

# Climatology of the United States

No. 20

1971-2000

Station: BARDWELL 2 E, KY

COOP ID: 150402

Climate Division: KY 1

NWS Call Sign:

Elevation: 410 Feet

Lat: 36° 53N

Lon: 89° 00W

## 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	43.1	25.0	34.1	74	1967	23	43.1	1990	-21	1982	17	20.1	1977	959	0	.0	.0	10.1	6.3	23.2	.8
Feb	49.5	29.3	39.4	77	1996	27	47.4	1976	-10	1965	2	24.8	1978	717	0	.0	.0	14.4	3.2	17.0	.4
Mar	59.6	38.0	48.8	84+	1986	31	55.2	1976	3	1978	5	42.7	1996	505	3	.0	.0	25.2	.4	10.7	.0
Apr	70.1	46.5	58.3	90	1987	21	64.5	1981	23+	1992	3	51.8	1983	222	22	.0	@	29.4	.0	2.5	.0
May	78.7	55.3	67.0	95	1978	26	73.1	1987	32	1976	4	61.9	1976	77	139	.0	1.6	31.0	.0	@	.0
Jun	87.0	63.7	75.4	102+	1988	25	78.1	1971	42+	1992	22	71.4	1974	2	313	.2	10.6	30.0	.0	.0	.0
Jul	90.4	67.7	79.1	104	1980	15	84.5	1980	47	1971	31	75.7	1984	0	434	.7	19.0	31.0	.0	.0	.0
Aug	88.7	65.2	77.0	102	1980	9	82.5	1980	41	1986	29	72.6	1992	1	371	.4	13.8	31.0	.0	.0	.0
Sep	82.3	57.9	70.1	100	1980	9	75.9	1998	30	1983	24	64.7	1974	30	183	@	5.2	30.0	.0	@	.0
Oct	72.0	46.4	59.2	91	1971	1	65.0	1971	21	1981	24	53.7	1988	213	33	.0	.1	30.7	.0	2.6	.0
Nov	58.2	38.0	48.1	82+	1987	4	54.1	1999	8	1964	22	40.0	1976	508	2	.0	.0	22.9	.1	9.9	.0
Dec	47.4	28.9	38.2	77	1982	2	46.4	1971	-12+	1989	23	27.6	2000	833	0	.0	.0	13.4	3.0	19.7	.3
Ann	68.9	46.8	57.9	104	Jul 1980	15	84.5	Jul 1980	-21	Jan 1982	17	20.1	Jan 1977	4067	1500	1.3	50.3	299.1	13.0	85.6	1.5

+ 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](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: 1964-2001

(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: BARDWELL 2 E, KY**

**COOP ID: 150402**

**Climate Division: KY 1**

**NWS Call Sign:**

**Elevation: 410 Feet**

**Lat: 36°53N**

**Lon: 89°00W**

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	3.44	3.37	3.65	1966	1	7.52	1999	.77	1981	10.8	6.4	2.3	.9	1.16	1.49	1.96	2.36	2.75	3.15	3.58	4.09	4.75	5.76	6.69
Feb	3.99	3.63	5.70	1990	15	13.05	1989	1.05	1996	9.0	6.1	2.6	1.2	1.05	1.43	2.01	2.51	3.01	3.54	4.12	4.81	5.71	7.13	8.46
Mar	4.66	4.32	4.00	1997	1	11.80	1975	1.70	1987	11.4	8.6	3.0	1.1	1.98	2.40	2.99	3.48	3.93	4.39	4.89	5.46	6.18	7.27	8.27
Apr	5.27	4.77	3.60	1973	19	11.34	1979	1.48	1989	11.3	8.0	3.4	1.7	1.77	2.27	3.00	3.62	4.22	4.83	5.50	6.28	7.29	8.85	10.29
May	5.21	5.14	4.40	1997	20	10.50	1997	.84	1994	12.0	8.3	3.5	1.6	1.61	2.10	2.84	3.47	4.09	4.72	5.42	6.24	7.30	8.95	10.47
Jun	4.26	3.96	2.90	1999	20	9.67	1998	.68	1988	10.3	6.9	2.7	1.2	1.34	1.75	2.35	2.86	3.35	3.87	4.43	5.09	5.94	7.27	8.49
Jul	4.74	4.80	3.92	1996	20	12.16	1972	.60	1993	8.4	6.1	3.4	1.6	1.14	1.58	2.28	2.89	3.51	4.16	4.88	5.75	6.88	8.67	10.36
Aug	3.77	3.76	3.00	1965	31	8.83	1977	.18	1996	7.3	4.8	2.4	1.3	.45	.75	1.28	1.81	2.37	2.99	3.71	4.61	5.83	7.83	9.77
Sep	3.35	3.19	4.38	1965	11	8.43	1996	.16	1998	8.0	5.0	2.5	1.1	.58	.87	1.36	1.82	2.29	2.80	3.38	4.09	5.03	6.56	8.02
Oct	3.53	3.10	4.55	1992	16	9.34	1984	.01	2000	7.7	5.1	2.5	.9	.50	.80	1.30	1.79	2.30	2.87	3.51	4.31	5.38	7.13	8.81
Nov	4.83	4.01	5.05	1996	7	10.99	1973	1.02	1999	10.2	7.1	3.5	1.5	1.40	1.86	2.55	3.15	3.73	4.34	5.01	5.81	6.83	8.44	9.93
Dec	4.74	3.70	4.55	1978	3	12.55	1990	.79	1976	11.1	6.9	3.3	1.4	1.00	1.44	2.13	2.76	3.40	4.08	4.85	5.77	6.98	8.92	10.75
Ann	51.79	52.32	5.70	Feb 1990	15	13.05	Feb 1989	.01	Oct 2000	117.5	79.3	35.1	15.5	38.01	40.71	44.16	46.76	49.06	51.28	53.57	56.08	59.13	63.54	67.33

+ 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: 1964-2001

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

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Station: BARDWELL 2 E, KY

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Climate Division: KY 1

NWS Call Sign:

Elevation: 410 Feet

Lat: 36°53N

Lon: 89°00W

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	3.6	2.0	1	#	8.0	1978	16	25.5	1985	19	1978	21	7	1978	2.8	1.5	.6	.2	.0	5.4	2.9	1.9	.2
Feb	3.7	2.0	1	#	7.0	1993	25	13.0	1993	11	1985	3	4	1985	2.0	1.3	.6	.3	.0	4.1	2.3	1.1	.1
Mar	1.4	.2	#	#	4.0	1975	10	9.0	1975	3	1987	29	#+	1999	.8	.6	.2	.0	.0	.4	.1	.0	.0
Apr	#	.0	#	0	#	1973	9	#+	1973	#	1971	6	#	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	.1	.0	#	0	4.0	1993	30	4.0	1993	#	1993	31	#	1993	@	@	@	.0	.0	.0	.0	.0	.0
Nov	.3	.0	#	0	2.0	1971	23	2.5	1971	1	1971	23	#+	1980	.2	.2	.0	.0	.0	@	.0	.0	.0
Dec	1.4	.7	#	#	7.0	1984	5	7.2	1973	7	1984	5	1	1984	1.1	.5	.1	@	.0	1.4	.2	.1	.0
Ann	10.5	4.9	N/A	N/A	8.0	Jan 1978	16	25.5	Jan 1985	19	Jan 1978	21	7	Jan 1978	6.9	4.1	1.5	.5	.0	11.3	5.5	3.1	.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

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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	5/05	4/29	4/25	4/22	4/19	4/16	4/12	4/08	4/03
32	4/21	4/17	4/14	4/11	4/09	4/06	4/04	4/01	3/27
28	4/14	4/09	4/05	4/02	3/30	3/27	3/24	3/20	3/15
24	4/02	3/26	3/21	3/17	3/13	3/09	3/05	3/01	2/22
20	3/17	3/10	3/06	3/02	2/27	2/23	2/19	2/15	2/09
16	3/11	3/03	2/26	2/21	2/16	2/12	2/07	2/01	1/24
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	9/30	10/04	10/06	10/08	10/10	10/12	10/15	10/17	10/21
32	10/03	10/09	10/12	10/16	10/19	10/22	10/25	10/29	11/04
28	10/22	10/28	11/01	11/05	11/08	11/11	11/15	11/19	11/25
24	10/31	11/06	11/11	11/15	11/18	11/22	11/25	11/30	12/06
20	11/09	11/16	11/21	11/25	11/29	12/03	12/08	12/13	12/20
16	11/19	11/27	12/03	12/08	12/12	12/17	12/22	12/27	1/04
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	192	186	181	177	174	170	167	162	156
32	211	205	200	196	192	189	185	180	174
28	245	237	231	226	222	217	213	207	199
24	273	265	259	254	249	244	239	234	225
20	301	292	286	280	275	270	264	258	249
16	331	320	312	305	298	292	285	277	266

\* 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	959	717	505	222	77	2	0	1	30	213	508	833	4067
60	804	580	363	118	29	0	0	0	7	113	369	679	3062
57	721	503	285	72	14	0	0	0	2	71	291	594	2553
55	662	451	239	49	8	0	0	0	1	49	244	536	2239
50	520	330	144	14	1	0	0	0	0	16	147	398	1570
32	153	57	6	0	0	0	0	0	0	0	6	78	300

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	217	264	527	789	1085	1301	1457	1392	1143	843	489	268	9775
55	13	14	47	148	380	611	744	679	454	179	38	13	3320
57	10	10	31	111	323	551	682	617	395	139	25	9	2903
60	0	3	16	67	245	461	589	524	310	89	13	1	2318
65	0	0	3	22	139	313	434	371	183	33	2	0	1500
70	0	0	0	4	64	175	280	226	88	8	0	0	845

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	69	135	311	556	842	1065	1214	1156	906	605	283	107	69	204	515	1071	1913	2978	4192	5348	6254	6859	7142	7249
45	33	71	198	413	687	915	1059	1001	756	453	179	55	33	104	302	715	1402	2317	3376	4377	5133	5586	5765	5820
50	14	31	113	277	533	765	904	846	606	308	101	26	14	45	158	435	968	1733	2637	3483	4089	4397	4498	4524
55	1	7	54	165	381	615	749	691	458	187	47	6	1	8	62	227	608	1223	1972	2663	3121	3308	3355	3361
60	0	0	18	86	237	465	594	536	319	98	18	0	0	0	18	104	341	806	1400	1936	2255	2353	2371	2371
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	44	82	187	346	544	726	829	786	602	388	165	61	44	126	313	659	1203	1929	2758	3544	4146	4534	4699	4760

(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:  
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## 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)