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: GILBERTSVILLE KY DAM, KY **COOP ID: 153223**

Climate Division: KY 1 **NWS Call Sign:** **Elevation: 360 Feet** **Lat: 37˚01N** **Lon: 88˚16W**

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	44.9	27.4	36.2	74	1972	24	45.6	1990	-15	1985	20	22.3	1977	894	0	.0	.0	11.0	4.7	20.6	.6
Feb	51.1	30.6	40.9	79	1972	29	49.6	1990	-9	1996	4	26.6	1978	676	0	.0	.0	16.0	2.2	15.5	.2
Mar	61.5	38.8	50.2	85+	1998	31	55.2	1976	9+	1996	8	44.1	1975	465	5	.0	.0	26.7	.2	8.3	.0
Apr	72.3	47.3	59.8	92	1987	21	65.4	1981	27+	1992	2	54.0	1983	184	27	.0	.4	29.6	.0	1.4	.0
May	81.2	56.5	68.9	96	1988	31	74.5	1987	36+	1995	2	64.4	1994	52	171	.0	2.5	31.0	.0	.0	.0
Jun	89.7	65.7	77.7	105+	1988	24	81.1	1984	46+	1993	1	73.2	1974	1	383	.6	14.8	30.0	.0	.0	.0
Jul	93.6	70.1	81.9	107	1980	15	86.8	1980	51	1968	5	78.9	1996	0	522	2.4	23.3	31.0	.0	.0	.0
Aug	92.2	68.1	80.2	105+	1999	13	85.9	1980	46	1986	29	76.0	1992	0	469	1.7	20.6	31.0	.0	.0	.0
Sep	85.5	60.8	73.2	103+	1999	4	78.5	1998	36+	1995	23	67.5	1974	14	259	.3	8.1	30.0	.0	.0	.0
Oct	74.0	49.6	61.8	91	1971	1	68.2	1971	25	1981	24	55.0	1988	162	62	.0	.1	30.9	.0	1.0	.0
Nov	60.1	40.9	50.5	83	1999	8	57.0	1999	13+	1976	29	41.6	1976	441	6	.0	.0	24.4	@	6.6	.0
Dec	48.8	31.3	40.1	74+	1984	28	48.4	1984	-15	1989	23	28.5	1989	773	0	.0	.0	15.2	2.4	17.3	.3
Ann	71.2	48.9	60.1	107	Jul 1980	15	86.8	Jul 1980	-15+	Dec 1989	23	22.3	Jan 1977	3662	1904	5.0	69.8	306.8	9.5	70.7	1.1

\+ 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: 1967-2001

(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	3.80	3.91	3.25	1982	23	7.91	1999	1.13	1981
Feb	4.38	3.58	6.00	1989	14	17.25	1989	1.17	1983
Mar	4.51	4.21	3.44	1975	29	12.69	1975	1.29	1998
Apr	4.62	4.16	3.80	1983	30	13.20	1983	1.16	1986
May	4.97	4.80	4.17	1997	29	9.44	1983	1.64	1987
Jun	4.11	3.73	3.20	1998	9	11.40	1998	.83	1972
Jul	4.46	3.79	4.42	1975	5	11.25	1972	1.15	1994
Aug	4.31	3.77	8.20	1982	31	12.85	1982	.00	1999
Sep	3.60	3.74	6.00	1985	5	8.04	1996	.22	1999
Oct	2.94	2.71	3.00	1999	9	7.77	1985	.53	1995
Nov	4.80	4.58	3.70	1988	19	10.96	1988	1.14	1976
Dec	4.51	3.63	3.60+	2001	17	12.50	1984	.10	1985
Ann	51.01	50.02	8.20	Aug 1982	31	17.25	Feb 1989	.00	Aug 1999

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.4	6.6	2.8	1.0
Feb	9.0	6.8	2.5	1.1
Mar	11.3	8.5	3.2	1.2
Apr	10.0	7.3	3.2	1.3
May	10.3	7.8	3.2	1.2
Jun	8.5	6.5	2.5	1.2
Jul	7.9	5.9	2.7	1.4
Aug	6.8	5.2	2.8	1.2
Sep	7.1	5.6	2.5	1.0
Oct	6.8	4.9	2.3	.9
Nov	9.6	7.4	3.4	1.6
Dec	9.9	7.3	3.3	1.4
Ann	106.6	79.8	34.4	14.5

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	1.22	1.59	2.12	2.57	3.01	3.46	3.95	4.53	5.28	6.44	7.51
Feb	.87	1.26	1.91	2.50	3.09	3.73	4.46	5.33	6.49	8.35	10.11
Mar	1.71	2.13	2.73	3.23	3.71	4.19	4.71	5.32	6.10	7.29	8.37
Apr	1.36	1.80	2.46	3.03	3.58	4.16	4.80	5.54	6.51	8.03	9.44
May	1.97	2.43	3.08	3.62	4.13	4.64	5.20	5.85	6.67	7.93	9.08
Jun	1.28	1.68	2.25	2.75	3.23	3.73	4.28	4.92	5.74	7.03	8.23
Jul	1.32	1.74	2.38	2.93	3.46	4.02	4.63	5.35	6.28	7.74	9.10
Aug	.53	1.07	1.80	2.41	3.03	3.69	4.43	5.32	6.49	8.36	10.13
Sep	.60	.92	1.44	1.94	2.44	3.00	3.63	4.39	5.42	7.08	8.67
Oct	.75	1.03	1.45	1.83	2.20	2.60	3.03	3.55	4.23	5.30	6.30
Nov	1.40	1.85	2.54	3.13	3.71	4.32	4.99	5.77	6.79	8.38	9.87
Dec	.64	1.02	1.67	2.29	2.94	3.66	4.49	5.51	6.88	9.11	11.26
Ann	35.58	38.54	42.35	45.25	47.83	50.33	52.92	55.78	59.26	64.32	68.70

\+ 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: 1967-2001
(3) Derived from 1971-2000 serially complete daily data

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Snow (inches)

Snow Totals

Means/Medians (1)

Extremes (2)

Mean Number of Days (1)

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	.0	1	0	3.2	1985	31	3.2	1985	14	1994	18	7	1981	.6	.4	.1	.0	.0	.1	.0	.0	.0
Feb	2.7	-99.9	#	0	4.5	1971	12	8.0	1971	3	1984	5	#+	1996	.5	.5	.3	.0	.0	.0	.0	.0	.0
Mar	.6	.0	#	0	4.0	1980	1	5.5	1980	1	1995	3	#+	1998	.1	.1	.1	.0	.0	.0	.0	.0	.0
Apr	#	.0	#	0	#	1983	18	#+	1983	#	1983	18	#	1983	.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	#	1989	18	#	1989	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.1	.0	#	0	1.0	1980	27	1.3	1971	1	1971	23	#	1971	.1	.1	.0	.0	.0	.1	.0	.0	.0
Dec	.2	#	#	0	1.0	1983	28	1.0+	1983	7	1984	6	#+	2000	.1	.1	.0	.0	.0	.0	.0	.0	.0
Ann	4.0	-9.9	N/A	N/A	4.5	Feb 1971	12	8.0	Feb 1971	14	Jan 1994	18	7	Jan 1981	1.4	1.2	.5	.0	.0	.2	.0	.0	.0

+ Also occurred on an earlier date(s) #Denotes trace amounts

(1) Derived from Snow Climatology and 1971-2000 daily data

@ Denotes mean number of days greater than 0 but less than .05

(2) Derived from 1971-2000 daily data

-9/-9.9 represents missing values

Annual statistics for Mean/Median snow depths are not appropriate

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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	4/27	4/22	4/19	4/16	4/13	4/10	4/07	4/04	3/30
32	4/17	4/12	4/09	4/06	4/03	4/01	3/29	3/25	3/21
28	4/08	4/03	3/30	3/27	3/24	3/20	3/17	3/13	3/08
24	3/26	3/19	3/15	3/11	3/07	3/04	2/28	2/23	2/17
20	3/15	3/08	3/03	2/26	2/22	2/18	2/14	2/08	2/01
16	3/09	3/01	2/23	2/18	2/13	2/08	2/02	1/27	1/17

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	10/02	10/07	10/11	10/15	10/18	10/21	10/25	10/29	11/04
32	10/16	10/22	10/26	10/29	11/01	11/04	11/07	11/11	11/16
28	10/29	11/04	11/08	11/11	11/14	11/17	11/21	11/25	11/30
24	11/09	11/15	11/19	11/23	11/26	11/30	12/04	12/08	12/14
20	11/17	11/24	11/29	12/04	12/08	12/13	12/17	12/23	12/30
16	11/21	12/01	12/08	12/14	12/20	12/25	1/01	1/08	1/20

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	210	202	196	192	187	183	178	173	165
32	229	223	218	215	211	207	203	199	192
28	258	250	244	239	235	230	225	220	212
24	289	280	274	268	263	258	253	247	238
20	320	309	301	295	288	282	276	268	257
16	>365	332	321	314	307	300	294	286	276

***** 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)

Base — Heating Degree Days (1)

Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
65	894	676	465	184	52	1	0	0	14	162	441	773	3662
60	746	545	324	88	16	0	0	0	2	80	308	627	2736
57	658	466	249	49	7	0	0	0	0	48	237	540	2254
55	600	416	205	30	3	0	0	0	0	32	196	484	1966
50	462	300	118	6	0	0	0	0	0	9	112	354	1361
32	119	48	4	0	0	0	0	0	0	0	3	64	238

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	248	296	567	833	1142	1372	1545	1492	1235	924	558	314	10526
55	16	20	56	174	433	682	832	779	545	242	61	21	3861
57	12	14	37	132	374	622	770	717	486	197	42	15	3418
60	8	8	19	81	290	532	677	624	398	136	23	9	2805
65	0	0	5	27	171	383	522	469	259	62	6	0	1904
70	0	0	0	5	83	238	367	318	143	21	0	0	1175

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	87	152	350	602	899	1127	1293	1236	987	667	331	123	87	239	589	1191	2090	3217	4510	5746	6733	7400	7731	7854
45	37	80	230	454	744	977	1138	1081	837	513	215	59	37	117	347	801	1545	2522	3660	4741	5578	6091	6306	6365
50	15	34	134	321	589	827	983	926	687	368	122	25	15	49	183	504	1093	1920	2903	3829	4516	4884	5006	5031
55	2	9	67	200	436	677	828	771	538	239	61	6	2	11	78	278	714	1391	2219	2990	3528	3767	3828	3834
60	0	1	29	104	288	527	673	616	393	131	22	0	0	1	30	134	422	949	1622	2238	2631	2762	2784	2784
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	49	90	205	373	591	769	876	836	663	424	185	63	49	139	344	717	1308	2077	2953	3789	4452	4876	5061	5124

(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.
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