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: DANVILLE, IL **COOP ID: 112140**

Climate Division: IL 5 **NWS Call Sign:** **Elevation: 558 Feet** **Lat: 40˚08N** **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	34.2	17.3	25.8	70	1950	25	37.1	1990	-26+	1994	19	10.2	1977	1217	0	.0	.0	3.1	13.7	27.3	4.2
Feb	40.0	21.9	31.0	74	2000	25	40.0	1998	-22+	1982	10	16.9	1978	954	0	.0	.0	6.5	8.2	22.7	2.6
Mar	52.0	31.7	41.9	84+	1986	31	49.2	1973	-13+	1960	6	32.0	1984	718	0	.0	.0	17.0	1.6	17.3	.1
Apr	64.5	41.0	52.8	92	1930	11	58.4	1981	12	1982	7	47.6	1983	373	6	.0	.1	27.1	@	6.2	.0
May	75.2	50.7	63.0	103	1925	22	70.3	1991	25	1966	10	57.9	1997	155	92	.0	.9	30.9	.0	.4	.0
Jun	83.5	60.0	71.8	105	1954	26	76.4	1971	36+	1945	4	67.1	1982	14	217	.1	5.8	30.0	.0	.0	.0
Jul	86.2	64.3	75.3	112	1936	14	79.6	1980	41	1947	23	72.1	1996	0	319	.2	8.4	31.0	.0	.0	.0
Aug	84.1	62.6	73.4	107	1918	5	78.8	1995	37	1946	30	68.6	1992	9	269	.1	5.1	31.0	.0	.0	.0
Sep	78.4	54.7	66.6	102+	1954	5	71.6	1998	26	1928	26	61.8	1974	63	110	.0	2.0	30.0	.0	.1	.0
Oct	66.6	43.3	55.0	98	1940	13	61.3	1971	15	1925	31	48.2	1976	325	14	.0	.0	29.6	.0	4.9	.0
Nov	51.6	33.8	42.7	82+	1950	1	48.8	1990	-6+	1950	25	34.1	1976	669	0	.0	.0	16.1	1.0	14.9	.0
Dec	38.7	23.0	30.9	72	1982	2	39.6	1984	-25	1989	22	18.0	1989	1058	0	.0	.0	5.2	7.6	24.6	1.7
Ann	62.9	42.0	52.5	112	Jul 1936	14	79.6	Jul 1980	-26+	Jan 1994	19	10.2	Jan 1977	5555	1027	.4	22.3	257.5	32.1	118.4	8.6

\+ 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: 1901-2001

(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	2.05	1.81	2.28	1916	12	5.40	1982	.08	1986
Feb	1.99	1.63	2.45	1990	22	6.29	1990	.40+	1995
Mar	3.17	3.23	3.10	1917	13	6.17	1998	.78	1981
Apr	3.86	3.54	4.06	1970	19	10.86	1994	.59	1976
May	4.47	4.29	3.92	1943	17	9.95	1996	1.72	1980
Jun	4.70	5.08	3.76	1995	25	12.44	1998	.31	1988
Jul	4.39	4.20	5.08	1949	21	12.60	1992	.63	2000
Aug	3.94	3.49	5.40	1968	4	9.84	1979	1.29	1992
Sep	3.03	2.59	3.66	1972	8	9.44	1972	.04	1979
Oct	3.04	2.40	4.62	1969	12	7.10	1990	.88	1971
Nov	3.53	3.31	3.71	1992	1	10.25	1985	.54	1976
Dec	2.79	2.69	2.11	1924	18	6.87	1990	.25	1976
Ann	40.96	40.71	5.40	Aug 1968	4	12.60	Jul 1992	.04	Sep 1979

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.1	5.2	1.2	.3
Feb	8.3	4.6	1.1	.4
Mar	10.6	7.3	2.2	.5
Apr	12.4	8.0	2.5	.8
May	12.0	8.1	2.7	1.0
Jun	10.6	7.4	3.0	1.4
Jul	9.4	7.2	3.2	1.2
Aug	9.4	6.0	2.8	1.4
Sep	8.4	5.1	2.0	.8
Oct	9.0	5.7	1.9	.6
Nov	9.9	6.9	2.4	.9
Dec	10.8	6.2	1.9	.5
Ann	120.9	77.7	26.9	9.8

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	.33	.51	.81	1.09	1.38	1.70	2.06	2.50	3.09	4.04	4.95
Feb	.35	.53	.82	1.09	1.37	1.67	2.01	2.43	2.98	3.88	4.73
Mar	1.20	1.49	1.91	2.27	2.60	2.94	3.32	3.75	4.29	5.14	5.91
Apr	.90	1.26	1.83	2.33	2.84	3.37	3.97	4.68	5.62	7.10	8.50
May	1.50	1.92	2.54	3.07	3.57	4.10	4.66	5.33	6.18	7.51	8.73
Jun	.94	1.37	2.06	2.69	3.33	4.02	4.79	5.72	6.96	8.93	10.81
Jul	.95	1.35	2.00	2.58	3.17	3.79	4.49	5.33	6.44	8.21	9.89
Aug	1.19	1.56	2.12	2.61	3.07	3.56	4.10	4.73	5.54	6.82	8.00
Sep	.48	.73	1.17	1.59	2.02	2.50	3.04	3.70	4.58	6.02	7.40
Oct	.88	1.16	1.60	1.98	2.35	2.73	3.16	3.66	4.31	5.32	6.27
Nov	.92	1.25	1.76	2.21	2.66	3.13	3.64	4.26	5.06	6.33	7.52
Dec	.74	1.01	1.41	1.77	2.12	2.48	2.89	3.37	4.00	4.98	5.91
Ann	30.05	32.19	34.92	36.98	38.80	40.56	42.37	44.37	46.79	50.28	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: 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	4.3	1	1
Feb	3.8	2.8	1	#
Mar	3.8	3.4	#	#
Apr	.2	.0	#	0
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	.2	.0	0	0
Nov	1.3	.1	#	#
Dec	5.9	2.3	1	#
Ann	21.4	12.9	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	7.1	1979	24	21.2	1979	13	1999	11	6	1999
Feb	6.0	1989	5	11.5	1993	10	1978	2	7	1979
Mar	7.6	1989	6	10.0	1988	8	1978	9	3	1984
Apr	4.6	1982	5	4.6	1982	2	1982	5	#+	1993
May	#	1989	6	#	1989	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	3.2	1989	20	4.4	1989	0	0	0	0	0
Nov	8.3	1980	27	8.3	1980	5	1980	27	#+	1997
Dec	13.0	1973	19	23.3	1973	16	1973	20	3+	2000
Ann	13.0	Dec 1973	19	23.3	Dec 1973	16	Dec 1973	20	7	Feb 1979

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.7	2.1	.7	.2	.0
Feb	2.5	1.6	.6	.1	.0
Mar	1.5	.9	.4	.2	.0
Apr	.2	@	@	.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	.1	.1	@	.0	.0
Nov	.7	.3	.1	@	.0
Dec	3.5	1.7	.6	.3	@
Ann	13.2	6.7	2.4	.8	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	9.0	5.1	2.5	@
Feb	5.6	2.4	.9	.0
Mar	1.9	1.1	.6	.0
Apr	.1	.0	.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	.5	.1	@	.0
Dec	5.6	2.7	1.8	.2
Ann	22.7	11.4	5.8	.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	5/23	5/17	5/13	5/09	5/06	5/03	4/29	4/25	4/19
32	5/11	5/05	5/02	4/28	4/25	4/22	4/19	4/15	4/10
28	4/25	4/20	4/17	4/14	4/12	4/09	4/07	4/04	3/30
24	4/16	4/11	4/07	4/04	4/01	3/30	3/27	3/23	3/18
20	4/04	3/30	3/26	3/23	3/21	3/18	3/15	3/11	3/07
16	3/28	3/22	3/17	3/14	3/10	3/07	3/03	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	9/24	9/28	9/30	10/02	10/04	10/06	10/09	10/11	10/15
32	9/29	10/03	10/05	10/08	10/10	10/12	10/15	10/17	10/21
28	10/10	10/15	10/19	10/22	10/25	10/28	11/01	11/05	11/10
24	10/19	10/25	10/30	11/02	11/06	11/10	11/14	11/18	11/25
20	11/01	11/07	11/11	11/14	11/18	11/21	11/25	11/29	12/05
16	11/10	11/17	11/22	11/26	11/30	12/04	12/08	12/13	12/20

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	158	154	150	147	143	138	132
32	188	181	175	171	167	163	159	153	146
28	215	209	204	200	196	192	188	183	176
24	239	232	227	222	218	214	209	204	196
20	260	254	249	245	241	238	234	229	223
16	290	281	275	269	264	259	254	247	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.

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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	1217	954	718	373	155	14	0	9	63	325	669	1058	5555
60	1062	814	569	242	80	3	0	0	20	203	521	903	4417
57	969	732	483	174	49	1	0	0	7	143	438	814	3810
55	907	680	427	136	33	0	0	0	4	110	383	757	3437
50	763	550	299	63	11	0	0	0	0	49	258	613	2606
32	304	183	42	0	0	0	0	0	0	0	25	212	766

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	110	153	346	623	960	1193	1341	1282	1037	712	346	178	8281
55	0	6	18	69	280	503	628	569	351	108	14	10	2556
57	0	2	12	47	233	444	566	507	294	80	9	5	2199
60	0	0	6	25	172	356	473	415	216	46	2	0	1711
65	0	0	0	6	92	217	319	269	110	14	0	0	1027
70	0	0	0	1	39	104	177	144	42	3	0	0	510

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	19	47	173	399	720	962	1104	1046	807	478	173	41	19	66	239	638	1358	2320	3424	4470	5277	5755	5928	5969
45	5	18	101	268	566	812	949	891	657	334	102	22	5	23	124	392	958	1770	2719	3610	4267	4601	4703	4725
50	1	4	53	166	413	662	794	736	508	213	50	6	1	5	58	224	637	1299	2093	2829	3337	3550	3600	3606
55	0	1	29	92	274	512	639	581	364	119	21	0	0	1	30	122	396	908	1547	2128	2492	2611	2632	2632
60	0	0	5	41	158	365	484	426	234	54	5	0	0	0	5	46	204	569	1053	1479	1713	1767	1772	1772
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	7	29	109	249	459	646	755	711	525	297	96	22	7	36	145	394	853	1499	2254	2965	3490	3787	3883	3905

(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