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: SHOALS HIWAY 50 BRIDGE, IN **COOP ID: 128036**

Climate Division: IN 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚40N** **Lon: 86˚48W**

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	37.1	19.3	28.2	72	1950	26	38.9	1990	-23+	1963	28	11.3	1977	1142	0	.0	.0	5.3	10.3	26.8	3.2
Feb	43.1	22.3	32.7	77	2000	26	40.4	2000	-18	1951	2	18.9	1978	905	0	.0	.0	9.4	6.0	22.3	1.8
Mar	53.7	31.1	42.4	83	1960	30	49.3	1973	-9+	1960	6	35.0	1996	701	0	.0	.0	19.3	1.0	18.3	.1
Apr	64.9	40.0	52.5	90+	1960	23	58.3	1985	14	1969	1	47.1	1982	380	5	.0	.0	27.1	.0	8.2	.0
May	74.7	49.8	62.3	98+	1967	29	69.5	1991	27+	1963	1	57.1	1997	171	84	.0	1.0	30.8	.0	.7	.0
Jun	82.8	59.4	71.1	102	1954	27	74.8	1984	37	1966	1	66.0	1974	16	199	.1	5.8	30.0	.0	.0	.0
Jul	86.3	63.8	75.1	104	1954	15	78.6	1983	46+	1968	4	72.0	1971	0	313	.3	10.0	31.0	.0	.0	.0
Aug	85.1	62.0	73.6	100+	1962	21	79.1	1995	42+	1965	29	69.5	1992	7	271	.1	7.6	31.0	.0	.0	.0
Sep	78.8	54.0	66.4	103	1953	3	70.5	1998	32+	1949	30	61.2	1974	66	109	.0	3.1	30.0	.0	.1	.0
Oct	67.7	41.8	54.8	92+	1953	1	62.7	1971	16	1952	21	47.6	1987	336	19	.0	.1	30.0	.0	6.6	.0
Nov	54.1	33.8	44.0	83	1961	3	50.9	1999	0+	1950	25	35.4	1976	630	0	.0	.0	18.8	.7	15.2	.0
Dec	42.0	24.2	33.1	77	1982	3	42.2	1982	-20+	1989	22	19.6	1989	989	0	.0	.0	9.0	6.2	23.7	1.4
Ann	64.2	41.8	53.0	104	Jul 1954	15	79.1	Aug 1995	-23+	Jan 1963	28	11.3	Jan 1977	5343	1000	.5	27.6	271.7	24.2	121.9	6.5

\+ 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: 1948-2001

(3) Derived from 1971-2000 serially complete daily data

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: SHOALS HIWAY 50 BRIDGE, IN **COOP ID: 128036**

Climate Division: IN 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚40N** **Lon: 86˚48W**

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	3.16	3.21	3.97	1949	24	8.19	1982	.57	1981
Feb	2.92	2.46	3.03	1965	10	5.95	2000	.61	1978
Mar	4.27	3.89	3.64	1964	10	9.75	1989	1.25	1971
Apr	4.49	3.57	3.72	1998	16	10.25	1998	1.50	1971
May	5.60	5.19	4.40	1975	23	10.48	1990	1.91	1977
Jun	4.24	4.40	4.10	1990	7	8.80	1990	.64	1988
Jul	4.74	4.20	4.48	1979	27	12.44	1979	.77	1997
Aug	3.78	2.84	3.56	1974	3	10.68	1974	1.02	1999
Sep	3.36	2.90	6.07	1971	7	9.55	1971	.53	1978
Oct	3.13	2.79	2.70	1983	21	9.07	1983	.54	2000
Nov	4.47	4.13	4.21	1993	15	11.38	1985	.90	1999
Dec	3.53	3.51	3.10	1948	15	7.42	1990	.53	1976
Ann	47.69	48.49	6.07	Sep 1971	7	12.44	Jul 1979	.53+	Sep 1978

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	11.5	6.5	2.1	.6
Feb	10.0	5.8	2.1	.6
Mar	12.2	8.1	3.1	1.0
Apr	12.0	8.0	3.2	1.0
May	11.7	8.6	3.8	1.7
Jun	10.3	6.6	2.7	1.2
Jul	9.8	7.0	3.4	1.5
Aug	8.6	5.8	2.4	1.2
Sep	8.0	5.5	2.2	1.0
Oct	8.8	5.5	2.1	.7
Nov	11.4	7.1	3.4	1.2
Dec	11.6	6.6	2.9	.6
Ann	125.9	81.1	33.4	12.3

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	.99	1.29	1.74	2.12	2.49	2.87	3.29	3.78	4.41	5.40	6.31
Feb	.74	1.01	1.44	1.81	2.19	2.58	3.01	3.53	4.21	5.28	6.28
Mar	1.53	1.94	2.52	3.00	3.47	3.95	4.46	5.07	5.84	7.03	8.12
Apr	1.34	1.77	2.41	2.96	3.50	4.05	4.67	5.39	6.32	7.78	9.14
May	1.99	2.52	3.28	3.92	4.53	5.16	5.85	6.64	7.66	9.24	10.68
Jun	1.06	1.46	2.08	2.62	3.16	3.73	4.37	5.12	6.11	7.67	9.13
Jul	1.30	1.75	2.43	3.03	3.61	4.23	4.91	5.71	6.76	8.40	9.93
Aug	.87	1.22	1.77	2.27	2.76	3.29	3.88	4.58	5.50	6.97	8.36
Sep	.74	1.05	1.54	1.98	2.43	2.90	3.44	4.08	4.92	6.26	7.53
Oct	.98	1.28	1.72	2.10	2.46	2.84	3.25	3.74	4.37	5.35	6.25
Nov	1.32	1.75	2.39	2.94	3.47	4.03	4.65	5.37	6.31	7.78	9.14
Dec	1.29	1.62	2.10	2.50	2.88	3.27	3.69	4.18	4.80	5.77	6.65
Ann	33.67	36.37	39.84	42.48	44.83	47.09	49.44	52.03	55.17	59.74	63.69

\+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data,
and Information Services

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: SHOALS HIWAY 50 BRIDGE, IN **COOP ID: 128036**

Climate Division: IN 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38°40N** **Lon: 86°48W**

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	6.1	3.7	1	#	9.5	1978	17	21.5	1978	15	1977	31	10	1977	4.5	2.2	.5	.1	.0	8.5	3.7	2.1	1.0
Feb	3.9	2.5	1	#	6.5	1993	16	13.4	1993	15	1977	2	7	1978	3.0	1.4	.4	.2	.0	6.0	3.4	2.0	.2
Mar	2.5	1.2	#	#	12.0	1996	20	14.3	1996	14	1996	21	2	1996	1.2	.8	.3	.1	@	1.1	.4	.1	.0
Apr	.1	.0	#	0	1.5	1982	8	1.5	1982	2	1982	8	#+	1996	.1	.1	.0	.0	.0	.1	.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	.1	.0	#	0	2.0	1993	30	2.0	1993	2	1993	30	#+	1993	.1	.1	.0	.0	.0	.1	.0	.0	.0
Nov	.3	.0	#	#	2.0	1975	27	2.5+	1977	3	1977	28	#+	1997	.3	.2	.0	.0	.0	.3	@	.0	.0
Dec	3.0	2.5	#	#	6.5	1990	28	10.0	1989	8	1990	28	3	1989	2.5	1.1	.4	.1	.0	4.1	2.2	.4	.0
Ann	16.0	9.9	N/A	N/A	12.0	Mar 1996	20	21.5	Jan 1978	15+	Feb 1977	2	10	Jan 1977	11.7	5.9	1.6	.5	@	20.2	9.7	4.6	1.2

+ 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: SHOALS HIWAY 50 BRIDGE, IN **COOP ID: 128036**

Climate Division: IN 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚40N** **Lon: 86˚48W**

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	5/18	5/13	5/09	5/06	5/03	4/30	4/27	4/23	4/18
32	5/10	5/05	5/01	4/28	4/25	4/23	4/20	4/16	4/11
28	4/25	4/20	4/17	4/14	4/11	4/08	4/06	4/02	3/29
24	4/12	4/07	4/03	3/31	3/28	3/25	3/22	3/18	3/13
20	3/30	3/26	3/23	3/20	3/17	3/15	3/12	3/09	3/04
16	3/23	3/17	3/12	3/08	3/04	2/28	2/24	2/19	2/12

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	9/29	10/01	10/03	10/05	10/08	10/10	10/14
32	10/01	10/05	10/08	10/10	10/12	10/15	10/17	10/20	10/24
28	10/11	10/16	10/20	10/23	10/26	10/29	11/01	11/05	11/10
24	10/19	10/25	10/29	11/01	11/05	11/08	11/11	11/15	11/21
20	11/02	11/08	11/13	11/17	11/21	11/25	11/29	12/04	12/11
16	11/11	11/18	11/24	11/28	12/03	12/07	12/11	12/17	12/24

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	170	164	160	156	153	149	146	141	135
32	186	180	176	173	169	166	162	158	153
28	216	209	205	201	197	194	190	185	179
24	245	236	231	225	221	216	211	205	197
20	271	263	258	253	248	244	239	233	225
16	297	289	283	278	273	268	263	257	249

***** 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

Complete documentation available from:
www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

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: SHOALS HIWAY 50 BRIDGE, IN **COOP ID: 128036**

Climate Division: IN 7 **NWS Call Sign:** **Elevation: 550 Feet** **Lat: 38˚40N** **Lon: 86˚48W**

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	1142	905	701	380	171	16	0	7	66	336	630	989	5343
60	987	765	550	247	92	3	0	0	22	216	483	834	4199
57	894	682	464	178	58	1	0	0	9	157	401	747	3591
55	833	631	407	138	40	0	0	0	5	124	346	690	3214
50	691	501	280	62	14	0	0	0	1	60	226	546	2381
32	257	148	32	0	0	0	0	0	0	0	15	165	617

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	138	167	354	614	936	1173	1336	1287	1032	706	375	198	8316
55	1	6	16	62	263	483	623	574	347	117	16	10	2518
57	0	2	11	42	219	424	561	512	292	88	10	5	2166
60	0	0	4	21	161	336	468	419	215	54	3	0	1681
65	0	0	0	5	84	199	313	271	109	19	0	0	1000
70	0	0	0	1	35	90	168	143	40	5	0	0	482

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	38	65	189	403	706	947	1105	1056	808	476	207	62	38	103	292	695	1401	2348	3453	4509	5317	5793	6000	6062
45	14	31	112	275	551	797	950	901	658	333	127	32	14	45	157	432	983	1780	2730	3631	4289	4622	4749	4781
50	3	10	66	170	401	647	795	746	508	219	69	15	3	13	79	249	650	1297	2092	2838	3346	3565	3634	3649
55	0	3	32	95	266	499	640	591	365	123	34	3	0	3	35	130	396	895	1535	2126	2491	2614	2648	2651
60	0	0	10	48	151	352	485	436	237	57	9	0	0	0	10	58	209	561	1046	1482	1719	1776	1785	1785
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	22	48	131	263	453	630	753	715	522	314	127	37	22	70	201	464	917	1547	2300	3015	3537	3851	3978	4015

(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