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: ASHLAND, KY **COOP ID: 150254**

Climate Division: KY 4 **NWS Call Sign:** **Elevation: 560 Feet** **Lat: 38˚27N** **Lon: 82˚37W**

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	41.6	19.0	30.3	80	1950	26	39.5	1974	-25+	1994	20	16.4	1977	1076	0	.0	.0	8.0	7.4	27.9	2.3
Feb	46.6	20.9	33.8	79+	2000	27	41.3	1998	-23+	1996	5	20.7	1978	875	0	.0	.0	11.6	4.4	24.3	1.4
Mar	57.1	28.8	43.0	88+	1998	31	51.2	1973	-8+	1993	16	35.4	1996	684	0	.0	.0	21.7	.7	21.1	.1
Apr	67.9	36.8	52.4	92+	1986	28	58.9	1981	16	1988	20	47.8	1975	383	4	.0	.2	28.1	.0	11.1	.0
May	76.9	46.5	61.7	96	1941	22	69.2	1991	22	1996	2	55.9	1997	171	69	.0	1.6	31.0	.0	2.0	.0
Jun	84.3	56.2	70.3	102+	1988	26	74.8	1999	30+	1988	11	65.0	1972	27	185	.1	7.3	30.0	.0	.1	.0
Jul	87.9	61.3	74.6	105	1954	14	80.2	1999	34	1988	1	71.7	1996	1	299	.4	12.7	31.0	.0	.0	.0
Aug	86.6	59.3	73.0	105	1999	1	77.7	1980	33	1986	29	67.7	1992	9	254	.3	10.2	31.0	.0	.0	.0
Sep	80.2	52.3	66.3	101+	1953	4	72.6	1998	27+	1974	24	60.2	1974	77	113	.0	3.0	30.0	.0	.2	.0
Oct	69.3	40.1	54.7	93	1941	7	62.7	1971	16	1974	21	48.7	1988	338	19	.0	.0	30.4	.0	7.4	.0
Nov	57.0	30.7	43.9	85+	1961	4	50.9	1985	2	1976	30	35.1	1996	636	0	.0	.0	20.9	.2	17.9	.0
Dec	46.2	23.2	34.7	82	1982	4	44.1	1971	-18	1989	23	21.6	1989	940	0	.0	.0	11.7	3.8	25.1	.5
Ann	66.8	39.6	53.2	105+	Aug 1999	1	80.2	Jul 1999	-25+	Jan 1994	20	16.4	Jan 1977	5217	943	.8	35.0	285.4	16.5	137.1	4.3

\+ 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: 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	3.23	2.63	2.31	1945	1	6.53	1978	.58	1981
Feb	3.07	2.81	2.60	2000	19	9.30	1989	.70	1977
Mar	3.78	3.31	3.68	1997	2	9.73	1997	1.30	1999
Apr	3.33	3.14	2.67	1936	6	7.04	1972	1.09	1986
May	4.47	4.17	3.21	1955	14	9.37	1996	1.03	1991
Jun	4.02	3.94	4.09	1962	12	8.30	1998	1.01	1988
Jul	4.68	4.67	5.61	1973	20	8.91	1973	1.03	1999
Aug	3.73	3.58	3.97	1933	4	8.36	1979	1.43	1971
Sep	2.83	2.61	3.72	1995	17	5.94	1979	.47	1985
Oct	2.81	2.65	2.30	1983	21	6.61	1983	.58	2000
Nov	3.37	2.88	2.95	1986	9	7.49	1986	.52	1976
Dec	3.60	3.06	2.80	1991	3	9.76	1978	1.14	2000
Ann	42.92	41.82	5.61	Jul 1973	20	9.76	Dec 1978	.47	Sep 1985

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.5	7.4	2.3	.4
Feb	9.9	6.9	1.7	.6
Mar	12.0	8.7	2.5	.6
Apr	11.5	8.0	2.3	.4
May	12.0	8.8	3.3	.9
Jun	10.6	8.1	2.7	.9
Jul	10.3	7.7	3.3	1.2
Aug	9.1	6.4	2.5	1.0
Sep	8.2	5.1	2.1	.6
Oct	8.5	5.6	1.8	.8
Nov	11.0	7.3	2.0	.8
Dec	11.7	7.5	2.0	.7
Ann	126.3	87.5	28.5	8.9

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	1.02	1.33	1.78	2.17	2.55	2.94	3.36	3.86	4.51	5.52	6.45
Feb	.96	1.25	1.69	2.06	2.42	2.79	3.20	3.68	4.30	5.26	6.15
Mar	1.18	1.54	2.07	2.53	2.97	3.43	3.93	4.52	5.28	6.47	7.57
Apr	1.13	1.45	1.91	2.30	2.67	3.06	3.48	3.97	4.60	5.58	6.48
May	1.61	2.03	2.64	3.15	3.63	4.13	4.67	5.30	6.10	7.33	8.47
Jun	1.54	1.92	2.45	2.89	3.32	3.75	4.21	4.75	5.44	6.49	7.45
Jul	1.71	2.15	2.78	3.31	3.82	4.33	4.89	5.54	6.37	7.65	8.82
Aug	1.52	1.86	2.35	2.74	3.12	3.50	3.91	4.38	4.98	5.90	6.74
Sep	.66	.92	1.34	1.71	2.08	2.47	2.91	3.43	4.12	5.21	6.24
Oct	.77	1.03	1.44	1.79	2.14	2.51	2.91	3.39	4.01	4.99	5.91
Nov	1.06	1.38	1.86	2.26	2.66	3.06	3.51	4.04	4.72	5.77	6.75
Dec	1.11	1.45	1.96	2.40	2.82	3.26	3.75	4.31	5.05	6.19	7.25
Ann	32.61	34.66	37.26	39.21	40.94	42.59	44.29	46.16	48.41	51.65	54.43

\+ 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	1.9	-99.9	1	#
Feb	1.9	.5	1	#
Mar	1.2	.0	#	#
Apr	#	.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
Nov	.1	.0	#	0
Dec	.8	#	#	#
Ann	5.9	-9.9	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	9.5	1994	18	9.5	1994	15	1978	23	8	1978
Feb	7.5	1979	7	9.0	1998	15	1978	2	5	1985
Mar	4.0	1995	9	5.5	1995	24	1993	14	2	1993
Apr	#	1990	12	#+	1990	14	1987	5	1	1987
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	#	1972	19	#	1972	#	1972	19	#	1972
Nov	1.5	1971	25	1.5	1971	2	1971	25	#+	1996
Dec	2.7	1998	31	4.0	1981	3	1998	31	1	1989
Ann	9.5	Jan 1994	18	9.5	Jan 1994	24	Mar 1993	14	8	Jan 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	1.1	.8	.2	.1	.0
Feb	.9	.6	.2	.1	.0
Mar	.6	.4	.1	.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	.1	.1	.0	.0	.0
Dec	.7	.4	.0	.0	.0
Ann	3.4	2.3	.5	.2	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	2.0	.9	.6	.3
Feb	1.9	1.1	.7	.0
Mar	.4	.1	.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	.2	.0	.0	.0
Dec	.4	.1	.0	.0
Ann	4.9	2.2	1.3	.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	6/05	5/28	5/23	5/18	5/14	5/10	5/05	4/30	4/22
32	5/21	5/15	5/11	5/07	5/04	4/30	4/27	4/22	4/16
28	5/10	5/03	4/29	4/25	4/21	4/17	4/13	4/08	4/02
24	4/27	4/20	4/16	4/12	4/08	4/05	4/01	3/27	3/21
20	4/19	4/11	4/06	4/01	3/27	3/23	3/18	3/12	3/04
16	4/01	3/23	3/17	3/11	3/06	3/01	2/24	2/18	2/09

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	9/12	9/19	9/23	9/27	9/30	10/04	10/08	10/12	10/18
32	9/28	10/03	10/07	10/10	10/13	10/15	10/18	10/22	10/27
28	10/06	10/12	10/16	10/20	10/23	10/26	10/30	11/03	11/09
24	10/16	10/23	10/28	11/02	11/06	11/10	11/14	11/20	11/27
20	10/26	11/02	11/08	11/12	11/17	11/21	11/26	12/01	12/08
16	10/28	11/08	11/16	11/23	11/30	12/07	12/14	12/22	1/02

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	167	157	150	144	139	133	127	120	111
32	185	177	171	166	161	156	151	145	137
28	211	202	195	190	184	179	174	167	158
24	242	231	223	217	211	205	198	191	180
20	266	255	247	240	234	227	221	213	202
16	303	289	279	272	265	258	250	242	230

***** 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	1076	875	684	383	171	27	1	9	77	338	636	940	5217
60	921	735	532	249	89	6	0	1	29	217	488	785	4052
57	828	651	446	180	54	2	0	0	13	158	405	694	3431
55	766	597	389	141	36	1	0	0	7	124	350	638	3049
50	624	468	261	65	11	0	0	0	1	60	228	494	2212
32	205	116	23	0	0	0	0	0	0	0	14	124	482

Base — Cooling Degree Days (1)

Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	152	165	362	612	922	1149	1321	1268	1026	704	369	207	8257
55	0	2	15	62	245	459	608	555	343	115	14	8	2426
57	0	0	10	42	200	401	546	493	289	87	9	2	2079
60	0	0	3	21	143	315	453	401	215	53	3	0	1607
65	0	0	0	4	69	185	299	254	113	19	0	0	943
70	0	0	0	0	26	88	159	131	46	5	0	0	455

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	37	65	189	389	683	916	1078	1028	796	458	191	71	37	102	291	680	1363	2279	3357	4385	5181	5639	5830	5901
45	12	27	104	260	528	766	923	873	647	320	106	34	12	39	143	403	931	1697	2620	3493	4140	4460	4566	4600
50	3	11	51	160	378	616	768	718	497	196	57	12	3	14	65	225	603	1219	1987	2705	3202	3398	3455	3467
55	0	1	27	88	244	466	613	563	355	105	21	1	0	1	28	116	360	826	1439	2002	2357	2462	2483	2484
60	0	0	6	38	135	324	458	408	223	47	4	0	0	0	6	44	179	503	961	1369	1592	1639	1643	1643
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	39	62	158	287	450	604	719	685	522	318	145	54	39	101	259	546	996	1600	2319	3004	3526	3844	3989	4043

(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