

# 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: FAIRCHILD RANGER STA, WI

1971-2000

COOP ID: 472678

Climate Division: WI 4

NWS Call Sign:

Elevation: 1,080 Feet Lat: 44° 36N

Lon: 90° 58W

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	19.8	.8	10.3	55	1981	26	22.5	1990	-35	1977	9	-2.3	1977	1696	0	.0	.0	.1	25.1	30.9	14.9
Feb	27.2	7.0	17.1	58	1981	19	29.2	1998	-35+	1996	5	6.4	1989	1341	0	.0	.0	.6	17.3	27.7	9.5
Mar	39.2	20.0	29.6	81	1986	30	39.1	2000	-28	1962	1	21.6	1975	1097	0	.0	.0	5.9	8.3	26.5	2.9
Apr	54.7	33.6	44.2	90	1980	22	50.8	1977	2	1969	1	37.6	1975	626	1	.0	@	19.7	.5	14.4	.0
May	67.8	45.4	56.6	93	1972	20	65.0	1977	20+	1967	3	50.5	1983	298	36	.0	.1	29.9	.0	2.4	.0
Jun	76.3	54.0	65.2	100	1985	9	69.9	1991	29	1972	10	60.4	1982	82	86	@	1.4	30.0	.0	@	.0
Jul	80.3	58.8	69.6	103+	1995	14	74.2	1983	38	1972	4	62.5	1992	26	166	@	2.8	31.0	.0	.0	.0
Aug	78.1	56.7	67.4	104	1964	3	72.8	1983	35	1976	30	63.5	1992	51	125	.1	1.6	31.0	.0	.0	.0
Sep	69.1	47.0	58.1	95	1976	8	63.5	1998	21	1967	29	52.9	1974	225	16	.0	.2	29.4	.0	1.4	.0
Oct	56.9	35.8	46.4	92	1976	2	53.0	1971	10	1976	27	39.8	1988	578	0	.0	@	23.1	.2	11.4	.0
Nov	39.5	23.2	31.4	73+	2000	2	40.4	1999	-13	1985	29	23.9	1995	1009	0	.0	.0	6.5	7.4	24.1	1.0
Dec	24.6	7.7	16.2	63	2001	6	27.3	1997	-30	1983	19	4.8	1989	1514	0	.0	.0	.4	21.8	30.3	8.8
Ann	52.8	32.5	42.7	104	Aug 1964	3	74.2	Jul 1983	-35+	Feb 1996	5	-2.3	Jan 1977	8543	430	.1	6.1	207.6	80.6	169.1	37.1

+ 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: 1948-2001

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

032-A

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**Climate Division: WI 4**

**NWS Call Sign:**

**Elevation: 1,080 Feet Lat: 44°36N**

**Lon: 90°58W**

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	1.14	.96	.90	1969	24	2.46	1996	.04	1981	7.4	3.5	.4	.0	.22	.32	.49	.64	.80	.97	1.16	1.39	1.70	2.18	2.65
Feb	.84	.71	1.10	1951	26	2.50	1981	.05	1987	5.5	2.8	.3	@	.15	.22	.34	.46	.57	.70	.85	1.02	1.26	1.64	2.00
Mar	1.97	1.97	1.90	1973	11	4.31	1977	.26	1978	7.3	4.3	1.2	.2	.42	.61	.90	1.16	1.42	1.70	2.02	2.40	2.89	3.69	4.44
Apr	2.95	2.93	2.30	1982	3	5.31	1999	.41	1997	10.4	6.4	1.9	.4	1.04	1.32	1.72	2.06	2.39	2.72	3.08	3.50	4.04	4.87	5.63
May	3.58	3.26	4.00	1955	29	8.35	1979	1.25	1985	10.4	7.0	2.2	.6	1.28	1.61	2.10	2.51	2.90	3.30	3.74	4.25	4.90	5.90	6.82
Jun	4.35	4.20	3.38	1950	13	8.41	2000	.74	1983	10.5	7.3	2.7	.9	1.28	1.69	2.31	2.85	3.37	3.91	4.51	5.22	6.13	7.56	8.89
Jul	4.39	3.60	4.40	2000	9	10.71	1999	1.03	1975	9.5	6.8	2.7	1.0	1.24	1.65	2.28	2.83	3.37	3.93	4.55	5.28	6.22	7.71	9.10
Aug	4.48	3.98	4.75	1980	8	11.37	1980	1.27	1976	9.7	6.6	2.7	1.1	1.65	2.07	2.68	3.18	3.66	4.15	4.69	5.31	6.10	7.32	8.44
Sep	4.24	3.59	4.41	1980	12	11.54	1986	.60	1979	10.1	6.5	2.5	1.0	.84	1.22	1.85	2.42	2.99	3.61	4.31	5.16	6.27	8.06	9.76
Oct	2.52	2.28	4.26	1966	15	6.15	1979	.23	1976	8.6	5.3	1.3	.5	.49	.72	1.09	1.43	1.77	2.14	2.56	3.07	3.74	4.82	5.85
Nov	2.25	2.10	2.58	1975	10	7.09	1991	.00	1976	7.9	4.6	1.4	.2	.28	.56	.94	1.26	1.59	1.93	2.32	2.78	3.39	4.36	5.29
Dec	1.23	1.22	1.31	1982	28	3.21	1982	.12	1979	7.8	4.0	.4	@	.19	.29	.47	.64	.82	1.01	1.23	1.51	1.87	2.46	3.03
Ann	33.94	35.25	4.75	Aug 1980	8	11.54	Sep 1986	.00	Nov 1976	105.1	65.1	19.7	5.9	24.59	26.41	28.74	30.50	32.06	33.57	35.13	36.84	38.92	41.93	44.52

+ 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:  
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COOP ID: 472678

Climate Division: WI 4

NWS Call Sign:

Elevation: 1,080 Feet

Lat: 44° 36N

Lon: 90° 58W

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	10.2	9.8	10	9	12.0	1996	29	18.9	1971	28	1979	31	20	1979	5.8	3.9	1.0	.6	.1	30.0	28.1	24.3	13.5
Feb	7.4	7.2	11	9	9.5	1971	5	17.0	1971	33	1979	14	28	1971	3.9	2.7	.7	.2	.0	27.5	24.9	21.0	15.1
Mar	8.4	9.4	6	3	12.5	1985	4	22.0	1985	28	1986	2	19	1971	3.5	2.4	.8	.5	@	21.1	17.3	13.1	8.1
Apr	2.7	1.8	#	#	7.0	1993	16	10.5	1973	10	1975	4	3	1975	1.6	1.3	.3	.1	.0	3.1	1.5	.8	.1
May	.0	.0	#	0	1.2	1997	1	1.2	1997	1	1997	1	#	1997	@	@	.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	.3	.0	#	0	4.6	1992	20	4.6	1992	5	1992	20	#+	2000	.2	.2	.1	.0	.0	.3	.1	.1	.0
Nov	6.5	3.1	1	#	7.1	1983	29	18.5	1985	16	1991	27	6	1991	2.4	1.6	.8	.2	.0	3.5	2.0	1.4	.3
Dec	13.1	13.2	5	4	8.0	1984	3	23.0	1985	25	1985	31	22	1985	5.8	3.9	1.0	.4	.0	22.6	19.2	14.9	7.4
Ann	48.6	44.5	N/A	N/A	12.5	Mar 1985	4	23.0	Dec 1985	33	Feb 1979	14	28	Feb 1971	23.2	16.0	4.7	2.0	.1	108.1	93.1	75.6	44.5

+ 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

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**Climate Division: WI 4**

**NWS Call Sign:**

**Elevation: 1,080 Feet**

**Lat: 44°36N**

**Lon: 90°58W**

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	6/11	6/05	6/01	5/28	5/25	5/21	5/18	5/14	5/08
32	5/28	5/23	5/19	5/15	5/12	5/09	5/05	5/01	4/26
28	5/09	5/04	4/30	4/27	4/24	4/20	4/17	4/13	4/08
24	4/29	4/25	4/21	4/18	4/15	4/13	4/10	4/06	4/01
20	4/14	4/11	4/09	4/06	4/04	4/02	3/31	3/29	3/25
16	4/12	4/08	4/05	4/02	3/31	3/28	3/25	3/22	3/18
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	9/07	9/11	9/14	9/16	9/18	9/21	9/23	9/26	9/30
32	9/18	9/22	9/25	9/27	9/29	10/01	10/04	10/06	10/10
28	9/22	9/28	10/02	10/05	10/08	10/11	10/14	10/18	10/23
24	10/05	10/10	10/14	10/18	10/21	10/24	10/28	11/01	11/06
20	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/11	11/16
16	10/26	10/31	11/04	11/07	11/10	11/13	11/16	11/20	11/25
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	135	128	124	120	116	112	108	103	97
32	157	151	146	143	139	136	132	128	122
28	190	182	176	171	167	162	157	151	143
24	209	202	197	192	188	184	179	174	167
20	228	222	217	214	210	207	203	199	192
16	246	238	233	228	223	219	214	209	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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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	1696	1341	1097	626	298	82	26	51	225	578	1009	1514	8543
60	1541	1201	942	480	191	28	5	13	116	429	859	1359	7164
57	1448	1117	849	396	139	12	0	4	70	345	769	1266	6415
55	1386	1061	787	343	109	7	0	1	47	293	709	1204	5947
50	1231	921	638	225	52	1	0	0	13	181	564	1049	4875
32	691	454	202	14	0	0	0	0	0	8	155	531	2055

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	19	38	128	379	761	995	1164	1097	781	453	136	40	5991
55	0	0	0	18	157	311	451	386	138	25	0	0	1486
57	0	0	0	11	125	257	389	326	101	15	0	0	1224
60	0	0	0	5	84	183	301	242	57	6	0	0	878
65	0	0	0	1	36	86	166	125	16	0	0	0	430
70	0	0	0	0	13	27	74	49	2	0	0	0	165

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	36	206	536	763	928	867	564	250	40	3	0	0	36	242	778	1541	2469	3336	3900	4150	4190	4193
45	0	0	16	123	386	613	773	712	417	145	16	0	0	0	16	139	525	1138	1911	2623	3040	3185	3201	3201
50	0	0	6	64	256	465	618	557	281	70	3	0	0	0	6	70	326	791	1409	1966	2247	2317	2320	2320
55	0	0	1	31	150	325	464	402	168	30	0	0	0	0	1	32	182	507	971	1373	1541	1571	1571	1571
60	0	0	0	13	76	197	316	252	86	7	0	0	0	0	0	13	89	286	602	854	940	947	947	947
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	23	132	323	483	613	560	342	147	23	1	0	0	23	155	478	961	1574	2134	2476	2623	2646	2647

(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 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"><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)