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: CAHOKIA, IL **COOP ID: 111160**

Climate Division: IL 8 **NWS Call Sign:** **Elevation: 400 Feet** **Lat: 38˚34N** **Lon: 90˚12W**

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	38.1	20.0	29.1	78	1986	21	41.6	1990	-19+	1977	18	14.4	1977	1114	0	.0	.0	6.8	9.9	27.1	2.1
Feb	44.5	24.2	34.4	81	2000	25	43.3	1976	-16	1982	7	21.1	1978	859	0	.0	.0	10.0	5.4	21.0	1.0
Mar	55.4	35.1	45.3	89	1985	28	51.3	1976	-7	1978	5	38.0	1978	613	0	.0	.0	21.0	.8	14.6	.1
Apr	66.7	45.5	56.1	92+	2001	10	62.7	1981	18+	1990	6	50.5	1997	281	14	.0	.2	28.3	.0	3.3	.0
May	75.7	55.1	65.4	94+	1987	20	71.3	1987	32+	1989	6	58.8	1981	105	116	.0	1.6	31.0	.0	.1	.0
Jun	84.2	64.0	74.1	103	1978	30	80.1	1984	42	1972	1	69.2	1982	6	278	.2	7.5	30.0	.0	.0	.0
Jul	88.7	68.4	78.6	106	1980	16	84.3	1980	44	1972	6	75.4	1996	0	421	1.1	16.3	31.0	.0	.0	.0
Aug	86.8	66.4	76.6	102+	1990	28	82.2	1983	41	1986	28	72.1	1992	2	362	1.0	11.5	31.0	.0	.0	.0
Sep	79.7	58.2	69.0	102+	1990	6	73.7	1998	32+	1989	23	64.1	1974	43	161	.1	4.6	30.0	.0	.1	.0
Oct	69.1	46.6	57.9	92	1971	1	64.3	1971	22	1980	30	52.3	1988	248	26	.0	.3	30.2	.0	2.9	.0
Nov	54.6	35.5	45.1	85	1989	11	52.8	1999	3	1970	24	38.0	1976	599	0	.0	.0	19.7	.5	12.8	.0
Dec	42.6	25.8	34.2	79	1970	4	43.2	1982	-19	1989	23	21.7	1983	956	0	.0	.0	9.1	5.1	23.7	.8
Ann	65.5	45.4	55.5	106	Jul 1980	16	84.3	Jul 1980	-19+	Dec 1989	23	14.4	Jan 1977	4826	1378	2.4	42.0	278.1	21.7	105.6	4.0

\+ 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: 1969-2001

(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	2.18	1.67	2.20	1975	10	5.53	1975	.16	1986
Feb	2.47	2.21	2.47	1999	7	7.34	1986	.71	1983
Mar	3.68	3.36	3.10	1977	28	6.66	1977	1.38	1986
Apr	3.87	3.52	3.00+	1996	29	11.21	1994	.99	1986
May	3.87	3.23	4.37	1990	16	13.54	1995	1.17	1992
Jun	3.69	3.28	2.67	2000	24	8.31	1998	.48	1984
Jul	3.97	3.58	3.47	1991	10	11.08	1987	.16	1984
Aug	3.68	3.46	4.27	1998	18	6.64+	1977	.25	1971
Sep	3.19	2.41	3.15	1993	23	9.37	1993	.12	1979
Oct	3.04	2.46	2.02	1986	1	6.03	1991	.68	1974
Nov	3.73	3.71	2.30+	1996	25	9.30	1985	.04	1976
Dec	2.96	2.23	3.30	1971	10	8.99	1990	.82	1976
Ann	40.33	40.62	4.37	May 1990	16	13.54	May 1995	.04	Nov 1976

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.5	5.3	1.2	.4
Feb	7.4	5.1	1.5	.6
Mar	10.2	7.3	2.4	.9
Apr	10.8	7.6	2.8	.9
May	10.7	7.6	2.6	.7
Jun	9.4	6.5	2.5	1.2
Jul	8.0	6.0	2.7	1.3
Aug	8.4	5.6	2.3	1.1
Sep	7.3	5.0	2.4	1.0
Oct	8.6	5.7	2.1	.9
Nov	9.0	6.6	2.9	1.0
Dec	8.8	5.4	1.9	.9
Ann	107.1	73.7	27.3	10.9

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	.50	.82	1.12	1.43	1.78	2.17	2.66	3.31	4.37	5.40
Feb	.52	.75	1.11	1.44	1.77	2.13	2.53	3.01	3.64	4.65	5.61
Mar	1.57	1.90	2.37	2.75	3.11	3.47	3.86	4.31	4.88	5.74	6.52
Apr	.97	1.33	1.89	2.39	2.89	3.41	3.99	4.68	5.58	7.01	8.34
May	.92	1.28	1.84	2.35	2.85	3.39	3.98	4.69	5.62	7.10	8.49
Jun	1.03	1.38	1.91	2.38	2.83	3.30	3.82	4.44	5.24	6.50	7.68
Jul	.95	1.32	1.90	2.42	2.93	3.47	4.08	4.81	5.76	7.27	8.68
Aug	1.05	1.40	1.93	2.38	2.83	3.30	3.82	4.43	5.22	6.46	7.61
Sep	.43	.69	1.15	1.59	2.06	2.57	3.16	3.89	4.88	6.49	8.05
Oct	.91	1.20	1.63	2.01	2.37	2.74	3.16	3.64	4.27	5.25	6.16
Nov	.58	.90	1.44	1.96	2.49	3.07	3.74	4.56	5.65	7.43	9.13
Dec	.64	.91	1.35	1.74	2.13	2.55	3.02	3.59	4.34	5.53	6.65
Ann	28.92	31.14	33.97	36.12	38.03	39.87	41.77	43.87	46.41	50.09	53.28

\+ 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: 1969-2001
(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	5.9	3.8	1	#
Feb	3.4	2.5	1	#
Mar	2.4	.8	#	#
Apr	.2	.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	1.2	.0	#	0
Dec	2.6	1.5	1	#
Ann	15.7	8.6	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	1987	9	21.8	1987	12	1977	17	8	1977
Feb	10.3	1993	25	20.4	1993	10	1993	25	4	1979
Mar	11.0	1989	6	12.5	1989	11	1989	6	1	1989
Apr	2.6	1997	10	4.0	1997	3	1997	10	#+	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	#	1993	31	#+	1993	0	0	0	0	0
Nov	8.0	1975	27	8.0	1975	8	1975	27	1	1977
Dec	7.2	2000	14	9.6	1995	9+	2000	14	5	2000
Ann	11.0	Mar 1989	6	21.8	Jan 1987	12	Jan 1977	17	8	Jan 1977

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.8	2.0	.6	.2	.0
Feb	1.7	1.0	.5	.2	@
Mar	1.0	.6	.3	.2	@
Apr	.1	.1	.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	.0	.0	.0	.0	.0
Nov	.4	.3	.2	.1	.0
Dec	1.9	1.1	.3	.2	.0
Ann	7.9	5.1	1.9	.9	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	6.4	4.1	2.1	.2
Feb	3.4	2.1	.6	.1
Mar	.8	.7	.5	.1
Apr	@	@	.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	.0
Nov	.6	.4	.1	.0
Dec	2.9	1.9	1.2	.0
Ann	14.1	9.2	4.5	.4

+ 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	5/05	4/30	4/26	4/23	4/19	4/16	4/11	4/05
32	4/26	4/22	4/18	4/15	4/13	4/10	4/07	4/03	3/30
28	4/16	4/11	4/07	4/04	4/01	3/29	3/26	3/22	3/17
24	4/07	4/02	3/28	3/25	3/22	3/18	3/15	3/11	3/05
20	3/28	3/22	3/18	3/14	3/11	3/07	3/04	2/27	2/21
16	3/16	3/08	3/03	2/27	2/22	2/18	2/14	2/08	2/01

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	9/22	9/27	10/01	10/04	10/07	10/10	10/13	10/17	10/22
32	9/29	10/05	10/09	10/13	10/16	10/20	10/23	10/27	11/02
28	10/14	10/20	10/25	10/28	11/01	11/05	11/09	11/13	11/20
24	10/26	11/02	11/07	11/11	11/14	11/18	11/22	11/27	12/03
20	11/04	11/11	11/15	11/19	11/23	11/27	12/01	12/06	12/12
16	11/13	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	191	182	176	171	166	162	156	150	142
32	207	200	195	190	186	182	177	172	165
28	241	231	225	219	213	208	202	195	186
24	264	255	248	243	237	232	226	219	210
20	281	273	267	262	257	252	247	241	233
16	311	302	295	288	283	277	271	264	254

***** 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	1114	859	613	281	105	6	0	2	43	248	599	956	4826
60	959	719	466	164	45	1	0	0	12	140	454	801	3761
57	866	642	381	110	23	0	0	0	4	91	372	716	3205
55	807	590	327	80	14	0	0	0	2	66	320	659	2865
50	665	462	213	29	3	0	0	0	0	24	206	517	2119
32	240	132	17	0	0	0	0	0	0	0	15	151	555

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	150	197	427	723	1035	1263	1444	1382	1108	801	406	218	9154
55	4	11	25	113	336	573	731	669	420	154	21	13	3070
57	0	7	16	83	283	513	669	607	362	117	14	8	2679
60	0	0	8	48	211	423	576	514	279	73	5	0	2137
65	0	0	0	14	116	278	421	362	161	26	0	0	1378
70	0	0	0	3	51	151	268	220	75	6	0	0	774

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	35	84	232	489	784	1027	1195	1131	869	546	228	64	35	119	351	840	1624	2651	3846	4977	5846	6392	6620	6684
45	14	43	141	349	629	877	1040	976	719	395	139	30	14	57	198	547	1176	2053	3093	4069	4788	5183	5322	5352
50	4	16	77	227	474	727	885	821	569	268	73	8	4	20	97	324	798	1525	2410	3231	3800	4068	4141	4149
55	0	4	37	130	329	577	730	666	426	156	37	3	0	4	41	171	500	1077	1807	2473	2899	3055	3092	3095
60	0	2	12	65	201	430	575	511	289	78	11	0	0	2	14	79	280	710	1285	1796	2085	2163	2174	2174
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	30	59	150	296	495	697	820	767	568	342	139	39	30	89	239	535	1030	1727	2547	3314	3882	4224	4363	4402

(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