

# Climatology of the United States

No. 20

1971-2000

Station: RANTOUL, IL

COOP ID: 117150

Climate Division: IL 5

NWS Call Sign:

Elevation: 740 Feet

Lat: 40°19N

Lon: 88°10W

## 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	32.6	13.7	23.2	68+	1967	24	35.4	1990	-27	1985	20	8.1	1977	1298	0	.0	.0	2.2	15.0	29.6	5.9
Feb	38.2	18.5	28.4	72+	2000	26	38.9	1998	-19	1996	3	15.1	1978	1026	0	.0	.0	5.0	9.7	24.7	3.3
Mar	49.9	29.0	39.5	85	1986	30	48.6	1973	-13	1980	2	31.0	1984	792	0	.0	.0	14.2	2.2	20.1	.2
Apr	62.7	38.7	50.7	90	1986	26	57.0	1977	10	1982	7	45.9	1997	434	5	.0	@	25.5	.1	7.1	.0
May	74.5	50.2	62.4	97+	1991	29	70.7	1991	26	1966	10	56.3	1997	183	102	.0	1.8	30.9	.0	.3	.0
Jun	84.3	60.2	72.3	104+	1988	25	77.9	1971	38	1993	1	67.0	1982	18	234	.2	7.6	30.0	.0	.0	.0
Jul	87.4	63.5	75.5	109	1954	14	79.9	1983	43	2001	2	71.5	2000	2	326	.5	10.1	31.0	.0	.0	.0
Aug	85.3	61.1	73.2	102+	1988	17	80.3	1995	38	1986	29	68.6	1992	14	269	.2	6.0	31.0	.0	.0	.0
Sep	79.2	52.7	66.0	101	1953	2	71.3	1978	29	2001	25	60.9	1975	76	104	.0	2.8	30.0	.0	.1	.0
Oct	66.5	41.1	53.8	91	1954	3	62.3	1971	21+	2000	9	47.4	1988	360	14	.0	@	29.2	.0	5.6	.0
Nov	50.7	30.8	40.8	81	1968	1	46.8	1999	-5	1950	24	32.7	1996	728	0	.0	.0	15.3	1.5	18.1	.0
Dec	37.8	20.3	29.1	70+	1998	7	36.8	1982	-22	1989	23	15.8	1989	1115	0	.0	.0	4.2	9.2	27.4	2.5
Ann	62.4	40.0	51.2	109	Jul 1954	14	80.3	Aug 1995	-27	Jan 1985	20	8.1	Jan 1977	6046	1054	.9	28.3	248.5	37.7	133.0	11.9

+ 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](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

Issue Date: February 2004

(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

072-A

**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: RANTOUL, IL**

**COOP ID: 117150**

**Climate Division: IL 5**

**NWS Call Sign:**

**Elevation: 740 Feet**

**Lat: 40°19N**

**Lon: 88°10W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.72	1.30	2.61	1959	21	5.06	1975	.02	1986	7.9	4.7	1.0	.3	.18	.31	.54	.78	1.04	1.33	1.68	2.10	2.69	3.66	4.60
Feb	1.78	1.62	2.00	2001	25	4.87	1997	.08	1977	6.1	4.1	1.1	.4	.19	.32	.57	.81	1.08	1.38	1.73	2.17	2.76	3.75	4.71
Mar	3.06	2.86	3.15	1990	11	6.00	1998	.70	1986	8.8	6.0	2.2	.7	.84	1.13	1.57	1.96	2.33	2.73	3.17	3.68	4.36	5.41	6.40
Apr	3.64	3.12	4.50	1994	12	9.85	1994	.67	1976	10.6	7.7	2.4	.7	1.01	1.35	1.88	2.34	2.78	3.25	3.77	4.39	5.19	6.44	7.61
May	4.21	3.77	6.01	1956	27	7.63	1974	.75	1992	10.4	7.7	3.0	1.1	1.27	1.67	2.27	2.78	3.28	3.80	4.37	5.04	5.91	7.27	8.53
Jun	3.88	3.59	2.99	1958	10	8.91	1998	.23	1988	8.5	6.4	2.9	1.2	.66	1.00	1.56	2.10	2.64	3.24	3.91	4.74	5.83	7.61	9.31
Jul	4.39	3.76	5.05	1987	30	10.60	1979	.70	1974	7.9	6.0	3.2	1.6	.70	1.08	1.71	2.32	2.94	3.62	4.41	5.36	6.64	8.71	10.69
Aug	4.35	3.35	6.15	1977	6	12.82	1977	.77	1976	8.6	6.2	2.9	1.2	1.02	1.42	2.06	2.63	3.19	3.79	4.47	5.27	6.33	8.00	9.58
Sep	2.95	2.36	3.87	1970	22	8.26	1993	.00	1979	6.9	5.1	2.0	.9	.41	.79	1.30	1.71	2.12	2.56	3.05	3.63	4.39	5.60	6.74
Oct	2.91	2.35	3.50	1983	22	7.61	1991	.81	1974	7.4	5.5	2.2	.8	.93	1.20	1.61	1.96	2.30	2.65	3.03	3.48	4.06	4.95	5.78
Nov	3.17	2.88	2.40	1982	23	7.99	1985	.52	1976	8.4	6.1	1.9	.9	.78	1.07	1.54	1.95	2.36	2.79	3.27	3.84	4.59	5.77	6.88
Dec	2.69	2.25	2.86	1966	7	6.58	1990	.02	1976	7.9	5.7	2.0	.6	.47	.70	1.09	1.46	1.84	2.25	2.71	3.28	4.03	5.25	6.42
Ann	38.75	37.94	6.15	Aug 1977	6	12.82	Aug 1977	.00	Sep 1979	99.4	71.2	26.8	10.4	26.84	29.12	32.06	34.29	36.28	38.21	40.21	42.43	45.12	49.03	52.43

+ 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

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normals/usnormals.html)

# 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](http://www.ncdc.noaa.gov)

Station: RANTOUL, IL

COOP ID: 117150

Climate Division: IL 5

NWS Call Sign:

Elevation: 740 Feet

Lat: 40° 19N

Lon: 88° 10W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	4.5	5.5	2	1	4.0	1982	12	12.6	1994	18	1999	14	10	1999	2.0	1.6	.4	.0	.0	-9.9	-9.9	-9.9	-9.9
Feb	2.3	.3	3	1	16.0	1982	1	16.0	1982	22	1982	12	19	1982	1.2	.8	.4	.1	.1	-9.9	-9.9	-9.9	-9.9
Mar	2.4	2.4	#	#	7.0	1983	21	7.0	1983	8	1984	14	2	1984	.7	.5	.3	.1	.0	.6	.4	.3	.0
Apr	.4	.0	#	0	4.0	1994	6	6.0	1982	6	1982	9	1	1982	.2	.1	.1	.0	.0	.2	.2	@	.0
May	#	.0	0	0	#	1989	6	#	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	#	.0	#	0	#	1997	27	#+	1997	#	1997	27	#	1997	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.6	#	#	0	7.0	1975	27	7.0	1975	11	1980	28	1	1980	.3	.2	@	@	.0	.1	.0	.0	.0
Dec	4.5	2.9	1	#	6.8	1973	19	17.7	1973	14	1983	31	7	1983	1.0	.8	.4	.1	.0	2.6	1.9	1.5	.1
Ann	14.7	11.1	N/A	N/A	16.0	Feb 1982	1	17.7	Dec 1973	22	Feb 1982	12	19	Feb 1982	5.4	4.0	1.6	.3	.1	-9.9	-9.9	-9.9	-9.9

+ 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

Complete documentation available from:

[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

**Climatography  
of the United States  
No. 20  
1971-2000**

**Station: RANTOUL, IL**

**COOP ID: 117150**

**Climate Division: IL 5**

**NWS Call Sign:**

**Elevation: 740 Feet**

**Lat: 40° 19N**

**Lon: 88° 10W**

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	5/17	5/12	5/08	5/06	5/03	4/30	4/27	4/24	4/19
32	5/06	5/02	4/29	4/26	4/23	4/21	4/18	4/15	4/10
28	4/25	4/21	4/17	4/15	4/12	4/09	4/07	4/03	3/30
24	4/13	4/09	4/06	4/03	3/31	3/28	3/26	3/22	3/18
20	4/08	4/02	3/29	3/25	3/22	3/18	3/15	3/10	3/04
16	4/01	3/25	3/20	3/16	3/12	3/08	3/04	2/27	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	9/19	9/24	9/27	9/30	10/02	10/05	10/08	10/11	10/16
32	9/27	10/02	10/06	10/09	10/12	10/15	10/18	10/21	10/26
28	10/08	10/13	10/17	10/21	10/24	10/27	10/30	11/03	11/08
24	10/17	10/23	10/28	10/31	11/04	11/07	11/11	11/15	11/21
20	11/03	11/08	11/12	11/15	11/18	11/21	11/24	11/28	12/03
16	11/09	11/15	11/20	11/23	11/27	11/30	12/04	12/08	12/14
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	169	163	159	155	152	149	145	141	135
32	187	182	178	174	171	168	164	160	154
28	215	208	203	198	194	190	185	180	173
24	241	233	227	222	217	212	207	201	193
20	264	256	250	245	241	236	231	225	217
16	288	278	271	265	259	254	247	240	231

\* 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

Complete documentation available from:

[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

**Climatography  
of the United States  
No. 20  
1971-2000**

**Station: RANTOUL, IL**

**COOP ID: 117150**

**Climate Division: IL 5      NWS Call Sign:      Elevation: 740 Feet      Lat: 40°19N      Lon: 88°10W**

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	1298	1026	792	434	183	18	2	14	76	360	728	1115	6046
60	1143	886	637	297	105	4	0	2	27	234	578	960	4873
57	1050	802	551	224	70	2	0	0	12	171	490	867	4239
55	988	748	493	181	51	1	0	0	6	135	432	807	3842
50	842	619	355	93	21	0	0	0	1	66	299	664	2960
32	363	226	58	0	0	0	0	0	0	0	29	238	914

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	88	124	289	561	942	1206	1348	1278	1018	677	291	146	7968
55	0	2	11	52	280	517	635	565	334	98	4	2	2500
57	0	0	7	35	237	458	573	503	280	73	2	0	2168
60	0	0	0	18	179	370	480	412	205	43	0	0	1707
65	0	0	0	5	102	234	326	269	104	14	0	0	1054
70	0	0	0	1	49	122	187	151	40	3	0	0	553

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	8	30	126	340	697	963	1095	1023	782	439	132	28	8	38	164	504	1201	2164	3259	4282	5064	5503	5635	5663
45	2	10	70	222	542	813	940	868	632	297	72	8	2	12	82	304	846	1659	2599	3467	4099	4396	4468	4476
50	0	2	36	126	392	663	785	713	484	186	32	3	0	2	38	164	556	1219	2004	2717	3201	3387	3419	3422
55	0	1	13	64	259	513	630	558	341	99	12	0	0	1	14	78	337	850	1480	2038	2379	2478	2490	2490
60	0	0	1	29	145	369	475	404	217	45	2	0	0	0	1	30	175	544	1019	1423	1640	1685	1687	1687
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	4	22	82	213	434	639	743	690	503	273	80	16	4	26	108	321	755	1394	2137	2827	3330	3603	3683	3699

(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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)