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: PARK FOREST, IL **COOP ID: 116616**

Climate Division: IL 2 **NWS Call Sign:** **Elevation: 710 Feet** **Lat: 41˚30N** **Lon: 87˚41W**

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	29.2	14.8	22.0	65	1967	24	33.3	1990	-27	1985	20	9.1	1977	1333	0	.0	.0	1.5	18.2	29.4	5.9
Feb	34.7	19.7	27.2	71	2000	26	37.6	1998	-18	1996	3	15.7	1979	1059	0	.0	.0	3.0	12.1	24.9	3.1
Mar	45.7	29.7	37.7	83	1986	30	45.4	1973	-5	1962	1	30.1	1984	846	0	.0	.0	10.8	4.1	21.0	.1
Apr	58.1	39.4	48.8	89+	1986	27	54.9	1977	9	1982	7	44.4	1975	491	3	.0	.0	22.2	.2	7.5	.0
May	70.0	50.0	60.0	94	1991	29	68.4	1977	25	1966	10	54.3	1997	222	66	.0	.7	30.1	.0	.6	.0
Jun	80.0	59.5	69.8	102	1988	26	74.1	1971	36	1972	11	64.7	1982	29	171	.1	3.6	30.0	.0	.0	.0
Jul	83.7	64.7	74.2	102+	1995	14	78.2	1983	45	1972	5	70.3	1992	1	286	.3	5.8	31.0	.0	.0	.0
Aug	81.5	63.3	72.4	103	1988	2	78.5	1995	41+	1986	29	67.0	1992	15	245	.1	3.3	31.0	.0	.0	.0
Sep	74.7	55.2	65.0	99+	1953	2	70.9	1978	29	1995	23	59.6	1993	85	84	.0	1.1	30.0	.0	.1	.0
Oct	63.0	43.2	53.1	91	1963	6	61.5	1971	17	1952	29	45.8	1988	380	11	.0	.0	27.9	.0	4.4	.0
Nov	47.5	32.8	40.2	77	1978	6	47.1	1975	0+	1958	30	32.7+	1996	745	0	.0	.0	12.2	2.4	16.8	.0
Dec	34.8	21.1	28.0	70	1982	3	37.9	1982	-21	1983	25	15.5	1989	1149	0	.0	.0	2.8	11.0	27.2	2.6
Ann	58.6	41.1	49.9	103	Aug 1988	2	78.5	Aug 1995	-27	Jan 1985	20	9.1	Jan 1977	6355	866	.5	14.5	232.5	48.0	131.9	11.7

\+ 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

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1952-2001

(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	1.79	1.54	1.85	1975	10	4.34	1999	.08	1981
Feb	1.64	1.46	2.27	1997	21	4.98	1997	.03	1987
Mar	2.73	2.40	1.97	1984	16	6.30	1976	.71	1994
Apr	3.80	3.65	2.18	1976	25	8.07	1981	.47	1971
May	4.14	4.00	6.43	1982	22	8.97	1996	1.02	1992
Jun	4.66	3.98	4.25	1974	6	11.18	1993	.61	1991
Jul	4.08	4.48	6.55	1996	18	10.76	1996	.54	1991
Aug	3.82	3.24	4.95	1968	16	8.52	1987	.41	1996
Sep	3.15	2.93	3.19	1961	23	8.46	1977	.09	1979
Oct	2.79	2.63	5.93	1954	10	8.28	1991	.52	1992
Nov	3.38	3.10	3.40	1990	28	8.25	1990	.36	1976
Dec	2.67	2.30	3.87	1982	3	6.84	1982	.53	1995
Ann	38.65	37.77	6.55	Jul 1996	18	11.18	Jun 1993	.03	Feb 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.3	4.3	1.0	.2
Feb	8.2	4.2	.7	.2
Mar	10.3	6.6	1.6	.4
Apr	11.7	7.6	2.7	.9
May	10.8	7.0	2.7	1.0
Jun	9.8	6.9	3.2	1.3
Jul	9.2	6.1	2.8	1.1
Aug	9.2	6.0	2.5	1.4
Sep	9.0	6.1	2.0	.6
Oct	9.2	5.7	1.9	.5
Nov	11.3	6.2	2.2	.9
Dec	10.2	5.3	1.3	.5
Ann	118.2	72.0	24.6	9.0

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	.29	.44	.70	.95	1.21	1.48	1.80	2.19	2.71	3.55	4.35
Feb	.26	.40	.64	.87	1.10	1.36	1.65	2.01	2.48	3.26	4.00
Mar	.82	1.08	1.46	1.80	2.13	2.46	2.84	3.28	3.85	4.73	5.56
Apr	1.25	1.61	2.14	2.59	3.02	3.47	3.96	4.53	5.27	6.41	7.47
May	1.36	1.76	2.33	2.83	3.30	3.79	4.32	4.94	5.75	6.99	8.14
Jun	1.25	1.69	2.36	2.96	3.54	4.15	4.82	5.63	6.67	8.31	9.85
Jul	1.22	1.61	2.19	2.69	3.17	3.68	4.24	4.89	5.74	7.07	8.30
Aug	.81	1.16	1.72	2.23	2.74	3.28	3.90	4.64	5.61	7.16	8.63
Sep	.71	1.00	1.46	1.88	2.29	2.73	3.23	3.82	4.61	5.85	7.02
Oct	.75	1.02	1.42	1.77	2.12	2.48	2.88	3.36	3.99	4.96	5.87
Nov	.73	1.04	1.53	1.98	2.44	2.92	3.46	4.11	4.97	6.34	7.63
Dec	.60	.85	1.24	1.59	1.94	2.32	2.73	3.23	3.89	4.94	5.92
Ann	29.95	31.69	33.89	35.54	36.99	38.38	39.81	41.37	43.26	45.96	48.27

\+ 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: 1952-2001
(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	9.6	9.0	3	3
Feb	7.0	6.3	3	2
Mar	4.2	2.4	1	#
Apr	1.0	.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	.3	.0	#	0
Nov	.8	.5	#	#
Dec	5.7	5.5	1	1
Ann	28.6	23.7	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	8.8	1987	10	30.8	1979	16+	1999	9	10+	1999
Feb	5.5	1982	1	16.2	1989	19	1979	14	16	1978
Mar	8.1	1996	7	16.1	1993	14	1994	2	4	1978
Apr	7.0	1982	6	9.5	1982	7	1982	6	1	1982
May	#	1989	7	#+	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	3.0	1989	20	3.0	1989	2	1993	31	#+	2000
Nov	3.5	1980	27	5.0	1978	5	1975	27	#+	2000
Dec	9.0	1988	27	14.4	1977	17	2000	31	8	2000
Ann	9.0	Dec 1988	27	30.8	Jan 1979	19	Feb 1979	14	16	Feb 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	5.9	3.8	1.1	.4	.0
Feb	4.2	2.8	.8	.1	.0
Mar	2.2	1.5	.6	.1	.0
Apr	.4	.3	.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	.2	.1	@	.0	.0
Nov	1.0	.4	.1	.0	.0
Dec	3.6	2.4	.9	.3	.0
Ann	17.5	11.3	3.6	.9	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	17.6	11.4	5.5	.4
Feb	11.6	7.9	5.0	2.2
Mar	5.1	3.4	2.0	.4
Apr	.4	.2	@	.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	.0
Nov	1.2	.2	.0	.0
Dec	8.8	4.9	2.2	.7
Ann	44.8	28.0	14.7	3.7

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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

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	10/01	10/03	10/05	10/08	10/10	10/13	10/16
32	9/28	10/04	10/07	10/11	10/14	10/17	10/20	10/24	10/29
28	10/12	10/17	10/22	10/25	10/29	11/01	11/05	11/09	11/15
24	10/21	10/27	11/01	11/05	11/08	11/12	11/16	11/20	11/26
20	11/04	11/09	11/13	11/17	11/20	11/23	11/27	12/01	12/06
16	11/10	11/16	11/20	11/24	11/28	12/01	12/05	12/10	12/16

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	160	155	152	148	145	141	137	131
32	194	186	180	174	170	165	159	153	145
28	221	213	207	203	198	193	189	183	175
24	242	234	228	222	218	213	208	202	193
20	267	259	253	248	243	238	233	227	219
16	285	276	270	264	259	254	248	242	233

***** 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	1333	1059	846	491	222	29	1	15	85	380	745	1149	6355
60	1178	919	691	350	132	7	0	2	30	251	596	994	5150
57	1085	835	599	272	90	3	0	0	13	186	508	901	4492
55	1023	779	541	225	67	1	0	0	7	148	452	839	4082
50	868	643	399	126	28	0	0	0	1	76	319	696	3156
32	378	230	67	1	0	0	0	0	0	0	40	256	972

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	68	95	245	503	868	1132	1308	1253	989	655	285	130	7531
55	0	0	5	37	222	444	595	540	305	90	7	0	2245
57	0	0	1	24	183	385	533	478	252	65	3	0	1924
60	0	0	0	11	131	300	440	387	179	37	1	0	1486
65	0	0	0	3	66	171	286	245	84	11	0	0	866
70	0	0	0	0	27	75	148	131	28	2	0	0	411

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	17	98	284	617	890	1056	999	738	400	122	22	4	21	119	403	1020	1910	2966	3965	4703	5103	5225	5247
45	0	6	54	175	464	740	901	844	588	264	63	7	0	6	60	235	699	1439	2340	3184	3772	4036	4099	4106
50	0	0	27	97	323	590	746	689	442	162	27	2	0	0	27	124	447	1037	1783	2472	2914	3076	3103	3105
55	0	0	9	49	205	444	591	534	303	85	10	0	0	0	9	58	263	707	1298	1832	2135	2220	2230	2230
60	0	0	3	22	119	303	436	381	188	40	4	0	0	0	3	25	144	447	883	1264	1452	1492	1496	1496
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	12	60	164	369	586	720	673	463	230	60	6	0	12	72	236	605	1191	1911	2584	3047	3277	3337	3343

(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