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: MCLEANSBORO, IL **COOP ID: 115515**

Climate Division: IL 9 **NWS Call Sign:** **Elevation: 446 Feet** **Lat: 38˚05N** **Lon: 88˚33W**

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	38.9	20.3	29.6	76	1943	24	39.5	1990	-23	1930	18	13.7	1977	1098	0	.0	.0	6.1	10.1	26.5	2.0
Feb	44.9	24.1	34.5	79+	1972	29	42.2	1976	-13+	1951	2	20.9	1978	854	0	.0	.0	10.0	6.0	21.4	1.1
Mar	55.1	33.7	44.4	90	1929	24	51.4	1973	-5+	1978	5	37.2	1984	639	0	.0	.0	20.4	1.1	15.1	@
Apr	66.0	43.4	54.7	93	1930	11	61.6	1981	20+	1994	7	49.1	1983	321	11	.0	@	27.9	@	3.9	.0
May	75.9	53.0	64.5	100	1911	29	71.0	1987	31+	1976	4	59.9	1976	124	107	.0	.7	30.9	.0	.2	.0
Jun	85.1	62.0	73.6	106	1936	29	77.0	1984	40	1972	1	68.9	1974	6	262	.1	7.9	30.0	.0	.0	.0
Jul	89.2	65.8	77.5	113+	1936	14	80.9	1980	45	1971	31	74.6	2000	0	388	.4	15.1	31.0	.0	.0	.0
Aug	88.0	63.0	75.5	111	1936	27	81.3	1983	43	1915	31	70.6	1992	5	330	.6	12.1	31.0	.0	.0	.0
Sep	81.4	55.1	68.3	108	1925	5	72.9	1998	29+	1942	28	62.1	1974	52	150	.1	5.2	30.0	.0	@	.0
Oct	69.9	43.4	56.7	97	1941	6	63.6	1971	19+	1981	25	50.1	1988	287	27	.0	.2	30.2	.0	4.2	.0
Nov	55.8	34.8	45.3	85	1915	1	51.5	1999	-7	1929	30	37.6	1976	592	0	.0	.0	19.7	.4	13.3	.0
Dec	43.7	24.7	34.2	75	1982	3	43.2	1971	-20	1989	22	20.2	1989	954	0	.0	.0	9.4	5.7	23.7	.9
Ann	66.2	43.6	54.9	113+	Jul 1936	14	81.3	Aug 1983	-23	Jan 1930	18	13.7	Jan 1977	4932	1275	1.2	41.2	276.6	23.3	108.3	4.0

\+ 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

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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	3.15	2.98	4.40	1937	14	10.19	1999	.46	1981
Feb	2.76	2.75	3.64	1945	26	5.65	1989	.64	1996
Mar	4.46	4.14	5.32	1904	25	9.79	1989	.92	1971
Apr	4.59	3.48	7.33	1996	29	12.33	1996	2.30	1987
May	4.67	4.02	4.47	1918	12	11.70	1981	.82	1972
Jun	3.86	3.51	4.20	2000	17	9.82	2000	.87	1978
Jul	3.47	3.33	6.40	1917	27	7.01	1988	.45	1995
Aug	2.97	2.72	4.85	1945	11	6.58	1989	.56	1976
Sep	2.89	2.55	4.81	1931	2	7.72	1993	.74	1981
Oct	2.95	2.22	4.52	1910	4	8.79	1984	.53	2000
Nov	4.54	4.30	3.44	1991	20	9.91	1985	.29	1999
Dec	3.59	3.31	3.70	1918	13	12.16	1982	1.03	1976
Ann	43.90	44.05	7.33	Apr 1996	29	12.33	Apr 1996	.29	Nov 1999

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	5.8	2.0	.6
Feb	9.0	5.7	1.8	.5
Mar	12.6	8.0	3.2	.7
Apr	12.8	8.0	2.8	1.0
May	11.8	8.0	3.2	1.1
Jun	9.7	6.3	2.6	.9
Jul	8.5	5.5	2.4	1.0
Aug	8.6	5.6	2.0	.8
Sep	7.8	4.9	2.1	.8
Oct	9.1	5.3	2.0	.6
Nov	10.7	6.7	3.0	1.1
Dec	10.6	6.9	2.5	.8
Ann	121.1	76.7	29.6	9.9

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	.61	.89	1.35	1.78	2.21	2.67	3.20	3.83	4.68	6.03	7.31
Feb	.88	1.15	1.53	1.86	2.18	2.51	2.88	3.30	3.85	4.70	5.48
Mar	1.70	2.12	2.71	3.20	3.67	4.15	4.66	5.26	6.02	7.19	8.26
Apr	1.55	1.99	2.62	3.16	3.68	4.21	4.79	5.46	6.33	7.68	8.92
May	1.13	1.56	2.24	2.85	3.45	4.09	4.80	5.65	6.76	8.52	10.18
Jun	1.09	1.46	2.01	2.49	2.97	3.46	4.00	4.64	5.48	6.78	8.00
Jul	.86	1.18	1.69	2.14	2.58	3.05	3.58	4.20	5.01	6.30	7.51
Aug	.89	1.18	1.60	1.96	2.31	2.68	3.08	3.56	4.17	5.13	6.02
Sep	.68	.95	1.37	1.75	2.12	2.52	2.97	3.50	4.20	5.31	6.35
Oct	.69	.97	1.40	1.79	2.17	2.58	3.03	3.58	4.29	5.42	6.49
Nov	1.00	1.42	2.08	2.69	3.29	3.93	4.65	5.51	6.65	8.46	10.17
Dec	1.13	1.47	1.98	2.41	2.83	3.26	3.74	4.29	5.01	6.13	7.17
Ann	33.39	35.48	38.12	40.10	41.85	43.54	45.26	47.16	49.44	52.73	55.55

\+ 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	4.9	3.2	1	#
Feb	3.9	2.0	1	#
Mar	2.1	1.0	#	#
Apr	.4	.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	.2	.0	#	0
Nov	.7	.0	#	0
Dec	3.6	2.2	#	#
Ann	15.8	8.4	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	10.0	1978	17	20.7	1977	13	1978	17	7	1977
Feb	8.0	1993	16	19.0	1993	14	1984	29	4	1979
Mar	6.5	1975	10	10.0	1975	13	1984	1	2	1984
Apr	8.5	1971	6	8.5	1971	6	1971	6	#+	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	3.0	1993	30	6.0	1993	3	1993	30	#	1993
Nov	5.5	1980	27	6.0	1980	6	1980	27	1	1980
Dec	7.5	1990	28	13.7	2000	9	1990	28	3	1989
Ann	10.0	Jan 1978	17	20.7	Jan 1977	14	Feb 1984	29	7	Jan 1977

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.8	1.7	.6	.1	@
Feb	2.4	1.4	.4	.2	.0
Mar	1.4	.7	.3	.1	.0
Apr	.1	.1	.1	@	.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	.1	.0	.0
Nov	.4	.2	.1	@	.0
Dec	2.1	1.1	.4	.2	.0
Ann	10.3	5.3	2.0	.6	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	6.7	3.4	2.2	.6
Feb	5.7	3.3	1.5	@
Mar	1.8	.8	.3	.0
Apr	.1	.1	@	.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	.1	@	.0	.0
Nov	.4	.3	.1	.0
Dec	3.9	1.9	.6	.0
Ann	18.7	9.8	4.7	.6

+ 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	5/09	5/04	4/30	4/27	4/24	4/21	4/18	4/14	4/09
32	4/30	4/24	4/21	4/17	4/14	4/11	4/07	4/03	3/29
28	4/15	4/11	4/07	4/04	4/02	3/30	3/27	3/24	3/19
24	4/10	4/05	4/01	3/28	3/25	3/22	3/18	3/14	3/09
20	3/26	3/20	3/16	3/12	3/08	3/05	3/01	2/24	2/18
16	3/14	3/07	3/02	2/26	2/22	2/18	2/14	2/09	2/02

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	9/25	9/29	10/02	10/04	10/07	10/09	10/11	10/14	10/18
32	10/02	10/08	10/12	10/16	10/19	10/22	10/26	10/30	11/04
28	10/14	10/19	10/23	10/26	10/29	11/01	11/04	11/08	11/13
24	10/26	11/01	11/05	11/09	11/13	11/16	11/20	11/25	12/01
20	11/03	11/10	11/15	11/19	11/23	11/27	12/01	12/06	12/13
16	11/17	11/23	11/28	12/02	12/06	12/09	12/14	12/18	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	185	178	173	169	165	161	157	152	145
32	210	202	197	192	187	183	178	172	164
28	231	223	218	214	209	205	201	195	188
24	254	246	241	236	232	228	223	218	211
20	283	275	269	264	259	254	249	243	235
16	313	304	297	291	286	281	275	268	259

***** 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	1098	854	639	321	124	6	0	5	52	287	592	954	4932
60	943	714	491	198	59	1	0	0	16	176	447	799	3844
57	850	636	405	138	33	0	0	0	7	123	366	714	3272
55	790	584	351	104	21	0	0	0	4	93	313	656	2916
50	648	455	232	43	6	0	0	0	0	41	200	514	2139
32	226	123	20	0	0	0	0	0	0	0	12	147	528

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	152	193	404	680	1006	1246	1411	1348	1088	763	410	216	8917
55	3	10	22	94	314	556	698	635	401	144	21	12	2910
57	0	5	14	68	264	496	636	573	344	111	14	8	2533
60	0	0	8	38	197	407	543	480	264	71	5	0	2013
65	0	0	0	11	107	262	388	330	150	27	0	0	1275
70	0	0	0	2	46	135	236	194	69	8	0	0	690

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	76	217	449	763	1009	1165	1102	850	525	223	65	38	114	331	780	1543	2552	3717	4819	5669	6194	6417	6482
45	11	37	131	316	609	859	1010	947	700	377	132	30	11	48	179	495	1104	1963	2973	3920	4620	4997	5129	5159
50	3	17	69	201	454	709	855	792	553	251	76	9	3	20	89	290	744	1453	2308	3100	3653	3904	3980	3989
55	0	3	32	114	308	559	700	637	406	148	35	2	0	3	35	149	457	1016	1716	2353	2759	2907	2942	2944
60	0	0	10	58	186	409	545	483	273	71	12	0	0	0	10	68	254	663	1208	1691	1964	2035	2047	2047
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	22	53	135	272	480	678	796	743	554	335	135	39	22	75	210	482	962	1640	2436	3179	3733	4068	4203	4242

(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/normals/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.
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