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: MEDFORD, WI **COOP ID: 475255**

Climate Division: WI 2 **NWS Call Sign:** **Elevation: 1,470 Feet** **Lat: 45˚08N** **Lon: 90˚21W**

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	-.5	9.7	50+	1981	26	19.9	1990	-38+	1977	9	-1.4	1977	1718	0	.0	.0	.1	27.4	31.0	16.4
Feb	26.2	5.0	15.6	55+	1981	20	30.4	1998	-37+	1996	4	4.6	1989	1384	0	.0	.0	.3	19.6	27.8	11.0
Mar	36.9	18.3	27.6	74+	2000	8	36.6	1973	-40	1962	1	20.2	1975	1159	0	.0	.0	4.0	10.4	27.7	3.8
Apr	52.3	31.6	42.0	89	1952	29	48.1	1987	1+	1995	4	35.8	1975	691	0	.0	.0	17.4	1.1	17.1	.0
May	66.4	43.6	55.0	89	1959	2	63.2	1977	17	1966	9	49.2	1983	339	28	.0	.0	29.3	.0	3.9	.0
Jun	74.3	52.6	63.5	97	1988	25	68.7	1995	30+	1972	10	57.9	1982	111	65	.0	.5	30.0	.0	.1	.0
Jul	78.6	57.3	68.0	98+	1995	15	72.2	1983	38	1972	4	61.8	1992	38	129	.0	1.2	31.0	.0	.0	.0
Aug	76.5	55.5	66.0	98+	1988	17	70.8	1995	32	1974	30	61.7	1977	67	97	.0	.8	31.0	.0	@	.0
Sep	67.3	46.2	56.8	93	1976	8	63.0	1998	20	1967	29	51.2	1993	261	13	.0	.1	29.2	.0	2.2	.0
Oct	54.9	34.8	44.9	89	1976	2	51.9	1971	8	1976	27	39.0	1988	625	0	.0	.0	21.4	.3	14.1	.0
Nov	37.8	22.1	30.0	71	1978	4	37.6	1999	-19	1976	30	21.7	1995	1051	0	.0	.0	4.9	9.8	26.2	1.1
Dec	24.4	7.1	15.8	60	2001	6	23.5	1997	-29+	1990	26	4.7	1989	1527	0	.0	.0	.2	24.3	30.7	10.3
Ann	51.3	31.1	41.2	98+	Jul 1995	15	72.2	Jul 1983	-40	Mar 1962	1	-1.4	Jan 1977	8971	332	.0	2.6	198.8	92.9	180.8	42.6

\+ 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

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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	1.18	1.00	1.15	1982	23	2.93	1982	.08	1981
Feb	.91	.90	1.27+	1971	5	3.03	1971	.05	1987
Mar	1.84	2.00	1.72	1973	11	3.64	1977	.18	1978
Apr	2.51	2.41	2.07	1958	6	4.69	1977	.81	1997
May	3.16	2.99	2.56	1968	16	7.18	1973	.65	1986
Jun	4.44	4.10	3.63	1980	6	10.37	1980	1.04	1983
Jul	3.97	3.74	4.77	1959	8	9.20	1972	1.47	1974
Aug	4.68	4.63	3.75	2000	15	9.45	1995	.79	1976
Sep	4.50	4.25	4.04	1982	13	10.36	1986	.67	1979
Oct	2.60	2.26	2.20	1982	20	6.44	1995	.27	1976
Nov	2.13	1.98	2.30	1996	16	6.57	1991	.27	1976
Dec	1.28	1.29	1.62	1965	12	3.28	1972	.38	1997
Ann	33.20	32.40	4.77	Jul 1959	8	10.37	Jun 1980	.05	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.5	4.3	.3	@
Feb	6.4	2.9	.3	@
Mar	8.4	4.9	1.0	.3
Apr	10.1	6.4	1.3	.4
May	10.9	6.6	2.2	.5
Jun	11.0	7.5	3.1	1.1
Jul	11.0	7.9	2.8	1.0
Aug	10.6	7.5	3.1	1.3
Sep	11.9	7.6	2.9	1.2
Oct	9.5	5.7	1.6	.6
Nov	10.1	5.1	1.1	.4
Dec	9.2	4.7	.3	@
Ann	117.6	71.1	20.0	6.8

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	.19	.30	.47	.63	.80	.98	1.18	1.44	1.77	2.32	2.84
Feb	.10	.17	.29	.42	.55	.71	.89	1.11	1.41	1.91	2.41
Mar	.35	.51	.78	1.03	1.29	1.56	1.87	2.25	2.74	3.54	4.30
Apr	.97	1.20	1.53	1.81	2.07	2.34	2.62	2.96	3.38	4.03	4.62
May	1.08	1.38	1.82	2.19	2.54	2.90	3.30	3.77	4.36	5.28	6.13
Jun	1.30	1.73	2.36	2.91	3.44	3.99	4.61	5.33	6.26	7.72	9.08
Jul	1.41	1.78	2.33	2.78	3.22	3.66	4.15	4.71	5.44	6.56	7.58
Aug	1.69	2.13	2.77	3.30	3.81	4.33	4.89	5.55	6.39	7.69	8.88
Sep	1.37	1.80	2.44	2.99	3.52	4.07	4.68	5.40	6.32	7.76	9.10
Oct	.66	.91	1.28	1.62	1.95	2.30	2.69	3.15	3.75	4.70	5.59
Nov	.47	.66	.97	1.26	1.54	1.84	2.18	2.58	3.11	3.96	4.77
Dec	.33	.45	.63	.80	.96	1.13	1.33	1.55	1.85	2.32	2.75
Ann	23.07	25.01	27.51	29.42	31.11	32.76	34.46	36.34	38.63	41.96	44.84

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	12.2	10.8	10	10
Feb	7.4	6.0	13	11
Mar	9.1	9.0	7	3
Apr	1.8	1.0	1	#
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.4	.0	#	0
Nov	3.8	2.8	1	#
Dec	12.3	11.4	5	4
Ann	47.0	41.0	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	10.0	1982	23	34.8	1982	40	1982	25	23	1982
Feb	12.0	1971	5	21.0	1971	42	1971	15	38	1971
Mar	9.5	1979	24	24.5	1989	48	1972	9	35	1972
Apr	5.0	1982	20	8.0	1982	20	1975	1	6	1975
May	#	1976	2	#+	1976	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	3.0	1990	18	3.0	1990	2	1986	14	#+	1988
Nov	6.0	1985	28	10.5	1978	11	1985	30	3	1985
Dec	5.5	1984	2	24.5	1972	18	1978	31	13	1983
Ann	12.0	Feb 1971	5	34.8	Jan 1982	48	Mar 1972	9	38	Feb 1971

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	6.8	4.8	1.6	.5	.1
Feb	4.5	2.6	.7	.2	@
Mar	3.9	2.9	1.0	.4	.0
Apr	1.0	.6	.3	@	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.2	.2	@	.0	.0
Nov	2.5	1.8	.4	.1	.0
Dec	6.6	4.9	1.1	.2	.0
Ann	25.5	17.8	5.1	1.4	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	30.5	27.4	23.5	15.2
Feb	26.9	25.2	22.6	17.2
Mar	16.9	13.5	11.8	10.0
Apr	2.7	1.9	1.3	.8
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.1	.0	.0	.0
Nov	5.4	2.1	1.3	.2
Dec	25.6	19.2	14.0	4.2
Ann	108.1	89.3	74.5	47.6

+ 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

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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	6/14	6/09	6/06	6/03	6/01	5/29	5/26	5/23	5/18
32	6/01	5/27	5/23	5/19	5/16	5/13	5/09	5/05	4/29
28	5/14	5/10	5/07	5/05	5/02	4/30	4/27	4/24	4/20
24	5/02	4/27	4/24	4/21	4/18	4/15	4/12	4/08	4/03
20	4/23	4/19	4/16	4/13	4/11	4/08	4/06	4/03	3/29
16	4/17	4/13	4/09	4/07	4/04	4/01	3/30	3/26	3/22

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	9/04	9/08	9/10	9/12	9/15	9/17	9/19	9/21	9/25
32	9/11	9/16	9/19	9/21	9/23	9/26	9/28	10/01	10/06
28	9/22	9/26	9/29	10/02	10/04	10/06	10/09	10/12	10/16
24	10/01	10/06	10/10	10/13	10/16	10/19	10/22	10/26	10/31
20	10/15	10/20	10/23	10/26	10/29	10/31	11/03	11/06	11/11
16	10/25	10/30	11/02	11/05	11/08	11/10	11/13	11/17	11/21

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	120	115	111	108	105	102	99	95	90
32	151	144	139	134	130	126	121	116	108
28	174	167	162	158	154	150	146	141	134
24	202	195	189	185	181	176	172	166	159
20	220	213	208	204	200	196	192	187	180
16	235	229	225	221	217	213	209	205	199

***** 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

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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	1718	1384	1159	691	339	111	38	67	261	625	1051	1527	8971
60	1563	1244	1004	545	225	45	8	18	146	473	901	1372	7544
57	1470	1160	911	460	168	22	1	6	93	386	811	1279	6767
55	1408	1104	849	405	136	13	0	3	66	330	751	1217	6282
50	1253	964	695	280	71	3	0	0	22	208	602	1062	5160
32	705	491	234	27	1	0	0	0	0	10	170	534	2172

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	10	30	98	326	713	943	1115	1053	742	407	109	31	5577
55	0	0	0	14	135	266	402	342	118	15	0	0	1292
57	0	0	0	9	106	215	341	284	85	8	0	0	1048
60	0	0	0	4	69	148	254	203	48	3	0	0	729
65	0	0	0	0	28	65	129	97	13	0	0	0	332
70	0	0	0	0	10	18	49	31	2	0	0	0	110

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	19	153	472	708	874	810	506	200	26	0	0	0	19	172	644	1352	2226	3036	3542	3742	3768	3768
45	0	0	7	83	328	558	719	655	364	109	9	0	0	0	7	90	418	976	1695	2350	2714	2823	2832	2832
50	0	0	1	42	207	410	564	500	235	51	1	0	0	0	1	43	250	660	1224	1724	1959	2010	2011	2011
55	0	0	0	14	115	273	410	347	131	19	0	0	0	0	0	14	129	402	812	1159	1290	1309	1309	1309
60	0	0	0	5	54	157	259	202	62	3	0	0	0	0	0	5	59	216	475	677	739	742	742	742
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	10	106	287	438	564	509	296	119	16	0	0	0	10	116	403	841	1405	1914	2210	2329	2345	2345

(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:
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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