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: RUSHVILLE, IL **COOP ID: 117551**

Climate Division: IL 3 **NWS Call Sign:** **Elevation: 660 Feet** **Lat: 40˚07N** **Lon: 90˚34W**

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	32.2	14.6	23.4	74	1909	23	35.4	1990	-21+	1985	20	9.6	1977	1290	0	.0	.0	2.7	14.5	28.6	4.8
Feb	38.3	19.7	29.0	78+	1972	29	39.3	1998	-26	1905	13	14.8	1978	1008	0	.0	.0	6.2	9.2	23.6	2.5
Mar	50.0	30.3	40.2	90	1907	21	46.7	2000	-11	1960	5	31.3	1978	771	0	.0	.0	16.1	2.0	17.7	.2
Apr	62.7	41.1	51.9	94	1930	10	57.7	1977	9	1920	5	45.7	1983	400	6	.0	@	26.4	.1	4.6	.0
May	73.0	51.3	62.2	105	1934	31	67.9+	1987	26	1966	10	57.4	1983	162	74	.0	.5	30.9	.0	.1	.0
Jun	82.0	60.8	71.4	104+	1934	28	76.3	1971	39	1903	12	66.3	1982	14	207	.1	4.8	30.0	.0	.0	.0
Jul	86.5	65.3	75.9	113	1936	15	80.1	1983	46+	1975	13	72.4	1971	0	336	.3	10.7	31.0	.0	.0	.0
Aug	84.4	62.8	73.6	111+	1934	9	80.3	1983	41	1934	29	68.6	1992	12	277	.4	7.1	31.0	.0	.0	.0
Sep	77.5	54.3	65.9	103	1913	1	71.2	1998	26	1942	28	59.3	1974	71	99	.0	2.2	30.0	.0	.2	.0
Oct	66.0	42.9	54.5	93+	1939	7	60.8	1971	4	1925	30	48.0	1987	338	11	.0	.1	29.4	.0	4.0	.0
Nov	50.0	31.1	40.6	84	1950	1	48.5	1999	-8	1964	30	33.5	1976	734	0	.0	.0	15.4	1.7	16.2	.1
Dec	37.1	20.5	28.8	76	1970	3	36.2	1982	-22	1924	28	14.7	1983	1122	0	.0	.0	4.9	8.7	26.7	2.1
Ann	61.6	41.2	51.5	113	Jul 1936	15	80.3	Aug 1983	-26	Feb 1905	13	9.6	Jan 1977	5922	1010	.8	25.4	254.0	36.2	121.7	9.7

\+ 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

Issue Date: February 2004

(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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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	1.55	1.37	3.50	1907	19	3.85	1974	.08	1986
Feb	1.89	1.70	2.48	1997	21	4.63	1990	.20	1987
Mar	3.05	2.95	3.17	1964	4	10.43	1973	.69	1994
Apr	3.89	3.77	3.10	1973	21	7.48	1983	.56	1971
May	5.14	4.38	4.95	1984	20	14.26	1996	.38	1992
Jun	3.92	3.36	4.12	1990	20	12.29	1990	.41	1991
Jul	3.87	3.19	3.90	1986	9	11.30	1981	.65	1988
Aug	3.54	3.57	5.87	2001	23	8.14	1980	.42	1992
Sep	3.63	3.14	4.77	1911	24	10.20	1993	.16	1979
Oct	3.25	2.55	5.20	1991	4	10.83	1991	.70	1987
Nov	3.16	2.91	2.65	1985	18	10.36	1985	.15	1999
Dec	2.43	2.52	3.10	1949	21	6.38	1982	.24	1976
Ann	39.32	38.13	5.87	Aug 2001	23	14.26	May 1996	.08	Jan 1986

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	5.7	3.8	1.0	.4
Feb	5.4	3.6	1.2	.4
Mar	7.9	6.1	2.0	.8
Apr	8.5	6.8	3.1	1.1
May	9.1	7.2	3.2	1.6
Jun	7.9	6.4	2.9	1.0
Jul	6.4	5.7	2.5	1.2
Aug	6.8	5.5	2.6	1.2
Sep	6.2	5.2	2.4	1.1
Oct	6.6	5.1	2.2	.9
Nov	6.8	5.6	2.3	.8
Dec	6.1	4.8	1.6	.6
Ann	83.4	65.8	27.0	11.1

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	.17	.29	.51	.72	.95	1.21	1.51	1.89	2.40	3.24	4.06
Feb	.44	.62	.89	1.14	1.38	1.65	1.94	2.29	2.74	3.47	4.15
Mar	.79	1.07	1.52	1.91	2.29	2.69	3.15	3.68	4.38	5.48	6.51
Apr	1.28	1.65	2.19	2.65	3.09	3.55	4.05	4.64	5.39	6.56	7.64
May	1.09	1.57	2.32	3.00	3.69	4.42	5.25	6.24	7.55	9.64	11.61
Jun	.87	1.23	1.81	2.33	2.85	3.40	4.02	4.76	5.74	7.30	8.77
Jul	.73	1.08	1.64	2.17	2.70	3.27	3.92	4.71	5.75	7.43	9.02
Aug	.90	1.24	1.75	2.21	2.66	3.13	3.66	4.28	5.10	6.39	7.60
Sep	.64	.96	1.49	1.99	2.49	3.04	3.67	4.42	5.43	7.06	8.61
Oct	.70	1.00	1.48	1.91	2.34	2.81	3.33	3.95	4.77	6.08	7.32
Nov	.55	.83	1.29	1.72	2.16	2.64	3.19	3.85	4.74	6.17	7.53
Dec	.51	.73	1.09	1.42	1.74	2.09	2.48	2.95	3.58	4.57	5.51
Ann	25.24	27.85	31.26	33.89	36.25	38.55	40.95	43.63	46.90	51.70	55.90

\+ 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	6.2	5.0	3	1
Feb	5.4	6.2	2	#
Mar	2.4	.0	#	0
Apr	.6	.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	.9	.0	#	0
Dec	4.3	2.5	1	#
Ann	19.8	13.7	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	12.0	1979	13	26.5	1979	24	1979	31	15+	1999
Feb	7.5	1981	10	14.3	1986	24	1979	10	16	1979
Mar	6.0	1978	2	14.5	1978	11	1978	7	4	1978
Apr	4.0	1982	8	6.5	1980	4+	1982	8	#+	1983
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	#	1980	28	#+	1980	0	0	0	0	0
Nov	5.5	1971	29	7.0	1971	5	1975	28	1	1977
Dec	10.0	1973	19	22.0	1973	14	1977	11	4	1983
Ann	12.0	Jan 1979	13	26.5	Jan 1979	24+	Feb 1979	10	16	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.7	2.1	.5	.1	@
Feb	1.8	1.6	.4	.2	.0
Mar	1.0	.8	.3	@	.0
Apr	.3	.3	.1	.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	@	.0
Dec	1.8	1.4	.5	.2	@
Ann	8.0	6.5	2.0	.5	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	9.1	4.4	1.8	.0
Feb	10.2	7.0	4.0	.0
Mar	2.0	.9	.4	.1
Apr	.2	.1	.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	.3	.2	.0	.0
Dec	4.2	2.2	1.3	.4
Ann	26.0	14.8	7.5	.5

+ 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	5/19	5/13	5/09	5/05	5/02	4/28	4/25	4/20	4/14
32	4/25	4/21	4/18	4/16	4/14	4/11	4/09	4/06	4/02
28	4/17	4/13	4/11	4/09	4/07	4/04	4/02	3/31	3/27
24	4/10	4/05	4/03	3/31	3/29	3/26	3/24	3/21	3/17
20	4/03	3/29	3/24	3/21	3/17	3/14	3/11	3/06	2/28
16	3/28	3/20	3/14	3/09	3/05	2/28	2/24	2/18	2/10

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	9/28	10/01	10/04	10/08	10/11	10/15	10/20
32	9/29	10/05	10/09	10/12	10/15	10/18	10/22	10/25	10/31
28	10/14	10/19	10/23	10/26	10/28	10/31	11/03	11/07	11/12
24	10/24	10/29	11/02	11/05	11/08	11/11	11/15	11/19	11/24
20	10/31	11/06	11/11	11/15	11/19	11/22	11/26	12/01	12/08
16	11/11	11/17	11/21	11/25	11/29	12/02	12/06	12/10	12/17

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	170	164	159	155	150	145	140	132
32	203	197	192	188	184	180	176	171	164
28	220	215	211	207	204	201	197	193	188
24	244	237	232	228	224	220	216	211	204
20	274	264	257	251	245	240	234	226	216
16	298	288	280	274	268	262	256	248	238

***** 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	1290	1008	771	400	162	14	0	12	71	338	734	1122	5922
60	1135	868	618	268	84	3	0	2	23	212	585	967	4765
57	1042	788	533	200	51	1	0	0	9	150	500	874	4148
55	980	736	475	160	34	0	0	0	4	115	445	815	3764
50	835	606	342	82	11	0	0	0	0	53	316	671	2916
32	359	228	57	0	0	0	0	0	0	0	44	243	931

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	93	144	309	597	935	1183	1359	1288	1018	696	301	144	8067
55	0	8	14	67	256	493	646	575	332	98	12	3	2504
57	0	4	10	46	211	433	584	513	277	70	6	0	2154
60	0	0	2	25	151	345	491	422	201	39	2	0	1678
65	0	0	0	6	74	207	336	277	99	11	0	0	1010
70	0	0	0	1	28	96	191	155	37	1	0	0	509

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	44	161	396	717	969	1131	1061	803	479	156	33	12	56	217	613	1330	2299	3430	4491	5294	5773	5929	5962
45	3	19	91	269	563	819	976	906	653	333	87	10	3	22	113	382	945	1764	2740	3646	4299	4632	4719	4729
50	0	7	47	165	411	669	821	751	505	216	42	4	0	7	54	219	630	1299	2120	2871	3376	3592	3634	3638
55	0	1	20	85	270	519	666	596	363	118	17	0	0	1	21	106	376	895	1561	2157	2520	2638	2655	2655
60	0	0	7	43	153	371	511	441	240	53	4	0	0	0	7	50	203	574	1085	1526	1766	1819	1823	1823
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	6	32	102	236	445	649	774	723	524	288	95	16	6	38	140	376	821	1470	2244	2967	3491	3779	3874	3890

(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