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: NASHVILLE 4 NE, IL **COOP ID: 116011**

Climate Division: IL 8 **NWS Call Sign:** **Elevation: 515 Feet** **Lat: 38˚22N** **Lon: 89˚18W**

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	37.8	21.8	29.8	70	1967	23	39.7	1990	-18	1977	17	15.4	1977	1091	0	.0	.0	5.6	10.1	25.7	1.8
Feb	44.1	26.4	35.3	76+	1972	29	43.9	1976	-13	1996	3	21.5	1978	834	0	.0	.0	9.8	5.6	19.5	.6
Mar	55.6	35.4	45.5	84+	1986	30	51.7	1973	2+	1980	2	38.7	1984	605	0	.0	.0	20.8	.9	12.5	.0
Apr	66.6	45.1	55.9	90+	1989	26	62.8	1981	22+	1997	9	50.3	1983	289	16	.0	.1	28.2	.0	2.9	.0
May	76.1	55.0	65.6	93+	1987	29	71.9	1987	29	1966	10	60.1	1990	112	129	.0	.6	31.0	.0	.1	.0
Jun	84.9	63.8	74.4	101	1988	25	78.1	1971	43	1990	5	70.1	1974	5	286	.1	6.8	30.0	.0	.0	.0
Jul	88.3	67.7	78.0	106	1980	15	83.6	1980	46	1962	27	75.2	1971	0	403	.5	13.0	31.0	.0	.0	.0
Aug	86.6	65.3	76.0	105+	1980	9	82.3	1980	42	1964	13	72.4+	1992	4	343	.5	9.1	31.0	.0	.0	.0
Sep	79.9	57.9	68.9	100	1984	1	73.9	1998	32	1962	29	63.5	1974	40	157	@	3.3	30.0	.0	.0	.0
Oct	69.0	47.2	58.1	93	1963	11	65.1	1971	21	1962	26	51.1	1988	251	36	.0	.1	30.2	.0	2.0	.0
Nov	54.3	36.6	45.5	82	1987	2	52.0	1999	6	1991	8	38.1	1976	587	0	.0	.0	18.7	.5	11.2	.0
Dec	42.1	26.5	34.3	73	1982	2	43.0	1982	-21	1989	22	20.7	1989	951	0	.0	.0	8.0	5.4	21.7	1.0
Ann	65.4	45.7	55.6	106	Jul 1980	15	83.6	Jul 1980	-21	Dec 1989	22	15.4	Jan 1977	4769	1370	1.1	33.0	274.3	22.5	95.6	3.4

\+ 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: 1948-2001

(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	1.90	3.96	1982	31	6.92	1982	.10	1986
Feb	2.34	2.27	3.49	1986	2	5.28	1986	.54	1996
Mar	3.48	3.12	2.80	1977	28	6.65	1973	.84	1981
Apr	3.86	3.10	4.27	1996	29	9.63	1996	.60	1977
May	4.10	3.15	4.70	1961	8	16.83	1995	1.12	1988
Jun	3.68	3.00	4.02	2000	17	9.99	2000	.78	1992
Jul	3.66	3.33	3.02	1979	28	8.60	2000	.47	1989
Aug	2.73	2.23	4.35	1961	10	6.21	1977	.79	1992
Sep	3.22	2.89	3.50	1991	4	8.20	1993	.20	1985
Oct	3.00	2.62	3.85	1969	12	8.50	1983	1.05	1999
Nov	3.78	3.38	3.42	1993	14	12.14	1985	.31	1999
Dec	2.99	2.09	3.81	1967	21	8.55	1982	.57	1980
Ann	39.02	39.88	4.70	May 1961	8	16.83	May 1995	.10	Jan 1986

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.0	4.7	1.3	.4
Feb	7.6	4.7	1.3	.4
Mar	10.3	6.9	2.2	.9
Apr	10.3	6.9	2.4	1.0
May	9.7	7.0	2.8	1.0
Jun	8.8	6.3	2.6	.9
Jul	8.0	5.7	2.5	1.0
Aug	7.4	5.1	1.8	.7
Sep	6.6	4.5	2.1	1.1
Oct	7.4	5.3	2.1	.7
Nov	9.0	6.4	2.6	.9
Dec	8.3	5.5	2.0	.7
Ann	101.4	69.0	25.7	9.7

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	1.77	2.17	2.66	3.31	4.37	5.39
Feb	.68	.90	1.23	1.52	1.81	2.10	2.43	2.81	3.31	4.09	4.81
Mar	1.17	1.50	1.98	2.39	2.79	3.19	3.63	4.15	4.81	5.84	6.79
Apr	.92	1.28	1.85	2.35	2.85	3.38	3.97	4.67	5.60	7.06	8.43
May	1.03	1.42	2.01	2.54	3.06	3.62	4.23	4.96	5.92	7.43	8.84
Jun	.87	1.21	1.75	2.23	2.71	3.21	3.78	4.46	5.35	6.76	8.08
Jul	1.15	1.50	2.01	2.46	2.88	3.32	3.81	4.38	5.11	6.25	7.31
Aug	.84	1.10	1.48	1.82	2.14	2.47	2.84	3.27	3.82	4.69	5.49
Sep	.57	.86	1.33	1.77	2.21	2.70	3.25	3.92	4.82	6.26	7.63
Oct	.89	1.18	1.60	1.97	2.33	2.71	3.12	3.60	4.23	5.21	6.12
Nov	.74	1.08	1.63	2.14	2.66	3.22	3.85	4.60	5.61	7.22	8.76
Dec	.58	.85	1.29	1.69	2.10	2.54	3.04	3.64	4.43	5.71	6.92
Ann	27.53	29.75	32.59	34.75	36.67	38.53	40.44	42.57	45.14	48.89	52.12

\+ 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: 1948-2001
(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	5.7	3.0	2	1	14.0	1982	31	23.0	1977	16	1977	24	10	1977	3.3	1.7	.6	.2	@	8.8	5.0	2.4	1.2
Feb	4.1	2.0	2	#	8.2	1982	9	21.0	1982	33	1982	13	20	1982	2.7	1.1	.4	.1	.0	6.1	4.0	2.5	.9
Mar	1.7	.8	#	#	6.0	1975	10	9.0	1975	10	1984	1	2	1978	1.1	.5	.1	.1	.0	1.6	.7	.3	.0
Apr	.6	.0	#	0	12.2	1971	6	13.4	1971	12	1971	6	1	1971	.2	.2	@	@	@	.2	.1	.1	.1
May	.0	.0	0	0	.0	0	0	.0	0	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	1.8	1993	31	2.0	1993	2	1993	31	#	1993	.1	@	.0	.0	.0	@	.0	.0	.0
Nov	1.0	.0	#	0	8.2	1980	27	9.0	1980	8	1980	28	1	1980	.3	.2	.1	.1	.0	.6	.4	.2	.0
Dec	3.3	2.1	1	#	8.9	1973	20	15.7	1973	11	2000	30	5	2000	1.9	1.0	.4	.2	.0	3.3	1.3	.8	.0
Ann	16.5	7.9	N/A	N/A	14.0	Jan 1982	31	23.0	Jan 1977	33	Feb 1982	13	20	Feb 1982	9.6	4.7	1.6	.7	@	20.6	11.5	6.3	2.2

+ 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	5/04	4/29	4/25	4/22	4/19	4/16	4/13	4/09	4/04
32	4/22	4/17	4/14	4/11	4/08	4/06	4/03	3/30	3/25
28	4/14	4/09	4/05	4/02	3/31	3/28	3/25	3/21	3/17
24	4/06	4/01	3/28	3/25	3/22	3/19	3/16	3/12	3/07
20	3/24	3/17	3/12	3/08	3/05	3/01	2/25	2/20	2/13
16	3/12	3/04	2/27	2/23	2/19	2/14	2/10	2/05	1/28

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	201	192	186	181	175	170	165	158	150
32	223	215	209	204	199	195	190	184	176
28	242	235	230	226	222	218	214	209	202
24	267	258	251	246	241	236	230	224	215
20	293	284	277	272	267	261	256	249	240
16	317	309	302	297	292	287	282	276	267

***** 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	1091	834	605	289	112	5	0	4	40	251	587	951	4769
60	936	697	456	173	52	1	0	0	10	147	442	796	3710
57	843	619	370	117	29	0	0	0	4	99	361	711	3153
55	783	567	316	86	19	0	0	0	2	74	309	654	2810
50	640	441	201	32	6	0	0	0	0	29	197	512	2058
32	219	121	14	0	0	0	0	0	0	0	12	147	513

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	151	211	432	716	1041	1271	1426	1362	1107	808	415	218	9158
55	3	13	22	112	346	581	713	649	419	169	22	12	3061
57	0	9	14	83	295	521	651	587	361	132	14	8	2675
60	0	3	7	49	224	431	558	494	277	87	5	0	2135
65	0	0	0	16	129	286	403	343	157	36	0	0	1370
70	0	0	0	4	62	155	252	204	71	10	0	0	758

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	38	86	238	491	799	1040	1186	1123	877	570	228	65	38	124	362	853	1652	2692	3878	5001	5878	6448	6676	6741
45	11	42	146	352	644	890	1031	968	727	423	137	33	11	53	199	551	1195	2085	3116	4084	4811	5234	5371	5404
50	3	17	76	228	489	740	876	813	578	288	71	12	3	20	96	324	813	1553	2429	3242	3820	4108	4179	4191
55	0	4	40	127	341	590	721	658	432	171	33	3	0	4	44	171	512	1102	1823	2481	2913	3084	3117	3120
60	0	0	10	64	211	440	566	503	293	88	13	0	0	0	10	74	285	725	1291	1794	2087	2175	2188	2188
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	19	51	139	291	510	712	822	771	575	343	123	35	19	70	209	500	1010	1722	2544	3315	3890	4233	4356	4391

(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