

# Climatology of the United States No. 20

National Climatic Data Center  
Federal Building  
151 Patton Avenue  
Asheville, North Carolina 28801  
www.ncdc.noaa.gov

Station: WHEATFIELD 3 WNW, IN

1971-2000

COOP ID: 129511

Climate Division: IN 1

NWS Call Sign:

Elevation: 663 Feet Lat: 41° 12N Lon: 87° 07W

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	30.5	12.5	21.5	68	1950	26	34.0	1990	-26	1984	20	6.4	1977	1349	0	.0	.0	1.5	17.1	29.5	6.2
Feb	35.7	17.1	26.4	73	2000	26	38.2	1998	-21	1977	6	10.6	1979	1082	0	.0	.0	3.6	11.4	25.2	4.2
Mar	47.3	27.1	37.2	84	1921	19	44.6	2000	-15	1943	8	28.6	1978	861	0	.0	.0	12.1	3.3	22.5	.2
Apr	59.8	36.7	48.3	94	1930	11	53.8	1977	5	1982	7	42.3	1975	505	2	.0	.1	23.7	.1	10.2	.0
May	71.4	48.1	59.8	100	1934	31	67.1	1977	19	1966	10	54.5	1997	227	63	.0	.9	30.5	.0	1.0	.0
Jun	80.3	57.4	68.9	106	1934	1	73.9	1971	31	1945	4	63.1	1989	40	155	@	4.1	30.0	.0	.0	.0
Jul	83.6	61.5	72.6	112+	1934	22	77.4	1999	39	1929	20	69.0	1984	5	240	.2	6.0	31.0	.0	.0	.0
Aug	81.9	59.2	70.6	105	1934	9	77.0	1995	34	1964	14	65.9	1976	24	195	.1	3.2	31.0	.0	.0	.0
Sep	76.2	50.7	63.5	104+	1939	14	68.8	1998	25	1959	18	58.8	1975	108	61	.0	1.5	30.0	.0	.5	.0
Oct	64.4	39.7	52.1	93	1939	8	60.1	1971	14	1925	29	45.4	1988	411	9	.0	.1	28.7	.0	7.4	.0
Nov	49.5	30.7	40.1	83	1950	1	45.9	1987	-10	1950	25	32.0	1976	747	0	.0	.0	14.3	1.4	18.0	.0
Dec	36.0	19.4	27.7	70+	1982	3	37.2	1982	-25	1924	28	14.4	1983	1157	0	.0	.0	3.4	10.8	27.5	2.9
Ann	59.7	38.3	49.1	112+	Jul 1934	22	77.4	Jul 1999	-26	Jan 1984	20	6.4	Jan 1977	6516	725	.3	15.9	239.8	44.1	141.8	13.5

+ 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/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

Issue Date: February 2004

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1916-2001

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

068-A

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**Station: WHEATFIELD 3 WNW, IN**

**COOP ID: 129511**

**Climate Division: IN 1**

**NWS Call Sign:**

**Elevation: 663 Feet Lat: 41°12N**

**Lon: 87°07W**

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels These values were determined from the incomplete gamma distribution										
Month	Mean	Med- ian	Highest Daily(2)	Year	Day	Highest Monthly(1)	Year	Lowest Monthly(1)	Year	>= 0.01	>= 0.10	>= 0.50	>= 1.00	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	.95
Jan	1.66	1.17	2.37	1965	22	5.35	1999	.26	1981	7.9	4.1	.9	.2	.29	.44	.68	.91	1.14	1.39	1.67	2.02	2.48	3.23	3.94
Feb	1.40	1.10	2.56	1942	6	4.78	1990	.21	1987	6.8	3.8	.7	.3	.25	.37	.58	.77	.97	1.18	1.42	1.71	2.10	2.72	3.32
Mar	2.70	2.39	2.82	1954	25	6.36	1976	.64	1996	9.5	5.6	2.0	.4	.78	1.04	1.42	1.76	2.08	2.42	2.80	3.24	3.81	4.71	5.54
Apr	3.70	3.15	3.93	1975	19	9.04	1981	.69	1971	10.1	6.9	2.4	.9	1.06	1.41	1.94	2.40	2.85	3.32	3.84	4.45	5.25	6.50	7.66
May	3.85	3.92	2.50	1991	26	8.01	1974	.68	1992	9.7	7.0	2.5	.9	1.17	1.54	2.08	2.55	3.01	3.48	4.00	4.61	5.40	6.63	7.77
Jun	4.61	4.53	4.05	1981	14	9.54	1993	.75	1988	9.0	7.2	2.7	1.0	1.65	2.09	2.71	3.24	3.74	4.26	4.82	5.47	6.31	7.59	8.78
Jul	4.14	4.11	5.18	1996	18	9.87	1996	.77	1975	8.2	6.3	2.8	1.1	1.17	1.56	2.16	2.67	3.18	3.70	4.29	4.98	5.87	7.27	8.57
Aug	3.68	3.28	4.78	1968	17	9.76	1990	.47	1986	8.1	5.8	2.0	.9	.99	1.34	1.87	2.34	2.80	3.28	3.81	4.44	5.27	6.56	7.76
Sep	3.45	2.55	4.50	1992	10	9.14	1977	.00	1979	7.7	5.8	2.1	1.0	.51	.96	1.55	2.03	2.51	3.01	3.58	4.25	5.12	6.51	7.82
Oct	2.62	2.28	3.47	1993	17	7.64	1991	.85	1975	7.5	4.8	1.7	.5	.81	1.06	1.43	1.75	2.05	2.37	2.72	3.13	3.66	4.49	5.25
Nov	2.93	2.60	3.53	1966	9	5.64	1982	1.01	1971	8.6	6.0	2.0	.7	.97	1.24	1.65	2.00	2.33	2.67	3.05	3.49	4.06	4.94	5.75
Dec	2.65	2.34	3.47	1965	24	5.92	1971	.47	1989	8.6	5.6	1.7	.5	.61	.86	1.24	1.59	1.94	2.31	2.72	3.21	3.86	4.88	5.85
Ann	37.39	36.81	5.18	Jul 1996	18	9.87	Jul 1996	.00	Sep 1979	101.7	68.9	23.5	8.4	27.57	29.49	31.95	33.80	35.44	37.01	38.64	40.43	42.59	45.72	48.41

+ 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: 1916-2001

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

Complete documentation available from:  
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Station: WHEATFIELD 3 WNW, IN

COOP ID: 129511

Climate Division: IN 1

NWS Call Sign:

Elevation: 663 Feet

Lat: 41°12N

Lon: 87°07W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	8.0	8.3	3	2	10.7	1999	3	20.5	1979	16	1979	31	10	1999	3.8	3.1	.8	.2	.1	11.2	7.9	5.8	2.2
Feb	3.6	3.3	3	1	8.0	1994	26	9.5	1978	21	1979	20	17	1979	2.4	1.7	.6	.1	.0	7.0	3.9	2.6	1.7
Mar	2.0	1.0	1	#	7.0	1991	13	7.3	1998	12	1978	4	5	1978	1.3	1.0	.2	.1	.0	1.7	.6	.5	.0
Apr	.7	.0	#	0	6.0	1982	6	8.0	1982	6	1982	6	1	1982	.2	.2	.1	@	.0	.4	.2	.1	.0
May	#	.0	#	0	#	1976	3	#	1976	#+	1989	7	#+	1989	.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	.2	.0	#	0	2.5	1993	31	2.5	1993	1	1989	19	#+	2000	.1	.1	.0	.0	.0	.1	.0	.0	.0
Nov	1.4	.3	#	#	5.0	1974	14	6.0	1972	5	1974	15	1	1997	.8	.6	.2	@	.0	.9	.3	.1	.0
Dec	4.7	3.6	1	1	8.0	1973	20	16.0	1973	15	1973	23	8	2000	2.3	1.8	.6	.3	.0	5.3	1.6	.7	.2
Ann	20.6	16.5	N/A	N/A	10.7	Jan 1999	3	20.5	Jan 1979	21	Feb 1979	20	17	Feb 1979	10.9	8.5	2.5	.7	.1	26.6	14.5	9.8	4.1

+ 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:

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**NWS Call Sign:**

**Elevation: 663 Feet**

**Lat: 41° 12N**

**Lon: 87° 07W**

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	6/07	6/01	5/27	5/23	5/19	5/15	5/11	5/06	4/30
32	5/16	5/11	5/08	5/05	5/02	4/29	4/26	4/22	4/18
28	5/06	5/01	4/27	4/23	4/20	4/17	4/13	4/09	4/04
24	4/20	4/16	4/13	4/10	4/08	4/06	4/03	3/31	3/27
20	4/13	4/08	4/05	4/02	3/30	3/27	3/24	3/20	3/15
16	4/04	3/29	3/24	3/20	3/17	3/13	3/09	3/05	2/26
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	9/16	9/20	9/23	9/26	9/28	9/30	10/03	10/06	10/10
32	9/25	9/29	10/02	10/04	10/06	10/08	10/11	10/13	10/17
28	10/05	10/10	10/14	10/17	10/20	10/23	10/26	10/30	11/04
24	10/14	10/20	10/24	10/28	10/31	11/04	11/08	11/12	11/18
20	10/29	11/04	11/08	11/12	11/16	11/19	11/23	11/27	12/03
16	11/10	11/16	11/21	11/26	11/30	12/04	12/08	12/13	12/20
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	155	147	141	136	131	127	122	116	107
32	173	168	163	160	157	153	150	145	140
28	207	199	193	187	182	177	172	166	157
24	226	219	214	210	206	202	197	192	185
20	252	244	239	234	230	226	221	216	208
16	287	277	269	263	257	252	245	238	228

\* 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:  
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**Climate Division: IN 1      NWS Call Sign:      Elevation: 663 Feet    Lat: 41°12N    Lon: 87°07W**

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	1349	1082	861	505	227	40	5	24	108	411	747	1157	6516
60	1194	942	706	362	136	11	0	5	42	277	598	1002	5275
57	1101	858	613	283	93	5	0	0	20	209	510	909	4601
55	1039	802	554	235	70	2	0	0	11	169	454	848	4184
50	886	673	411	133	29	0	0	0	2	90	321	705	3250
32	396	267	72	1	0	0	0	0	0	1	40	265	1042

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	70	109	234	489	859	1105	1258	1194	943	621	283	132	7297
55	0	0	2	32	215	418	545	481	264	76	7	1	2041
57	0	0	0	21	177	360	483	420	213	54	3	0	1731
60	0	0	0	10	127	276	390	331	145	30	1	0	1310
65	0	0	0	2	63	155	240	195	61	9	0	0	725
70	0	0	0	0	25	68	113	95	17	1	0	0	319

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	5	17	102	295	624	881	1024	964	725	403	127	22	5	22	124	419	1043	1924	2948	3912	4637	5040	5167	5189
45	0	5	57	188	472	731	869	809	575	263	68	7	0	5	62	250	722	1453	2322	3131	3706	3969	4037	4044
50	0	0	28	105	334	582	714	654	426	162	31	4	0	0	28	133	467	1049	1763	2417	2843	3005	3036	3040
55	0	0	10	54	210	433	559	499	289	82	12	0	0	0	10	64	274	707	1266	1765	2054	2136	2148	2148
60	0	0	2	24	117	296	404	348	174	39	2	0	0	0	2	26	143	439	843	1191	1365	1404	1406	1406
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	14	70	186	390	576	690	645	464	254	74	10	1	15	85	271	661	1237	1927	2572	3036	3290	3364	3374

(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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/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 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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)