U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Service

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: BARDSTOWN 5 E, KY **COOP ID: 150397**

Climate Division: KY 2 **NWS Call Sign:** **Elevation: 780 Feet** **Lat: 37˚49N** **Lon: 85˚23W**

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	41.4	24.3	32.9	72+	1975	29	41.9	1990	-26	1994	19	17.6	1977	996	0	.0	.0	9.4	6.6	23.5	1.3
Feb	47.4	27.8	37.6	79	1962	14	45.4	1976	-21	1951	2	23.3	1978	768	0	.0	.0	13.6	3.7	18.9	.7
Mar	57.3	36.1	46.7	85	1977	15	53.9	1973	-8	1960	6	40.8	1996	566	0	.0	.0	23.8	.5	13.1	@
Apr	67.4	44.0	55.7	90	1962	30	61.5	1981	19+	1990	7	51.1	1997	289	9	.0	.0	28.7	.0	4.5	.0
May	75.7	53.0	64.4	94	1977	17	69.9	1987	27	1963	1	60.3	1973	117	96	.0	.5	31.0	.0	.3	.0
Jun	82.8	61.5	72.2	100	1954	26	74.9	1984	37	1966	1	68.3	1974	7	221	@	5.4	30.0	.0	.0	.0
Jul	86.5	65.5	76.0	105+	1983	23	79.9	1980	46	1972	7	72.9	1971	0	341	.5	12.3	31.0	.0	.0	.0
Aug	85.4	63.7	74.6	105	1983	20	80.5	1983	43	1964	13	69.5	1992	5	301	.2	9.8	31.0	.0	.0	.0
Sep	79.3	56.7	68.0	103+	1954	6	73.9	1998	33+	1993	30	63.1	1974	49	139	.0	3.6	30.0	.0	.0	.0
Oct	68.4	45.3	56.9	97	1953	1	64.2	1984	19+	1976	28	50.3	1976	281	29	.0	.0	30.6	.0	3.4	.0
Nov	56.1	36.8	46.5	85	1961	2	52.3	1985	-5	1950	25	37.1	1976	558	0	.0	.0	21.4	.2	11.1	.0
Dec	45.6	28.8	37.2	78	1982	3	45.7	1984	-20	1989	22	24.3	1989	861	0	.0	.0	13.1	3.7	20.1	.3
Ann	66.1	45.3	55.7	105+	Aug 1983	20	80.5	Aug 1983	-26	Jan 1994	19	17.6	Jan 1977	4497	1136	.7	31.6	293.6	14.7	94.9	2.3

\+ 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/normals/usnormals.html

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1950-2001

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

Issue Date: February 2004

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Precipitation (inches)

Precipitation Totals

Month	Means/ Medians(1) Mean	Means/ Medians(1) Median	Extremes Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year
Jan	3.60	3.67	3.91	1978	8	8.19	1978	.88	1986
Feb	3.80	3.28	3.42	1989	15	13.80	1989	.93	1978
Mar	4.80	4.08	5.72	1997	1	15.64	1997	1.67	1981
Apr	4.42	4.09	4.98	1970	28	13.33	1972	.61	1976
May	5.28	4.97	4.22	1967	14	10.37	1983	2.63	1988
Jun	4.60	4.38	3.60	1956	21	10.58	1998	.66	1988
Jul	4.81	4.85	4.00+	1980	22	8.71	1992	.35	1997
Aug	3.43	2.85	3.35	1966	20	8.46	1974	.44	1998
Sep	3.64	3.07	4.79	1979	21	12.18	1979	1.10	1985
Oct	2.94	3.03	2.55	1962	2	6.24	1983	.19	2000
Nov	4.01	3.71	2.30	1957	18	8.13	1984	.40	1976
Dec	4.67	4.39	3.14	1978	8	11.74	1978	1.48	1976
Ann	50.00	49.24	5.72	Mar 1997	1	15.64	Mar 1997	.19	Oct 2000

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.8	6.8	2.5	.8
Feb	10.5	6.7	2.6	1.0
Mar	13.7	8.9	3.0	1.3
Apr	12.2	7.6	3.2	1.0
May	12.4	8.5	3.5	1.7
Jun	11.0	7.5	3.3	1.1
Jul	9.9	6.8	3.2	1.4
Aug	8.8	5.9	2.2	.8
Sep	9.0	6.0	2.4	1.1
Oct	8.6	5.4	2.0	.7
Nov	12.0	7.2	2.9	.9
Dec	12.0	7.5	3.1	1.4
Ann	131.9	84.8	33.9	13.2

Precipitation Probabilities (1)

Probability that the monthly/annual precipitation will be equal to or less than the indicated amount

Monthly/Annual Precipitation vs Probability Levels
These values were determined from the incomplete gamma distribution

Month	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.10	1.45	1.96	2.39	2.82	3.26	3.75	4.32	5.06	6.21	7.27
Feb	1.04	1.40	1.95	2.43	2.90	3.39	3.93	4.58	5.41	6.73	7.95
Mar	1.56	2.02	2.69	3.26	3.81	4.38	5.01	5.74	6.67	8.13	9.48
Apr	1.19	1.61	2.24	2.80	3.35	3.93	4.57	5.32	6.31	7.86	9.31
May	2.35	2.82	3.47	4.00	4.50	5.00	5.53	6.15	6.92	8.09	9.15
Jun	1.30	1.73	2.39	2.97	3.53	4.12	4.77	5.54	6.54	8.10	9.56
Jul	1.10	1.55	2.25	2.88	3.51	4.18	4.93	5.83	7.01	8.88	10.65
Aug	.92	1.24	1.74	2.17	2.60	3.05	3.55	4.13	4.90	6.11	7.23
Sep	1.16	1.51	2.02	2.46	2.88	3.31	3.79	4.35	5.07	6.19	7.23
Oct	.62	.89	1.32	1.71	2.11	2.53	3.00	3.57	4.33	5.53	6.67
Nov	1.23	1.61	2.18	2.66	3.14	3.63	4.17	4.80	5.62	6.90	8.09
Dec	1.47	1.91	2.57	3.13	3.68	4.24	4.86	5.59	6.53	7.99	9.34
Ann	36.72	39.33	42.64	45.15	47.36	49.50	51.70	54.13	57.06	61.30	64.95

\+ 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: 1950-2001
(3) Derived from 1971-2000 serially complete daily data

Complete documentation available from:
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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	1.5	#	1	#
Feb	4.3	.6	1	#
Mar	1.6	1.0	#	#
Apr	#	.0	#	0
May	#	.0	0	0
Jun	.0	.0	0	0
Jul	.0	.0	0	0
Aug	.0	.0	0	0
Sep	.0	.0	0	0
Oct	#	.0	#	0
Nov	.4	.0	#	0
Dec	2.6	1.0	#	#
Ann	10.4	2.6	N/A	N/A

Extremes (2)

Month	Highest Daily Snow Fall	Year	Day	Highest Monthly Snow Fall	Year	Highest Daily Snow Depth	Year	Day	Highest Monthly Mean Snow Depth	Year
Jan	12.0	1994	17	12.0	1994	18	1978	20	6	1994
Feb	8.0	1998	4	17.0	1998	14	1998	6	5	1978
Mar	6.0	1972	3	7.0	1996	6	1972	3	#+	2000
Apr	#	1997	17	#+	1997	#+	2000	4	#+	2000
May	#	1989	7	#	1989	0	0	0	0	0
Jun	.0	0	0	.0	0	0	0	0	0	0
Jul	.0	0	0	.0	0	0	0	0	0	0
Aug	.0	0	0	.0	0	0	0	0	0	0
Sep	.0	0	0	.0	0	0	0	0	0	0
Oct	#	1989	20	#	1989	#	1993	31	#	1993
Nov	3.0	1977	27	4.5	1992	3	1992	14	#+	2000
Dec	4.0	1976	29	12.0	2000	3+	2000	31	1+	2000
Ann	12.0	Jan 1994	17	17.0	Feb 1998	18	Jan 1978	20	6	Jan 1994

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.8	1.6	.4	.2	.1
Feb	1.3	.9	.5	.2	.0
Mar	.8	.8	.2	.1	.0
Apr	.0	.0	.0	.0	.0
May	.0	.0	.0	.0	.0
Jun	.0	.0	.0	.0	.0
Jul	.0	.0	.0	.0	.0
Aug	.0	.0	.0	.0	.0
Sep	.0	.0	.0	.0	.0
Oct	.0	.0	.0	.0	.0
Nov	.2	.2	.1	.0	.0
Dec	1.2	1.1	.2	.0	.0
Ann	5.3	4.6	1.4	.5	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.1	.6	.6	.6
Feb	1.9	.9	.5	.2
Mar	.5	.1	.1	.0
Apr	.0	.0	.0	.0
May	.0	.0	.0	.0
Jun	.0	.0	.0	.0
Jul	.0	.0	.0	.0
Aug	.0	.0	.0	.0
Sep	.0	.0	.0	.0
Oct	.0	.0	.0	.0
Nov	.1	.1	.0	.0
Dec	3.1	.8	.0	.0
Ann	7.7	2.5	1.2	.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

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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	5/19	5/13	5/08	5/04	5/01	4/27	4/23	4/19	4/12
32	5/06	4/30	4/26	4/23	4/20	4/16	4/13	4/09	4/03
28	4/20	4/15	4/11	4/08	4/05	4/02	3/30	3/27	3/22
24	4/12	4/06	4/01	3/29	3/25	3/21	3/18	3/13	3/07
20	3/30	3/23	3/19	3/15	3/11	3/07	3/03	2/27	2/20
16	3/16	3/10	3/05	3/01	2/26	2/22	2/18	2/14	2/08

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	9/24	9/28	10/01	10/04	10/06	10/09	10/11	10/14	10/18
32	10/03	10/07	10/11	10/13	10/16	10/19	10/21	10/25	10/29
28	10/11	10/17	10/21	10/24	10/27	10/30	11/03	11/06	11/12
24	10/26	11/01	11/05	11/09	11/13	11/16	11/20	11/25	12/01
20	11/02	11/08	11/13	11/17	11/21	11/24	11/28	12/03	12/09
16	11/14	11/22	11/27	12/02	12/06	12/10	12/15	12/21	12/28

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	178	171	166	162	158	154	150	145	138
32	201	193	188	183	179	174	170	164	157
28	223	216	212	208	204	201	197	192	186
24	258	249	242	237	232	227	222	215	206
20	277	269	263	259	254	250	245	239	231
16	307	299	293	287	283	278	272	266	258

***** 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

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Degree Days to Selected Base Temperatures (˚F)

Heating Degree Days (1)

Base Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	996	768	566	289	117	7	0	5	49	281	558	861	4497
60	841	628	420	166	51	1	0	0	14	171	413	706	3411
57	758	551	336	108	27	0	0	0	6	119	331	622	2858
55	699	499	285	77	17	0	0	0	3	91	280	564	2515
50	556	373	177	25	4	0	0	0	0	39	170	425	1769
32	176	76	9	0	0	0	0	0	0	0	6	93	360

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	203	232	466	710	1002	1204	1364	1319	1081	770	439	255	9045
55	12	11	28	97	306	514	651	606	393	148	23	13	2802
57	9	8	18	68	254	454	589	544	336	115	14	9	2418
60	0	0	9	36	186	365	496	451	255	74	5	0	1877
65	0	0	0	9	96	221	341	301	139	29	0	0	1136
70	0	0	0	1	38	100	195	168	59	8	0	0	569

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	66	120	281	500	782	995	1150	1109	876	557	271	109	66	186	467	967	1749	2744	3894	5003	5879	6436	6707	6816
45	34	69	180	356	627	845	995	954	726	405	166	58	34	103	283	639	1266	2111	3106	4060	4786	5191	5357	5415
50	11	27	103	236	474	695	840	799	576	275	96	29	11	38	141	377	851	1546	2386	3185	3761	4036	4132	4161
55	1	9	53	136	326	545	685	644	431	162	45	8	1	10	63	199	525	1070	1755	2399	2830	2992	3037	3045
60	0	1	22	69	196	396	530	489	295	82	15	0	0	1	23	92	288	684	1214	1703	1998	2080	2095	2095
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	37	78	176	317	504	677	788	758	577	356	156	61	37	115	291	608	1112	1789	2577	3335	3912	4268	4424	4485

(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.
Compete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normals/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 are 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/normals.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normals/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