

Climatology of the United States

No. 20

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

Station: FORT ATKINSON, WI

1971-2000

COOP ID: 472869

Climate Division: WI 8

NWS Call Sign:

Elevation: 800 Feet

Lat: 42° 54N

Lon: 88° 51W

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	25.9	7.5	16.7	58+	1996	19	28.3	1990	-33	1951	30	2.5	1977	1498	0	.0	.0	.5	20.8	30.4	10.0
Feb	31.2	12.7	22.0	67	1999	12	34.4	1998	-39	1996	3	9.8	1979	1206	0	.0	.0	1.4	14.3	26.8	6.1
Mar	43.0	24.2	33.6	83	1986	30	42.0	2000	-21	1962	1	26.5	1978	974	0	.0	.0	8.5	5.1	24.3	.9
Apr	56.8	35.6	46.2	90	1980	23	52.9	1977	-4	1979	6	40.7	1975	565	1	.0	@	21.7	.3	11.0	@
May	69.5	46.2	57.9	93	1978	28	65.7	1977	25+	1966	10	51.5	1997	261	40	.0	.6	30.4	.0	1.2	.0
Jun	79.3	55.9	67.6	101	1988	21	72.1	1971	35+	1988	10	62.1	1982	45	122	@	3.3	30.0	.0	.0	.0
Jul	83.0	60.5	71.8	102	1988	16	76.5	1999	39	1965	6	67.1	1992	8	218	@	5.5	31.0	.0	.0	.0
Aug	80.4	58.0	69.2	102	1988	2	75.7	1995	37	1986	28	64.6	1986	38	168	.1	2.7	31.0	.0	.0	.0
Sep	72.7	48.9	60.8	98+	1978	9	65.9	1971	28+	1991	27	56.1	1975	159	33	.0	.9	30.0	.0	.9	.0
Oct	60.8	38.0	49.4	88+	1975	14	58.9	1971	11+	1988	31	42.7+	1987	489	6	.0	.0	26.5	.0	8.7	.0
Nov	44.6	27.2	35.9	78	1999	9	43.2	1999	-10	1950	25	27.9	1976	873	0	.0	.0	10.4	3.9	21.0	.3
Dec	31.2	14.7	23.0	67	2001	6	31.2	1998	-29	1983	25	10.6	1983	1303	0	.0	.0	1.6	15.0	29.0	5.2
Ann	56.5	35.8	46.2	102+	Aug 1988	2	76.5	Jul 1999	-39	Feb 1996	3	2.5	Jan 1977	7419	588	.1	13.0	223.0	59.4	153.3	22.5

+ 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

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

034-A

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Elevation: 800 Feet Lat: 42°54N

Lon: 88°51W

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	1.39	1.27	1.29	1988	20	3.78	1979	.15	1981	8.6	4.3	.6	.1	.32	.44	.65	.83	1.01	1.21	1.42	1.68	2.02	2.56	3.07
Feb	1.32	1.27	1.65	2001	9	3.13	1986	.05	1987	7.1	3.7	.6	.1	.12	.21	.39	.57	.77	1.00	1.27	1.61	2.08	2.86	3.62
Mar	2.10	2.10	2.14	1998	31	4.91	1976	.39	1980	8.9	5.0	1.3	.3	.49	.68	.99	1.26	1.54	1.83	2.16	2.54	3.06	3.87	4.63
Apr	3.42	3.11	2.70	1982	3	7.25	1973	1.42+	1994	11.1	7.3	2.2	.6	1.34	1.66	2.11	2.48	2.84	3.19	3.58	4.03	4.60	5.47	6.27
May	3.25	3.22	2.47	1970	13	7.11	2000	.87	1981	11.2	7.1	2.2	.6	.86	1.16	1.63	2.05	2.45	2.88	3.36	3.92	4.65	5.80	6.88
Jun	3.79	3.76	3.21	1950	13	7.18	1993	.57	1987	10.4	6.5	2.5	.9	1.14	1.50	2.03	2.50	2.95	3.42	3.94	4.54	5.33	6.56	7.69
Jul	3.92	3.79	4.11	1962	3	8.21	1995	1.26+	1988	9.6	6.3	2.5	1.1	1.41	1.78	2.31	2.76	3.18	3.62	4.09	4.65	5.35	6.44	7.43
Aug	4.16	3.64	2.79	1958	21	8.34	1980	1.28	1973	9.8	7.0	3.0	1.2	1.57	1.96	2.52	2.98	3.42	3.87	4.35	4.92	5.63	6.74	7.74
Sep	3.41	3.25	4.47	1961	14	9.05	1986	.65	1976	9.5	6.1	2.2	1.0	.65	.96	1.46	1.92	2.39	2.89	3.47	4.16	5.07	6.54	7.94
Oct	2.56	2.36	2.57	1951	21	6.50	1984	.26	1975	8.7	5.2	1.7	.6	.47	.69	1.07	1.42	1.77	2.15	2.59	3.12	3.82	4.95	6.03
Nov	2.49	2.31	2.67	1984	1	5.64	1985	.24	1976	9.6	5.4	1.9	.3	.59	.82	1.19	1.51	1.83	2.18	2.56	3.02	3.62	4.57	5.47
Dec	1.65	1.59	1.80	1971	15	3.91	1971	.19	1989	9.0	4.4	.7	.2	.32	.47	.71	.93	1.16	1.40	1.68	2.01	2.44	3.15	3.81
Ann	33.46	33.82	4.47	Sep 1961	14	9.05	Sep 1986	.05	Feb 1987	113.5	68.3	21.4	7.0	26.15	27.62	29.47	30.85	32.06	33.23	34.42	35.73	37.30	39.55	41.47

+ 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

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NWS Call Sign:

Elevation: 800 Feet

Lat: 42° 54N

Lon: 88° 51W

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	11.3	9.9	5	4	12.0	1971	4	39.0	1979	39	1979	19	22	1979	6.3	4.4	1.6	.4	.1	21.0	14.6	10.4	2.4
Feb	6.5	6.4	4	3	10.0	1983	3	17.0	1974	21	1979	21	18	1979	3.9	2.6	.8	.2	@	16.4	11.7	6.8	1.0
Mar	5.2	3.5	1	#	14.0	1971	19	22.0	1972	16	1979	2	7	1979	2.8	1.8	.6	.2	.1	5.8	2.7	1.1	.2
Apr	1.9	.0	#	0	10.0	1973	10	16.0	1973	14	1973	10	2	1973	.7	.6	.2	.1	@	.8	.3	@	.0
May	.2	.0	#	0	3.5	1994	1	3.5	1994	4	1994	1	#+	1994	.1	.1	@	.0	.0	.1	.1	.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	.7	1997	27	.7	1997	1+	1997	27	#+	1997	.1	.0	.0	.0	.0	.1	.0	.0	.0
Nov	3.0	1.3	#	#	8.4	1995	28	14.3	1995	11	1977	29	2	1995	1.7	1.0	.3	.1	.0	2.6	.8	.3	.0
Dec	9.6	7.7	2	1	8.0	1987	16	32.5	2000	17	2000	31	10	2000	5.6	3.1	1.2	.2	.0	13.8	6.3	2.8	1.0
Ann	37.8	28.8	N/A	N/A	14.0	Mar 1971	19	39.0	Jan 1979	39	Jan 1979	19	22	Jan 1979	21.2	13.6	4.7	1.2	.2	60.6	36.5	21.4	4.6

+ 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

Complete documentation available from:

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NWS Call Sign:

Elevation: 800 Feet

Lat: 42° 54N

Lon: 88° 51W

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	6/05	5/30	5/26	5/23	5/19	5/16	5/12	5/08	5/02
32	5/21	5/16	5/12	5/09	5/06	5/03	4/30	4/26	4/21
28	5/10	5/03	4/29	4/25	4/21	4/17	4/13	4/09	4/02
24	4/18	4/14	4/12	4/10	4/08	4/06	4/04	4/02	3/29
20	4/14	4/08	4/04	4/01	3/29	3/26	3/22	3/18	3/13
16	4/08	4/02	3/28	3/24	3/21	3/17	3/14	3/09	3/03
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	9/14	9/18	9/21	9/23	9/26	9/28	9/30	10/03	10/07
32	9/21	9/25	9/28	10/01	10/03	10/05	10/08	10/11	10/15
28	9/26	10/03	10/07	10/11	10/15	10/18	10/22	10/27	11/02
24	10/13	10/19	10/23	10/26	10/29	11/01	11/04	11/08	11/13
20	10/19	10/25	10/30	11/03	11/06	11/10	11/14	11/18	11/25
16	11/04	11/09	11/13	11/17	11/20	11/23	11/26	11/30	12/06
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	151	143	138	133	129	125	120	115	107
32	169	162	157	153	149	145	141	136	129
28	202	193	187	181	176	171	165	159	150
24	222	215	211	207	203	199	195	191	184
20	249	240	233	227	222	216	211	204	195
16	269	260	254	248	243	238	232	226	217

* 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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NWS Call Sign:

Elevation: 800 Feet Lat: 42°54N Lon: 88°51W

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	1498	1206	974	565	261	45	8	38	159	489	873	1303	7419
60	1343	1066	819	420	159	12	0	9	71	349	723	1148	6119
57	1250	982	726	338	111	5	0	3	39	274	634	1055	5417
55	1188	926	665	288	84	2	0	0	24	229	575	993	4974
50	1033	788	520	176	37	0	0	0	5	136	433	840	3968
32	520	349	128	6	0	0	0	0	0	5	78	359	1445

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	45	67	177	431	802	1067	1233	1153	865	544	195	79	6658
55	0	0	1	23	173	380	520	440	199	55	2	0	1793
57	0	0	0	14	138	322	458	381	153	38	1	0	1505
60	0	0	0	6	93	239	365	294	96	20	0	0	1113
65	0	0	0	1	40	122	218	168	33	6	0	0	588
70	0	0	0	0	13	44	99	79	6	0	0	0	241

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	5	65	244	575	843	995	917	644	328	77	6	0	5	70	314	889	1732	2727	3644	4288	4616	4693	4699
45	0	0	32	145	423	693	840	762	495	207	34	2	0	0	32	177	600	1293	2133	2895	3390	3597	3631	3633
50	0	0	14	80	284	543	685	607	353	118	15	0	0	0	14	94	378	921	1606	2213	2566	2684	2699	2699
55	0	0	3	39	171	395	530	453	227	56	3	0	0	0	3	42	213	608	1138	1591	1818	1874	1877	1877
60	0	0	1	17	93	253	377	302	127	25	0	0	0	0	1	18	111	364	741	1043	1170	1195	1195	1195
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	2	42	153	351	540	666	600	401	203	44	3	0	2	44	197	548	1088	1754	2354	2755	2958	3002	3005

(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 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.

- | | |
|---|---|
| <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