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: NEW LONDON, WI **COOP ID: 475932**

Climate Division: WI 5 **NWS Call Sign:** **Elevation: 805 Feet** **Lat: 44˚21N** **Lon: 88˚43W**

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	24.3	4.7	14.5	53+	1973	25	25.3	1990	-33	1982	17	2.7	1977	1566	0	.0	.0	.1	22.9	30.9	12.0
Feb	29.5	9.4	19.5	60+	2000	27	30.2	1998	-32+	1996	3	8.4	1979	1277	0	.0	.0	.8	15.9	27.6	7.9
Mar	40.7	20.2	30.5	81	1986	31	39.4	2000	-35	1962	1	23.2	1975	1071	0	.0	.0	6.4	5.6	26.4	2.2
Apr	55.6	32.8	44.2	92	1980	22	50.3	1985	6	1954	3	37.6	1975	625	1	.0	@	20.6	.4	14.6	.0
May	69.1	44.8	57.0	92+	1978	27	64.6	1977	21	1966	9	49.5	1997	285	36	.0	.2	30.3	.0	2.3	.0
Jun	78.1	54.2	66.2	99	1987	14	70.9	1971	32	1949	8	60.1	1992	72	104	.0	2.5	30.0	.0	.0	.0
Jul	81.9	59.1	70.5	105	1995	14	74.7	1983	38	1948	1	64.3	1992	20	190	.1	4.6	31.0	.0	.0	.0
Aug	79.1	56.1	67.6	102+	1955	21	73.0	1995	35+	1987	24	61.4	1992	51	132	.0	2.1	31.0	.0	.0	.0
Sep	71.0	47.2	59.1	96	1955	9	63.4	1998	22+	1984	26	53.7	1993	194	17	.0	.6	29.9	.0	1.4	.0
Oct	58.8	36.5	47.7	90	1963	6	55.5	1971	11	1988	30	41.3	1988	539	1	.0	.0	25.6	.0	10.2	.0
Nov	42.3	24.9	33.6	74	1999	10	40.7	1999	-11	1950	25	25.5	1995	941	0	.0	.0	7.7	5.0	23.5	.4
Dec	28.8	11.8	20.3	63+	2001	5	28.6	1982	-27	1983	19	8.9	1985	1386	0	.0	.0	.6	17.5	30.2	6.4
Ann	54.9	33.5	44.2	105	Jul 1995	14	74.7	Jul 1983	-35	Mar 1962	1	2.7	Jan 1977	8027	481	.1	10.0	214.0	67.3	167.1	28.9

\+ 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	1.38	1.37	1.67	1988	20	2.88	1996	.09	1981
Feb	1.04	.93	1.41	1966	9	2.83	1981	.00+	1997
Mar	2.05	1.86	2.12	1998	31	4.98	1979	.23	1978
Apr	2.73	2.44	2.90	1994	25	5.68	1994	.57	1989
May	3.21	2.86	2.87	1954	31	8.30	1973	.95	1981
Jun	3.59	3.12	3.04	1990	21	8.73	1993	.00	1992
Jul	3.84	3.36	4.30	1982	11	9.42	1994	1.59	1998
Aug	4.06	3.29	2.89	1997	15	8.30	1980	.82	1976
Sep	3.18	2.87	3.60	1978	12	7.83	1986	.42	1976
Oct	2.34	2.23	2.61	1954	3	5.56	1995	.48+	2000
Nov	2.07	1.77	3.00	1992	21	5.37	1985	.05	1976
Dec	1.33	1.19	1.64	1959	28	3.58	1992	.15	1993
Ann	30.82	31.66	4.30	Jul 1982	11	9.42	Jul 1994	.00+	Feb 1997

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.0	4.0	.5	.1
Feb	7.2	3.2	.6	.1
Mar	8.6	4.9	1.4	.2
Apr	10.2	6.3	1.9	.3
May	10.6	6.8	2.0	.6
Jun	10.7	6.7	2.4	1.0
Jul	10.2	7.0	2.6	1.0
Aug	11.5	7.4	2.6	1.0
Sep	10.4	6.3	2.1	.7
Oct	8.3	5.1	1.6	.5
Nov	8.8	4.8	1.3	.3
Dec	9.3	4.1	.5	@
Ann	114.8	66.6	19.5	5.8

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	.28	.40	.60	.79	.98	1.18	1.40	1.68	2.04	2.62	3.17
Feb	.00	.00	.19	.38	.58	.79	1.03	1.33	1.73	2.38	3.02
Mar	.38	.56	.86	1.14	1.42	1.73	2.08	2.50	3.06	3.97	4.83
Apr	.92	1.18	1.56	1.88	2.18	2.50	2.85	3.25	3.77	4.57	5.31
May	1.05	1.35	1.80	2.18	2.55	2.93	3.35	3.84	4.47	5.44	6.35
Jun	.49	.96	1.56	2.07	2.58	3.11	3.71	4.42	5.36	6.85	8.25
Jul	1.42	1.78	2.29	2.73	3.14	3.56	4.02	4.55	5.23	6.27	7.23
Aug	1.13	1.51	2.10	2.61	3.10	3.63	4.20	4.88	5.77	7.16	8.46
Sep	.71	1.00	1.47	1.89	2.31	2.75	3.25	3.85	4.64	5.90	7.09
Oct	.61	.83	1.17	1.46	1.76	2.07	2.41	2.82	3.36	4.20	4.99
Nov	.29	.46	.76	1.05	1.35	1.68	2.06	2.53	3.17	4.20	5.20
Dec	.22	.33	.53	.71	.90	1.10	1.34	1.62	2.01	2.63	3.22
Ann	21.96	23.68	25.87	27.54	29.02	30.46	31.94	33.57	35.55	38.43	40.91

\+ 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: 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	11.3	9.2	8	7
Feb	7.7	9.0	9	8
Mar	7.8	9.0	4	1
Apr	2.2	.2	#	#
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	.2	.0	#	0
Nov	3.7	2.5	#	#
Dec	10.7	9.2	3	2
Ann	43.6	39.1	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	14.0	1996	27	23.8	1982	31	1982	31	21	1982
Feb	8.0	1983	3	16.0	1975	31	1982	14	22	1979
Mar	17.0	1997	14	19.3	1972	22	1972	11	14	1972
Apr	9.0	1977	5	12.0	1977	11	1977	5	2	1975
May	.3	1997	1	.3	1997	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	2.0	1979	23	2.0	1979	2+	1992	20	#+	1992
Nov	6.0	1986	20	13.0	1985	8	1986	20	2	1986
Dec	7.0	1971	1	18.5+	1977	21	1985	27	17	1985
Ann	17.0	Mar 1997	14	23.8	Jan 1982	31+	Feb 1982	14	22	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.9	4.3	1.3	.5	.1
Feb	3.1	2.4	.7	.1	.0
Mar	2.8	2.3	.8	.4	@
Apr	.7	.5	.2	.1	.0
May	@	.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	.1	.1	.0	.0	.0
Nov	1.5	1.2	.3	@	.0
Dec	4.3	3.2	1.2	.4	.0
Ann	18.4	14.0	4.5	1.5	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	25.5	23.0	17.8	5.7
Feb	22.5	20.5	18.3	11.5
Mar	13.8	11.2	8.5	5.6
Apr	1.8	1.0	.3	.1
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	3.2	1.7	.6	.0
Dec	18.6	13.6	7.9	2.2
Ann	85.5	71.0	53.4	25.1

+ 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	6/08	6/02	5/28	5/24	5/21	5/17	5/13	5/09	5/02
32	5/27	5/21	5/17	5/13	5/10	5/06	5/03	4/28	4/22
28	5/10	5/05	5/01	4/28	4/25	4/22	4/18	4/14	4/09
24	4/25	4/21	4/18	4/15	4/13	4/11	4/08	4/05	4/01
20	4/13	4/10	4/07	4/05	4/03	4/01	3/30	3/27	3/24
16	4/11	4/06	4/03	3/31	3/28	3/25	3/21	3/18	3/13

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	9/17	9/19	9/21	9/23	9/26	9/30
32	9/18	9/22	9/25	9/28	9/30	10/02	10/05	10/08	10/12
28	9/21	9/27	10/02	10/06	10/10	10/13	10/17	10/22	10/29
24	10/05	10/12	10/16	10/21	10/24	10/28	11/01	11/06	11/13
20	10/21	10/26	10/29	11/01	11/04	11/07	11/10	11/13	11/18
16	10/29	11/04	11/08	11/11	11/15	11/18	11/22	11/26	12/02

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	137	132	127	124	120	117	113	109	103
32	161	155	150	146	143	139	135	131	125
28	190	182	176	172	167	163	158	152	145
24	216	208	203	198	194	189	185	179	172
20	229	224	220	217	214	212	209	205	200
16	256	248	242	236	231	227	221	215	207

***** 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)

Base	Heating Degree Days (1)												
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	1566	1277	1071	625	285	72	20	51	194	539	941	1386	8027
60	1411	1137	916	480	179	24	4	13	91	393	791	1231	6670
57	1318	1053	823	398	128	10	0	4	51	312	701	1138	5936
55	1256	997	761	346	100	5	0	1	32	262	642	1076	5478
50	1101	857	610	229	46	1	0	0	7	157	497	921	4426
32	567	395	176	16	0	0	0	0	0	6	112	418	1690

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	24	42	128	382	774	1023	1193	1104	813	491	161	55	6190
55	0	0	0	22	160	338	480	392	155	34	1	0	1582
57	0	0	0	14	127	283	418	333	114	22	0	0	1311
60	0	0	0	6	85	207	329	249	64	10	0	0	950
65	0	0	0	1	36	104	190	132	17	1	0	0	481
70	0	0	0	0	12	38	91	54	2	0	0	0	197

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	38	208	545	795	956	880	597	278	51	3	0	1	39	247	792	1587	2543	3423	4020	4298	4349	4352
45	0	0	16	117	396	645	801	725	449	166	21	1	0	0	16	133	529	1174	1975	2700	3149	3315	3336	3337
50	0	0	6	62	255	495	646	570	308	87	5	0	0	0	6	68	323	818	1464	2034	2342	2429	2434	2434
55	0	0	1	28	150	354	491	415	189	37	0	0	0	0	1	29	179	533	1024	1439	1628	1665	1665	1665
60	0	0	0	11	76	217	337	267	104	12	0	0	0	0	0	11	87	304	641	908	1012	1024	1024	1024
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	25	139	339	506	631	570	369	173	28	0	0	0	25	164	503	1009	1640	2210	2579	2752	2780	2780

(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