

Climatography of the United States

No. 20

1971-2000

Station: WINTER, WI

COOP ID: 479304

Climate Division: WI 1

NWS Call Sign:

Elevation: 1,397 Feet Lat: 45°49N

Lon: 91°01W

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	19.7	-2.9	8.4	52	1973	26	20.2	1990	-43	1977	9	-3.5	1977	1757	0	.0	.0	.1	27.1	31.0	18.4
Feb	26.8	2.5	14.7	60	2000	29	30.7	1998	-39+	1996	3	3.2	1989	1410	0	.0	.0	.6	19.1	27.8	13.2
Mar	37.8	14.1	26.0	73	2000	8	35.2	1973	-38	1962	1	17.3	1996	1209	0	.0	.0	4.1	10.4	29.0	5.9
Apr	52.8	26.8	39.8	88+	1980	22	45.8	1998	-3	1975	1	33.6	1975	756	0	.0	.0	17.5	1.5	21.1	.2
May	66.9	37.5	52.2	90+	1959	3	59.9	1977	4	2000	26	46.5	1997	412	15	.0	.0	28.9	.0	7.8	.0
Jun	74.5	47.5	61.0	93+	1988	12	65.9	1991	26	1949	8	55.3	1982	158	38	.0	.3	29.9	.0	.7	.0
Jul	78.6	52.8	65.7	98	1988	16	69.7	1999	33+	1969	1	60.1	1992	61	82	.0	.8	31.0	.0	.0	.0
Aug	76.2	50.3	63.3	95+	1964	3	68.1	1995	29	1964	14	58.2	1977	114	60	.0	.4	31.0	.0	.1	.0
Sep	67.0	41.8	54.4	94	1976	8	60.8	1998	19	1949	29	48.1	1974	324	6	.0	@	29.0	.0	3.9	.0
Oct	55.3	30.7	43.0	85+	1992	3	49.7	1971	6	1976	27	37.2	1976	681	0	.0	.0	20.6	.3	17.2	.0
Nov	38.0	20.0	29.0	71+	1990	2	36.4	1999	-27	1976	28	20.3	1995	1081	0	.0	.0	4.5	10.7	27.2	1.5
Dec	24.3	4.5	14.4	60+	1998	3	24.1	1997	-35+	1983	19	2.7	1983	1570	0	.0	.0	.3	24.3	30.9	12.4
Ann	51.5	27.1	39.3	98	Jul 1988	16	69.7	Jul 1999	-43	Jan 1977	9	-3.5	Jan 1977	9533	201	.0	1.5	197.5	93.4	196.7	51.6

+ 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

Issue Date: February 2004

(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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No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: WINTER, WI

COOP ID: 479304

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NWS Call Sign:

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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	1.13	.93	2.45	1996	19	3.57	1996	.05	1981	9.5	3.7	.4	.1	.18	.28	.44	.59	.76	.93	1.13	1.38	1.70	2.24	2.75
Feb	.78	.63	1.63	1998	27	2.62	1998	.08	1997	6.7	2.4	.2	@	.11	.17	.28	.39	.50	.63	.78	.96	1.20	1.60	1.99
Mar	1.79	1.41	1.94	1996	25	3.83	1991	.34	1978	9.2	4.5	1.0	.3	.42	.59	.85	1.09	1.32	1.56	1.84	2.16	2.59	3.27	3.91
Apr	2.27	2.40	1.75	1954	26	4.13	1985	.52	1988	9.9	6.0	1.2	.2	.70	.92	1.24	1.51	1.78	2.05	2.36	2.71	3.17	3.89	4.56
May	3.10	2.79	3.19	1953	21	6.33	1999	.62	1994	11.2	6.9	2.1	.7	1.02	1.31	1.74	2.11	2.47	2.83	3.24	3.71	4.31	5.25	6.11
Jun	4.13	3.94	2.93	1968	21	7.48	1993	1.68	1997	13.8	8.3	2.6	.9	1.82	2.19	2.70	3.12	3.51	3.90	4.33	4.81	5.43	6.36	7.20
Jul	5.09	5.14	6.87	1958	1	9.75	1982	1.80	1998	12.2	7.7	2.9	1.1	2.03	2.50	3.16	3.71	4.23	4.76	5.33	5.99	6.83	8.11	9.27
Aug	4.43	4.40	3.15	1983	3	8.30	1980	1.24	1976	12.8	7.9	2.9	1.0	1.73	2.15	2.73	3.21	3.67	4.14	4.64	5.23	5.97	7.11	8.14
Sep	4.49	3.87	4.20	1994	15	10.95	1994	1.45	1998	13.5	8.2	2.5	1.1	1.38	1.81	2.45	2.99	3.52	4.07	4.67	5.38	6.29	7.71	9.03
Oct	2.91	2.56	3.64	1973	9	6.55	1995	.46	1976	11.1	5.9	1.7	.7	.97	1.25	1.65	1.99	2.32	2.66	3.03	3.47	4.02	4.89	5.69
Nov	2.06	1.74	2.08	1975	10	7.37	1991	.22	1981	10.2	4.6	1.3	.2	.40	.58	.88	1.16	1.44	1.75	2.09	2.51	3.06	3.94	4.79
Dec	1.06	1.10	1.60	1965	12	2.70	1996	.18	1999	9.3	3.5	.4	@	.21	.31	.47	.61	.75	.91	1.08	1.30	1.57	2.02	2.44
Ann	33.24	32.76	6.87	Jul 1958	1	10.95	Sep 1994	.05	Jan 1981	129.4	69.6	19.2	6.3	22.62	24.64	27.25	29.24	31.02	32.75	34.54	36.52	38.94	42.46	45.53

+ 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

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Station: WINTER, WI

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Climate Division: WI 1

NWS Call Sign:

Elevation: 1,397 Feet

Lat: 45°49N

Lon: 91°01W

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	15.9	16.0	14	16	15.0	1982	23	36.4	1971	30+	1982	26	23	1988	9.7	5.1	2.0	.8	.1	-9.9	-9.9	-9.9	-9.9
Feb	9.9	9.0	16	16	12.0	1971	5	27.2	1971	39	1971	6	29	1971	6.5	3.1	1.0	.3	@	-9.9	-9.9	-9.9	-9.9
Mar	9.1	7.5	9	5	16.0	1996	25	26.8	1976	32	1972	6	22	1979	5.4	2.8	1.0	.5	@	21.5	19.4	17.0	15.1
Apr	3.3	1.7	2	#	7.0	1992	11	13.6	1983	22	1975	1	10	1975	2.3	1.3	.4	.2	.0	5.1	3.9	3.7	2.7
May	.2	.0	#	0	4.5	1979	5	4.5	1979	5	1979	5	#+	1997	.1	@	@	.0	.0	.1	.1	.1	.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	.5	1995	22	.5	1995	0	0	0	0	0	@	.0	.0	.0	.0	.0	.0	.0	.0
Oct	.8	.0	#	0	4.5	1982	20	4.5+	1986	5	1982	20	1	1982	.6	.2	.1	.0	.0	.6	.3	.1	.0
Nov	7.4	6.1	1	#	18.0	1991	30	28.5	1991	10	1975	25	4	1975	4.9	2.3	.9	.3	.1	7.3	3.3	1.7	.3
Dec	12.1	13.0	6	5	14.0	1982	28	25.1	1996	17+	1978	31	13	1983	8.4	4.1	1.3	.2	@	25.1	20.3	15.7	4.8
Ann	58.7	53.3	N/A	N/A	18.0	Nov 1991	30	36.4	Jan 1971	39	Feb 1971	6	29	Feb 1971	37.9	18.9	6.7	2.3	.2	-9.9	-9.9	-9.9	-9.9

+ 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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Lat: 45° 49N

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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	6/27	6/21	6/18	6/14	6/11	6/08	6/05	6/01	5/27
32	6/14	6/09	6/05	6/02	5/30	5/27	5/24	5/21	5/16
28	6/02	5/27	5/23	5/20	5/17	5/13	5/10	5/06	4/30
24	5/17	5/12	5/08	5/04	5/01	4/28	4/24	4/20	4/14
20	5/01	4/26	4/22	4/19	4/16	4/13	4/10	4/07	4/02
16	4/19	4/15	4/12	4/10	4/08	4/06	4/03	4/01	3/28
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	8/20	8/25	8/29	9/01	9/04	9/07	9/11	9/14	9/20
32	9/02	9/07	9/10	9/13	9/16	9/19	9/22	9/25	9/30
28	9/20	9/24	9/27	9/29	10/01	10/03	10/06	10/08	10/12
24	9/26	10/01	10/05	10/07	10/10	10/13	10/16	10/19	10/24
20	10/11	10/15	10/19	10/22	10/25	10/28	10/31	11/03	11/08
16	10/20	10/25	10/28	10/31	11/03	11/06	11/08	11/12	11/16
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	110	101	95	89	84	79	74	67	58
32	127	120	116	112	108	104	100	96	89
28	155	149	144	140	137	133	130	125	119
24	181	175	170	166	162	158	154	149	142
20	210	203	198	195	191	187	183	178	172
16	226	220	216	212	208	205	201	196	190

* 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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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	1757	1410	1209	756	412	158	61	114	324	681	1081	1570	9533
60	1602	1270	1054	607	283	75	12	43	196	528	931	1415	8016
57	1509	1186	961	520	218	42	4	19	134	439	841	1322	7195
55	1447	1130	899	463	180	27	0	11	100	381	781	1260	6679
50	1292	990	745	329	101	7	0	1	39	252	632	1105	5493
32	747	519	270	38	2	0	0	0	0	16	186	577	2355

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	14	33	83	272	629	870	1044	969	672	358	95	30	5069
55	0	0	0	7	93	206	331	266	82	11	0	0	996
57	0	0	0	4	70	161	273	213	56	6	0	0	783
60	0	0	0	1	42	105	188	144	28	2	0	0	510
65	0	0	0	0	15	38	82	60	6	0	0	0	201
70	0	0	0	0	4	9	20	15	0	0	0	0	48

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	16	126	414	651	812	746	448	171	25	0	0	1	17	143	557	1208	2020	2766	3214	3385	3410	3410
45	0	0	5	65	281	501	657	591	308	87	7	0	0	0	5	70	351	852	1509	2100	2408	2495	2502	2502
50	0	0	1	30	171	354	502	436	191	38	0	0	0	0	1	31	202	556	1058	1494	1685	1723	1723	1723
55	0	0	0	11	90	222	349	287	101	15	0	0	0	0	0	11	101	323	672	959	1060	1075	1075	1075
60	0	0	0	3	41	116	203	157	43	1	0	0	0	0	0	3	44	160	363	520	563	564	564	564
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	1	15	99	274	406	516	465	271	118	12	0	0	1	16	115	389	795	1311	1776	2047	2165	2177	2177

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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