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: KEWANEE 1 E, IL **COOP ID: 114710**

Climate Division: IL 1 **NWS Call Sign:** **Elevation: 780 Feet** **Lat: 41˚15N** **Lon: 89˚54W**

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	28.1	10.1	19.1	65	1990	17	30.1	1990	-26	1999	5	6.1	1977	1423	0	.0	.0	1.2	18.6	30.0	7.5
Feb	33.8	15.7	24.8	70	1954	15	36.1	1998	-23+	1996	4	11.2	1979	1127	0	.0	.0	3.2	12.6	25.8	4.1
Mar	46.2	26.2	36.2	85	1986	30	44.7	1973	-11	1978	5	28.5	1975	894	0	.0	.0	11.8	4.0	21.9	.3
Apr	59.5	36.9	48.2	91	1986	26	54.1	1985	-2	1982	6	42.8	1982	506	2	.0	.1	23.8	.3	8.5	@
May	70.9	48.5	59.7	93+	1967	25	67.3	1977	26+	1983	9	54.3	1997	218	55	.0	.4	30.6	.0	.5	.0
Jun	80.1	58.6	69.4	101	1971	28	75.0	1971	38	1988	10	64.9	1982	27	158	.1	3.6	30.0	.0	.0	.0
Jul	83.5	62.4	73.0	104	1983	22	77.4	1983	42	1983	7	68.8	1992	4	251	.2	5.7	31.0	.0	.0	.0
Aug	81.6	60.1	70.9	103	1953	31	76.9	1995	38+	1986	30	65.4	1992	29	210	.3	4.0	31.0	.0	.0	.0
Sep	74.9	50.7	62.8	102	1953	2	67.7	1978	26	1974	23	57.8	1993	123	56	.0	1.4	30.0	.0	.4	.0
Oct	62.8	39.1	51.0	91	1954	3	59.2	1971	17	1988	30	44.6	1987	439	4	.0	@	27.9	.0	6.8	.0
Nov	46.9	28.5	37.7	79	2000	2	44.6	1999	-4	1959	17	29.6	1976	821	0	.0	.0	12.5	2.8	19.3	.1
Dec	33.3	16.9	25.1	67+	1998	5	34.2	1982	-24	1983	24	11.8	1983	1238	0	.0	.0	2.5	12.8	28.6	4.0
Ann	58.5	37.8	48.2	104	Jul 1983	22	77.4	Jul 1983	-26	Jan 1999	5	6.1	Jan 1977	6849	736	.6	15.2	235.5	51.1	141.8	16.0

\+ 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: 1948-2001

(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	1.55	1.36	1.83	1960	12	3.91	1974	.12	1981
Feb	1.41	1.08	3.12	1997	21	5.41	1997	.03	1987
Mar	2.49	2.18	2.75	1954	24	5.01	1998	.14	1989
Apr	3.48	3.33	2.38	1979	26	7.57	1973	1.00	1985
May	3.53	3.16	3.00	1970	13	7.44	1996	.87	1992
Jun	4.46	3.53	3.97	1994	24	9.45	1993	1.50	1992
Jul	3.98	3.55	4.40	1969	18	9.58	1992	.30	1988
Aug	4.14	3.20	3.40	1987	21	11.76	1987	.76	1983
Sep	3.04	2.60	2.60	1961	13	6.25	1992	.15	1979
Oct	2.57	2.15	5.41	1954	10	8.07	1998	.47	1993
Nov	2.74	2.74	3.00	1966	9	7.27	1985	.25	1999
Dec	2.37	2.11	2.87	1971	15	6.36	1971	.32	1976
Ann	35.76	35.75	5.41	Oct 1954	10	11.76	Aug 1987	.03	Feb 1987

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	8.0	4.0	.8	.2
Feb	6.8	3.4	.7	.2
Mar	9.7	5.6	1.6	.4
Apr	10.5	6.6	2.3	.7
May	11.4	6.9	2.4	.7
Jun	10.4	6.6	3.3	1.3
Jul	9.5	6.4	2.4	1.1
Aug	10.0	6.3	2.8	1.3
Sep	8.1	5.5	2.3	.9
Oct	9.0	5.2	1.7	.6
Nov	8.9	5.7	2.1	.5
Dec	8.6	4.7	1.3	.6
Ann	110.9	66.9	23.7	8.5

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	.43	.66	.87	1.08	1.31	1.58	1.89	2.31	2.98	3.62
Feb	.19	.30	.50	.70	.90	1.13	1.39	1.72	2.15	2.87	3.56
Mar	.44	.66	1.02	1.36	1.71	2.09	2.52	3.04	3.73	4.85	5.92
Apr	1.10	1.43	1.92	2.34	2.74	3.16	3.62	4.16	4.86	5.95	6.95
May	1.15	1.48	1.98	2.40	2.80	3.22	3.67	4.21	4.90	5.97	6.95
Jun	1.25	1.68	2.32	2.87	3.42	3.99	4.62	5.36	6.33	7.85	9.26
Jul	1.07	1.44	2.02	2.52	3.02	3.54	4.12	4.81	5.70	7.10	8.41
Aug	.65	1.00	1.60	2.17	2.76	3.41	4.15	5.06	6.27	8.24	10.13
Sep	.76	1.05	1.49	1.88	2.27	2.68	3.13	3.67	4.38	5.50	6.55
Oct	.52	.75	1.13	1.47	1.82	2.19	2.62	3.12	3.79	4.87	5.89
Nov	.47	.71	1.11	1.49	1.87	2.29	2.77	3.35	4.12	5.37	6.57
Dec	.55	.77	1.11	1.43	1.74	2.07	2.43	2.88	3.45	4.37	5.24
Ann	26.11	28.00	30.40	32.22	33.83	35.39	36.99	38.75	40.89	43.97	46.63

\+ 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: 1948-2001
(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	8.7	10.9	3	3	15.0	1971	3	17.3	1971	15	1971	4	8	1999	5.0	2.7	.8	.4	.1	20.2	13.7	10.2	.5
Feb	4.9	3.5	2	2	9.0	1975	24	15.0	1980	11	1985	12	7	1985	3.2	1.8	.6	.1	.0	-9.9	-9.9	-9.9	-9.9
Mar	3.0	1.5	#	#	6.5	1999	9	8.1	1978	6+	1999	9	1+	1999	1.7	1.1	.4	.2	.0	3.8	1.9	.5	.0
Apr	1.1	.0	#	0	8.5	1975	3	8.5	1975	9	1975	3	1	1975	.5	.3	.1	@	.0	.5	.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	.3	.0	#	0	4.5	1997	27	4.5	1997	5	1997	27	#	1997	.1	.1	@	.0	.0	.1	.1	.1	.0
Nov	1.6	1.1	#	#	5.3	1974	14	5.3	1974	13	1975	28	1	1977	1.4	.6	.1	@	.0	1.4	.6	.1	.0
Dec	6.7	4.2	1	#	10.0	2000	12	30.9	2000	13	2000	30	8	2000	3.7	2.0	.8	.1	.1	8.3	3.9	1.9	1.1
Ann	26.3	21.2	N/A	N/A	15.0	Jan 1971	3	30.9	Dec 2000	15	Jan 1971	4	8+	Dec 2000	15.6	8.6	2.8	.8	.2	-9.9	-9.9	-9.9	-9.9

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

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	9/15	9/20	9/24	9/27	9/30	10/03	10/07	10/10	10/16
32	9/24	9/29	10/03	10/06	10/09	10/12	10/15	10/19	10/24
28	10/01	10/07	10/12	10/15	10/19	10/22	10/26	10/30	11/05
24	10/17	10/22	10/25	10/28	10/31	11/03	11/06	11/10	11/15
20	10/26	10/31	11/04	11/07	11/11	11/14	11/17	11/21	11/27
16	11/07	11/13	11/16	11/20	11/23	11/26	11/29	12/03	12/08

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	166	159	153	149	145	141	137	132	124
32	186	179	173	169	165	161	156	151	144
28	208	200	195	190	186	181	177	171	164
24	229	222	217	212	208	204	199	194	187
20	255	246	240	235	230	225	220	213	205
16	279	270	263	258	252	247	241	234	225

***** 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	1423	1127	894	506	218	27	4	29	123	439	821	1238	6849
60	1268	987	739	364	126	6	0	7	50	299	671	1083	5600
57	1175	903	646	286	85	2	0	2	25	226	581	990	4921
55	1113	847	586	238	62	1	0	0	14	183	523	928	4495
50	958	714	444	137	24	0	0	0	2	96	385	781	3541
32	451	294	90	2	0	0	0	0	0	1	61	317	1216

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	52	90	220	489	860	1121	1270	1204	923	589	230	102	7150
55	0	0	2	35	209	431	557	491	247	58	2	0	2032
57	0	0	0	23	169	373	495	431	198	39	1	0	1729
60	0	0	0	11	118	287	402	343	133	19	0	0	1313
65	0	0	0	2	55	158	251	210	56	4	0	0	736
70	0	0	0	0	20	64	119	110	16	0	0	0	329

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	3	16	98	302	641	909	1045	977	716	386	110	13	3	19	117	419	1060	1969	3014	3991	4707	5093	5203	5216
45	0	2	50	186	488	759	890	822	567	255	58	5	0	2	52	238	726	1485	2375	3197	3764	4019	4077	4082
50	0	0	28	105	340	609	735	667	421	154	22	1	0	0	28	133	473	1082	1817	2484	2905	3059	3081	3082
55	0	0	7	54	212	459	580	513	284	78	5	0	0	0	7	61	273	732	1312	1825	2109	2187	2192	2192
60	0	0	2	24	118	315	425	358	169	33	1	0	0	0	2	26	144	459	884	1242	1411	1444	1445	1445
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	0	13	66	185	390	600	709	655	456	235	63	8	0	13	79	264	654	1254	1963	2618	3074	3309	3372	3380

(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