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: HOOPESTON 1 NE, IL **COOP ID: 114198**

Climate Division: IL 5 **NWS Call Sign:** **Elevation: 710 Feet** **Lat: 40˚28N** **Lon: 87˚39W**

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	32.1	17.5	24.8	69	1950	25	36.9	1990	-24	1985	20	10.2	1977	1246	0	.0	.0	2.3	15.3	28.0	4.8
Feb	37.8	22.3	30.1	73	2000	25	39.7	1998	-25	1905	13	16.1	1978	978	0	.0	.0	5.0	9.6	22.7	2.4
Mar	50.1	32.2	41.2	93	1905	29	48.4	1973	-10	1943	8	31.8	1984	740	0	.0	.0	15.2	2.4	17.7	@
Apr	62.6	41.4	52.0	93	1930	11	58.3	1977	9	1982	7	46.7	1997	397	6	.0	.0	25.9	.1	6.2	.0
May	74.0	52.2	63.1	101	1934	31	70.7	1977	25	1966	10	56.6	1997	162	104	.0	1.1	30.9	.0	.5	.0
Jun	82.7	61.4	72.1	107	1934	1	76.9	1971	34	1945	4	66.9	1982	14	226	.1	5.3	30.0	.0	.0	.0
Jul	85.3	64.8	75.1	111	1936	14	79.4	1999	43+	1972	5	71.6	1971	2	314	.2	7.6	31.0	.0	.0	.0
Aug	83.2	62.7	73.0	106	1918	5	78.8	1995	36	1915	31	68.1	1992	13	259	.1	4.1	31.0	.0	.0	.0
Sep	77.5	55.2	66.4	103	1939	14	72.2	1998	25	1928	26	61.5	1993	67	107	.0	1.8	30.0	.0	.1	.0
Oct	65.1	44.5	54.8	94	1939	8	62.1	1971	9	1925	30	48.3	1988	330	14	.0	.0	29.2	.0	3.3	.0
Nov	50.0	34.2	42.1	81	1950	1	48.3	1999	-10	1950	25	34.5	1976	687	0	.0	.0	14.6	1.3	14.4	.0
Dec	36.9	23.1	30.0	70+	1982	2	38.8	1982	-22	1924	28	17.4	2000	1086	0	.0	.0	4.2	9.8	25.9	2.0
Ann	61.4	42.6	52.1	111	Jul 1936	14	79.4	Jul 1999	-25	Feb 1905	13	10.2	Jan 1977	5722	1030	.4	19.9	249.3	38.5	118.8	9.2

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1902-2001

(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	1.57	1.30	2.21	1904	20	4.01	1975	.08	1986
Feb	1.62	1.36	2.08	1971	5	6.14	1990	.10	1987
Mar	2.92	2.60	3.95	1990	11	6.34	1998	.40	1981
Apr	3.49	2.93	5.34	1994	12	10.32	1994	.94	1971
May	4.18	3.85	3.65	1933	11	8.22	1974	1.10	1988
Jun	4.05	4.31	5.04	1902	28	9.90	1998	.17	1988
Jul	4.09	3.21	3.55	1939	18	8.80	1993	.84	1983
Aug	3.78	2.83	3.65	1924	20	11.88	1977	1.30	1996
Sep	2.72	2.42	3.10	1993	3	8.40	1993	.00	1979
Oct	3.04	2.43	3.01	1983	22	6.62	1991	.89	1979
Nov	2.97	3.06	2.69	1936	2	8.23	1985	.58	1976
Dec	2.47	1.95	2.34	1967	21	6.29	1990	.28	1976
Ann	36.90	36.14	5.34	Apr 1994	12	11.88	Aug 1977	.00	Sep 1979

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.5	4.2	.7	.2
Feb	7.7	3.8	.8	.4
Mar	10.1	6.4	1.9	.5
Apr	11.4	7.4	2.2	.6
May	11.3	7.9	2.9	.8
Jun	10.3	7.4	2.8	1.1
Jul	9.0	6.5	3.1	1.2
Aug	9.1	6.2	2.7	1.1
Sep	7.6	4.9	1.7	.7
Oct	8.4	5.2	1.9	.8
Nov	9.3	6.3	2.0	.7
Dec	9.2	5.8	1.6	.3
Ann	111.9	72.0	24.3	8.4

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	.28	.42	.65	.86	1.08	1.32	1.59	1.92	2.35	3.05	3.72
Feb	.17	.29	.52	.74	.99	1.26	1.58	1.98	2.52	3.42	4.30
Mar	.84	1.12	1.54	1.90	2.25	2.62	3.03	3.51	4.14	5.12	6.03
Apr	1.01	1.34	1.84	2.27	2.70	3.14	3.63	4.20	4.94	6.11	7.20
May	1.33	1.73	2.32	2.82	3.30	3.80	4.35	4.99	5.82	7.11	8.30
Jun	.90	1.28	1.87	2.41	2.94	3.51	4.15	4.92	5.93	7.53	9.05
Jul	.93	1.31	1.91	2.45	2.99	3.56	4.20	4.97	5.97	7.58	9.09
Aug	1.06	1.42	1.96	2.43	2.89	3.38	3.91	4.55	5.37	6.66	7.86
Sep	.39	.75	1.21	1.59	1.97	2.37	2.81	3.34	4.04	5.14	6.17
Oct	.83	1.12	1.56	1.94	2.32	2.71	3.15	3.66	4.33	5.39	6.37
Nov	.70	.98	1.41	1.80	2.18	2.59	3.05	3.59	4.31	5.44	6.51
Dec	.56	.79	1.15	1.48	1.80	2.15	2.54	3.00	3.61	4.57	5.48
Ann	25.88	28.00	30.73	32.80	34.65	36.44	38.28	40.33	42.81	46.42	49.54

\+ 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: 1902-2001
(3) Derived from 1971-2000 serially complete daily data

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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	5.4	4.5	2	1	6.3	1979	28	16.4	1979	9	1997	18	5	1977	4.8	2.1	.5	.1	.0	14.4	8.0	3.2	.0
Feb	4.0	3.1	2	1	5.0	1984	28	10.6	1982	11	1982	13	8	1979	3.9	1.5	.3	@	.0	11.2	6.8	3.8	.3
Mar	2.3	1.9	#	#	4.5	1983	21	7.7	1971	7	1998	9	2	1984	1.9	.8	.2	.0	.0	3.9	1.5	.4	.0
Apr	.5	.0	#	0	3.2	1982	6	5.7	1982	4	1982	9	1	1982	.6	.2	@	.0	.0	.3	.1	.0	.0
May	#	.0	0	0	#	1989	7	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.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	.1	.0	#	0	2.5	1989	20	3.1	1989	2	1989	20	#	1989	.1	@	.0	.0	.0	@	.0	.0	.0
Nov	1.2	.3	#	#	4.2	1974	14	5.1	1972	3	1975	28	#+	2000	1.3	.5	.1	.0	.0	1.0	.1	.0	.0
Dec	4.6	3.6	1	#	6.0	1983	22	14.8	1973	11	1973	23	3+	2000	3.8	1.7	.4	.1	.0	7.5	3.1	1.4	.1
Ann	18.1	13.4	N/A	N/A	6.3	Jan 1979	28	16.4	Jan 1979	11+	Feb 1982	13	8	Feb 1979	16.4	6.8	1.5	.2	.0	38.3	19.6	8.8	.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	5/22	5/17	5/12	5/09	5/05	5/02	4/29	4/24	4/19
32	5/08	5/03	4/29	4/26	4/23	4/19	4/16	4/12	4/07
28	4/26	4/21	4/18	4/15	4/12	4/09	4/06	4/02	3/28
24	4/15	4/11	4/07	4/05	4/02	3/30	3/28	3/24	3/20
20	4/09	4/03	3/30	3/27	3/23	3/20	3/17	3/12	3/07
16	3/28	3/22	3/18	3/14	3/10	3/06	3/02	2/26	2/20

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	9/23	9/27	9/29	10/01	10/03	10/05	10/08	10/10	10/14
32	9/27	10/03	10/07	10/11	10/14	10/18	10/21	10/26	10/31
28	10/11	10/17	10/21	10/24	10/27	10/31	11/03	11/07	11/13
24	10/21	10/27	10/31	11/03	11/06	11/10	11/13	11/17	11/23
20	11/04	11/10	11/14	11/17	11/20	11/24	11/27	12/01	12/07
16	11/11	11/18	11/22	11/26	11/30	12/03	12/07	12/12	12/18

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	171	164	158	154	150	146	142	137	130
32	196	189	183	178	174	170	165	160	152
28	219	212	207	202	198	194	189	184	177
24	239	232	227	222	218	213	209	203	196
20	265	257	251	246	241	237	232	226	218
16	289	280	274	269	264	259	253	247	239

***** 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	1246	978	740	397	162	14	2	13	67	330	687	1086	5722
60	1091	838	585	264	88	3	0	1	21	207	538	931	4567
57	998	755	500	194	56	1	0	0	8	146	452	838	3948
55	936	703	442	153	40	0	0	0	4	112	398	783	3571
50	791	573	309	74	14	0	0	0	0	51	270	638	2720
32	322	199	41	0	0	0	0	0	0	0	27	224	813

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	99	145	324	599	965	1202	1335	1269	1031	708	330	161	8168
55	0	5	13	62	292	512	622	556	345	107	11	6	2531
57	0	1	8	43	246	453	560	494	289	79	5	0	2178
60	0	0	1	23	185	365	467	402	212	46	1	0	1702
65	0	0	0	6	104	226	314	259	107	14	0	0	1030
70	0	0	0	1	48	113	176	141	41	3	0	0	523

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	12	39	153	369	715	964	1091	1022	791	461	157	34	12	51	204	573	1288	2252	3343	4365	5156	5617	5774	5808
45	3	15	86	241	560	814	936	867	641	320	91	14	3	18	104	345	905	1719	2655	3522	4163	4483	4574	4588
50	0	4	49	143	408	664	781	712	492	201	45	5	0	4	53	196	604	1268	2049	2761	3253	3454	3499	3504
55	0	0	22	74	271	515	626	557	351	112	17	1	0	0	22	96	367	882	1508	2065	2416	2528	2545	2546
60	0	0	4	30	157	371	471	402	222	51	4	0	0	0	4	34	191	562	1033	1435	1657	1708	1712	1712
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	1	18	90	218	446	646	750	698	511	268	81	15	1	19	109	327	773	1419	2169	2867	3378	3646	3727	3742

(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