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: OTTAWA 5 SW, IL **COOP ID: 116526**

Climate Division: IL 2 **NWS Call Sign:** **Elevation: 525 Feet** **Lat: 41˚20N** **Lon: 88˚55W**

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	30.5	12.2	21.4	68+	1967	24	33.1	1990	-25	1985	20	7.7	1977	1353	0	.0	.0	1.5	15.6	29.0	5.9
Feb	36.4	17.5	27.0	73+	2000	26	38.7	1998	-23	1905	13	14.1	1979	1066	0	.0	.0	4.3	9.9	24.2	2.8
Mar	48.6	28.6	38.6	85+	1986	30	46.1	2000	-8	1943	8	30.4	1984	820	0	.0	.0	14.1	2.5	19.0	.1
Apr	61.8	38.7	50.3	93	1930	11	56.6	1977	12	1997	9	45.5+	1997	447	4	.0	.1	25.3	.0	6.2	.0
May	73.1	49.6	61.4	106	1934	31	68.0	1977	26+	1966	10	55.5	1997	186	72	.0	1.6	30.7	.0	.4	.0
Jun	82.0	59.3	70.7	107	1934	1	76.3	1971	35+	1945	5	66.2	1982	19	189	@	4.9	30.0	.0	.0	.0
Jul	84.9	63.4	74.2	112+	1936	14	79.3	1999	39	1920	19	69.8	1992	3	287	.5	7.9	31.0	.0	.0	.0
Aug	83.2	61.3	72.3	107+	1934	9	78.8	1995	33+	1915	31	66.7	1992	19	243	.1	5.9	31.0	.0	.0	.0
Sep	76.9	52.8	64.9	102+	1925	5	70.3	1978	25+	1942	28	59.4	1993	90	85	.0	2.6	30.0	.0	.1	.0
Oct	65.4	40.9	53.2	94	1963	6	62.0	1971	13	1925	28	46.5	1987	381	14	.0	.2	29.0	.0	4.2	.0
Nov	49.0	29.7	39.4	83	1950	1	46.6	1999	-6	1930	28	31.5	1976	769	0	.0	.0	14.3	1.6	16.5	.1
Dec	35.8	18.2	27.0	70	1970	3	36.4	1982	-23	1924	28	14.5	1983	1178	0	.0	.0	3.4	9.8	27.0	3.1
Ann	60.6	39.4	50.0	112+	Jul 1936	14	79.3	Jul 1999	-25	Jan 1985	20	7.7	Jan 1977	6331	894	.6	23.2	244.6	39.4	126.6	12.0

\+ 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

(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	1.45	1.26	2.00	1938	24	3.44	1974	.33	1981
Feb	1.32	1.14	2.85	1997	21	4.76	1997	.00	1987
Mar	2.60	2.32	3.65	1948	19	5.59	1976	.59+	1997
Apr	3.44	3.47	2.81	1950	25	7.18	1981	.98	1985
May	4.00	4.18	3.20	1974	17	7.23	1974	.27	1992
Jun	4.13	3.89	3.39	1929	12	8.50	1972	.29	1988
Jul	3.64	3.10	8.77	1958	14	9.79	1992	.37	1983
Aug	3.78	2.71	6.61	1924	9	10.76	1972	.36	1996
Sep	3.50	2.96	4.30	1977	1	9.60	1977	.72	1990
Oct	2.59	2.26	2.66	1931	11	8.35	1991	.49	1992
Nov	2.95	2.52	2.20	1902	5	9.66	1985	.36	1999
Dec	2.27	2.15	2.79	1965	24	5.48	1982	.34	1995
Ann	35.67	36.63	8.77	Jul 1958	14	10.76	Aug 1972	.00	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.4	4.0	.7	.2
Feb	6.8	3.3	.8	.1
Mar	9.9	6.1	1.8	.4
Apr	10.9	6.8	2.3	.9
May	10.8	6.9	2.6	1.2
Jun	9.8	6.6	2.6	1.2
Jul	8.7	5.8	2.5	1.0
Aug	8.9	6.1	2.3	1.2
Sep	7.7	5.4	2.1	1.0
Oct	7.9	5.0	1.8	.4
Nov	9.2	5.9	2.0	.7
Dec	9.0	5.2	1.3	.6
Ann	108.0	67.1	22.8	8.9

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	.33	.47	.68	.87	1.06	1.26	1.49	1.76	2.11	2.68	3.21
Feb	.17	.34	.57	.75	.94	1.14	1.36	1.63	1.98	2.54	3.06
Mar	.49	.72	1.10	1.45	1.81	2.20	2.64	3.16	3.86	4.99	6.07
Apr	1.09	1.42	1.90	2.32	2.72	3.13	3.58	4.11	4.80	5.86	6.84
May	1.16	1.54	2.11	2.60	3.09	3.59	4.15	4.80	5.65	6.98	8.22
Jun	.86	1.24	1.85	2.40	2.95	3.55	4.22	5.02	6.09	7.79	9.40
Jul	.73	1.06	1.59	2.08	2.58	3.11	3.71	4.43	5.38	6.91	8.36
Aug	.76	1.10	1.66	2.17	2.68	3.23	3.85	4.60	5.60	7.19	8.70
Sep	.86	1.19	1.70	2.15	2.60	3.08	3.60	4.23	5.06	6.36	7.58
Oct	.66	.91	1.28	1.61	1.94	2.29	2.67	3.13	3.72	4.66	5.54
Nov	.58	.85	1.28	1.67	2.08	2.51	3.00	3.59	4.37	5.62	6.80
Dec	.52	.73	1.06	1.36	1.66	1.98	2.33	2.75	3.31	4.20	5.03
Ann	25.09	27.12	29.74	31.73	33.50	35.21	36.98	38.94	41.31	44.76	47.75

\+ 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)

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	8.5	7.5	3	2	12.0	1979	13	30.5	1979	30	1979	31	21	1979	5.2	3.1	.8	.4	@	16.5	10.2	4.8	1.4
Feb	4.4	4.2	3	2	6.0	1981	10	14.0	1980	30	1979	1	24	1979	3.2	2.2	.5	@	.0	10.6	7.1	5.1	1.3
Mar	2.9	2.0	1	#	8.0	1999	9	11.2	1991	17	1979	2	4	1979	1.6	1.0	.3	.2	.0	3.8	2.2	1.3	.1
Apr	.6	.0	#	0	5.0	1982	5	8.5	1982	5	1982	5	1	1982	.3	.2	.1	@	.0	.3	.2	@	.0
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	#	.0	#	0	#	1993	31	#+	1993	#	1989	20	#	1989	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.0	.0	#	#	5.5	1975	27	6.5+	1975	7	1975	27	1	1977	.5	.3	.1	.1	.0	.7	.3	.1	.0
Dec	5.1	3.7	1	1	8.0	1978	31	20.0	1978	14	2000	30	9	2000	3.5	2.2	.6	.2	.0	9.3	4.0	1.5	.5
Ann	22.5	17.4	N/A	N/A	12.0	Jan 1979	13	30.5	Jan 1979	30+	Feb 1979	1	24	Feb 1979	14.3	9.0	2.4	.9	@	41.2	24.0	12.8	3.3

+ 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	5/20	5/14	5/10	5/07	5/04	5/01	4/28	4/24	4/19
32	5/10	5/04	4/30	4/26	4/22	4/19	4/15	4/11	4/05
28	4/21	4/17	4/14	4/11	4/09	4/06	4/03	3/31	3/27
24	4/15	4/09	4/05	4/02	3/29	3/26	3/22	3/18	3/13
20	4/08	4/02	3/29	3/25	3/22	3/18	3/15	3/10	3/05
16	3/29	3/23	3/18	3/14	3/10	3/07	3/03	2/26	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	10/03	10/05	10/07	10/09	10/12	10/15
32	10/02	10/06	10/10	10/13	10/16	10/19	10/21	10/25	10/30
28	10/12	10/18	10/22	10/26	10/29	11/01	11/05	11/09	11/15
24	10/24	10/29	11/01	11/03	11/06	11/09	11/11	11/14	11/19
20	11/03	11/09	11/13	11/17	11/20	11/24	11/27	12/02	12/08
16	11/13	11/19	11/23	11/26	11/29	12/02	12/06	12/10	12/15

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	171	165	160	156	153	149	146	141	135
32	198	190	185	180	176	171	167	161	153
28	225	217	212	207	203	198	193	188	180
24	243	235	230	225	221	217	212	207	199
20	268	259	253	248	243	238	233	227	218
16	288	280	274	268	263	258	253	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.

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	1353	1066	820	447	186	19	3	19	90	381	769	1178	6331
60	1198	926	665	309	103	4	0	4	33	253	619	1023	5137
57	1105	842	572	236	67	1	0	0	15	189	531	930	4488
55	1043	786	513	191	48	0	0	0	8	152	473	868	4082
50	888	655	373	101	17	0	0	0	1	79	338	726	3178
32	397	249	57	0	0	0	0	0	0	1	44	279	1027

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	67	107	260	547	909	1160	1307	1248	986	657	265	124	7637
55	0	0	4	48	244	470	594	535	304	95	4	0	2298
57	0	0	1	33	201	411	532	473	251	70	2	0	1974
60	0	0	0	16	144	324	439	383	179	41	0	0	1526
65	0	0	0	4	72	189	287	243	85	14	0	0	894
70	0	0	0	0	28	84	151	132	29	3	0	0	427

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	4	27	126	359	703	952	1093	1034	785	453	138	25	4	31	157	516	1219	2171	3264	4298	5083	5536	5674	5699
45	0	7	68	239	548	802	938	879	635	313	76	7	0	7	75	314	862	1664	2602	3481	4116	4429	4505	4512
50	0	1	35	140	401	652	783	724	488	194	36	3	0	1	36	176	577	1229	2012	2736	3224	3418	3454	3457
55	0	0	12	76	261	503	628	569	347	106	13	0	0	0	12	88	349	852	1480	2049	2396	2502	2515	2515
60	0	0	4	35	155	357	473	415	219	50	4	0	0	0	4	39	194	551	1024	1439	1658	1708	1712	1712
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	1	16	81	218	435	635	748	700	502	277	77	10	1	17	98	316	751	1386	2134	2834	3336	3613	3690	3700

(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

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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