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: EVANSVILLE MUSEUM, IN **COOP ID: 122731**

Climate Division: IN 7 **NWS Call Sign:** **Elevation: 380 Feet** **Lat: 37˚58N** **Lon: 87˚34W**

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	24.8	33.2	74	1950	25	43.3	1990	-17	1985	20	19.5	1977	986	0	.0	.0	5.6	6.6	24.0	.9
Feb	48.0	28.7	38.4	81	1962	13	46.3	1976	-8	1996	4	24.7	1978	747	0	.0	.0	11.1	3.6	18.9	.1
Mar	59.1	37.3	48.2	86	1981	31	54.8	1973	2	1960	5	41.7	1978	523	2	.0	.0	25.1	.4	9.3	.0
Apr	69.9	46.1	58.0	92	1951	28	63.9	1981	24+	1972	8	52.1	1983	232	21	.0	.1	29.2	.0	1.8	.0
May	79.0	55.4	67.2	98	1953	26	73.5	1991	29	1963	1	62.7	1997	82	150	.0	1.8	31.0	.0	.0	.0
Jun	87.2	64.2	75.7	106	1954	26	79.1	1984	42	1956	2	71.0	1974	2	324	.1	8.8	30.0	.0	.0	.0
Jul	90.5	68.6	79.6	109	1954	14	82.8	1980	48	1962	27	76.5	1971	0	451	.5	16.4	31.0	.0	.0	.0
Aug	89.6	66.8	78.2	104	1953	31	83.5	1983	44	1965	29	73.7	1992	0	409	.5	13.4	31.0	.0	.0	.0
Sep	83.2	59.5	71.4	107+	1953	1	76.0	1998	37+	1965	25	65.6	1974	21	211	.0	5.4	30.0	.0	.0	.0
Oct	71.9	47.7	59.8	97	1953	2	65.9	1971	22	1981	24	53.6	1988	207	46	.0	.2	30.6	.0	1.0	.0
Nov	58.1	39.0	48.6	85+	1950	1	54.5	1999	1	1950	25	40.8	1976	496	2	.0	.0	22.1	.1	7.5	.0
Dec	46.2	29.3	37.8	78	1982	2	45.8	1984	-15	1989	22	25.7	1989	844	0	.0	.0	9.7	3.5	19.5	.3
Ann	68.7	47.3	58.0	109	Jul 1954	14	83.5	Aug 1983	-17	Jan 1985	20	19.5	Jan 1977	4140	1616	1.1	46.1	286.4	14.2	82.0	1.3

\+ 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: 1949-2001

(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	3.14	2.83	2.94	1950	4	9.08	1982	.59	1981
Feb	3.27	3.13	2.83	1986	2	7.83	1989	.71	1983
Mar	4.50	4.28	5.63	1964	9	8.80	1984	1.75	1971
Apr	4.54	3.83	5.47	1996	29	12.46	1983	1.37	1976
May	4.78	3.54	3.60	1961	8	11.38	1995	.74	1994
Jun	4.21	4.19	3.77	1986	9	8.56	1998	.83	1978
Jul	4.11	3.65	5.74	1980	2	10.12	1979	.27	1994
Aug	3.10	2.76	3.25	1960	4	9.31	1974	.34	1976
Sep	3.17	3.19	2.59	1962	3	7.04	1996	.58	1983
Oct	2.96	2.67	2.04+	1976	23	6.30	1984	.90	1987
Nov	4.30	4.43	3.21	1994	5	8.32	1985	.92	1976
Dec	3.68	3.59	3.15	2001	17	8.16	1990	.57	1976
Ann	45.76	45.58	5.74	Jul 1980	2	12.46	Apr 1983	.27	Jul 1994

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.2	5.5	2.1	.5
Feb	9.1	5.8	2.1	.8
Mar	12.6	8.6	3.2	1.0
Apr	12.2	8.3	2.9	1.3
May	12.1	8.1	3.6	1.3
Jun	10.6	7.0	3.1	1.0
Jul	7.9	5.5	2.9	1.0
Aug	7.7	4.7	2.2	1.0
Sep	7.9	5.4	2.0	.9
Oct	7.7	5.0	2.1	.8
Nov	10.1	6.4	3.2	1.3
Dec	11.0	6.9	2.5	.8
Ann	118.1	77.2	31.9	11.7

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	.82	1.12	1.57	1.97	2.37	2.78	3.24	3.79	4.50	5.63	6.68
Feb	.90	1.21	1.68	2.09	2.49	2.92	3.38	3.94	4.66	5.79	6.85
Mar	1.83	2.24	2.83	3.31	3.76	4.22	4.72	5.29	6.02	7.13	8.13
Apr	1.45	1.88	2.52	3.06	3.59	4.13	4.73	5.43	6.34	7.74	9.04
May	1.29	1.74	2.43	3.04	3.63	4.25	4.94	5.76	6.83	8.50	10.06
Jun	1.36	1.76	2.35	2.85	3.34	3.84	4.39	5.03	5.86	7.15	8.34
Jul	.88	1.25	1.86	2.40	2.95	3.54	4.20	4.99	6.04	7.71	9.29
Aug	.68	.97	1.42	1.83	2.24	2.68	3.17	3.76	4.54	5.78	6.95
Sep	.82	1.12	1.58	1.99	2.39	2.81	3.28	3.83	4.56	5.70	6.77
Oct	1.04	1.32	1.72	2.06	2.39	2.72	3.09	3.51	4.06	4.90	5.67
Nov	1.35	1.76	2.37	2.89	3.39	3.91	4.48	5.15	6.01	7.36	8.60
Dec	1.06	1.41	1.93	2.39	2.84	3.30	3.81	4.42	5.20	6.43	7.57
Ann	34.15	36.44	39.35	41.54	43.48	45.35	47.26	49.37	51.92	55.60	58.76

\+ 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: 1949-2001
(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	5.1	2.1	1	#
Feb	3.3	.9	1	#
Mar	2.0	.8	#	#
Apr	.5	.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
Nov	.3	.0	#	0
Dec	2.2	1.1	#	#
Ann	13.4	4.9	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	7.6	1978	16	25.5	1978	16	1978	17	7	1978
Feb	7.1	1984	27	13.1	1985	9	1985	12	5	1978
Mar	9.0	1975	10	11.7	1975	6+	1996	19	1+	1996
Apr	9.0	1971	6	9.0	1971	3	1971	6	#	1971
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	#	1989	20	#	1989	0	0	0	0	0
Nov	5.5	1977	27	5.5	1977	5	1977	27	#+	1991
Dec	5.4	1984	5	7.0	1984	7	1984	6	1+	2000
Ann	9.0+	Mar 1975	10	25.5	Jan 1978	16	Jan 1978	17	7	Jan 1978

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	4.1	1.5	.5	.2	.0
Feb	2.6	1.1	.2	.1	.0
Mar	1.2	.6	.2	.1	.0
Apr	.2	.1	@	@	.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	.2	.1	@	@	.0
Dec	1.8	.6	.2	@	.0
Ann	10.1	4.0	1.1	.4	.0

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	6.2	2.9	2.0	.7
Feb	5.5	3.8	1.7	.0
Mar	.7	.4	.1	.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	.0	.0
Nov	.2	.1	@	.0
Dec	2.2	.6	.1	.0
Ann	14.8	7.8	3.9	.7

+ 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	5/04	4/28	4/23	4/19	4/15	4/11	4/07	4/02	3/26
32	4/21	4/15	4/11	4/07	4/03	3/31	3/27	3/22	3/16
28	4/13	4/06	3/31	3/26	3/21	3/17	3/12	3/06	2/26
24	4/03	3/25	3/19	3/14	3/09	3/05	2/28	2/22	2/13
20	3/16	3/08	3/02	2/24	2/19	2/14	2/07	1/28	0/00
16	3/09	2/27	2/21	2/15	2/09	2/03	1/27	1/16	0/00

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	10/01	10/08	10/13	10/18	10/22	10/26	10/30	11/05	11/12
32	10/13	10/20	10/25	10/29	11/03	11/07	11/11	11/16	11/23
28	10/23	10/30	11/04	11/08	11/12	11/16	11/20	11/26	12/03
24	11/01	11/09	11/16	11/21	11/26	12/01	12/06	12/13	12/21
20	11/22	11/29	12/03	12/07	12/11	12/16	12/21	12/29	0/00
16	11/28	12/05	12/10	12/15	12/19	12/24	12/29	1/07	0/00

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	223	212	203	196	189	183	176	167	156
32	244	233	226	219	213	206	199	192	181
28	271	259	250	242	235	228	220	212	199
24	301	287	277	269	261	253	244	234	221
20	>365	332	313	303	295	287	280	271	260
16	>365	>365	331	320	311	304	296	288	277

***** 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	986	747	523	232	82	2	0	0	21	207	496	844	4140
60	831	611	381	125	33	0	0	0	4	113	356	692	3146
57	745	533	302	78	16	0	0	0	1	72	278	607	2632
55	687	482	254	53	10	0	0	0	0	51	232	549	2318
50	543	359	156	16	2	0	0	0	0	17	135	412	1640
32	162	73	8	0	0	0	0	0	0	0	4	88	335

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	199	250	510	779	1091	1312	1474	1431	1179	861	500	266	9852
55	10	14	43	142	388	622	761	718	490	200	38	14	3440
57	7	10	29	107	333	562	699	656	431	159	25	10	3028
60	0	4	15	64	256	472	606	563	344	106	12	3	2445
65	0	0	2	21	150	324	451	409	211	46	2	0	1616
70	0	0	0	4	74	186	296	262	105	14	0	0	941

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	40	95	288	549	848	1083	1235	1188	935	610	280	86	40	135	423	972	1820	2903	4138	5326	6261	6871	7151	7237
45	20	49	175	406	693	933	1080	1033	785	457	174	40	20	69	244	650	1343	2276	3356	4389	5174	5631	5805	5845
50	4	21	96	275	539	783	925	878	635	313	96	21	4	25	121	396	935	1718	2643	3521	4156	4469	4565	4586
55	0	3	47	161	385	633	770	723	486	188	45	4	0	3	50	211	596	1229	1999	2722	3208	3396	3441	3445
60	0	1	19	81	246	483	615	568	346	94	14	0	0	1	20	101	347	830	1445	2013	2359	2453	2467	2467
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	22	55	169	336	550	746	853	819	622	372	149	43	22	77	246	582	1132	1878	2731	3550	4172	4544	4693	4736

(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