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: MINONK, IL **COOP ID: 115712**

Climate Division: IL 4 **NWS Call Sign:** **Elevation: 750 Feet** **Lat: 40˚55N** **Lon: 89˚02W**

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	30.1	12.6	21.4	69	1909	23	34.4	1990	-25+	1985	20	7.8	1977	1353	0	.0	.0	1.6	16.8	29.5	6.7
Feb	35.9	18.2	27.1	74	1996	27	38.0	1998	-28	1905	13	16.3	1978	1063	0	.0	.0	4.1	10.4	25.1	3.6
Mar	48.1	28.6	38.4	88+	1986	30	45.7	2000	-14	1943	8	29.7	1984	826	0	.0	.0	13.2	3.4	20.8	.2
Apr	61.6	38.3	50.0	93+	1986	26	55.7	1977	7	1982	7	44.3	1982	457	5	.0	.2	25.0	.2	7.8	.0
May	73.4	48.8	61.1	103	1934	31	69.3	1977	24	1966	10	55.4	1997	202	80	.0	1.4	30.7	.0	.8	.0
Jun	83.2	58.4	70.8	105	1934	1	75.1	1971	36+	1993	2	65.5	1982	18	192	.1	6.5	30.0	.0	.0	.0
Jul	86.3	62.2	74.3	111+	1936	15	78.8	1999	42+	1904	2	69.3	1971	6	293	.4	9.8	31.0	.0	.0	.0
Aug	84.2	59.7	72.0	105	1936	18	79.2	1995	38+	1986	28	67.4	1992	21	237	.3	6.1	31.0	.0	.0	.0
Sep	78.2	51.8	65.0	104	1913	3	71.5	1978	24	1942	28	60.4	1974	89	89	.0	2.6	30.0	.0	.4	.0
Oct	65.6	40.5	53.1	93	1963	6	59.9	1971	10	1925	29	46.4	1988	381	10	.0	@	28.7	.0	6.1	.0
Nov	48.9	30.0	39.5	82+	1950	1	47.9	1999	-9	1930	28	31.5	1976	767	0	.0	.0	14.1	1.9	18.4	.1
Dec	35.4	18.8	27.1	70+	1998	5	35.8	1982	-24	1924	28	12.2	1983	1174	0	.0	.0	3.3	10.6	28.0	3.4
Ann	60.9	39.0	50.0	111+	Jul 1936	15	79.2	Aug 1995	-28	Feb 1905	13	7.8	Jan 1977	6357	906	.8	26.6	242.7	43.3	136.9	14.0

\+ 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: 1901-2001

(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	1.75	1.40	2.04+	1995	14	4.19	1999	.15	1986
Feb	1.83	1.72	3.53	1942	6	5.66	1997	.04	1987
Mar	3.23	2.63	2.30	1933	31	7.41	1979	.73	1994
Apr	3.53	3.37	3.05	1947	5	7.20	1983	.56	1971
May	4.20	3.78	3.27	1944	23	11.09	1995	.19	1992
Jun	3.71	3.43	3.06	1968	25	7.70	1973	.54	1988
Jul	3.76	3.68	4.68	1951	9	9.09	1992	.30	1991
Aug	3.41	3.05	5.01	1943	3	8.19	1972	.55	1984
Sep	3.34	2.17	4.64	1911	25	9.90	1989	.60	1979
Oct	2.81	2.57	3.84	1957	23	9.31	1991	.77	1992
Nov	3.28	2.49	3.60	1990	28	9.07	1985	.20	1976
Dec	2.39	1.98	4.38	1982	3	7.93	1982	.34	1995
Ann	37.24	36.60	5.01	Aug 1943	3	11.09	May 1995	.04	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.7	4.8	.9	.2
Feb	7.7	4.0	1.3	.3
Mar	10.5	7.0	2.0	.8
Apr	11.6	7.7	2.3	.7
May	12.2	7.5	3.2	1.0
Jun	10.3	6.9	2.7	1.0
Jul	9.2	6.3	2.7	1.1
Aug	9.7	6.1	2.1	.8
Sep	8.8	5.3	2.2	.9
Oct	9.1	5.6	2.0	.4
Nov	10.4	6.7	2.1	.8
Dec	10.0	5.6	1.1	.5
Ann	119.2	73.5	24.6	8.5

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	.32	.47	.73	.97	1.21	1.47	1.77	2.13	2.61	3.38	4.12
Feb	.26	.42	.68	.93	1.20	1.49	1.82	2.23	2.78	3.69	4.55
Mar	.70	.99	1.47	1.90	2.33	2.78	3.30	3.92	4.74	6.04	7.27
Apr	1.13	1.46	1.96	2.38	2.79	3.21	3.67	4.22	4.91	6.00	7.01
May	.96	1.35	1.97	2.52	3.07	3.65	4.31	5.09	6.12	7.76	9.30
Jun	.98	1.33	1.87	2.34	2.81	3.30	3.84	4.48	5.32	6.63	7.86
Jul	.93	1.28	1.83	2.31	2.79	3.30	3.87	4.54	5.43	6.82	8.13
Aug	.52	.81	1.31	1.78	2.27	2.80	3.41	4.16	5.16	6.79	8.36
Sep	.61	.91	1.40	1.85	2.32	2.82	3.38	4.07	4.99	6.46	7.86
Oct	.72	.98	1.39	1.75	2.11	2.48	2.90	3.40	4.05	5.07	6.03
Nov	.50	.78	1.26	1.71	2.18	2.70	3.29	4.01	4.98	6.56	8.07
Dec	.53	.75	1.10	1.42	1.73	2.07	2.45	2.90	3.50	4.45	5.35
Ann	25.94	28.11	30.90	33.02	34.91	36.74	38.63	40.72	43.27	46.97	50.18

\+ 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: 1901-2001
(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	6.3	4.8	2	1
Feb	4.3	2.6	2	1
Mar	3.4	2.5	#	#
Apr	1.0	.0	#	0
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	.1	.0	#	0
Nov	1.6	1.0	#	#
Dec	6.3	5.0	1	1
Ann	23.0	15.9	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	9.0	1999	2	19.5	1997	19	1999	11	11	1999
Feb	8.0	1988	11	12.0	1993	23	1982	12	11	1982
Mar	9.0	1991	14	10.0	1991	10	1991	14	2	1984
Apr	11.0	1997	11	13.0	1997	11	1997	11	1	1997
May	.3	1989	7	.3	1989	#	1989	7	#	1989
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	1.0	1989	20	1.0	1989	1	1989	20	#+	1997
Nov	6.3	1975	27	6.9	1975	3	1974	14	#+	1998
Dec	8.0	1973	19	21.0	1983	17	1983	31	7+	2000
Ann	11.0	Apr 1997	11	21.0	Dec 1983	23	Feb 1982	12	11+	Jan 1999

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.9	3.0	.7	.2	.0
Feb	3.3	2.2	.6	.2	.0
Mar	1.7	1.1	.3	.2	.0
Apr	.3	.2	.1	.1	@
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	@	.0	.0	.0
Nov	1.6	.7	.1	@	.0
Dec	4.0	2.1	.7	.2	.0
Ann	15.9	9.3	2.5	.9	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	11.6	5.5	3.7	.4
Feb	6.2	3.2	1.4	.2
Mar	3.8	1.5	.8	.1
Apr	.5	.3	.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	@	.0	.0	.0
Nov	1.1	.1	.0	.0
Dec	8.0	4.2	3.0	1.0
Ann	31.2	14.8	9.1	1.7

+ 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	5/23	5/18	5/15	5/12	5/09	5/07	5/04	4/30	4/26
32	5/15	5/08	5/04	4/30	4/27	4/23	4/19	4/15	4/09
28	4/27	4/23	4/19	4/16	4/14	4/11	4/08	4/04	3/31
24	4/16	4/11	4/08	4/05	4/02	3/30	3/27	3/24	3/19
20	4/09	4/03	3/30	3/27	3/24	3/21	3/18	3/14	3/08
16	4/01	3/25	3/21	3/17	3/13	3/10	3/06	3/01	2/23

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	9/19	9/23	9/26	9/28	9/30	10/02	10/05	10/07	10/11
32	9/26	10/01	10/04	10/06	10/09	10/12	10/14	10/18	10/22
28	10/04	10/10	10/15	10/19	10/22	10/26	10/30	11/03	11/10
24	10/17	10/22	10/26	10/30	11/02	11/05	11/08	11/12	11/17
20	10/24	10/30	11/03	11/07	11/10	11/14	11/18	11/22	11/28
16	11/03	11/10	11/14	11/18	11/22	11/25	11/29	12/04	12/10

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	154	150	146	143	140	136	132	127
32	188	180	174	169	165	160	155	150	142
28	213	206	200	195	191	187	182	176	169
24	233	226	221	217	213	209	205	200	193
20	255	247	241	236	231	226	221	215	206
16	279	270	263	258	253	247	242	235	226

***** 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	1353	1063	826	457	202	18	6	21	89	381	767	1174	6357
60	1198	923	671	320	118	4	0	5	33	251	617	1019	5159
57	1105	839	580	247	80	1	0	0	15	186	529	926	4508
55	1043	783	522	203	60	0	0	0	8	148	472	867	4106
50	889	651	381	112	25	0	0	0	1	74	339	723	3195
32	402	244	62	1	0	0	0	0	0	0	47	284	1040

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	72	105	259	539	901	1164	1310	1239	990	653	270	133	7635
55	0	0	6	51	248	474	597	526	308	87	5	4	2306
57	0	0	2	35	206	415	535	464	255	63	2	0	1977
60	0	0	0	19	151	328	442	376	183	36	0	0	1535
65	0	0	0	5	80	192	293	237	89	10	0	0	906
70	0	0	0	1	34	85	160	129	32	2	0	0	443

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	5	23	115	333	668	940	1081	1008	769	425	128	23	5	28	143	476	1144	2084	3165	4173	4942	5367	5495	5518
45	0	8	65	215	515	790	926	853	620	289	69	6	0	8	73	288	803	1593	2519	3372	3992	4281	4350	4356
50	0	1	32	125	369	640	771	698	471	184	33	2	0	1	33	158	527	1167	1938	2636	3107	3291	3324	3326
55	0	0	13	64	239	490	616	543	330	102	10	0	0	0	13	77	316	806	1422	1965	2295	2397	2407	2407
60	0	0	5	27	136	344	461	389	209	46	2	0	0	0	5	32	168	512	973	1362	1571	1617	1619	1619
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	17	77	209	421	619	727	674	496	272	79	5	0	17	94	303	724	1343	2070	2744	3240	3512	3591	3596

(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