

# Climatology of the United States

No. 20

1971-2000

Station: RUSSELLVILLE, KY

COOP ID: 157049

Climate Division: KY 1

NWS Call Sign:

Elevation: 570 Feet

Lat: 36° 51N

Lon: 86° 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	43.0	24.6	33.8	77	1952	1	42.2	1990	-21	1963	23	18.9	1977	968	0	.0	.0	8.7	5.7	24.6	1.4
Feb	47.9	26.9	37.4	80	1996	24	46.2	1976	-18	1951	2	23.7	1978	773	0	.0	.0	12.8	3.7	19.9	.4
Mar	58.5	35.6	47.1	85	1967	14	53.7	1973	0	1960	5	39.5	1996	558	1	.0	.0	24.1	.4	13.7	.0
Apr	68.1	43.6	55.9	92	1951	28	62.3	1981	22+	1992	4	49.8	1983	290	16	.0	.1	28.6	.0	4.2	.0
May	76.8	53.1	65.0	95+	1962	21	70.1	1987	29	1976	4	60.0	1976	110	108	.0	.8	30.9	.0	.1	.0
Jun	84.9	61.4	73.2	105+	1952	30	76.9	1998	38	1993	2	68.7	1992	7	252	.1	8.0	30.0	.0	.0	.0
Jul	88.9	66.3	77.6	107	1952	28	81.4	1999	46+	1995	11	73.6	1996	0	391	.4	15.4	31.0	.0	.0	.0
Aug	87.6	64.3	76.0	105+	1954	16	80.8	1983	45+	1968	28	70.8	1992	3	342	.3	12.1	31.0	.0	.0	.0
Sep	81.3	57.0	69.2	107	1954	5	74.6	1998	32+	1967	29	64.5	1974	40	165	.1	4.6	30.0	.0	.0	.0
Oct	70.4	44.6	57.5	93	1953	1	65.2	1984	20	1976	29	51.2	1988	264	32	.0	@	30.6	.0	4.0	.0
Nov	58.2	37.5	47.9	82+	1998	2	54.2	1985	-4	1950	24	38.9	1976	516	1	.0	.0	22.5	@	11.7	.0
Dec	47.3	28.8	38.1	76+	1998	7	47.4	1971	-15+	1989	23	24.6	1989	836	0	.0	.0	13.3	3.2	21.6	.4
Ann	67.7	45.3	56.6	107+	Sep 1954	5	81.4	Jul 1999	-21	Jan 1963	23	18.9	Jan 1977	4365	1308	.9	41.0	293.5	13.0	99.8	2.2

+ 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: 1948-2001

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

049-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: RUSSELLVILLE, KY**

**COOP ID: 157049**

**Climate Division: KY 1**

**NWS Call Sign:**

**Elevation: 570 Feet Lat: 36°51N**

**Lon: 86°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	4.04	3.30	3.90	1956	30	9.81	1974	1.01	1986	9.7	6.8	2.9	1.0	.98	1.36	1.95	2.47	2.99	3.54	4.16	4.89	5.84	7.35	8.78
Feb	4.09	3.66	4.80	1949	14	9.63	1989	1.22	1980	9.7	6.6	3.0	1.1	1.50	1.89	2.44	2.90	3.34	3.79	4.28	4.84	5.57	6.68	7.70
Mar	5.05	4.45	4.24	1952	22	15.92	1975	2.05	1998	11.4	8.0	3.7	1.2	1.94	2.41	3.08	3.63	4.16	4.70	5.28	5.96	6.82	8.14	9.34
Apr	3.88	3.50	5.20	1968	4	7.90	1998	1.40	1986	10.3	7.3	3.0	1.1	1.35	1.72	2.25	2.70	3.13	3.57	4.06	4.62	5.34	6.45	7.48
May	5.65	5.21	4.15	1974	22	12.38	1983	1.59	1977	11.3	7.9	3.5	1.6	2.15	2.67	3.43	4.05	4.65	5.26	5.91	6.68	7.65	9.14	10.50
Jun	4.75	4.89	8.80	1969	23	9.24	1998	.71	1988	11.0	7.6	3.2	1.1	1.69	2.14	2.78	3.33	3.85	4.38	4.96	5.64	6.51	7.84	9.07
Jul	3.70	3.53	2.85	1972	29	7.56	1996	1.52	2000	9.1	6.5	2.7	.8	1.56	1.89	2.36	2.75	3.11	3.48	3.87	4.33	4.90	5.78	6.57
Aug	3.14	2.94	3.25	1956	20	6.57	1984	.52	1996	8.2	5.5	2.0	.6	.81	1.11	1.56	1.96	2.36	2.78	3.24	3.79	4.51	5.65	6.71
Sep	3.80	3.01	6.04	1979	14	14.06	1979	.87	1983	8.5	5.5	2.7	1.2	1.09	1.45	1.99	2.46	2.93	3.41	3.94	4.57	5.38	6.66	7.85
Oct	3.11	3.29	4.00	1970	13	5.27	1985	.50	1987	7.5	5.0	2.6	.8	1.06	1.35	1.78	2.15	2.50	2.85	3.25	3.70	4.29	5.20	6.03
Nov	4.44	4.24	4.48	1957	18	10.56	1973	.98	1976	9.8	6.9	3.3	1.3	1.23	1.65	2.29	2.85	3.40	3.97	4.60	5.35	6.32	7.84	9.26
Dec	4.84	4.35	3.70	1948	16	11.05	1978	1.09	1976	10.8	7.4	3.2	1.6	1.23	1.69	2.39	3.01	3.63	4.27	4.99	5.85	6.96	8.73	10.38
Ann	50.49	48.87	8.80	Jun 1969	23	15.92	Mar 1975	.50	Oct 1987	117.3	81.0	35.8	13.4	36.90	39.56	42.95	45.51	47.78	49.97	52.22	54.70	57.71	62.06	65.80

+ 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

Complete documentation available from:  
[www.ncdc.noaa.gov/oa/climate/normals/usnormals.html](http://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](http://www.ncdc.noaa.gov)

**Station: RUSSELLVILLE, KY**

**COOP ID: 157049**

**Climate Division: KY 1**

**NWS Call Sign:**

**Elevation: 570 Feet**

**Lat: 36°51N**

**Lon: 86°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	4.5	2.3	#	0	6.5	1981	30	16.6	1977	7	1981	30	1	1981	1.8	1.6	.8	.1	.0	1.0	.4	.2	.0
Feb	3.4	1.3	#	0	6.0	1978	18	18.0	1978	4	1980	7	1	1980	1.4	1.3	.5	.3	.0	.4	.0	.0	.0
Mar	.8	.0	#	0	5.0	1980	2	5.0	1980	5	1980	3	#+	1980	.3	.3	.2	.1	.0	.2	.1	.1	.0
Apr	#	.0	#	0	#	1975	4	#+	1975	#	1971	7	#	1971	.0	.0	.0	.0	.0	.0	.0	.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	0	.0	0	0	.0	0	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.1	.0	#	0	2.0	1977	27	2.0	1976	1	1971	24	#	1971	.2	.2	.0	.0	.0	.0	.0	.0	.0
Dec	.2	.0	#	0	2.1	1989	18	2.1+	1989	2	1989	18	#+	1989	.2	.2	.0	.0	.0	.2	.0	.0	.0
Ann	9.0	3.6	N/A	N/A	6.5	Jan 1981	30	18.0	Feb 1978	7	Jan 1981	30	1+	Jan 1981	3.9	3.6	1.5	.5	.0	1.8	.5	.3	.0

+ 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](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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

**Station: RUSSELLVILLE, KY**

**COOP ID: 157049**

**Climate Division: KY 1**

**NWS Call Sign:**

**Elevation: 570 Feet**

**Lat: 36° 51N**

**Lon: 86° 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	5/09	5/05	5/01	4/27	4/24	4/20	4/16	4/09
32	4/26	4/22	4/18	4/16	4/13	4/10	4/07	4/04	3/30
28	4/17	4/12	4/08	4/04	4/01	3/29	3/25	3/21	3/15
24	4/09	4/03	3/29	3/26	3/22	3/18	3/15	3/10	3/04
20	3/26	3/18	3/13	3/08	3/04	2/28	2/23	2/18	2/10
16	3/11	3/04	2/26	2/22	2/17	2/13	2/09	2/03	1/27
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	9/25	9/30	10/03	10/06	10/09	10/11	10/14	10/18	10/22
32	10/06	10/11	10/15	10/18	10/21	10/24	10/27	10/31	11/05
28	10/16	10/21	10/26	10/29	11/01	11/05	11/08	11/12	11/18
24	10/29	11/04	11/08	11/12	11/15	11/18	11/22	11/26	12/02
20	11/06	11/13	11/18	11/22	11/26	11/30	12/04	12/09	12/16
16	11/21	11/28	12/03	12/07	12/11	12/15	12/20	12/25	1/01
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	183	176	172	167	164	160	156	151	144
32	209	203	198	194	191	187	183	178	172
28	238	230	224	219	214	209	204	198	189
24	262	254	248	242	237	233	227	221	213
20	294	285	278	272	266	261	255	248	238
16	324	314	307	302	296	290	285	278	268

\* 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](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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

**Station: RUSSELLVILLE, KY**

**COOP ID: 157049**

**Climate Division: KY 1**

**NWS Call Sign:**

**Elevation: 570 Feet Lat: 36° 51N Lon: 86° 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	968	773	558	290	110	7	0	3	40	264	516	836	4365
60	813	633	414	174	48	1	0	0	11	158	375	685	3312
57	726	556	332	119	26	0	0	0	4	108	295	599	2765
55	668	503	282	89	16	0	0	0	2	81	246	541	2428
50	524	377	177	34	4	0	0	0	0	33	146	405	1700
32	148	77	10	0	0	0	0	0	0	0	4	84	323

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	203	228	476	715	1021	1234	1414	1363	1115	791	479	271	9310
55	10	11	35	114	324	544	701	650	427	159	31	15	3021
57	6	7	23	84	272	484	639	588	369	124	20	11	2627
60	0	1	12	49	202	395	546	495	286	81	10	4	2081
65	0	0	1	16	108	252	391	342	165	32	1	0	1308
70	0	0	0	3	46	128	240	202	76	9	0	0	704

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	60	110	269	492	786	1007	1178	1118	884	548	257	96	60	170	439	931	1717	2724	3902	5020	5904	6452	6709	6805
45	29	60	168	357	631	857	1023	963	734	396	163	47	29	89	257	614	1245	2102	3125	4088	4822	5218	5381	5428
50	12	26	90	233	478	707	868	808	585	264	94	22	12	38	128	361	839	1546	2414	3222	3807	4071	4165	4187
55	1	7	43	136	326	557	713	653	437	155	46	5	1	8	51	187	513	1070	1783	2436	2873	3028	3074	3079
60	0	0	14	67	197	409	558	498	298	76	13	0	0	0	14	81	278	687	1245	1743	2041	2117	2130	2130
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	40	77	177	313	507	682	804	760	578	355	157	57	40	117	294	607	1114	1796	2600	3360	3938	4293	4450	4507

(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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
|---|---|

## 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)