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: HOPKINSVILLE, KY **COOP ID: 153994**

Climate Division: KY 1 **NWS Call Sign:** **Elevation: 520 Feet** **Lat: 36˚51N** **Lon: 87˚32W**

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	41.9	24.4	33.2	78	1943	24	42.0	1990	-20	1963	24	18.8	1977	988	0	.0	.0	9.0	7.0	24.4	1.1
Feb	47.8	27.5	37.7	82	1962	14	44.5+	1990	-22	1951	2	24.8	1978	766	0	.0	.0	12.9	4.0	19.8	.3
Mar	58.0	37.1	47.6	87+	1982	19	54.7	1973	-3	1960	5	40.8	1996	543	2	.0	.0	23.6	.5	13.1	.0
Apr	68.2	46.4	57.3	90+	1986	26	63.6	1981	21	1982	7	50.8	1983	255	23	.0	.1	28.6	.0	3.7	.0
May	76.5	55.7	66.1	97	1937	31	72.1	1987	30	1976	4	61.3	1997	93	127	.0	.8	30.9	.0	.1	.0
Jun	84.6	64.2	74.4	105+	1954	27	78.2	1984	40	1956	2	70.2	1992	4	286	.1	8.0	30.0	.0	.0	.0
Jul	88.5	67.9	78.2	110	1936	13	81.1	1993	45	1947	24	75.7	1996	0	410	.5	16.1	31.0	.0	.0	.0
Aug	87.6	65.8	76.7	108	1954	17	81.8	1983	41	1946	31	71.6	1992	1	364	.7	13.4	31.0	.0	.0	.0
Sep	81.5	58.0	69.8	104+	1954	6	74.3	1978	32	1983	22	65.5+	1975	36	179	.1	5.2	30.0	.0	@	.0
Oct	70.6	46.3	58.5	98	1953	1	66.4	1971	20	1981	24	52.1	1988	242	40	.0	.1	30.6	.0	2.5	.0
Nov	58.0	37.7	47.9	85+	2000	2	53.6	1999	-4	1950	25	38.8	1976	517	2	.0	.0	22.3	.2	11.2	.0
Dec	46.5	28.4	37.5	78	1951	31	47.4	1984	-14+	1989	23	25.3	1989	853	0	.0	.0	12.8	3.5	21.2	.4
Ann	67.5	46.6	57.1	110	Jul 1936	13	81.8	Aug 1983	-22	Feb 1951	2	18.8	Jan 1977	4298	1433	1.4	43.7	292.7	15.2	96.0	1.8

\+ 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: 1932-2001

(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	4.08	3.94	4.47	1951	15	8.49	1978	1.06	1986
Feb	4.36	3.89	4.75	1949	14	13.50	1989	1.46	1980
Mar	5.12	4.45	7.06	1997	2	16.43	1997	1.78	1971
Apr	4.38	3.81	3.95	1979	2	10.52	1983	1.53	1986
May	5.15	5.04	3.86	1953	17	11.60	1983	1.27	1994
Jun	3.76	3.28	4.22	1960	28	12.17	1998	.55	1988
Jul	4.05	3.63	4.13	1933	26	7.23	1972	1.58	1973
Aug	3.33	3.29	2.93	1949	17	8.73	1974	.59	1999
Sep	3.47	3.17	5.38	1979	14	10.19	1979	.25	1978
Oct	3.28	3.27	4.67	2001	14	7.33	1985	.42	1987
Nov	4.83	4.44	4.07	1948	19	10.48	1973	1.17	1976
Dec	5.11	4.32	4.34	1990	18	14.59	1978	.53	1976
Ann	50.92	49.93	7.06	Mar 1997	2	16.43	Mar 1997	.25	Sep 1978

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.6	6.7	2.7	1.0
Feb	9.7	6.8	2.6	1.0
Mar	11.6	8.2	3.3	1.2
Apr	11.2	7.6	3.1	1.1
May	11.5	8.2	3.6	1.5
Jun	10.3	6.9	2.4	1.0
Jul	9.4	6.7	3.2	1.1
Aug	7.5	5.0	2.3	.9
Sep	8.4	5.5	2.3	.9
Oct	8.2	5.3	2.4	1.1
Nov	10.8	7.5	3.3	1.6
Dec	10.8	7.3	3.3	1.4
Ann	120.0	81.7	34.5	13.8

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	1.14	1.52	2.11	2.62	3.12	3.64	4.22	4.91	5.79	7.19	8.49
Feb	1.48	1.89	2.49	3.00	3.49	4.00	4.55	5.19	6.02	7.29	8.47
Mar	1.65	2.13	2.85	3.46	4.05	4.66	5.33	6.12	7.13	8.70	10.15
Apr	1.58	1.99	2.59	3.09	3.56	4.05	4.58	5.20	5.98	7.20	8.32
May	1.87	2.36	3.05	3.64	4.20	4.77	5.39	6.11	7.03	8.45	9.75
Jun	.87	1.22	1.77	2.27	2.76	3.28	3.86	4.56	5.48	6.93	8.30
Jul	1.62	1.99	2.52	2.96	3.37	3.79	4.25	4.77	5.44	6.45	7.38
Aug	1.03	1.35	1.82	2.22	2.61	3.01	3.46	3.98	4.65	5.70	6.68
Sep	.59	.89	1.39	1.87	2.36	2.89	3.50	4.24	5.22	6.81	8.34
Oct	.99	1.30	1.77	2.17	2.56	2.96	3.41	3.93	4.60	5.66	6.63
Nov	1.37	1.83	2.52	3.13	3.72	4.33	5.01	5.81	6.86	8.49	10.01
Dec	1.18	1.66	2.41	3.08	3.74	4.45	5.25	6.20	7.44	9.42	11.28
Ann	36.93	39.66	43.14	45.78	48.12	50.37	52.70	55.27	58.37	62.87	66.75

\+ 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: 1932-2001
(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	3.5	1.0	1	#
Feb	4.0	2.5	#	#
Mar	.9	.0	#	0
Apr	.1	.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
Nov	.2	.0	#	0
Dec	.8	.0	#	#
Ann	9.5	3.5	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	7.0	1981	30	16.5	1978	7	1981	30	4	1978
Feb	7.0	1985	1	15.2	1979	9	1985	3	3	1978
Mar	4.5	1987	31	4.5	1987	3	1980	2	#+	2000
Apr	1.5	1983	18	1.5	1983	1	1971	6	#+	1983
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	.5	1993	31	.5	1993	#	1993	30	#	1993
Nov	2.0	1971	24	3.0	1971	2	1971	24	#+	1997
Dec	2.4	1992	26	4.0	1990	2	1996	19	#+	2000
Ann	7.0+	Feb 1985	1	16.5	Jan 1978	9	Feb 1985	3	4	Jan 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	2.0	1.3	.4	.2	.0
Feb	1.8	1.2	.6	.2	.0
Mar	.5	.2	.1	.0	.0
Apr	.1	@	.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
Nov	.2	.1	.0	.0	.0
Dec	.9	.5	.0	.0	.0
Ann	5.5	3.3	1.1	.4	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	4.3	2.6	1.1	.0
Feb	4.1	2.0	.8	.0
Mar	.5	.1	.0	.0
Apr	@	.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	.0	.0	.0
Dec	.7	.0	.0	.0
Ann	9.7	4.7	1.9	.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	5/05	4/30	4/26	4/23	4/20	4/16	4/13	4/09	4/04
32	4/22	4/18	4/15	4/12	4/10	4/08	4/05	4/02	3/29
28	4/14	4/09	4/05	4/03	3/31	3/28	3/25	3/22	3/17
24	4/04	3/29	3/24	3/20	3/16	3/13	3/09	3/04	2/26
20	3/18	3/12	3/07	3/03	2/27	2/24	2/20	2/15	2/08
16	3/13	3/05	2/27	2/22	2/17	2/13	2/08	2/02	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	10/05	10/08	10/11	10/13	10/16	10/18	10/22	10/26
32	10/04	10/10	10/14	10/17	10/21	10/24	10/27	10/31	11/06
28	10/23	10/29	11/02	11/05	11/08	11/12	11/15	11/19	11/24
24	10/30	11/06	11/11	11/15	11/19	11/23	11/27	12/02	12/08
20	11/06	11/14	11/20	11/25	11/30	12/04	12/09	12/15	12/23
16	11/24	12/01	12/06	12/11	12/15	12/19	12/24	12/29	1/05

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	195	188	184	180	176	172	168	163	157
32	211	205	200	196	193	189	185	181	174
28	243	236	230	226	222	218	213	208	201
24	272	264	257	252	247	242	236	230	221
20	304	294	287	280	275	269	263	256	246
16	334	322	314	307	300	293	286	278	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

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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	988	766	543	255	93	4	0	1	36	242	517	853	4298
60	833	626	399	147	38	0	0	0	10	142	376	700	3271
57	743	547	318	98	19	0	0	0	4	95	297	615	2736
55	688	495	269	71	12	0	0	0	2	71	250	557	2415
50	544	369	167	25	2	0	0	0	0	28	150	419	1704
32	160	70	8	0	0	0	0	0	0	0	5	90	333

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	195	228	490	758	1057	1272	1433	1386	1133	821	480	260	9513
55	10	10	38	139	356	582	720	673	445	178	35	13	3199
57	3	5	25	106	301	522	658	611	387	141	22	10	2791
60	0	0	13	65	227	432	565	518	303	94	11	2	2230
65	0	0	2	23	127	286	410	364	179	40	2	0	1433
70	0	0	0	5	57	154	255	219	86	13	0	0	789

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	67	112	273	506	795	1024	1185	1142	902	574	272	103	67	179	452	958	1753	2777	3962	5104	6006	6580	6852	6955
45	35	60	174	369	640	874	1030	987	752	421	169	53	35	95	269	638	1278	2152	3182	4169	4921	5342	5511	5564
50	14	27	97	243	487	724	875	832	602	287	98	25	14	41	138	381	868	1592	2467	3299	3901	4188	4286	4311
55	1	6	48	145	340	574	720	677	455	170	49	5	1	7	55	200	540	1114	1834	2511	2966	3136	3185	3190
60	0	0	16	74	209	426	565	522	316	87	13	0	0	0	16	90	299	725	1290	1812	2128	2215	2228	2228
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	41	80	176	318	509	698	811	781	595	368	164	60	41	121	297	615	1124	1822	2633	3414	4009	4377	4541	4601

(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