

Climatography of the United States

No. 20

1971-2000

Station: PLYMOUTH, WI

COOP ID: 476678

Climate Division: WI 6

NWS Call Sign:

Elevation: 834 Feet

Lat: 43°44N

Lon: 87°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	25.4	9.0	17.2	60	1944	26	28.4	1990	-29+	1982	10	4.9	1977	1482	0	.0	.0	.3	20.9	30.3	7.9
Feb	30.0	13.0	21.5	64	2000	27	31.6	1998	-27+	1996	3	11.8	1979	1219	0	.0	.0	1.0	15.3	26.8	4.4
Mar	40.4	23.0	31.7	82	1910	29	40.5	2000	-18	1962	1	25.1	1984	1032	0	.0	.0	6.2	6.0	25.4	.7
Apr	53.6	34.2	43.9	89+	1990	25	49.8	1977	8	1954	3	38.0	1975	633	0	.0	.0	19.0	.5	12.5	.0
May	66.9	45.0	56.0	92+	1978	27	62.7	1977	21+	1966	10	48.8	1997	310	29	.0	.1	29.9	.0	2.4	.0
Jun	76.5	54.6	65.6	101	1931	29	71.2	1988	30	1945	4	59.9	1982	81	97	.0	2.1	30.0	.0	.0	.0
Jul	81.0	60.1	70.6	107	1936	14	74.9	1983	39+	1968	3	64.5	1992	17	190	.1	3.5	31.0	.0	.0	.0
Aug	78.5	58.5	68.5	101+	1988	17	73.7+	1995	36	1915	30	64.4	1992	37	146	@	1.5	31.0	.0	.0	.0
Sep	70.4	49.8	60.1	98	1953	2	65.6	1998	25	1926	26	55.6	1975	172	25	.0	.4	30.0	.0	.6	.0
Oct	58.3	39.5	48.9	88+	1976	1	55.9	1971	6	1925	30	43.9	1988	500	1	.0	.0	25.7	.0	6.4	.0
Nov	43.1	28.0	35.6	75+	1950	1	42.4	1999	-7	1976	29	27.7	1995	884	0	.0	.0	8.5	4.1	20.5	.1
Dec	30.4	16.1	23.3	67	2001	6	31.4	1982	-20+	1983	24	12.3	1983	1294	0	.0	.0	1.1	16.0	29.1	4.1
Ann	54.5	35.9	45.2	107	Jul 1936	14	74.9	Jul 1983	-29+	Jan 1982	10	4.9	Jan 1977	7661	488	.1	7.6	213.7	62.8	154.0	17.2

+ 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: 1910-2001

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

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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: PLYMOUTH, WI

COOP ID: 476678

Climate Division: WI 6

NWS Call Sign:

Elevation: 834 Feet Lat: 43°44N

Lon: 87°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	1.40	1.31	1.97	1938	24	3.19	1999	.00	1981	7.6	3.8	.7	.1	.26	.45	.69	.88	1.07	1.26	1.47	1.72	2.04	2.55	3.02
Feb	1.25	.99	2.62	1922	22	4.21	1971	.06	1982	6.3	3.3	.8	.1	.13	.23	.40	.57	.76	.97	1.21	1.52	1.94	2.63	3.30
Mar	2.42	2.16	3.16	1998	31	6.01	1977	.05	1978	8.2	5.2	1.5	.4	.31	.51	.85	1.19	1.54	1.94	2.39	2.96	3.72	4.97	6.18
Apr	3.47	3.45	2.80	1955	24	7.36	1993	.81	1997	10.8	6.8	2.2	.6	1.38	1.70	2.15	2.53	2.88	3.25	3.64	4.09	4.66	5.53	6.33
May	3.67	3.16	4.94	1989	30	8.00	1973	.80	1988	10.7	7.0	2.1	.7	1.08	1.43	1.95	2.40	2.84	3.30	3.81	4.40	5.18	6.38	7.50
Jun	3.93	3.52	3.22	1991	15	8.33	1997	.77	1988	10.5	7.2	2.6	.8	1.12	1.49	2.05	2.54	3.02	3.52	4.08	4.73	5.57	6.90	8.14
Jul	3.94	3.89	3.74	1985	25	7.19	1991	.73	1998	10.5	6.8	2.5	.9	1.29	1.66	2.21	2.68	3.13	3.59	4.10	4.70	5.46	6.65	7.75
Aug	4.55	4.45	5.21	1998	6	7.91	1980	1.02	1976	10.5	7.2	3.0	1.0	1.64	2.07	2.69	3.20	3.70	4.20	4.75	5.39	6.21	7.47	8.62
Sep	4.02	4.17	6.12	1986	11	13.67	1986	.04	1979	9.7	6.6	2.4	1.1	.46	.77	1.33	1.89	2.49	3.16	3.94	4.91	6.23	8.40	10.52
Oct	2.93	2.71	2.49	1984	19	6.88	1991	.37	1975	9.9	6.4	1.8	.5	.74	1.01	1.44	1.81	2.19	2.58	3.02	3.54	4.22	5.29	6.30
Nov	2.85	2.41	2.26	1985	1	8.78	1985	.30	1976	9.4	6.1	2.0	.5	.46	.70	1.12	1.51	1.92	2.36	2.87	3.48	4.31	5.65	6.94
Dec	1.87	1.77	1.85	1959	28	4.98+	1987	.17	1993	7.8	4.5	.9	.3	.38	.55	.83	1.08	1.33	1.60	1.90	2.27	2.76	3.53	4.27
Ann	36.30	35.85	6.12	Sep 1986	11	13.67	Sep 1986	.00	Jan 1981	111.9	70.9	22.5	7.0	25.79	27.82	30.42	32.40	34.16	35.86	37.61	39.55	41.90	45.31	48.26

+ 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: 1910-2001

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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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Station: PLYMOUTH, WI

COOP ID: 476678

Climate Division: WI 6

NWS Call Sign:

Elevation: 834 Feet

Lat: 43°44N

Lon: 87°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	12.1	12.0	7	6	12.0	1982	4	26.7	1985	28	1979	24	21	1979	7.0	4.3	1.7	.9	.1	27.1	22.3	16.5	7.3
Feb	9.8	9.8	8	5	12.0	1974	6	22.9	1983	25	1979	21	23	1979	4.5	2.7	1.1	.4	.1	22.7	18.4	12.8	6.2
Mar	10.6	9.2	3	1	18.0	1971	19	25.1	1989	21	1979	1	10	1989	4.7	3.0	1.3	.6	.1	13.0	9.2	7.0	3.4
Apr	3.3	.8	#	#	14.0	1973	9	16.3	1973	14	1973	9	2	1973	1.6	1.0	.4	.2	@	1.8	1.0	.4	.1
May	.2	.0	#	0	3.5	1994	1	3.5	1994	3	1990	10	#	1990	.1	.1	.1	.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	.2	.0	#	0	1.0	1989	20	1.6	1987	#+	2000	8	#+	2000	.2	.1	.0	.0	.0	.0	.0	.0	.0
Nov	5.7	3.1	#	#	10.5	1995	28	19.5	1971	12	1977	28	2	1985	2.8	1.6	.7	.3	@	3.4	1.6	.9	.2
Dec	14.6	14.6	3	2	14.5	1971	30	34.4	2000	18	1978	31	11	1985	6.7	4.2	1.5	.6	.1	18.2	14.7	9.1	2.8
Ann	56.5	49.5	N/A	N/A	18.0	Mar 1971	19	34.4	Dec 2000	28	Jan 1979	24	23	Feb 1979	27.6	17.0	6.8	3.0	.4	86.2	67.2	46.7	20.0

+ 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:

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NWS Call Sign:

Elevation: 834 Feet

Lat: 43° 44N

Lon: 87° 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	6/09	6/03	5/30	5/27	5/23	5/20	5/16	5/12	5/06
32	5/23	5/18	5/14	5/11	5/08	5/05	5/02	4/28	4/23
28	5/11	5/05	5/01	4/28	4/25	4/22	4/19	4/15	4/09
24	4/25	4/21	4/17	4/15	4/12	4/09	4/07	4/03	3/30
20	4/15	4/11	4/08	4/06	4/03	4/01	3/30	3/27	3/23
16	4/07	4/02	3/29	3/26	3/24	3/21	3/18	3/14	3/10
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	10/04	10/06	10/10
32	9/24	9/28	9/30	10/03	10/05	10/07	10/09	10/12	10/16
28	9/29	10/05	10/10	10/14	10/18	10/21	10/25	10/30	11/05
24	10/18	10/23	10/26	10/29	11/01	11/04	11/07	11/10	11/15
20	10/25	10/31	11/04	11/07	11/10	11/14	11/17	11/21	11/27
16	11/05	11/11	11/15	11/18	11/22	11/25	11/28	12/02	12/08
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	143	138	134	131	128	125	122	118	113
32	166	160	156	152	149	146	142	138	132
28	201	192	185	180	175	170	164	158	149
24	220	214	210	206	202	199	195	190	184
20	242	234	229	225	220	216	212	206	199
16	268	259	253	247	242	237	232	225	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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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	1482	1219	1032	633	310	81	17	37	172	500	884	1294	7661
60	1327	1079	877	486	198	29	1	8	77	351	734	1139	6306
57	1234	995	784	401	144	13	0	2	41	270	644	1046	5574
55	1172	939	722	346	113	8	0	0	24	221	584	984	5113
50	1017	799	569	224	54	1	0	0	4	120	440	829	4057
32	492	335	136	10	0	0	0	0	0	2	78	343	1396

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	33	40	127	368	742	1006	1196	1132	843	526	185	72	6270
55	0	0	0	14	142	324	483	419	178	32	0	0	1592
57	0	0	0	8	111	270	421	359	134	19	0	0	1322
60	0	0	0	3	73	195	329	272	80	8	0	0	960
65	0	0	0	0	29	97	190	146	25	1	0	0	488
70	0	0	0	0	10	34	87	61	4	0	0	0	196

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	3	46	197	513	785	964	907	635	310	67	6	0	3	49	246	759	1544	2508	3415	4050	4360	4427	4433
45	0	0	20	109	365	635	809	752	485	192	28	1	0	0	20	129	494	1129	1938	2690	3175	3367	3395	3396
50	0	0	8	53	236	486	654	597	344	100	9	0	0	0	8	61	297	783	1437	2034	2378	2478	2487	2487
55	0	0	3	26	134	342	499	442	214	43	1	0	0	0	3	29	163	505	1004	1446	1660	1703	1704	1704
60	0	0	0	9	68	213	345	293	118	12	0	0	0	0	0	9	77	290	635	928	1046	1058	1058	1058
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	0	28	120	307	493	642	595	384	166	31	1	0	0	28	148	455	948	1590	2185	2569	2735	2766	2767

(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/normal/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 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