

Climatography of the United States

No. 20

1971-2000

Station: MATTOON, IL

COOP ID: 115430

Climate Division: IL 7

NWS Call Sign:

Elevation: 718 Feet

Lat: 39° 28N

Lon: 88° 21W

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	33.0	16.6	24.8	70	1950	25	37.0	1990	-23	1985	20	9.9	1977	1245	0	.0	.0	3.2	14.0	28.2	3.4
Feb	38.6	21.1	29.9	74	2000	24	39.9	1998	-17	1996	3	16.6	1978	985	0	.0	.0	6.4	8.7	22.4	1.9
Mar	50.2	31.7	41.0	85	1981	31	48.0	1973	-8	1960	6	33.0	1978	745	0	.0	.0	16.5	1.9	17.1	.1
Apr	62.4	42.2	52.3	89	1987	29	57.9	1977	17	1987	3	47.1	1982	385	5	.0	.0	26.6	@	5.0	.0
May	73.3	53.2	63.3	95	1987	20	70.4	1977	28	1966	10	58.4	1981	156	103	.0	.9	30.8	.0	.1	.0
Jun	82.8	62.7	72.8	105	1954	26	76.9	1984	41	1992	21	67.3	1982	12	244	.2	6.2	30.0	.0	.0	.0
Jul	86.0	66.3	76.2	111	1954	14	80.0	1999	48	1962	27	72.0	1971	0	345	.3	9.9	31.0	.0	.0	.0
Aug	84.2	64.2	74.2	104	1988	16	79.5	1983	40	1986	29	69.4	1992	9	295	.2	7.0	31.0	.0	.0	.0
Sep	78.2	55.9	67.1	103	1954	5	72.9	1998	33+	1995	23	60.7	1974	61	123	.0	2.7	30.0	.0	.0	.0
Oct	66.0	44.7	55.4	92+	1954	3	61.8	1971	19	1962	26	48.4	1976	318	19	.0	@	29.4	.0	3.0	.0
Nov	50.6	33.2	41.9	82	1950	1	49.0	1999	-2	1950	24	33.9	1976	694	0	.0	.0	16.1	1.3	14.6	.0
Dec	38.0	22.5	30.3	71+	1998	4	39.0	1982	-20	1989	22	17.8	1983	1077	0	.0	.0	5.0	8.3	25.5	1.6
Ann	61.9	42.9	52.4	111	Jul 1954	14	80.0	Jul 1999	-23	Jan 1985	20	9.9	Jan 1977	5687	1134	.7	26.7	256.0	34.2	115.9	7.0

+ 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

Issue Date: February 2004

(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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No. 20 1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: MATTOON, IL

COOP ID: 115430

Climate Division: IL 7

NWS Call Sign:

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Lat: 39°28N

Lon: 88°21W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med-ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	2.03	1.66	3.34	1950	3	5.79	1982	.02	1986	8.7	5.0	1.4	.3	.21	.36	.64	.93	1.23	1.57	1.98	2.48	3.16	4.30	5.40
Feb	2.08	1.93	2.88	1949	14	5.29	1985	.40	1996	7.9	4.6	1.1	.4	.41	.60	.90	1.18	1.47	1.77	2.12	2.53	3.08	3.97	4.81
Mar	3.06	3.09	3.02	1964	8	7.52	1973	.52	1999	11.0	7.0	2.2	.6	.70	.98	1.43	1.83	2.23	2.66	3.14	3.70	4.45	5.64	6.76
Apr	3.84	3.43	3.50	1984	21	9.71	1984	.49	1971	11.8	7.5	2.4	.7	.81	1.17	1.73	2.24	2.75	3.30	3.92	4.66	5.64	7.21	8.69
May	3.95	3.19	2.79	1982	31	7.68	1974	.98	1992	10.8	7.3	2.6	1.1	1.24	1.62	2.18	2.65	3.11	3.59	4.12	4.73	5.52	6.76	7.90
Jun	4.21	4.42	3.95	1957	28	9.92	1998	.52	1988	10.2	6.8	3.0	1.2	.86	1.24	1.86	2.43	2.99	3.60	4.29	5.12	6.22	7.97	9.63
Jul	4.16	3.27	3.85	1973	20	9.67	1979	.79	1999	8.8	6.5	3.3	1.0	.98	1.37	1.98	2.52	3.06	3.63	4.27	5.04	6.04	7.63	9.13
Aug	3.25	2.88	4.86	1992	26	8.29	1981	.14	1971	8.1	5.5	2.0	1.1	.44	.71	1.18	1.63	2.10	2.62	3.23	3.97	4.98	6.62	8.20
Sep	3.06	2.75	3.93	1961	24	8.73	1993	.33	1985	7.3	5.0	2.0	1.0	.59	.87	1.32	1.73	2.15	2.60	3.11	3.73	4.55	5.87	7.12
Oct	3.02	2.47	3.40	2001	13	7.66	1983	1.07	1987	8.3	5.5	2.2	.8	.98	1.27	1.69	2.05	2.40	2.76	3.15	3.61	4.20	5.12	5.97
Nov	3.71	3.31	3.43	1992	1	10.02	1985	.74	1976	10.3	6.3	2.5	1.1	.91	1.26	1.80	2.28	2.76	3.26	3.82	4.49	5.36	6.75	8.05
Dec	2.84	2.20	3.04	1966	7	7.68	1990	.27	1976	9.5	5.4	1.7	.7	.39	.62	1.03	1.42	1.84	2.29	2.82	3.47	4.35	5.79	7.17
Ann	39.21	39.48	4.86	Aug 1992	26	10.02	Nov 1985	.02	Jan 1986	112.7	72.4	26.4	10.0	28.01	30.19	32.97	35.08	36.95	38.76	40.63	42.70	45.20	48.83	51.97

+ 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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Climate Division: IL 7

NWS Call Sign:

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Lat: 39°28N

Lon: 88°21W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	6.4	4.5	2	1	11.0	1997	9	22.6	1997	14	1997	15	8	1977	3.4	2.6	.8	.2	@	10.1	5.8	4.1	1.8
Feb	3.3	2.5	2	#	8.0	1974	24	9.5	1982	21	1982	10	13	1979	1.6	1.3	.5	.1	.0	6.1	3.7	2.8	1.1
Mar	2.2	.8	#	#	10.0	1978	7	19.0	1978	17	1978	8	5	1978	1.0	.8	.3	.1	@	1.7	.9	.7	.2
Apr	.1	.0	#	0	1.0	1977	6	1.0+	1994	1	1994	6	#+	1994	.1	.1	.0	.0	.0	@	.0	.0	.0
May	#	.0	0	0	#	1989	6	#	1989	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	0	#	1976	27	#	1976	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.1	.0	#	0	7.5	1980	27	9.5	1980	5	1980	27	#+	1997	.6	.3	.1	.1	.0	.5	.3	@	.0
Dec	4.1	2.5	1	#	10.0	1973	19	21.5	1973	11	1973	22	4	1973	2.1	1.6	.5	.2	@	4.8	2.3	1.3	.2
Ann	17.2	10.3	N/A	N/A	11.0	Jan 1997	9	22.6	Jan 1997	21	Feb 1982	10	13	Feb 1979	8.8	6.7	2.2	.7	@	23.2	13.0	8.9	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

Complete documentation available from:

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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	5/10	5/06	5/03	4/30	4/28	4/25	4/23	4/20	4/15
32	5/02	4/27	4/23	4/19	4/16	4/13	4/10	4/06	3/31
28	4/17	4/13	4/10	4/07	4/05	4/03	3/31	3/28	3/24
24	4/13	4/07	4/03	3/30	3/27	3/23	3/20	3/16	3/10
20	4/01	3/27	3/24	3/21	3/18	3/15	3/12	3/09	3/04
16	3/23	3/16	3/10	3/06	3/02	2/25	2/21	2/16	2/08
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	10/04	10/06	10/08	10/11	10/14	10/18
32	10/06	10/10	10/13	10/16	10/18	10/21	10/23	10/26	10/30
28	10/12	10/18	10/23	10/28	10/31	11/04	11/09	11/13	11/20
24	10/26	11/01	11/05	11/08	11/11	11/14	11/18	11/22	11/27
20	11/05	11/11	11/15	11/19	11/22	11/26	11/30	12/04	12/10
16	11/15	11/21	11/26	11/29	12/03	12/06	12/10	12/15	12/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	172	168	164	161	157	153	149	143
32	207	199	193	189	184	180	175	169	162
28	232	224	218	213	209	204	199	193	185
24	251	244	238	233	229	224	219	214	206
20	273	264	258	253	249	244	239	233	225
16	303	294	287	281	276	270	264	257	248

* 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	1245	985	745	385	156	12	0	9	61	318	694	1077	5687
60	1090	845	590	250	83	2	0	1	19	200	545	922	4547
57	997	761	504	180	52	1	0	0	8	142	458	829	3932
55	935	709	445	139	36	0	0	0	4	110	404	773	3555
50	790	579	309	62	13	0	0	0	0	51	275	628	2707
32	323	201	39	0	0	0	0	0	0	0	26	214	803

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	100	141	317	609	969	1222	1368	1309	1052	724	322	159	8292
55	0	4	10	59	292	532	655	596	366	121	10	5	2650
57	0	0	6	40	246	473	593	534	309	91	4	0	2296
60	0	0	0	20	184	384	500	441	231	56	1	0	1817
65	0	0	0	5	103	244	345	295	123	19	0	0	1134
70	0	0	0	1	47	125	198	168	51	5	0	0	595

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	17	48	160	393	735	994	1126	1066	821	488	168	37	17	65	225	618	1353	2347	3473	4539	5360	5848	6016	6053
45	6	21	94	266	580	844	971	911	671	349	97	14	6	27	121	387	967	1811	2782	3693	4364	4713	4810	4824
50	0	5	49	158	429	694	816	756	522	224	48	5	0	5	54	212	641	1335	2151	2907	3429	3653	3701	3706
55	0	0	27	83	288	544	661	601	379	123	18	0	0	0	27	110	398	942	1603	2204	2583	2706	2724	2724
60	0	0	7	36	171	396	506	446	249	58	4	0	0	0	7	43	214	610	1116	1562	1811	1869	1873	1873
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	9	30	97	236	454	667	782	733	532	292	90	20	9	39	136	372	826	1493	2275	3008	3540	3832	3922	3942

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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.

- | | |
|---|---|
| <ol style="list-style-type: none">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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