

# Climatography of the United States

No. 20

1971-2000

Station: SHELBYVILLE 1 E, KY

COOP ID: 157324

Climate Division: KY 3

NWS Call Sign:

Elevation: 730 Feet

Lat: 38° 12N

Lon: 85° 12W

## 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	40.2	19.3	29.8	78	1943	24	39.2	1990	-37	1994	19	15.6	1977	1093	0	.0	.0	6.8	8.8	26.6	3.2
Feb	45.9	21.6	33.8	78+	1996	24	41.4	1976	-21	1951	2	20.1	1978	874	0	.0	.0	10.5	5.2	23.2	1.9
Mar	56.2	29.8	43.0	89	1945	27	52.2	1973	-9	1980	3	36.3	1996	681	0	.0	.0	20.5	.8	19.9	.1
Apr	66.9	37.9	52.4	90+	1989	27	58.4	1977	13	1982	8	46.7	1997	382	4	.0	@	27.5	.0	9.1	.0
May	76.4	48.5	62.5	95	1941	22	68.5	1977	26	1986	3	56.6	1994	157	78	.0	.7	30.8	.0	1.1	.0
Jun	84.3	57.3	70.8	107	1936	29	74.5	1971	36+	1993	1	66.3	1982	14	188	.1	5.0	30.0	.0	.0	.0
Jul	88.1	62.0	75.1	109	1936	14	78.0	1977	43	1988	2	71.3	1984	0	311	.4	10.5	31.0	.0	.0	.0
Aug	86.6	60.0	73.3	105+	1936	21	78.9	1983	35+	1986	30	68.2	1992	10	267	.2	8.3	31.0	.0	.0	.0
Sep	80.3	52.0	66.2	106	1954	6	71.9	1973	27+	1991	28	61.4	1994	78	112	.0	3.4	30.0	.0	.6	.0
Oct	69.0	39.7	54.4	96	1951	5	63.8	1971	16+	1988	14	46.8	1988	351	21	.0	.0	30.2	.0	9.1	.0
Nov	56.2	32.0	44.1	83+	1999	2	51.4	1985	-4	1950	25	37.5	1976	627	0	.0	.0	19.8	.3	16.3	.0
Dec	44.8	23.8	34.3	76	1982	3	43.4	1971	-21	1989	23	20.7	1989	952	0	.0	.0	10.6	5.0	23.4	1.2
Ann	66.2	40.3	53.3	109	Jul 1936	14	78.9	Aug 1983	-37	Jan 1994	19	15.6	Jan 1977	5219	981	.7	27.9	278.7	20.1	129.3	6.4

+ 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](http://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: 1932-2001

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

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# 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: SHELBYVILLE 1 E, KY**

**COOP ID: 157324**

**Climate Division: KY 3**

**NWS Call Sign:**

**Elevation: 730 Feet Lat: 38°12N**

**Lon: 85°12W**

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	3.59	3.75	3.20	1937	21	7.01	1978	.41	1981	10.5	6.7	2.5	.9	.92	1.26	1.78	2.24	2.70	3.17	3.71	4.34	5.16	6.46	7.68
Feb	3.61	3.13	5.93	1990	16	9.47	1989	.51	1978	9.3	6.0	2.2	.9	.85	1.19	1.72	2.19	2.66	3.16	3.71	4.38	5.25	6.63	7.93
Mar	4.53	4.30	4.68	1943	19	14.30	1997	1.16	1979	11.9	8.5	3.2	1.0	1.64	2.07	2.68	3.20	3.69	4.19	4.73	5.37	6.18	7.43	8.57
Apr	4.07	3.66	3.20	1975	25	7.71	1998	.67	1976	11.1	8.0	2.9	.9	1.23	1.62	2.19	2.69	3.18	3.68	4.23	4.88	5.72	7.04	8.26
May	5.05	4.25	4.32	1961	8	12.99	1983	1.72	1994	11.4	7.8	3.6	1.4	1.79	2.26	2.95	3.53	4.09	4.66	5.28	6.00	6.92	8.35	9.65
Jun	4.60	4.17	4.00	1949	16	11.16	1973	.55	1988	10.6	7.7	3.4	1.3	1.37	1.80	2.46	3.03	3.58	4.15	4.78	5.53	6.49	7.99	9.39
Jul	4.85	4.96	3.44	1938	31	9.39	1979	.42	1997	9.2	6.8	3.5	1.6	1.28	1.74	2.44	3.06	3.66	4.30	5.01	5.85	6.95	8.67	10.29
Aug	3.68	3.46	4.41	1995	8	8.55	1974	.42	1984	8.1	5.9	2.5	1.0	.64	.97	1.51	2.01	2.52	3.08	3.72	4.49	5.52	7.18	8.76
Sep	3.06	2.36	5.78	1979	14	11.17	1979	.94	1999	8.1	5.2	2.1	.7	.78	1.07	1.52	1.91	2.29	2.70	3.15	3.69	4.39	5.50	6.54
Oct	2.98	2.67	3.01	1993	20	7.64	1983	.56	1987	7.9	5.5	1.9	.6	.70	.98	1.42	1.81	2.20	2.61	3.07	3.61	4.33	5.47	6.55
Nov	3.86	3.58	3.75	1948	6	7.68	1973	.45	1976	10.2	7.2	2.8	1.0	1.12	1.48	2.04	2.51	2.98	3.47	4.00	4.64	5.46	6.74	7.94
Dec	4.18	3.92	2.50	1990	18	10.20	1990	.74	1976	10.9	7.4	3.1	1.1	1.34	1.73	2.32	2.82	3.30	3.80	4.35	4.99	5.82	7.10	8.29
Ann	48.06	47.24	5.93	Feb 1990	16	14.30	Mar 1997	.41	Jan 1981	119.2	82.7	33.7	12.4	35.22	37.74	40.94	43.36	45.51	47.58	49.70	52.05	54.89	58.99	62.53

+ 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: 1932-2001

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

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**Climate Division: KY 3**

**NWS Call Sign:**

**Elevation: 730 Feet**

**Lat: 38°12N**

**Lon: 85°12W**

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	4.4	2.0	1	#	19.0	1994	17	26.5	1994	23	1994	20	8	1994	3.3	1.3	.3	.1	@	5.0	2.4	1.6	.3
Feb	3.8	2.5	1	#	8.1	1998	5	17.5	1998	17	1998	6	4	1977	2.8	1.1	.5	.1	.0	4.3	2.4	1.5	.2
Mar	1.5	1.0	#	#	8.0	1987	31	8.0	1987	8	1987	31	1	1996	1.2	.5	.1	@	.0	.9	.2	.1	.0
Apr	.1	.0	#	0	1.0	1982	8	1.0	1982	4	1987	1	#+	1996	.2	@	.0	.0	.0	@	.0	.0	.0
May	#	.0	0	0	#	1989	8	#	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	.5	1989	19	.5	1989	#+	1993	30	#+	1993	.1	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.3	.0	#	0	1.0	1976	29	2.0	1977	2	1977	28	#+	1995	.6	.1	.0	.0	.0	.3	.0	.0	.0
Dec	1.6	.7	#	#	5.2	1984	6	5.5	1989	6	1997	30	2	1989	1.7	.4	.1	@	.0	1.6	.7	.1	.0
Ann	11.7	6.2	N/A	N/A	19.0	Jan 1994	17	26.5	Jan 1994	23	Jan 1994	20	8	Jan 1994	9.9	3.4	1.0	.2	@	12.1	5.7	3.3	.5

+ 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	5/27	5/21	5/17	5/13	5/10	5/06	5/03	4/28	4/22
32	5/14	5/08	5/05	5/02	4/29	4/26	4/23	4/19	4/14
28	4/29	4/23	4/20	4/16	4/14	4/11	4/07	4/04	3/30
24	4/23	4/17	4/12	4/08	4/05	4/01	3/28	3/23	3/17
20	4/13	4/07	4/03	3/30	3/26	3/23	3/19	3/15	3/09
16	3/31	3/24	3/19	3/15	3/11	3/07	3/02	2/25	2/18
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	9/14	9/19	9/23	9/26	9/29	10/02	10/06	10/09	10/15
32	9/22	9/27	10/01	10/04	10/08	10/11	10/14	10/18	10/24
28	10/03	10/08	10/12	10/16	10/19	10/22	10/26	10/30	11/05
24	10/16	10/22	10/27	10/31	11/04	11/08	11/12	11/17	11/24
20	10/19	10/27	11/01	11/06	11/11	11/15	11/20	11/26	12/03
16	10/31	11/07	11/12	11/17	11/21	11/25	11/30	12/05	12/12
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	165	157	151	147	142	137	132	127	119
32	187	178	172	166	161	156	151	144	136
28	213	204	198	193	188	183	178	172	163
24	242	232	225	219	213	207	201	194	184
20	260	249	241	235	228	222	216	208	197
16	285	275	267	261	255	248	242	234	224

\* 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	1093	874	681	382	157	14	0	10	78	351	627	952	5219
60	938	734	530	248	79	2	0	1	30	230	479	797	4068
57	845	650	444	179	47	1	0	0	14	170	394	708	3452
55	785	597	387	139	32	0	0	0	8	136	340	651	3075
50	642	468	261	64	10	0	0	0	2	68	217	508	2240
32	220	118	24	0	0	0	0	0	0	0	11	136	509

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	149	168	366	613	944	1164	1334	1280	1024	693	373	207	8315
55	1	3	16	62	263	474	621	567	342	115	13	9	2486
57	0	0	11	41	216	414	559	505	288	88	6	4	2132
60	0	0	4	21	155	326	466	413	214	55	2	0	1656
65	0	0	0	4	78	188	311	267	112	21	0	0	981
70	0	0	0	0	29	79	165	143	45	6	0	0	467

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	42	66	186	383	689	926	1082	1031	785	451	196	70	42	108	294	677	1366	2292	3374	4405	5190	5641	5837	5907
45	18	31	109	259	535	776	927	876	635	310	118	34	18	49	158	417	952	1728	2655	3531	4166	4476	4594	4628
50	5	11	59	156	387	626	772	721	486	195	62	14	5	16	75	231	618	1244	2016	2737	3223	3418	3480	3494
55	0	1	27	85	255	476	617	566	344	105	28	0	0	1	28	113	368	844	1461	2027	2371	2476	2504	2504
60	0	0	5	34	144	327	462	412	219	52	7	0	0	0	5	39	183	510	972	1384	1603	1655	1662	1662
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	30	55	138	264	450	612	730	695	521	308	136	44	30	85	223	487	937	1549	2279	2974	3495	3803	3939	3983

(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](http://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](http://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.

- 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/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)