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: BEAVER DAM, KY **COOP ID: 150490**

Climate Division: KY 1 **NWS Call Sign:** **Elevation: 441 Feet** **Lat: 37˚25N** **Lon: 86˚52W**

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	43.3	23.9	33.6	77	1950	25	42.9	1990	-25	1963	24	18.7	1977	973	0	.0	.0	9.7	6.0	22.5	1.3
Feb	49.8	27.7	38.8	82	1962	13	46.3	2000	-25	1951	2	24.3	1978	735	0	.0	.0	14.2	3.3	17.9	.6
Mar	59.9	36.0	48.0	86	1963	31	54.3	1973	-10	1960	6	40.5	1996	530	1	.0	.0	24.9	.4	11.6	@
Apr	70.0	44.3	57.2	90+	1989	27	63.2	1981	21	1992	3	52.3	1997	250	15	.0	.1	29.1	.0	3.7	.0
May	77.7	53.8	65.8	93+	1959	5	71.1	1991	27	1963	1	61.2	1997	94	117	.0	.4	31.0	.0	.1	.0
Jun	85.1	62.8	74.0	105	1952	30	76.8	1984	38	1966	1	70.4	1974	3	272	.1	7.0	30.0	.0	.0	.0
Jul	88.5	66.8	77.7	106+	1952	28	81.4	1980	46+	1968	5	74.8	1989	0	393	.4	14.3	31.0	.0	.0	.0
Aug	87.6	64.7	76.2	103	1952	3	81.6	1983	42	1999	31	71.7	1992	1	346	.1	11.1	31.0	.0	.0	.0
Sep	81.8	57.3	69.6	105	1953	1	74.9	1998	31+	1965	25	65.0	1975	37	172	.1	4.6	30.0	.0	.1	.0
Oct	71.5	45.1	58.3	94	1953	2	64.8	1984	19	1948	18	51.0	1988	240	32	.0	.1	30.8	.0	3.2	.0
Nov	58.6	36.9	47.8	84	1950	1	54.6	1985	-4	1950	25	38.8	1976	520	1	.0	.0	22.9	@	10.3	.0
Dec	47.7	28.3	38.0	78	1982	2	47.1	1984	-24	1989	22	25.4	1989	838	0	.0	.0	13.9	3.2	19.2	.4
Ann	68.5	45.6	57.1	106+	Jul 1952	28	81.6	Aug 1983	-25+	Jan 1963	24	18.7	Jan 1977	4221	1349	.7	37.6	298.5	12.9	88.6	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: 1948-2001

(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	3.65	3.80	3.50	1988	19	8.77	1999	.73	1984
Feb	4.33	3.85	4.20	1990	15	15.74	1989	.75	1980
Mar	4.65	4.55	5.70	1997	1	14.48	1997	1.64	1971
Apr	4.42	3.37	5.95	1983	29	11.51	1983	.57	1976
May	5.17	4.97	4.48	1984	7	11.09	1995	1.50	1994
Jun	3.72	3.68	4.10	1961	14	8.23	1993	.43	1988
Jul	4.25	4.11	4.26	1967	6	10.23	1979	.83	1997
Aug	3.16	2.86	2.36	1963	29	7.89	1988	.41	1999
Sep	3.69	3.17	4.75	1984	24	10.63	1979	.33	1983
Oct	3.14	3.07	3.35	1999	9	5.94	1998	.61	1987
Nov	4.38	3.90	3.83	1957	18	9.31	1988	.69	1976
Dec	4.47	4.00	3.80	1990	18	12.46	1990	.57	1976
Ann	49.03	48.38	5.95	Apr 1983	29	15.74	Feb 1989	.33	Sep 1983

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.9	6.3	2.7	.8
Feb	8.9	6.4	2.8	1.1
Mar	11.3	8.1	3.0	1.3
Apr	10.3	7.4	3.0	1.0
May	11.2	8.1	3.6	1.5
Jun	9.8	6.9	2.7	.9
Jul	9.1	6.7	2.8	1.2
Aug	7.7	5.3	2.2	1.0
Sep	7.8	5.3	2.4	.9
Oct	7.9	5.4	2.1	.7
Nov	9.8	7.3	3.2	1.3
Dec	10.4	7.2	2.9	1.1
Ann	114.1	80.4	33.4	12.8

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	1.01	1.35	1.88	2.34	2.79	3.26	3.78	4.40	5.20	6.46	7.63
Feb	.95	1.35	1.99	2.56	3.14	3.75	4.44	5.26	6.35	8.08	9.71
Mar	1.63	2.07	2.71	3.24	3.75	4.28	4.85	5.52	6.37	7.69	8.90
Apr	1.08	1.50	2.14	2.71	3.28	3.88	4.55	5.35	6.40	8.05	9.60
May	2.03	2.51	3.19	3.75	4.29	4.83	5.42	6.09	6.96	8.28	9.48
Jun	.84	1.19	1.73	2.22	2.71	3.23	3.82	4.51	5.43	6.89	8.26
Jul	1.10	1.50	2.12	2.66	3.20	3.76	4.39	5.14	6.11	7.64	9.08
Aug	.76	1.06	1.52	1.93	2.34	2.77	3.25	3.82	4.57	5.76	6.88
Sep	.57	.88	1.42	1.93	2.45	3.03	3.69	4.50	5.59	7.35	9.05
Oct	1.05	1.35	1.78	2.15	2.51	2.88	3.28	3.74	4.35	5.28	6.14
Nov	1.38	1.79	2.41	2.94	3.45	3.98	4.56	5.23	6.11	7.48	8.74
Dec	1.19	1.61	2.26	2.83	3.39	3.97	4.62	5.40	6.40	7.99	9.47
Ann	36.28	38.78	41.97	44.38	46.51	48.56	50.68	53.00	55.81	59.87	63.36

\+ 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: 1948-2001
(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	1.8	.8	1	#
Feb	4.5	1.7	1	#
Mar	1.4	.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	.1	.0	0	0
Nov	.3	.0	#	0
Dec	1.3	.5	#	0
Ann	9.4	3.0	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	12.0	1994	17	12.0	1994	15	1978	29	7	1978
Feb	6.0	1971	13	12.5	1985	11	1978	1	3	1978
Mar	7.0	1996	19	7.0	1996	4	1980	1	#+	2000
Apr	#	1973	10	#	1973	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	3.0	1993	30	3.5	1993	0	0	0	0	0
Nov	6.0	1977	27	6.0	1977	6	1977	28	1	1977
Dec	4.0	1997	30	7.0	1997	3	1983	28	#+	1997
Ann	12.0	Jan 1994	17	12.5	Feb 1985	15	Jan 1978	29	7	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	.1	.1
Feb	1.5	1.1	.6	.3	.0
Mar	.8	.6	.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	.1	@	@	.0	.0
Nov	.1	.1	@	@	.0
Dec	1.4	.9	.3	.0	.0
Ann	5.9	4.0	1.5	.5	.1

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	.0	.0	.0	.0
Feb	.8	.6	.6	.0
Mar	.0	.0	.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	.1	.1	.0
Dec	.1	.0	.0	.0
Ann	1.1	.7	.7	.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	5/12	5/07	5/04	5/01	4/28	4/25	4/22	4/18	4/13
32	4/28	4/23	4/20	4/17	4/14	4/11	4/09	4/05	4/01
28	4/19	4/14	4/11	4/08	4/06	4/03	3/31	3/28	3/24
24	4/07	4/02	3/29	3/26	3/23	3/20	3/16	3/12	3/07
20	3/23	3/16	3/11	3/07	3/03	2/27	2/23	2/18	2/12
16	3/14	3/06	2/27	2/22	2/17	2/12	2/06	1/31	1/22

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	9/21	9/26	9/29	10/02	10/05	10/08	10/11	10/15	10/20
32	10/03	10/08	10/12	10/16	10/19	10/22	10/26	10/30	11/05
28	10/12	10/18	10/21	10/25	10/28	10/31	11/03	11/07	11/12
24	10/24	10/31	11/05	11/09	11/13	11/17	11/22	11/27	12/04
20	11/03	11/10	11/16	11/20	11/25	11/29	12/04	12/09	12/17
16	11/15	11/23	11/29	12/03	12/08	12/12	12/17	12/23	12/31

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	177	171	167	163	160	156	153	149	143
32	206	200	195	191	187	184	179	175	168
28	224	217	212	208	204	200	196	192	185
24	258	250	244	239	235	230	225	220	212
20	292	283	276	271	266	260	255	249	240
16	327	316	307	300	293	287	280	271	260

***** 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	973	735	530	250	94	3	0	1	37	240	520	838	4221
60	818	599	387	137	38	0	0	0	9	136	379	687	3190
57	735	521	306	86	19	0	0	0	3	89	300	601	2660
55	676	469	257	59	11	0	0	0	2	65	252	543	2334
50	535	348	157	18	2	0	0	0	0	23	152	407	1642
32	164	68	7	0	0	0	0	0	0	0	6	87	332

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	214	257	502	754	1047	1259	1416	1368	1125	815	477	272	9506
55	13	15	38	123	345	569	703	655	437	166	34	16	3114
57	10	11	25	90	290	509	641	593	379	129	22	11	2710
60	0	5	13	51	216	419	548	500	295	83	11	4	2145
65	0	0	1	15	117	272	393	346	172	32	1	0	1349
70	0	0	0	2	50	139	241	203	81	9	0	0	725

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	72	136	309	536	817	1029	1180	1130	894	588	290	118	72	208	517	1053	1870	2899	4079	5209	6103	6691	6981	7099
45	35	75	203	395	662	879	1025	975	744	435	187	62	35	110	313	708	1370	2249	3274	4249	4993	5428	5615	5677
50	12	38	120	264	507	729	870	820	594	295	107	30	12	50	170	434	941	1670	2540	3360	3954	4249	4356	4386
55	3	13	60	162	355	579	715	665	445	181	55	8	3	16	76	238	593	1172	1887	2552	2997	3178	3233	3241
60	0	2	25	84	219	430	560	510	306	94	16	2	0	2	27	111	330	760	1320	1830	2136	2230	2246	2248
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	46	88	196	346	532	707	813	779	595	379	171	61	46	134	330	676	1208	1915	2728	3507	4102	4481	4652	4713

(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