

Climatography of the United States

No. 20

1971-2000

Station: ROCKFORD AP, IL

COOP ID: 117382

Climate Division: IL 1

NWS Call Sign: RFD

Elevation: 733 Feet

Lat: 42° 12N

Lon: 89° 06W

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	27.2	10.8	19.0	63	1989	31	29.9	1990	-27	1982	10	6.3	1977	1430	0	.0	.0	.8	19.6	29.6	8.3
Feb	33.0	16.3	24.7	70	2000	25	37.3	1998	-24	1996	3	12.8	1978	1143	0	.0	.0	2.2	13.5	25.6	4.6
Mar	45.5	26.7	36.1	85	1986	29	43.0	2000	-11	1962	1	28.9	1984	912	1	.0	.0	10.2	4.4	22.4	.3
Apr	59.1	36.8	47.9	91	1980	22	55.4	1977	5	1982	7	42.9	1975	522	7	.0	.1	23.2	.2	9.1	.0
May	71.2	47.9	59.6	95	1975	19	68.1	1977	24	1966	10	53.5	1997	215	49	.0	.5	30.5	.0	.9	.0
Jun	79.9	57.6	68.8	101+	1988	25	74.3	1971	37	1993	1	64.3	1982	36	162	.1	3.4	30.0	.0	.0	.0
Jul	83.1	62.6	72.9	103	1955	27	77.5	1983	43	1967	5	68.5	1992	5	263	.1	5.6	31.0	.0	.0	.0
Aug	80.9	60.9	70.9	104	1988	16	77.1	1995	41+	1986	28	65.0	1992	14	205	.1	3.4	31.0	.0	.0	.0
Sep	73.9	51.8	62.8	102	1953	1	68.2	1978	27	1984	30	57.9	1993	136	74	.0	1.1	30.0	.0	.6	.0
Oct	61.8	40.1	51.0	90+	1997	3	59.1	1971	15	1952	29	44.4	1987	444	7	.0	.1	27.1	.0	7.0	.0
Nov	45.5	29.0	37.2	76+	2000	1	43.3	1999	-10	1977	26	28.6	1976	832	0	.0	.0	11.0	3.4	19.7	.2
Dec	32.0	16.9	24.4	67	2001	5	33.1	1982	-24	1983	24	12.6	2000	1244	0	.0	.0	1.9	14.2	28.2	4.1
Ann	57.8	38.1	47.9	104	Aug 1988	16	77.5	Jul 1983	-27	Jan 1982	10	6.3	Jan 1977	6933	768	.3	14.2	228.9	55.3	143.1	17.5

+ 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: 1951-2001

(3) Derived from 1971-2000 serially complete daily data

073-A

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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: ROCKFORD AP, IL

COOP ID: 117382

Climate Division: IL 1

NWS Call Sign: RFD

Elevation: 733 Feet

Lat: 42°12N

Lon: 89°06W

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	1.41	1.12	2.46	1960	12	3.55	1974	.22	1981	10.2	3.9	.6	.1	.37	.50	.70	.88	1.06	1.25	1.45	1.70	2.02	2.53	3.00
Feb	1.34	1.21	1.65	1966	9	3.04	1994	.15	1995	8.6	3.6	.7	.1	.26	.39	.58	.76	.94	1.14	1.36	1.63	1.98	2.54	3.08
Mar	2.39	2.13	2.50	1976	4	4.94	1976	.50	1996	10.9	5.2	1.4	.4	.63	.86	1.21	1.51	1.81	2.12	2.47	2.89	3.43	4.27	5.07
Apr	3.62	3.22	3.38	1973	21	9.92	1973	.99	1989	11.8	6.5	2.5	.7	1.18	1.52	2.03	2.46	2.87	3.30	3.77	4.32	5.03	6.13	7.14
May	4.03	3.71	4.77	1996	28	11.75	1996	.48	1992	12.0	6.8	2.5	1.2	1.03	1.41	2.00	2.51	3.02	3.56	4.16	4.86	5.79	7.24	8.61
Jun	4.80	4.68	3.94	1972	14	11.85	1993	.46	1988	10.1	7.1	3.3	1.3	1.30	1.76	2.45	3.06	3.65	4.28	4.97	5.79	6.86	8.53	10.09
Jul	4.10	3.63	4.99	1951	8	9.72	1996	.79	1991	9.7	6.5	2.6	1.2	1.06	1.45	2.04	2.57	3.08	3.63	4.23	4.95	5.88	7.36	8.74
Aug	4.21	3.22	5.70	1987	14	13.55	1987	1.48	1971	9.9	7.0	2.9	1.1	1.10	1.49	2.10	2.64	3.17	3.73	4.35	5.08	6.04	7.55	8.97
Sep	3.47	2.71	5.56	1961	13	9.89	1986	.05	1979	8.8	5.4	2.5	.9	.40	.66	1.15	1.63	2.15	2.73	3.40	4.24	5.38	7.26	9.10
Oct	2.57	2.18	4.78	1954	10	7.39	1985	.66	1992	9.2	4.9	1.5	.5	.49	.72	1.10	1.45	1.80	2.18	2.61	3.13	3.82	4.92	5.97
Nov	2.63	2.38	2.09	1961	16	5.51	1985	.38	1976	10.5	5.3	1.9	.5	.62	.86	1.25	1.59	1.93	2.29	2.70	3.18	3.82	4.83	5.78
Dec	2.06	1.95	2.00	1982	2	5.04	1971	.37	1976	10.5	4.9	1.2	.3	.50	.69	.99	1.26	1.53	1.81	2.12	2.50	2.99	3.76	4.49
Ann	36.63	35.09	5.70	Aug 1987	14	13.55	Aug 1987	.05	Sep 1979	122.2	67.1	23.6	8.3	24.95	27.17	30.04	32.23	34.18	36.08	38.04	40.22	42.88	46.74	50.10

+ 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: 1951-2001

(3) Derived from 1971-2000 serially complete daily data

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Climate Division: IL 1

NWS Call Sign: RFD

Elevation: 733 Feet

Lat: 42°12N

Lon: 89°06W

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	9.4	8.8	4	4	9.5	1979	13	26.1	1979	27	1979	16	20	1979	8.1	2.8	.8	.3	.0	21.8	16.4	11.2	1.9
Feb	7.9	7.9	3	2	9.6	2000	18	30.2	1994	25	1979	21	21	1979	6.0	2.4	.7	.2	.0	17.0	11.9	7.9	1.8
Mar	5.7	4.2	1	2	10.4	1972	29	15.7	1972	16+	1979	2	6	1979	4.7	1.7	.5	.2	@	7.0	3.7	1.9	.3
Apr	1.4	.6	#	0	6.3	1982	5	7.7	1982	5	1982	6	#	1993	1.4	.4	.1	@	.0	.9	.3	@	.0
May	.0	.0	#	0	.2	1990	10	.2	1990	#	1989	6	#	1996	.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	#	2000	.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	0	.8	1980	27	1.0	1989	#+	1989	20	0	0	.2	.0	.0	.0	.0	.0	.0	.0	.0
Nov	2.6	1.7	#	0	6.6	1995	27	8.2	1995	7	1995	27	1+	1995	2.9	.8	.2	@	.0	1.9	.8	.3	.0
Dec	10.8	9.9	2	1	10.6	1987	15	30.1	2000	18+	2000	31	10	2000	7.5	3.1	1.0	.5	@	14.6	8.8	5.1	.8
Ann	37.9	33.1	N/A	N/A	10.6	Dec 1987	15	30.2	Feb 1994	27	Jan 1979	16	21	Feb 1979	30.8	11.2	3.3	1.2	@	63.2	41.9	26.4	4.8

+ 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	5/26	5/22	5/18	5/15	5/12	5/09	5/06	5/03	4/28
32	5/14	5/10	5/06	5/03	4/30	4/27	4/24	4/21	4/16
28	4/27	4/23	4/19	4/17	4/14	4/12	4/09	4/06	4/02
24	4/18	4/15	4/12	4/10	4/08	4/06	4/04	4/02	3/30
20	4/12	4/08	4/04	4/01	3/30	3/27	3/24	3/21	3/16
16	4/08	4/01	3/27	3/23	3/19	3/15	3/11	3/06	2/28
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	9/18	9/22	9/25	9/27	9/29	10/01	10/03	10/06	10/10
32	9/21	9/26	9/30	10/03	10/06	10/09	10/12	10/16	10/21
28	10/01	10/06	10/11	10/14	10/18	10/21	10/25	10/29	11/04
24	10/15	10/21	10/25	10/28	10/31	11/03	11/06	11/10	11/15
20	10/26	10/31	11/04	11/07	11/10	11/13	11/16	11/20	11/25
16	11/07	11/12	11/16	11/19	11/22	11/25	11/28	12/02	12/07
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	157	151	147	143	139	136	132	127	121
32	180	173	167	163	158	154	149	144	136
28	209	201	195	190	186	181	176	170	163
24	224	217	213	209	205	201	197	192	186
20	244	237	232	228	225	221	217	212	205
16	271	263	257	252	247	242	237	231	222

* 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

Complete documentation available from:

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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	1430	1143	912	522	215	36	5	14	136	444	832	1244	6933
60	1272	990	742	372	135	8	0	6	48	300	683	1103	5659
57	1179	906	649	293	92	3	0	1	23	227	593	1010	4976
55	1117	850	589	245	69	1	0	0	13	184	535	948	4551
50	962	716	446	142	29	0	0	0	2	98	395	797	3587
32	456	294	88	2	0	0	0	0	0	1	62	324	1227

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	20	50	197	480	859	1114	1279	1214	929	590	213	45	6990
55	0	0	7	40	193	425	566	501	260	63	5	1	2061
57	0	0	5	30	153	367	504	439	213	44	3	0	1758
60	0	0	3	18	104	282	411	348	152	24	1	0	1343
65	0	0	1	7	49	162	263	205	74	7	0	0	768
70	0	0	0	2	17	70	131	93	28	1	0	0	342

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	0	10	79	275	620	881	1041	973	697	361	89	10	0	10	89	364	984	1865	2906	3879	4576	4937	5026	5036
45	0	2	41	167	469	731	886	818	548	235	43	4	0	2	43	210	679	1410	2296	3114	3662	3897	3940	3944
50	0	0	21	88	322	581	731	663	402	134	18	1	0	0	21	109	431	1012	1743	2406	2808	2942	2960	2961
55	0	0	6	44	199	432	576	508	267	66	3	0	0	0	6	50	249	681	1257	1765	2032	2098	2101	2101
60	0	0	1	16	111	289	421	355	158	28	0	0	0	0	1	17	128	417	838	1193	1351	1379	1379	1379
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	0	6	57	169	383	577	707	652	440	215	47	3	0	6	63	232	615	1192	1899	2551	2991	3206	3253	3256

(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