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: WINDSOR, IL **COOP ID: 119354**

Climate Division: IL 7 **NWS Call Sign:** **Elevation: 690 Feet** **Lat: 39˚27N** **Lon: 88˚36W**

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	34.5	18.9	26.7	74	1909	23	39.4	1990	-26	1915	24	11.6	1977	1188	0	.0	.0	3.6	13.2	27.1	3.2
Feb	40.5	23.7	32.1	75	1972	29	41.4	1998	-24	1910	18	18.0	1978	921	0	.0	.0	7.2	7.7	21.1	1.8
Mar	52.2	33.1	42.7	89	1910	23	49.4	1973	-7	1960	5	33.4	1984	693	0	.0	.0	18.0	1.5	15.8	.1
Apr	64.6	42.8	53.7	90	1930	11	59.4	1981	19+	1997	9	48.2	1983	346	7	.0	.0	27.5	.0	4.3	.0
May	74.9	53.2	64.1	97	1913	30	71.0	1991	27	1925	25	59.5	1981	138	109	.0	.9	30.9	.0	.2	.0
Jun	83.4	61.9	72.7	105	1954	26	75.9	1971	35	1917	16	67.8	1982	9	239	.1	6.0	30.0	.0	.0	.0
Jul	86.9	65.6	76.3	111	1936	14	79.8	1980	43	1904	2	72.1	1971	0	349	.3	10.6	31.0	.0	.0	.0
Aug	85.4	63.5	74.5	107	1918	5	79.8	1995	37	1915	31	69.9	1992	7	298	.3	7.4	31.0	.0	.0	.0
Sep	79.7	56.1	67.9	106	1954	5	73.0	1998	26	1942	28	62.2	1974	48	133	.0	2.9	30.0	.0	.1	.0
Oct	68.1	45.2	56.7	95+	1922	4	62.5	1971	16+	1925	31	50.0	1976	281	22	.0	.0	29.8	.0	2.6	.0
Nov	52.4	34.8	43.6	84	1965	28	51.1	1999	-6	1950	25	36.1	1976	642	0	.0	.0	16.7	.9	13.3	.0
Dec	39.5	24.3	31.9	72	1948	15	39.6	1982	-20	1989	22	18.8	1983	1027	0	.0	.0	5.8	7.4	23.8	1.3
Ann	63.5	43.6	53.6	111	Jul 1936	14	79.8+	Aug 1995	-26	Jan 1915	24	11.6	Jan 1977	5300	1157	.7	27.8	261.5	30.7	108.3	6.4

\+ 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: 1904-2001

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

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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	1.99	1.58	3.10	1950	3	5.39	1982	.00	1986
Feb	1.89	1.61	2.47	1999	7	4.69	1985	.35	1973
Mar	3.30	3.26	4.09	1922	14	7.05	1973	.72	1999
Apr	3.70	3.71	3.31	1940	17	9.35	1994	.44	1971
May	3.99	3.26	4.10	1908	4	9.21	1990	.74	1987
Jun	4.05	3.86	5.52	1957	27	8.91	1973	.61	1988
Jul	4.00	3.26	4.62	1971	10	9.90	1971	.69	1999
Aug	3.27	2.87	3.63	1915	20	7.07	1981	.07	1971
Sep	3.05	2.52	4.00	1961	25	10.52	1993	.16	1985
Oct	3.07	2.49	4.75	1919	27	8.08	1983	.71	1971
Nov	3.85	3.49	4.30	1910	27	10.88	1992	.43	1976
Dec	2.98	2.46	4.50	1966	7	7.76	1982	.13	1976
Ann	39.14	37.75	5.52	Jun 1957	27	10.88	Nov 1992	.00	Jan 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.3	4.7	1.3	.2
Feb	6.7	4.2	1.2	.4
Mar	10.5	7.2	2.2	.5
Apr	11.2	7.8	2.6	.9
May	11.0	7.1	2.7	.9
Jun	9.9	6.9	2.6	.8
Jul	9.2	6.3	2.6	1.1
Aug	8.2	5.4	2.2	1.1
Sep	7.6	5.0	2.0	.8
Oct	8.7	5.3	2.4	.6
Nov	10.0	6.3	2.4	1.1
Dec	9.1	5.8	2.0	.6
Ann	110.4	72.0	26.2	9.0

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	.22	.46	.80	1.09	1.38	1.69	2.04	2.46	3.02	3.92	4.77
Feb	.33	.49	.77	1.03	1.29	1.58	1.90	2.30	2.83	3.68	4.50
Mar	.92	1.23	1.71	2.12	2.53	2.95	3.42	3.98	4.70	5.83	6.89
Apr	.96	1.31	1.85	2.32	2.78	3.27	3.82	4.46	5.31	6.64	7.88
May	1.03	1.41	1.99	2.50	3.00	3.53	4.12	4.82	5.73	7.17	8.51
Jun	.90	1.27	1.87	2.40	2.94	3.50	4.15	4.91	5.92	7.53	9.04
Jul	.92	1.30	1.88	2.41	2.93	3.48	4.11	4.85	5.82	7.37	8.83
Aug	.41	.66	1.13	1.58	2.06	2.60	3.22	3.99	5.03	6.74	8.40
Sep	.49	.75	1.20	1.62	2.05	2.52	3.06	3.72	4.60	6.03	7.39
Oct	.89	1.18	1.62	2.00	2.37	2.76	3.18	3.69	4.34	5.36	6.31
Nov	.75	1.09	1.66	2.18	2.71	3.27	3.91	4.69	5.71	7.36	8.92
Dec	.49	.74	1.18	1.59	2.01	2.47	2.99	3.64	4.49	5.88	7.21
Ann	27.61	29.83	32.68	34.85	36.77	38.64	40.56	42.69	45.28	49.03	52.28

\+ 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: 1904-2001
(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	7.2	4.8	2	1
Feb	3.2	2.0	1	#
Mar	3.0	2.0	#	#
Apr	.3	.0	#	0
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	.0	.0	#	0
Nov	1.3	.0	#	#
Dec	4.7	2.2	1	#
Ann	19.7	11.0	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	12.0	1982	31	27.5	1979	16	1999	6	9	1977
Feb	7.0	1993	25	9.8	1980	17	1979	9	10	1982
Mar	7.0	1978	7	17.0	1978	13	1978	8	4	1978
Apr	1.5	1980	14	2.5	1980	1	1994	6	#+	1997
May	.0	0	0	.0	0	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	.5	1993	31	.5	1993	1	1993	31	#+	2000
Nov	9.0	1980	27	11.0	1980	10	1980	28	1	1980
Dec	12.0	1973	19	26.5	1973	15	1973	20	4+	2000
Ann	12.0+	Jan 1982	31	27.5	Jan 1979	17	Feb 1979	9	10	Feb 1982

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.9	2.6	.9	.3	.1
Feb	2.0	1.2	.5	.1	.0
Mar	1.4	.9	.4	.1	.0
Apr	.3	.2	.0	.0	.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	.1	.0	.0	.0	.0
Nov	.6	.4	.2	@	.0
Dec	2.8	1.7	.6	.2	@
Ann	11.1	7.0	2.6	.7	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	11.0	6.4	4.6	1.4
Feb	7.1	4.2	1.7	.7
Mar	2.0	1.1	.4	.1
Apr	@	.0	.0	.0
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	@	.0	.0	.0
Nov	.5	.3	.1	@
Dec	5.1	3.5	1.6	.3
Ann	25.7	15.5	8.4	2.5

+ 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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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	5/11	5/06	5/02	4/29	4/27	4/24	4/21	4/17	4/12
32	5/04	4/28	4/24	4/21	4/18	4/15	4/11	4/08	4/02
28	4/16	4/12	4/09	4/06	4/04	4/02	3/30	3/27	3/23
24	4/12	4/06	4/02	3/30	3/27	3/24	3/21	3/17	3/11
20	4/01	3/26	3/23	3/19	3/16	3/13	3/10	3/06	3/01
16	3/20	3/13	3/08	3/04	3/01	2/25	2/21	2/16	2/09

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	9/24	9/28	10/01	10/04	10/06	10/09	10/11	10/14	10/19
32	10/01	10/07	10/11	10/15	10/18	10/22	10/26	10/30	11/05
28	10/15	10/20	10/24	10/27	10/30	11/02	11/05	11/09	11/14
24	10/29	11/04	11/08	11/11	11/15	11/18	11/22	11/26	12/02
20	11/04	11/10	11/15	11/19	11/22	11/26	11/30	12/04	12/10
16	11/14	11/20	11/25	11/29	12/03	12/07	12/11	12/16	12/23

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	181	174	169	166	162	158	154	149	143
32	206	198	192	187	183	178	173	167	159
28	227	221	216	212	208	204	200	195	189
24	256	248	242	237	232	228	223	217	209
20	274	266	260	255	250	246	241	235	227
16	303	294	288	282	277	272	266	260	251

***** 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	1188	921	693	346	138	9	0	7	48	281	642	1027	5300
60	1033	781	545	217	70	2	0	0	13	168	496	872	4197
57	940	703	457	152	41	0	0	0	5	115	413	783	3609
55	879	652	401	116	28	0	0	0	2	86	360	725	3249
50	736	523	276	49	9	0	0	0	0	36	240	582	2451
32	289	173	34	0	0	0	0	0	0	0	21	188	705

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	124	176	363	652	994	1220	1372	1315	1076	764	369	184	8609
55	1	10	18	77	309	530	659	602	388	137	17	9	2757
57	0	6	12	54	260	471	597	540	330	104	11	4	2389
60	0	0	7	29	195	382	504	447	248	64	4	0	1880
65	0	0	0	7	109	239	349	298	133	22	0	0	1157
70	0	0	0	1	50	118	201	168	55	5	0	0	598

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	23	60	188	434	763	999	1139	1080	843	523	191	46	23	83	271	705	1468	2467	3606	4686	5529	6052	6243	6289
45	4	26	108	302	609	849	984	925	693	381	113	18	4	30	138	440	1049	1898	2882	3807	4500	4881	4994	5012
50	1	8	59	188	457	699	829	770	544	247	58	6	1	9	68	256	713	1412	2241	3011	3555	3802	3860	3866
55	0	1	32	107	312	549	674	615	400	147	24	2	0	1	33	140	452	1001	1675	2290	2690	2837	2861	2863
60	0	0	7	53	188	399	519	460	268	69	5	0	0	0	7	60	248	647	1166	1626	1894	1963	1968	1968
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	10	37	115	263	483	678	785	737	556	319	102	24	10	47	162	425	908	1586	2371	3108	3664	3983	4085	4109

(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