

Climatography of the United States

No. 20

1971-2000

Station: PANA 3 E, IL

COOP ID: 116579

Climate Division: IL 6

NWS Call Sign:

Elevation: 700 Feet

Lat: 39° 22N

Lon: 89° 02W

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	34.4	15.9	25.2	74	1950	25	37.5	1990	-25	1912	7	10.9	1977	1235	0	.0	.0	3.8	12.6	27.7	3.0
Feb	40.2	20.5	30.4	76	1930	24	40.9	1998	-24	1905	13	17.2	1978	971	0	.0	.0	7.8	7.4	21.8	1.5
Mar	51.6	30.7	41.2	88	1929	24	48.7	1973	-5+	1978	5	33.3	1978	740	0	.0	.0	18.3	1.5	16.0	.1
Apr	63.8	41.6	52.7	91	1930	11	58.1	1981	17	1920	5	47.3	1982	374	5	.0	@	27.7	.0	4.3	.0
May	74.0	51.8	62.9	98+	1987	20	69.5	1991	26	1903	1	57.8	1981	152	87	.0	.8	31.0	.0	.1	.0
Jun	83.7	61.3	72.5	106	1954	26	76.4	1971	35	1903	12	67.4	1982	11	237	.1	5.9	30.0	.0	.0	.0
Jul	87.8	64.9	76.4	115	1954	14	79.9	1988	45	1930	15	73.3	2000	0	351	.4	10.5	31.0	.0	.0	.0
Aug	85.9	62.6	74.3	108+	1918	5	79.9	1988	41	1986	28	69.9	1992	7	295	.3	7.0	31.0	.0	.0	.0
Sep	79.4	54.0	66.7	105	1954	5	71.6	1998	26	1942	28	61.9	1974	70	120	.1	2.5	30.0	.0	.2	.0
Oct	67.6	43.1	55.4	95	1922	3	63.0	1971	17	1925	30	49.8	1976	314	14	.0	@	29.9	.0	3.2	.0
Nov	52.2	32.0	42.1	84	1950	1	48.9	1999	-3+	1950	25	35.0	1976	688	0	.0	.0	17.1	1.1	14.0	.0
Dec	39.7	21.9	30.8	87	1902	11	38.8	1982	-20	1989	22	17.8	1983	1060	0	.0	.0	5.7	7.4	24.5	1.5
Ann	63.4	41.7	52.6	115	Jul 1954	14	79.9+	Aug 1988	-25	Jan 1912	7	10.9	Jan 1977	5622	1109	.9	26.7	263.3	30.0	111.8	6.1

+ 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/normal/usnormals.html

Issue Date: February 2004

(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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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: PANA 3 E, IL

COOP ID: 116579

Climate Division: IL 6

NWS Call Sign:

Elevation: 700 Feet

Lat: 39°22N

Lon: 89°02W

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	2.32	1.74	2.94	1916	12	7.63	1982	.02	1986	10.0	5.4	1.4	.3	.27	.45	.78	1.10	1.44	1.83	2.27	2.83	3.58	4.82	6.02	
Feb	2.23	2.16	2.14	1985	22	4.95	1985	.39	1991	9.1	5.2	1.5	.5	.40	.60	.93	1.23	1.54	1.87	2.25	2.71	3.32	4.31	5.25	
Mar	3.57	3.11	2.94	1922	14	8.14	1973	.91	1999	11.7	7.6	2.4	.7	1.11	1.45	1.95	2.38	2.80	3.24	3.71	4.27	4.99	6.11	7.15	
Apr	3.87	3.89	2.98	1994	28	10.93	1994	.81	1971	12.7	7.5	2.6	.7	1.05	1.41	1.97	2.46	2.94	3.45	4.00	4.66	5.52	6.87	8.13	
May	4.15	3.43	4.24	1918	9	9.43	1983	.84	1987	11.6	7.3	2.9	1.1	.98	1.37	1.98	2.52	3.06	3.63	4.26	5.02	6.02	7.60	9.08	
Jun	4.46	4.77	7.85	1957	28	9.42	1973	.79	1988	10.6	6.6	3.0	1.4	1.26	1.69	2.33	2.88	3.43	4.00	4.63	5.37	6.33	7.84	9.25	
Jul	3.96	3.44	3.27	1971	5	7.82	1973	1.02	1997	9.2	6.5	2.7	1.3	1.28	1.66	2.21	2.68	3.14	3.61	4.12	4.72	5.50	6.70	7.81	
Aug	3.01	2.69	4.63	1946	15	8.17	1981	.18	1971	8.7	5.4	2.1	.8	.64	.92	1.36	1.76	2.17	2.60	3.08	3.66	4.42	5.65	6.80	
Sep	3.06	2.68	5.90	1969	17	11.53	1993	.33	1995	8.2	5.3	2.1	.9	.53	.79	1.24	1.66	2.09	2.55	3.08	3.73	4.59	5.98	7.31	
Oct	3.00	2.56	4.68	2000	5	6.62	1986	1.05	1987	9.5	5.3	1.7	.7	.96	1.25	1.67	2.03	2.37	2.73	3.13	3.59	4.18	5.11	5.96	
Nov	3.80	3.38	3.27	1927	30	9.29	1985	.45	1976	10.8	7.0	2.6	.8	.83	1.18	1.74	2.24	2.75	3.29	3.89	4.62	5.58	7.10	8.54	
Dec	3.14	2.29	3.04	1966	7	9.33	1971	.30	1976	10.6	5.6	1.9	.9	.53	.80	1.26	1.69	2.13	2.61	3.16	3.83	4.72	6.16	7.55	
Ann	40.57	40.30	7.85	Jun 1957	28	11.53	Sep 1993	.02	Jan 1986	122.7	74.7	26.9	10.1	28.61	30.91	33.87	36.11	38.11	40.04	42.04	44.25	46.93	50.82	54.19	

+ 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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Station: PANA 3 E, IL

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Climate Division: IL 6

NWS Call Sign:

Elevation: 700 Feet

Lat: 39°22N

Lon: 89°02W

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	7.7	5.3	2	1	10.5	1982	31	26.8	1979	19	1979	31	9	1977	5.2	2.5	.9	.3	@	12.9	8.5	5.7	1.7
Feb	4.6	3.7	2	1	11.0	1984	28	15.0	1984	20	1982	9	14	1979	3.7	1.8	.4	.2	@	9.3	6.3	4.5	1.7
Mar	4.2	3.0	1	#	11.1	1978	8	23.0	1978	28	1978	9	10	1978	2.1	1.4	.5	.2	@	3.1	2.0	1.4	.6
Apr	.8	.0	#	0	6.0	1994	6	8.0	1980	3	1994	6	#+	2000	.4	.2	.1	.1	.0	.2	.1	.0	.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	.1	.0	#	0	2.5	1989	20	2.5	1989	1	1993	31	#+	1993	.1	.1	.0	.0	.0	@	.0	.0	.0
Nov	1.8	.5	#	#	9.0	1980	27	10.5	1980	11	1980	28	1	1991	.9	.6	.2	.1	.0	.8	.4	.1	@
Dec	5.4	3.4	1	#	10.0	1973	20	27.7	1973	12	1973	31	4	1983	3.6	1.8	.5	.3	@	6.4	3.5	2.2	.4
Ann	24.6	15.9	N/A	N/A	11.1	Mar 1978	8	27.7	Dec 1973	28	Mar 1978	9	14	Feb 1979	16.0	8.4	2.6	1.2	@	32.7	20.8	13.9	4.4

+ 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	5/12	5/07	5/03	4/30	4/27	4/24	4/21	4/17	4/12
32	4/29	4/24	4/20	4/17	4/14	4/12	4/09	4/05	3/31
28	4/17	4/13	4/10	4/07	4/05	4/03	3/31	3/28	3/24
24	4/12	4/07	4/03	3/31	3/28	3/25	3/22	3/18	3/13
20	3/29	3/24	3/21	3/18	3/15	3/12	3/10	3/06	3/01
16	3/21	3/14	3/09	3/05	3/01	2/25	2/20	2/15	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	9/21	9/26	9/30	10/03	10/06	10/08	10/11	10/15	10/20
32	9/29	10/05	10/09	10/13	10/17	10/20	10/24	10/29	11/04
28	10/12	10/18	10/23	10/27	10/30	11/03	11/07	11/12	11/18
24	10/24	10/29	11/02	11/06	11/09	11/13	11/16	11/20	11/26
20	11/07	11/12	11/16	11/20	11/23	11/27	11/30	12/04	12/10
16	11/18	11/24	11/28	12/01	12/04	12/08	12/11	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	180	174	169	165	161	157	153	148	141
32	211	202	195	190	185	179	174	167	158
28	229	222	217	212	208	203	199	193	186
24	248	241	235	230	225	221	216	210	203
20	275	267	261	257	252	248	243	238	230
16	306	296	289	284	278	273	267	260	251

* 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	1235	971	740	374	152	11	0	7	70	314	688	1060	5622
60	1080	831	585	240	77	2	0	0	24	191	539	905	4474
57	987	752	499	171	46	1	0	0	10	132	453	815	3866
55	925	699	441	131	31	0	0	0	5	99	399	757	3487
50	777	569	307	57	9	0	0	0	0	42	270	613	2644
32	309	202	40	0	0	0	0	0	0	0	27	206	784

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	96	155	324	621	958	1215	1374	1311	1040	723	329	169	8315
55	0	8	11	62	275	525	661	598	355	109	10	7	2621
57	0	4	7	42	229	466	599	536	300	80	5	3	2271
60	0	0	0	21	167	377	506	443	224	46	1	0	1785
65	0	0	0	5	87	237	351	295	120	14	0	0	1109
70	0	0	0	1	35	120	203	164	50	3	0	0	576

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	19	58	186	434	748	987	1135	1068	820	506	184	44	19	77	263	697	1445	2432	3567	4635	5455	5961	6145	6189
45	5	25	110	301	593	837	980	913	670	362	108	20	5	30	140	441	1034	1871	2851	3764	4434	4796	4904	4924
50	1	8	61	187	440	687	825	758	522	233	55	5	1	9	70	257	697	1384	2209	2967	3489	3722	3777	3782
55	0	2	29	104	301	537	670	603	377	133	21	0	0	2	31	135	436	973	1643	2246	2623	2756	2777	2777
60	0	0	7	51	172	389	515	448	246	62	5	0	0	0	7	58	230	619	1134	1582	1828	1890	1895	1895
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	12	35	114	260	471	666	782	729	538	305	105	27	12	47	161	421	892	1558	2340	3069	3607	3912	4017	4044

(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