

Climatology of the United States

No. 20

1971-2000

Station: BLUFFTON 1 N, IN

COOP ID: 120830

Climate Division: IN 3

NWS Call Sign:

Elevation: 825 Feet Lat: 40°45N Lon: 85°10W

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	29.8	16.3	23.1	64	1997	5	34.6	1990	-24+	1985	20	7.8	1977	1299	0	.0	.0	1.8	16.6	29.1	5.3
Feb	34.2	18.8	26.5	74	2000	26	37.3	1998	-18	1975	10	10.3	1978	1078	0	.0	.0	3.6	12.3	25.0	3.8
Mar	45.7	28.8	37.3	80+	1986	31	44.0	1973	-7	1980	2	28.8	1978	860	0	.0	.0	11.6	4.1	21.6	.3
Apr	58.4	39.5	49.0	87	1986	27	56.0	1985	8	1982	7	43.2	1989	484	2	.0	.0	23.4	.2	8.4	.0
May	70.5	50.7	60.6	91+	1977	20	67.1	1977	22	1989	7	53.9	1989	209	73	.0	.4	30.3	.0	.7	.0
Jun	79.7	60.7	70.2	100	1988	26	75.9	1971	37	1972	11	65.1	1992	26	182	@	3.0	30.0	.0	.0	.0
Jul	83.5	64.3	73.9	104	1980	16	78.3	1999	41	1988	1	71.2	1989	2	278	.1	5.5	31.0	.0	.0	.0
Aug	81.3	62.0	71.7	99	1983	20	77.5	1995	40	1986	29	67.1	1992	14	220	.0	2.4	31.0	.0	.0	.0
Sep	75.3	54.5	64.9	97	1983	11	69.4	1986	27	1989	24	60.0	1975	87	84	.0	.9	30.0	.0	.3	.0
Oct	62.6	42.4	52.5	88+	1971	1	60.8	1971	10	1988	31	44.0	1987	406	17	.0	.0	27.4	.1	5.7	.0
Nov	47.9	33.2	40.6	77+	1975	7	46.7	1985	5+	1976	29	33.0	1989	733	0	.0	.0	13.3	2.2	18.0	.0
Dec	35.4	22.6	29.0	70+	1982	3	39.9	1982	-18+	1983	24	17.0	2000	1117	0	.0	.0	3.8	11.1	26.5	2.0
Ann	58.7	41.2	49.9	104	Jul 1980	16	78.3	Jul 1999	-24+	Jan 1985	20	7.8	Jan 1977	6315	856	.1	12.2	237.2	46.6	135.3	11.4

+ 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

Issue Date: February 2004

005-A

(1) From the 1971-2000 Monthly Normals

(2) Derived from station's available digital record: 1971-2001

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

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No. 20

1971-2000

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

Station: BLUFFTON 1 N, IN

COOP ID: 120830

Climate Division: IN 3

NWS Call Sign:

Elevation: 825 Feet Lat: 40°45N

Lon: 85°10W

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	2.00	1.73	1.40	1985	1	3.79	1974	.62	1986	11.9	5.5	1.0	.2	.62	.82	1.10	1.34	1.57	1.82	2.08	2.39	2.80	3.43	4.01
Feb	1.83	1.75	1.75	1997	27	6.64	1990	.33	1978	9.6	4.6	.9	.3	.36	.53	.80	1.04	1.29	1.56	1.87	2.23	2.72	3.50	4.23
Mar	2.58	2.27	1.50	1977	18	4.90	1973	.67	1994	10.9	6.4	1.6	.3	.97	1.21	1.55	1.84	2.12	2.40	2.70	3.05	3.50	4.20	4.83
Apr	3.21	3.00	1.95	1992	17	6.61	1972	.96	1999	11.7	7.1	2.3	.6	1.17	1.47	1.90	2.26	2.61	2.97	3.35	3.80	4.37	5.25	6.06
May	4.11	4.16	3.77	1989	26	8.16	1996	.51	1988	11.8	7.9	2.7	.9	1.36	1.75	2.32	2.80	3.27	3.76	4.28	4.90	5.70	6.93	8.07
Jun	3.92	3.80	4.52	1981	14	8.10	1981	.50	1991	10.2	7.2	2.8	1.0	1.14	1.51	2.07	2.56	3.03	3.52	4.06	4.71	5.54	6.84	8.05
Jul	3.90	3.51	5.37	1998	22	10.03	1992	.23	1975	9.1	6.2	2.6	.8	.81	1.17	1.74	2.26	2.79	3.35	3.98	4.74	5.74	7.35	8.87
Aug	3.70	3.43	4.00	1990	18	8.77	1975	.66	1972	9.5	6.3	2.7	1.1	1.03	1.38	1.91	2.37	2.83	3.30	3.83	4.45	5.26	6.53	7.71
Sep	3.07	2.63	2.68+	1971	26	8.63	1971	.28	1979	8.6	5.8	2.1	.9	.54	.81	1.26	1.68	2.11	2.57	3.10	3.74	4.60	5.97	7.29
Oct	2.53	2.36	2.92	1991	26	6.46	1991	.86	1982	9.5	5.8	1.5	.4	1.01	1.25	1.58	1.85	2.10	2.37	2.65	2.97	3.38	4.01	4.59
Nov	3.04	2.68	1.69	1973	25	7.05	1985	.42	1976	10.9	6.5	2.3	.7	.77	1.06	1.50	1.89	2.28	2.69	3.14	3.68	4.38	5.49	6.54
Dec	2.65	2.67	2.62	1990	30	7.40	1990	.92	1991	12.7	6.5	1.6	.3	.78	1.03	1.41	1.74	2.05	2.39	2.75	3.19	3.75	4.62	5.44
Ann	36.54	37.00	5.37	Jul 1998	22	10.03	Jul 1992	.23	Jul 1975	126.4	75.8	24.1	7.5	28.43	30.05	32.10	33.64	34.99	36.29	37.61	39.07	40.82	43.33	45.48

+ 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: 1971-2001

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

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Station: BLUFFTON 1 N, IN

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Climate Division: IN 3

NWS Call Sign:

Elevation: 825 Feet

Lat: 40°45N

Lon: 85°10W

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	8.5	7.2	3	2	11.6	1978	26	30.5	1978	26	1978	31	9	1978	6.5	3.0	1.0	.2	@	14.5	9.2	5.7	.6
Feb	8.6	9.5	3	2	9.0	1982	1	24.7	1982	28	1982	9	22	1978	4.3	2.3	.9	.2	.0	11.2	7.0	4.8	1.6
Mar	3.7	3.7	1	#	9.0	1999	9	11.0	1999	16	1978	5	8	1978	2.6	1.2	.5	.1	.0	3.5	1.9	.9	.0
Apr	1.2	.0	#	0	6.0	1982	6	10.2	1982	7	1982	9	1	1982	.6	.4	.1	.1	.0	.4	.2	.1	.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	1989	20	2.0	1989	1	1993	30	#+	1993	.2	.1	.0	.0	.0	@	.0	.0	.0
Nov	2.1	1.0	#	#	6.0	1996	9	10.0	1996	6	1996	9	1	1996	1.6	.8	.2	.1	.0	1.5	.3	@	.0
Dec	7.4	6.5	1	#	11.0	1973	20	23.8	1973	15	1977	11	7	1977	4.1	2.2	.6	.2	@	6.7	2.8	1.1	.3
Ann	31.6	27.9	N/A	N/A	11.6	Jan 1978	26	30.5	Jan 1978	28	Feb 1982	9	22	Feb 1978	19.9	10.0	3.3	.9	@	37.8	21.4	12.6	2.5

+ 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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NWS Call Sign:

Elevation: 825 Feet

Lat: 40° 45N

Lon: 85° 10W

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	5/21	5/17	5/13	5/11	5/08	5/05	5/02	4/29	4/25
32	5/09	5/04	5/01	4/28	4/25	4/23	4/20	4/16	4/12
28	4/30	4/25	4/22	4/19	4/16	4/13	4/10	4/07	4/02
24	4/22	4/16	4/13	4/09	4/06	4/03	3/31	3/27	3/22
20	4/08	4/03	3/31	3/28	3/25	3/22	3/19	3/15	3/11
16	4/03	3/27	3/23	3/19	3/15	3/12	3/08	3/03	2/25
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	9/18	9/22	9/25	9/28	9/30	10/03	10/05	10/08	10/12
32	9/25	9/30	10/04	10/07	10/10	10/13	10/17	10/20	10/26
28	10/04	10/10	10/15	10/19	10/23	10/27	10/31	11/05	11/11
24	10/14	10/20	10/25	10/29	11/02	11/06	11/10	11/14	11/21
20	10/25	11/02	11/08	11/13	11/18	11/22	11/27	12/03	12/11
16	11/11	11/19	11/24	11/28	12/03	12/07	12/12	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	163	157	152	148	145	141	137	133	127
32	189	182	176	172	167	163	159	153	146
28	219	208	201	195	189	183	177	170	160
24	238	228	221	215	209	203	197	190	180
20	267	257	249	243	237	231	225	217	207
16	290	280	273	267	262	256	250	243	233

* 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	1299	1078	860	484	209	26	2	14	87	406	733	1117	6315
60	1144	938	705	343	122	6	0	2	33	280	585	962	5120
57	1051	854	613	265	82	3	0	0	16	216	498	869	4467
55	989	802	558	218	60	1	0	0	9	178	444	811	4070
50	835	672	415	119	24	0	0	0	2	101	312	666	3146
32	345	271	82	1	0	0	0	0	0	3	38	238	978

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	69	118	245	509	887	1146	1299	1229	986	637	294	144	7563
55	0	5	8	36	235	457	586	516	306	99	10	4	2262
57	0	0	1	23	194	399	524	454	252	75	5	0	1927
60	0	0	0	11	141	313	431	363	180	46	1	0	1486
65	0	0	0	2	73	182	278	220	84	17	0	0	856
70	0	0	0	0	30	83	141	109	27	5	0	0	395

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	10	21	103	295	626	891	1032	963	724	393	131	28	10	31	134	429	1055	1946	2978	3941	4665	5058	5189	5217
45	2	6	58	184	475	741	877	808	574	261	69	12	2	8	66	250	725	1466	2343	3151	3725	3986	4055	4067
50	0	1	30	106	333	591	722	653	425	155	35	3	0	1	31	137	470	1061	1783	2436	2861	3016	3051	3054
55	0	0	9	53	210	444	567	498	289	82	12	0	0	0	9	62	272	716	1283	1781	2070	2152	2164	2164
60	0	0	2	24	118	302	413	346	175	41	3	0	0	0	2	26	144	446	859	1205	1380	1421	1424	1424
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	1	13	65	173	376	588	702	646	456	233	70	12	1	14	79	252	628	1216	1918	2564	3020	3253	3323	3335

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
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">a. Temperature/ Precipitation Tables<ol style="list-style-type: none">1. 1971-2000 Monthly Normals2. Cooperative Summary of the Day3. National Weather Service station records4. 1971-2000 serially complete daily datab. Degree Day Table<ol style="list-style-type: none">1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data | <ol style="list-style-type: none">c. Snow Tables<ol style="list-style-type: none">1. Snow Climatology2. Cooperative Summary of the Dayd. Freeze Data Table
1971-2000 serially complete daily data |
|---|---|

References

U.S. Climate Normals 1971-2000, www.ncdc.noaa.gov/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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