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: LANCASTER 4 WSW, WI **COOP ID: 474546**

Climate Division: WI 7 **NWS Call Sign:** **Elevation: 1,040 Feet** **Lat: 42˚50N** **Lon: 90˚47W**

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	22.5	6.3	14.4	57	1981	25	26.4	1990	-31	1963	23	.0	1977	1568	0	.0	.0	.3	22.8	30.7	10.4
Feb	29.1	12.9	21.0	64	2000	26	33.6	1998	-31+	1996	3	9.9	1979	1233	0	.0	.0	1.6	15.2	26.9	6.0
Mar	41.0	24.6	32.8	79	1998	30	40.7	1973	-22	1962	1	23.4	1975	997	0	.0	.0	8.3	5.7	24.2	1.0
Apr	55.5	36.2	45.9	95	1980	22	53.7	1977	6+	1982	7	39.3	1975	576	1	.0	.1	22.1	.4	10.4	.0
May	67.3	48.0	57.7	92	1953	30	65.1	1977	25	1989	6	51.5	1997	263	35	.0	.1	30.6	.0	1.0	.0
Jun	76.6	57.2	66.9	100+	1988	22	71.5	1971	37+	1990	4	61.3	1982	51	108	.1	1.2	30.0	.0	.0	.0
Jul	80.3	61.8	71.1	101	1955	30	74.8	1988	43+	1971	30	65.5	1992	13	200	@	3.8	31.0	.0	.0	.0
Aug	77.9	59.9	68.9	103	1988	18	75.3	1995	40+	1986	28	63.8	1992	42	163	.2	2.0	31.0	.0	.0	.0
Sep	69.6	51.4	60.5	98	1955	9	66.0	1978	27+	1984	29	55.0	1993	171	35	.0	.5	29.8	.0	.6	.0
Oct	58.1	39.7	48.9	92	1963	6	56.2	1971	15	1988	30	43.3	1988	501	1	.0	.0	26.2	@	8.0	.0
Nov	41.0	26.5	33.8	75	1964	3	41.9	1999	-15	1977	26	26.2	1976	937	0	.0	.0	9.0	5.7	22.5	.4
Dec	27.7	13.4	20.6	62+	2001	6	28.7	1998	-27+	1983	24	8.4	1983	1378	0	.0	.0	1.2	17.8	30.0	5.7
Ann	53.9	36.5	45.2	103	Aug 1988	18	75.3	Aug 1995	-31+	Feb 1996	3	.0	Jan 1977	7730	543	.3	7.7	221.1	67.6	154.3	23.5

\+ 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/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

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: LANCASTER 4 WSW, WI

COOP ID: 474546

Climate Division: WI 7 **NWS Call Sign:** **Elevation: 1,040 Feet** **Lat: 42˚50N** **Lon: 90˚47W**

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	.82	.81	1.60	1969	24	1.61	1996	.15+	1981
Feb	.98	.92	1.30	1998	27	2.95	1971	.02	1987
Mar	2.19	2.05	3.60	1998	31	5.29	1998	.33	1994
Apr	3.34	2.83	2.25	1964	3	8.27	1999	1.16	1988
May	3.72	3.84	3.00	1978	13	6.53	2000	.79	1992
Jun	4.73	4.66	3.65	1991	15	10.39	1993	.42	1988
Jul	4.09	2.98	4.55	1950	16	9.55	1972	1.53	1975
Aug	4.59	3.72	4.50	1966	21	11.35	1981	1.37	1984
Sep	3.19	2.88	5.75	1961	13	7.58	1972	.23	1979
Oct	2.41	2.48	1.92+	1984	17	7.31	1984	.11	1994
Nov	2.49	1.76	2.74	1992	26	7.40	1992	.00	1976
Dec	1.20	1.01	1.50	1970	11	2.68	1987	.20	1998
Ann	33.75	34.29	5.75	Sep 1961	13	11.35	Aug 1981	.00	Nov 1976

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	7.0	2.8	.3	@
Feb	5.8	2.8	.6	.1
Mar	8.9	5.1	1.3	.3
Apr	11.2	7.3	2.3	.6
May	11.1	7.5	2.7	.6
Jun	10.4	7.0	2.9	1.3
Jul	9.9	6.9	2.8	1.1
Aug	9.9	6.9	3.0	1.3
Sep	9.0	5.8	2.2	.7
Oct	8.7	5.2	1.6	.6
Nov	8.9	4.9	1.5	.6
Dec	7.4	3.3	.7	@
Ann	108.2	65.5	21.9	7.2

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	.27	.39	.49	.60	.71	.84	.99	1.19	1.50	1.80
Feb	.07	.13	.25	.39	.54	.71	.92	1.19	1.56	2.19	2.82
Mar	.44	.64	.96	1.25	1.55	1.87	2.23	2.67	3.25	4.17	5.05
Apr	1.24	1.55	2.00	2.37	2.73	3.09	3.49	3.95	4.53	5.44	6.26
May	1.15	1.51	2.03	2.48	2.92	3.37	3.87	4.45	5.20	6.37	7.46
Jun	1.12	1.56	2.26	2.87	3.49	4.14	4.86	5.73	6.87	8.67	10.36
Jul	1.20	1.59	2.17	2.68	3.17	3.68	4.25	4.92	5.78	7.13	8.39
Aug	1.47	1.91	2.55	3.10	3.63	4.18	4.78	5.49	6.39	7.80	9.11
Sep	.59	.88	1.34	1.77	2.21	2.69	3.23	3.88	4.75	6.14	7.47
Oct	.48	.70	1.05	1.38	1.71	2.06	2.45	2.93	3.57	4.58	5.54
Nov	.31	.63	1.05	1.40	1.76	2.14	2.56	3.07	3.74	4.81	5.82
Dec	.22	.32	.50	.66	.83	1.01	1.22	1.46	1.80	2.33	2.84
Ann	23.61	25.56	28.06	29.97	31.66	33.31	35.00	36.88	39.16	42.48	45.35

\+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: LANCASTER 4 WSW, WI **COOP ID: 474546**

Climate Division: WI 7 **NWS Call Sign:** **Elevation: 1,040 Feet** **Lat: 42°50N** **Lon: 90°47W**

Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	10.3	9.1	6	4	13.0	1986	3	24.5	1979	36	1979	31	26	1979	5.6	3.5	1.1	.4	.1	22.5	15.7	9.8	4.2
Feb	6.9	8.1	6	4	8.0	1974	22	16.0	1974	34	1979	14	30	1979	4.1	2.6	.9	.2	.0	16.7	10.2	6.5	2.1
Mar	5.9	6.0	2	1	8.0	1971	19	16.5	1972	16	1979	1	8	1979	3.3	2.2	.8	.3	.0	7.5	3.0	1.9	.2
Apr	2.6	1.5	#	#	9.0	1973	9	17.0	1973	16	1973	10	2	1973	1.2	.9	.2	.2	.0	1.4	.6	.3	.1
May	.2	.0	#	0	2.5	1994	1	2.5	1994	3	1994	1	#+	1997	.1	.1	.0	.0	.0	.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	#	1997	4	#	1997	.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	4.5	1997	27	5.5	1997	6	1997	27	#+	1997	.2	.1	@	.0	.0	.1	@	@	.0
Nov	4.0	2.0	#	#	6.5	1992	26	14.0	1971	9	1986	20	2	1996	2.6	1.6	.5	.1	.0	3.7	1.6	.8	.0
Dec	9.7	8.4	3	2	10.0	1990	3	23.6	1990	18	2000	31	13	1985	5.2	3.2	1.0	.5	@	11.7	5.5	2.4	.4
Ann	39.9	35.1	N/A	N/A	13.0	Jan 1986	3	24.5	Jan 1979	36	Jan 1979	31	30	Feb 1979	22.3	14.2	4.5	1.7	.1	63.7	36.6	21.7	7.0

+ 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: LANCASTER 4 WSW, WI **COOP ID: 474546**

Climate Division: WI 7 **NWS Call Sign:** **Elevation: 1,040 Feet** **Lat: 42˚50N** **Lon: 90˚47W**

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	5/25	5/20	5/17	5/14	5/12	5/09	5/06	5/03	4/29
32	5/13	5/08	5/05	5/02	4/29	4/26	4/23	4/20	4/15
28	4/30	4/25	4/21	4/19	4/16	4/13	4/10	4/07	4/02
24	4/18	4/15	4/12	4/10	4/08	4/06	4/04	4/01	3/29
20	4/12	4/07	4/04	4/01	3/29	3/26	3/23	3/19	3/14
16	4/06	3/31	3/27	3/24	3/20	3/17	3/13	3/09	3/04

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	9/18	9/22	9/24	9/27	9/29	10/01	10/03	10/06	10/10
32	9/23	9/27	9/30	10/03	10/06	10/08	10/11	10/14	10/19
28	10/02	10/07	10/11	10/14	10/17	10/20	10/23	10/27	11/01
24	10/13	10/18	10/21	10/25	10/27	10/30	11/02	11/06	11/11
20	10/25	10/30	11/02	11/05	11/08	11/10	11/13	11/16	11/21
16	10/31	11/06	11/11	11/14	11/18	11/21	11/25	11/29	12/05

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	156	150	146	143	139	136	133	129	123
32	174	169	165	162	159	156	153	149	144
28	206	198	193	188	183	179	174	168	160
24	220	214	209	205	202	198	194	190	183
20	247	238	233	228	223	218	213	208	199
16	268	259	253	247	242	236	231	224	215

***** 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:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: LANCASTER 4 WSW, WI **COOP ID: 474546**

Climate Division: WI 7 **NWS Call Sign:** **Elevation: 1,040 Feet** **Lat: 42˚50N** **Lon: 90˚47W**

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	1568	1233	997	576	263	51	13	42	171	501	937	1378	7730
60	1413	1093	842	432	159	13	0	11	80	354	787	1223	6407
57	1320	1009	749	350	110	5	0	4	45	274	697	1130	5693
55	1258	953	687	299	83	2	0	1	28	225	638	1068	5242
50	1103	813	542	186	36	0	0	0	6	125	495	913	4219
32	578	366	139	7	0	0	0	0	0	3	114	414	1621

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	33	58	165	422	795	1047	1210	1144	855	526	168	59	6482
55	0	0	0	23	166	360	497	432	192	36	1	0	1707
57	0	0	0	14	130	302	435	373	149	22	0	0	1425
60	0	0	0	6	86	221	342	287	95	9	0	0	1046
65	0	0	0	1	35	108	200	163	35	1	0	0	543
70	0	0	0	0	11	36	92	76	8	0	0	0	223

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	4	67	248	576	830	986	924	647	321	66	4	0	4	71	319	895	1725	2711	3635	4282	4603	4669	4673
45	0	0	33	147	423	680	831	769	499	201	27	1	0	0	33	180	603	1283	2114	2883	3382	3583	3610	3611
50	0	0	14	77	281	531	676	614	354	111	7	0	0	0	14	91	372	903	1579	2193	2547	2658	2665	2665
55	0	0	4	34	171	383	521	460	228	53	2	0	0	0	4	38	209	592	1113	1573	1801	1854	1856	1856
60	0	0	0	13	85	243	367	308	130	17	0	0	0	0	0	13	98	341	708	1016	1146	1163	1163	1163
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	0	40	149	341	537	662	610	392	186	35	2	0	0	40	189	530	1067	1729	2339	2731	2917	2952	2954

(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.
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