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: NOLIN RIVER LAKE, KY **COOP ID: 155834**

Climate Division: KY 2 **NWS Call Sign:** **Elevation: 680 Feet** **Lat: 37˚17N** **Lon: 86˚15W**

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	20.5	31.8	72+	1997	4	41.7	1998	-20	1982	18	16.4	1977	1030	0	.0	.0	9.7	7.0	25.9	1.8
Feb	48.8	22.9	35.9	79+	1996	24	43.8	1990	-8	1971	10	22.7	1978	817	0	.0	.0	13.1	4.0	22.1	.9
Mar	58.5	31.3	44.9	85+	1989	29	51.9	1973	-1	1980	3	38.9	1996	622	0	.0	.0	23.4	.5	17.1	.1
Apr	68.6	39.9	54.3	93	1989	28	60.4	1981	17	1992	3	48.5	1983	332	9	.0	.2	28.5	.0	7.5	.0
May	77.1	49.1	63.1	94+	1988	31	69.8	1991	29+	1997	11	58.6	1997	145	86	.0	1.2	30.9	.0	.7	.0
Jun	85.3	58.5	71.9	104	1988	26	75.9	1984	34	1993	1	67.0	1992	14	221	.2	8.5	30.0	.0	.0	.0
Jul	89.9	62.7	76.3	109	1988	9	79.8	1999	45	1975	14	73.9	1976	0	349	.8	16.4	31.0	.0	.0	.0
Aug	89.1	61.3	75.2	105	1988	18	80.6	1995	43	1992	30	69.5	1992	4	320	.8	13.7	31.0	.0	.0	.0
Sep	83.0	54.4	68.7	102+	1999	5	74.7	1998	29	1983	23	65.4	1992	46	157	.2	6.0	30.0	.0	.2	.0
Oct	71.5	42.1	56.8	92	1998	1	64.0	1971	20	1987	22	49.6	1988	283	30	.0	.1	30.5	.0	5.5	.0
Nov	59.1	33.6	46.4	86	1987	2	53.4	1985	3	1976	30	37.6	1976	559	0	.0	.0	22.2	.2	14.6	.0
Dec	48.2	25.3	36.8	78+	1998	5	45.5	1984	-18+	1989	23	23.8	1989	876	0	.0	.0	13.5	3.0	22.1	.7
Ann	68.5	41.8	55.2	109	Jul 1988	9	80.6	Aug 1995	-20	Jan 1982	18	16.4	Jan 1977	4728	1172	2.0	46.1	293.8	14.7	115.7	3.5

\+ 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/normals/usnormals.html

(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

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	3.99	3.64	4.25	1999	23	8.67	1999	.74	1986
Feb	4.12	4.04	5.40	1989	14	13.74	1989	1.09	1978
Mar	4.78	4.04	4.75	1997	2	15.14	1997	2.25	1988
Apr	4.36	3.59	3.45	1970	2	9.52	1979	.97	1986
May	5.37	4.95	5.10	1984	7	12.63	1984	2.03	1977
Jun	4.24	3.87	3.12	1966	14	8.64	1997	.39	1984
Jul	4.50	4.64	5.70	1973	22	9.02	1973	.56	1997
Aug	3.39	3.37	3.70	1982	31	7.45	1982	.41	1999
Sep	4.04	3.77	6.52	1979	14	12.58	1979	.45	1998
Oct	3.32	3.16	2.69	1998	4	6.90	1975	.64	1987
Nov	4.39	4.15	3.05	1988	19	9.05	1986	.96	1976
Dec	5.04	4.78	4.54	1978	9	13.69	1978	.94	1980
Ann	51.54	50.49	6.52	Sep 1979	14	15.14	Mar 1997	.39	Jun 1984

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.8	7.1	2.7	.9
Feb	9.1	6.6	2.7	1.4
Mar	10.8	8.4	3.3	1.3
Apr	10.8	8.2	3.1	1.0
May	10.5	8.4	3.9	1.5
Jun	9.4	7.6	3.1	1.1
Jul	8.4	7.0	3.2	1.4
Aug	7.1	5.7	2.6	1.0
Sep	7.9	6.0	2.6	1.3
Oct	7.7	5.9	2.3	.8
Nov	9.6	7.6	3.2	1.2
Dec	10.3	7.6	3.2	1.6
Ann	111.4	86.1	35.9	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	1.04	1.41	1.99	2.50	3.01	3.53	4.12	4.82	5.73	7.16	8.51
Feb	1.30	1.70	2.28	2.77	3.25	3.75	4.29	4.93	5.75	7.03	8.21
Mar	1.73	2.18	2.83	3.37	3.89	4.42	5.00	5.66	6.52	7.84	9.05
Apr	1.32	1.74	2.36	2.89	3.40	3.94	4.53	5.23	6.12	7.52	8.82
May	2.07	2.57	3.28	3.87	4.43	5.01	5.62	6.34	7.25	8.65	9.92
Jun	1.13	1.53	2.15	2.68	3.21	3.77	4.39	5.12	6.07	7.57	8.97
Jul	1.62	2.05	2.66	3.17	3.66	4.16	4.71	5.34	6.15	7.40	8.54
Aug	.61	.91	1.40	1.86	2.34	2.84	3.43	4.13	5.06	6.57	8.01
Sep	.86	1.23	1.82	2.36	2.90	3.48	4.13	4.91	5.94	7.59	9.15
Oct	.87	1.19	1.67	2.09	2.50	2.94	3.43	4.00	4.75	5.93	7.04
Nov	1.29	1.71	2.33	2.88	3.40	3.95	4.56	5.27	6.20	7.64	8.99
Dec	1.45	1.93	2.65	3.27	3.89	4.52	5.23	6.06	7.13	8.82	10.39
Ann	39.96	42.28	45.21	47.40	49.33	51.18	53.07	55.15	57.66	61.25	64.32

\+ 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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Snow (inches)

Snow Totals

Means/Medians (1)

Month	Snow Fall Mean	Snow Fall Median	Snow Depth Mean	Snow Depth Median
Jan	.4	.0	1	#
Feb	1.9	.0	1	#
Mar	.4	.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	.0	.0	#	0
Dec	.3	.0	#	#
Ann	3.0	.0	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	1.8	1980	4	1.8	1980	12	1978	20	5	1978
Feb	5.0	1984	6	9.5	1971	10	1986	15	4	1978
Mar	3.5	1975	10	3.5	1975	4	1980	2	#+	1999
Apr	.0	0	0	.0	0	0	0	0	0	0
May	.0	0	0	.0	0	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	.0	0	0	.0	0	0	0	0	0	0
Nov	.5	1972	28	.5	1972	5	1977	27	#	1977
Dec	2.5	1989	19	2.5	1989	4	1989	19	1+	2000
Ann	5.0	Feb 1984	6	9.5	Feb 1971	12	Jan 1978	20	5	Jan 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.0	.2	.0	.0	.0
Feb	.9	.4	.3	.1	.0
Mar	.3	.2	@	.0	.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	@	.0	.0	.0	.0
Dec	.5	.2	.0	.0	.0
Ann	2.7	1.0	.3	.1	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.8	.1	.0	.0
Feb	1.2	.5	.2	.0
Mar	.3	@	.0	.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	.0	.0	.0	.0
Dec	.3	.0	.0	.0
Ann	2.6	.6	.2	.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

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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	5/26	5/19	5/15	5/11	5/08	5/04	4/30	4/26	4/19
32	5/13	5/07	5/03	4/29	4/26	4/22	4/18	4/14	4/08
28	4/24	4/19	4/15	4/12	4/10	4/07	4/04	3/31	3/27
24	4/16	4/11	4/06	4/03	3/31	3/27	3/24	3/20	3/14
20	4/09	4/01	3/26	3/21	3/17	3/12	3/07	3/01	2/21
16	3/20	3/13	3/07	3/03	2/26	2/22	2/17	2/12	2/04

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	9/23	9/27	9/30	10/02	10/05	10/07	10/10	10/13	10/17
32	9/29	10/04	10/08	10/12	10/15	10/18	10/22	10/25	10/31
28	10/14	10/20	10/24	10/27	10/30	11/02	11/05	11/09	11/15
24	10/25	10/31	11/04	11/08	11/11	11/15	11/19	11/23	11/29
20	11/02	11/08	11/13	11/17	11/21	11/25	11/29	12/04	12/10
16	11/18	11/25	11/30	12/05	12/09	12/13	12/17	12/22	12/29

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	172	164	159	154	150	145	140	135	127
32	195	187	181	176	172	167	162	156	148
28	225	218	212	207	203	198	193	188	180
24	252	243	236	230	225	220	214	207	198
20	281	270	262	255	249	242	236	228	216
16	313	303	296	290	285	279	273	266	256

***** 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	1030	817	622	332	145	14	0	4	46	283	559	876	4728
60	875	677	473	206	71	3	0	0	14	173	415	724	3631
57	784	595	387	145	41	1	0	0	5	121	334	639	3052
55	730	544	333	110	27	0	0	0	3	92	282	580	2701
50	584	415	214	46	8	0	0	0	0	40	174	442	1923
32	187	92	14	0	0	0	0	0	0	0	7	106	406

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	179	199	415	667	964	1197	1372	1339	1100	770	438	253	8893
55	9	8	21	87	278	507	659	626	413	149	24	14	2795
57	2	2	13	62	230	448	597	564	356	116	15	10	2415
60	0	0	6	33	167	360	504	471	274	75	6	3	1899
65	0	0	0	9	86	221	349	320	157	30	0	0	1172
70	0	0	0	1	34	108	197	183	72	9	0	0	604

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	55	98	235	447	731	964	1127	1085	855	525	248	104	55	153	388	835	1566	2530	3657	4742	5597	6122	6370	6474
45	29	52	145	312	576	814	972	930	705	380	157	56	29	81	226	538	1114	1928	2900	3830	4535	4915	5072	5128
50	12	19	79	197	423	664	817	775	555	248	88	24	12	31	110	307	730	1394	2211	2986	3541	3789	3877	3901
55	1	3	38	118	282	514	662	620	409	145	46	8	1	4	42	160	442	956	1618	2238	2647	2792	2838	2846
60	0	0	12	54	162	366	507	465	274	67	13	0	0	0	12	66	228	594	1101	1566	1840	1907	1920	1920
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	42	83	170	302	479	638	749	719	561	351	164	69	42	125	295	597	1076	1714	2463	3182	3743	4094	4258	4327

(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