

Climatology of the United States

No. 20

1971-2000

Station: STEFFENVILLE, MO

COOP ID: 238051

Climate Division: MO 2

NWS Call Sign:

Elevation: 690 Feet

Lat: 39° 58N

Lon: 91° 53W

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	35.1	15.8	25.5	73+	1989	31	38.2	1990	-24	1918	12	10.8	1977	1227	0	.0	.0	3.6	13.0	28.1	5.2
Feb	41.3	21.0	31.2	78	1930	24	40.9	1998	-20+	1996	3	16.7	1978	948	0	.0	.0	7.4	8.4	22.9	2.6
Mar	53.9	30.9	42.4	88+	1928	25	48.3	2000	-11	1960	5	33.3	1984	700	0	.0	.0	18.1	1.8	17.5	.2
Apr	66.2	41.2	53.7	94	1930	10	60.4	1981	5	1920	5	46.5	1983	349	10	.0	.1	26.8	@	5.2	.0
May	75.3	51.3	63.3	102	1934	31	69.8	1987	29+	1989	6	59.3	1976	141	88	.0	.3	30.9	.0	.2	.0
Jun	84.0	61.0	72.5	106	1918	16	75.9	1987	41+	1966	1	67.4	1982	8	234	.1	5.1	30.0	.0	.0	.0
Jul	88.6	65.5	77.1	115	1936	15	81.1	1999	42	1930	15	72.6	1971	0	374	1.1	12.2	31.0	.0	.0	.0
Aug	87.0	63.2	75.1	113	1934	8	82.8	1983	39	1986	28	69.8	1992	11	325	1.1	10.0	31.0	.0	.0	.0
Sep	79.8	55.0	67.4	107	1925	4	73.4	1998	24	1942	28	61.2	1974	63	134	.0	3.6	30.0	.0	.3	.0
Oct	67.8	43.7	55.8	98	1939	7	61.4	1971	7	1925	30	48.1	1976	304	17	.0	.1	29.4	.0	4.3	.0
Nov	52.4	32.4	42.4	84+	1938	1	51.0	1999	-10	1964	30	34.5	1976	679	0	.0	.0	16.7	1.5	15.8	.0
Dec	38.8	20.8	29.8	71	1949	11	36.6	1982	-26+	1989	22	15.2	1983	1092	0	.0	.0	5.4	8.9	26.3	2.5
Ann	64.2	41.8	53.0	115	Jul 1936	15	82.8	Aug 1983	-26+	Dec 1989	22	10.8	Jan 1977	5522	1182	2.3	31.4	260.3	33.6	120.6	10.5

+ 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: 1918-2001

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

096-A

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: STEFFENVILLE, MO

COOP ID: 238051

Climate Division: MO 2

NWS Call Sign:

Elevation: 690 Feet Lat: 39°58N

Lon: 91°53W

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	1.33	1.02	2.65	1965	2	4.06	1999	.02	1986	6.8	3.2	.6	.2	.11	.20	.37	.56	.76	.99	1.27	1.62	2.10	2.91	3.71
Feb	1.45	1.17	3.08	1997	21	4.60	1997	.25	1996	6.2	3.4	.8	.2	.26	.38	.60	.79	1.00	1.22	1.47	1.77	2.18	2.83	3.45
Mar	2.75	2.43	3.72	1985	4	8.11	1973	.65	1994	8.4	5.5	2.1	.4	.72	.98	1.38	1.73	2.07	2.43	2.84	3.32	3.94	4.92	5.84
Apr	3.24	3.06	3.31	1983	2	8.04	1973	.81	1985	9.9	7.2	2.2	.6	.81	1.11	1.58	2.00	2.42	2.85	3.34	3.92	4.68	5.88	7.01
May	4.81	4.55	4.27	2001	14	8.85	1995	1.66	1992	10.2	8.1	3.3	1.5	1.57	2.03	2.70	3.27	3.82	4.39	5.01	5.74	6.68	8.13	9.48
Jun	3.53	3.45	3.25	1933	29	8.43	1981	.35	1988	8.9	6.6	2.4	.9	.81	1.14	1.66	2.12	2.58	3.07	3.62	4.28	5.14	6.51	7.80
Jul	3.94	3.63	4.31	1958	15	9.30	1981	.44	1975	8.6	6.7	2.6	1.2	.96	1.33	1.91	2.42	2.93	3.46	4.06	4.77	5.70	7.18	8.56
Aug	3.24	2.88	5.48	1970	5	8.23	1995	.05	1984	7.5	5.4	2.4	.8	.51	.78	1.25	1.70	2.16	2.67	3.25	3.95	4.90	6.44	7.92
Sep	3.73	3.12	5.13	1947	21	10.28	1986	.00	1979	7.5	5.5	3.0	.9	1.01	1.55	2.15	2.62	3.06	3.49	3.97	4.52	5.22	6.29	7.27
Oct	3.02	2.36	4.52	1991	4	7.53	1998	.41	1987	6.9	4.8	1.8	.7	.48	.74	1.18	1.59	2.02	2.49	3.03	3.69	4.57	6.00	7.37
Nov	3.14	2.83	3.23	1984	1	8.94	1985	.13	1989	7.7	5.6	2.2	.9	.42	.68	1.13	1.56	2.02	2.53	3.11	3.83	4.80	6.39	7.92
Dec	1.99	1.74	2.18	1971	15	5.21	1982	.18	1976	7.4	4.1	1.2	.5	.34	.51	.80	1.08	1.36	1.66	2.01	2.43	2.99	3.90	4.77
Ann	36.17	34.41	5.48	Aug 1970	5	10.28	Sep 1986	.00	Sep 1979	96.0	66.1	24.6	8.8	23.48	25.85	28.94	31.31	33.44	35.51	37.67	40.08	43.02	47.33	51.09

+ 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: 1918-2001

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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: STEFFENVILLE, MO

COOP ID: 238051

Climate Division: MO 2

NWS Call Sign:

Elevation: 690 Feet

Lat: 39°58N

Lon: 91°53W

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	6.6	5.9	2	1	8.5	1999	2	17.1	1987	20	1979	15	12	1979	4.1	2.6	.9	.2	.0	12.7	6.6	2.8	.2
Feb	4.4	3.0	2	1	7.0	1975	24	18.8	1975	16	1979	13	11	1979	2.9	1.8	.6	.1	.0	7.8	4.4	1.6	.1
Mar	2.3	1.4	#	#	8.8	1990	24	10.5	1971	7	1990	24	1	1980	1.2	.8	.3	.1	.0	2.2	.7	.2	.0
Apr	.6	.0	#	0	3.0	1997	11	4.5	1997	3	1973	10	#+	2000	.4	.3	@	.0	.0	.3	@	.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	.0	.0	#	0	.8	1997	27	.8	1997	#+	1997	27	#+	1997	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	1.2	.4	#	#	7.0	1974	30	9.0	1974	8	1974	30	1	1975	.9	.5	.1	@	.0	.7	.1	.1	.0
Dec	4.5	2.9	1	#	6.8	1981	17	15.4	1997	8	1983	30	4	1983	2.8	1.5	.4	.1	.0	5.7	2.7	1.0	.0
Ann	19.6	13.6	N/A	N/A	8.8	Mar 1990	24	18.8	Feb 1975	20	Jan 1979	15	12	Jan 1979	12.4	7.5	2.3	.5	.0	29.4	14.5	5.7	.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:

www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: STEFFENVILLE, MO

COOP ID: 238051

Climate Division: MO 2

NWS Call Sign:

Elevation: 690 Feet

Lat: 39° 58N

Lon: 91° 53W

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	5/16	5/11	5/07	5/04	4/30	4/27	4/24	4/20	4/14
32	5/04	4/28	4/24	4/21	4/18	4/14	4/11	4/07	4/01
28	4/18	4/14	4/11	4/08	4/06	4/04	4/01	3/29	3/25
24	4/11	4/06	4/03	3/31	3/28	3/26	3/23	3/19	3/15
20	4/06	3/31	3/26	3/22	3/19	3/15	3/11	3/07	2/28
16	3/29	3/22	3/17	3/13	3/09	3/05	2/28	2/23	2/16
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	9/23	9/27	9/30	10/02	10/05	10/07	10/10	10/13	10/17
32	9/25	9/30	10/04	10/08	10/11	10/14	10/18	10/22	10/28
28	10/07	10/13	10/17	10/21	10/24	10/28	10/31	11/04	11/10
24	10/20	10/26	10/31	11/03	11/07	11/11	11/14	11/19	11/25
20	10/29	11/05	11/10	11/14	11/17	11/21	11/25	11/30	12/07
16	11/09	11/16	11/21	11/24	11/28	12/02	12/06	12/10	12/17
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	170	165	161	157	153	148	144	137
32	201	192	186	181	176	171	166	160	151
28	221	214	209	205	200	196	192	187	179
24	245	238	232	227	223	218	213	208	200
20	272	262	255	249	243	237	231	224	214
16	289	280	274	269	264	259	254	247	239

* 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:
www.ncdc.noaa.gov/oa/climate/normal/usnormals.html

**Climatography
of the United States
No. 20
1971-2000**

Station: STEFFENVILLE, MO

COOP ID: 238051

Climate Division: MO 2

NWS Call Sign:

Elevation: 690 Feet

Lat: 39°58N

Lon: 91°53W

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	1227	948	700	349	141	8	0	11	63	304	679	1092	5522
60	1072	813	552	223	69	1	0	2	20	186	532	937	4407
57	980	735	465	161	40	0	0	0	8	129	449	845	3812
55	920	683	409	125	27	0	0	0	4	97	395	787	3447
50	777	555	283	57	8	0	0	0	0	43	272	643	2638
32	326	207	37	0	0	0	0	0	0	0	31	225	826

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	123	183	360	651	971	1216	1397	1337	1061	736	343	156	8534
55	4	15	18	87	284	526	684	624	375	120	16	4	2757
57	1	11	12	62	236	466	622	562	319	89	10	0	2390
60	0	5	7	35	172	377	529	470	241	53	3	0	1892
65	0	0	0	10	88	234	374	325	134	17	0	0	1182
70	0	0	0	2	35	114	227	198	60	3	0	0	639

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	13	54	179	423	727	978	1147	1088	814	497	171	34	13	67	246	669	1396	2374	3521	4609	5423	5920	6091	6125
45	4	23	102	296	573	828	992	933	664	351	95	14	4	27	129	425	998	1826	2818	3751	4415	4766	4861	4875
50	0	6	57	182	420	678	837	778	515	232	51	4	0	6	63	245	665	1343	2180	2958	3473	3705	3756	3760
55	0	1	29	104	280	528	682	623	376	132	20	0	0	1	30	134	414	942	1624	2247	2623	2755	2775	2775
60	0	0	8	50	161	379	527	468	246	62	4	0	0	0	8	58	219	598	1125	1593	1839	1901	1905	1905
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	8	38	118	261	452	658	787	734	531	303	101	20	8	46	164	425	877	1535	2322	3056	3587	3890	3991	4011

(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