75	1975	5	37.9	1999	-10	1958	30	21.1	1995	1054	0	.0	.0	5.2	8.5	25.3	.9
Dec	24.5	7.2	15.9	60	1982	2	25.1	1997	-30	1983	19	3.8	1989	1525	0	.0	.0	.4	21.7	30.5	8.3
Ann	50.2	29.0	39.6	100	Jun 1961	28	70.6	Jul 1983	-37	Feb 1996	2	-.8	Jan 1977	9449	217	.0	4.2	199.2	83.9	183.2	37.6

+ 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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1952-2001

(3) Derived from 1971-2000 serially complete daily data

# 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: GURNEY, WI**

**COOP ID: 473332**

**Climate Division: WI 2**

**NWS Call Sign:**

**Elevation: 970 Feet Lat: 46°28N**

**Lon: 90°31W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.81	1.79	1.39	1988	20	3.46	1997	.62	1995	12.6	5.9	.6	.1	.73	.90	1.13	1.33	1.51	1.69	1.90	2.13	2.42	2.87	3.28
Feb	1.15	1.16	2.00	2000	15	3.13	1981	.08	1987	9.0	3.5	.4	.1	.18	.28	.45	.61	.77	.95	1.15	1.40	1.73	2.27	2.79
Mar	2.00	1.73	1.50	1979	24	4.75	1976	.47	1999	10.4	5.4	1.0	.2	.55	.74	1.03	1.28	1.53	1.79	2.07	2.41	2.85	3.54	4.18
Apr	2.08	2.07	6.67	1960	23	3.76	1994	.53	1988	9.8	6.1	1.1	.1	.72	.92	1.20	1.44	1.68	1.91	2.18	2.48	2.87	3.47	4.02
May	2.96	2.96	2.15+	1964	24	5.82	1973	.70	1990	10.3	6.6	1.8	.4	1.10	1.37	1.77	2.10	2.42	2.74	3.09	3.50	4.02	4.81	5.54
Jun	4.03	3.99	3.45	1959	26	7.48	1979	1.19	1994	12.4	8.5	2.6	.8	1.40	1.78	2.33	2.80	3.25	3.70	4.20	4.79	5.53	6.69	7.75
Jul	4.19	3.64	5.84	1992	2	10.66	1982	.71	1989	11.1	7.7	2.6	1.1	.98	1.38	1.99	2.54	3.08	3.66	4.31	5.08	6.10	7.70	9.22
Aug	4.18	3.47	5.21	1977	31	9.74	1977	1.42	1991	11.1	7.6	2.4	.8	1.44	1.84	2.41	2.90	3.36	3.84	4.36	4.97	5.74	6.95	8.06
Sep	4.04	3.38	3.17	1985	3	9.08	1985	.84	1989	12.3	8.1	2.3	.9	1.29	1.67	2.24	2.72	3.19	3.68	4.21	4.83	5.63	6.88	8.03
Oct	3.43	3.11	2.26	1985	5	8.07	1995	.91	1976	12.1	7.9	2.1	.7	1.02	1.35	1.84	2.26	2.67	3.09	3.56	4.12	4.83	5.95	6.98
Nov	2.79	2.35	3.64	1991	1	8.55	1991	.42	1981	12.5	6.9	1.3	.4	.63	.89	1.30	1.66	2.03	2.42	2.86	3.39	4.08	5.18	6.22
Dec	1.74	1.70	1.84	1970	4	4.02	1996	.27	1994	13.6	5.3	.5	.1	.53	.70	.94	1.16	1.36	1.57	1.81	2.08	2.43	2.99	3.50
Ann	34.40	32.97	6.67	Apr 1960	23	10.66	Jul 1982	.08	Feb 1987	137.2	79.5	18.7	5.7	25.07	26.89	29.21	30.97	32.53	34.03	35.58	37.28	39.35	42.34	44.91

+ 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: 1952-2001

(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:  
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Station: GURNEY, WI

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Climate Division: WI 2

NWS Call Sign:

Elevation: 970 Feet

Lat: 46°28N

Lon: 90°31W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	31.2	29.9	16	17	22.4	1988	20	59.2	1976	39	1988	25	27	1976	12.6	8.3	3.8	2.1	.5	29.9	29.9	29.4	22.8
Feb	21.0	20.9	20	20	16.3	1971	6	47.9	1971	45	1971	6	36	1971	8.6	5.2	1.9	.9	.2	27.3	27.3	27.3	24.2
Mar	19.8	18.8	16	14	18.0	1976	5	64.5	1976	46	1976	13	31	1971	7.7	5.1	2.3	1.3	.4	29.6	28.7	26.9	18.8
Apr	8.1	7.2	4	3	12.0	1985	1	23.8	1983	27	1971	4	12	1972	3.5	2.3	1.1	.3	.1	12.1	8.9	6.8	4.4
May	1.1	.0	#	0	6.5	1997	12	7.0	1997	10	1984	1	1	1984	.4	.2	.1	.1	.0	.4	.1	.1	@
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	.2	.0	0	0	6.0	1995	22	6.0	1995	0	0	0	0	0	@	@	@	@	.0	.0	.0	.0	.0
Oct	1.9	1.0	#	#	7.0	1995	21	8.0	1982	7	1982	21	1	1982	.8	.6	.2	.1	.0	.9	.4	.1	.0
Nov	18.0	19.2	2	1	14.0	1994	28	50.0	1991	25	1991	30	7	1991	6.9	5.1	2.4	1.2	.3	13.4	9.1	4.4	1.0
Dec	26.3	19.8	9	9	20.0	1996	19	48.5	1985	32	2000	24	23	2000	12.0	8.0	3.4	1.6	.4	28.9	26.4	22.6	10.5
Ann	127.6	116.8	N/A	N/A	22.4	Jan 1988	20	64.5	Mar 1976	46	Mar 1976	13	36	Feb 1971	52.5	34.8	15.2	7.6	1.9	142.5	130.8	117.6	81.7

+ 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:

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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	6/29	6/24	6/20	6/17	6/14	6/11	6/08	6/04	5/30
32	6/14	6/10	6/06	6/04	6/01	5/29	5/26	5/23	5/18
28	5/31	5/25	5/21	5/17	5/14	5/10	5/06	5/02	4/26
24	5/14	5/08	5/04	5/01	4/28	4/25	4/22	4/18	4/13
20	4/30	4/24	4/20	4/16	4/13	4/10	4/06	4/02	3/27
16	4/15	4/11	4/08	4/05	4/02	3/31	3/28	3/25	3/20
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	8/28	9/01	9/05	9/08	9/11	9/14	9/18	9/24
32	9/08	9/13	9/17	9/20	9/23	9/25	9/29	10/02	10/07
28	9/23	9/27	9/30	10/03	10/06	10/08	10/11	10/14	10/18
24	10/07	10/13	10/18	10/21	10/25	10/28	11/01	11/05	11/11
20	10/16	10/21	10/25	10/28	11/01	11/04	11/07	11/11	11/16
16	10/27	11/01	11/04	11/07	11/10	11/12	11/15	11/19	11/23
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	111	102	96	90	85	80	75	68	59
32	130	124	120	116	113	110	106	102	96
28	167	159	154	149	144	140	135	129	122
24	198	192	187	183	179	175	171	166	159
20	222	215	210	205	201	197	192	187	179
16	240	233	229	225	221	217	213	208	201

\* 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:

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**Elevation: 970 Feet Lat: 46° 28N Lon: 90° 31W**

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	1720	1405	1221	782	422	172	76	118	314	640	1054	1525	9449
60	1565	1265	1066	633	292	83	20	47	189	487	904	1370	7921
57	1472	1181	973	545	226	47	8	23	128	399	814	1277	7093
55	1410	1125	911	487	187	30	4	13	94	343	754	1215	6573
50	1255	985	756	351	106	7	0	2	36	218	605	1060	5381
32	712	517	266	42	3	0	0	0	0	10	167	537	2254

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	15	36	67	250	617	849	1038	979	683	393	103	35	5065
55	0	0	0	6	88	189	329	279	87	13	0	0	991
57	0	0	0	3	65	146	271	227	61	7	0	0	780
60	0	0	0	1	39	92	191	158	32	3	0	0	516
65	0	0	0	0	14	31	91	74	7	0	0	0	217
70	0	0	0	0	4	7	28	23	1	0	0	0	63

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	22	129	418	655	830	785	502	224	39	0	0	0	22	151	569	1224	2054	2839	3341	3565	3604	3604
45	0	0	9	72	287	506	675	630	356	129	12	0	0	0	9	81	368	874	1549	2179	2535	2664	2676	2676
50	0	0	0	35	179	361	520	475	229	65	4	0	0	0	0	35	214	575	1095	1570	1799	1864	1868	1868
55	0	0	0	16	101	233	369	322	127	28	0	0	0	0	0	16	117	350	719	1041	1168	1196	1196	1196
60	0	0	0	7	50	129	227	187	63	6	0	0	0	0	0	7	57	186	413	600	663	669	669	669
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	18	96	269	409	528	488	292	131	15	0	0	0	18	114	383	792	1320	1808	2100	2231	2246	2246

(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](http://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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)