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: FARMLAND 5 NNW, IN **COOP ID: 122825**

Climate Division: IN 6 **NWS Call Sign:** **Elevation: 965 Feet** **Lat: 40˚15N** **Lon: 85˚09W**

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	32.3	15.2	23.8	70	1906	21	34.7	1990	-25	1985	21	7.1	1977	1277	0	.0	.0	2.8	14.8	28.5	5.3
Feb	36.8	18.1	27.5	74	2000	26	37.7	1998	-21	1985	4	9.9	1978	1052	0	.0	.0	4.9	11.1	25.0	3.8
Mar	47.9	27.5	37.7	82+	1907	26	45.0	1973	-16+	1984	9	27.3	1984	846	0	.0	.0	13.0	3.8	21.6	.4
Apr	60.1	37.7	48.9	90	1930	11	54.5	1985	10	1982	7	43.6	1975	485	1	.0	.0	24.2	.2	9.3	.0
May	71.4	49.0	60.2	95	1941	22	67.4	1991	23	1966	10	55.6	1997	211	60	.0	.3	30.6	.0	1.0	.0
Jun	80.4	58.4	69.4	102+	1934	28	72.9	1991	35	1966	1	64.1	1972	30	162	@	3.0	30.0	.0	.0	.0
Jul	84.1	61.6	72.9	110	1936	14	77.1	1999	40	2000	22	69.2	1984	4	248	.1	5.9	31.0	.0	.0	.0
Aug	82.1	58.5	70.3	105	1934	9	76.6	1995	35	1965	29	65.8	1992	25	189	.0	3.3	31.0	.0	.0	.0
Sep	76.2	50.4	63.3	102	1939	15	67.4	1998	27+	1995	23	58.4	1974	105	55	.0	1.3	30.0	.0	.5	.0
Oct	64.2	38.9	51.6	91+	1922	4	59.0	1971	13	1925	29	45.0	1988	424	7	.0	.0	28.2	.0	7.4	.0
Nov	50.1	30.8	40.5	83	1933	1	45.7	1990	-4	1930	27	32.1	1976	736	0	.0	.0	15.0	1.6	17.5	.0
Dec	37.7	20.9	29.3	72	1982	3	38.0	1982	-21+	1989	22	16.3	1989	1106	0	.0	.0	5.1	9.6	26.0	2.1
Ann	60.3	38.9	49.6	110	Jul 1936	14	77.1	Jul 1999	-25	Jan 1985	21	7.1	Jan 1977	6301	722	.1	13.8	245.8	41.1	136.8	11.6

\+ 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: 1901-2001

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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	1.89	1.70	2.76	1937	14	3.87	1999	.38	1981
Feb	1.84	1.60	2.09	1997	27	4.74	1990	.12	1987
Mar	2.69	2.56	4.70	1904	25	5.28	1982	.67	1994
Apr	3.50	3.67	2.67	1964	21	5.89	1972	1.10	1985
May	4.06	3.97	3.65	1933	11	7.58	1981	1.27	1988
Jun	4.42	4.38	3.73	1992	18	8.30	1980	.88	1984
Jul	4.40	3.97	4.40	1992	13	14.21	1992	.92	1975
Aug	3.65	3.51	3.41	1969	10	6.74	1977	.28	1996
Sep	3.02	2.34	3.86	1950	21	9.64	1972	.37	1987
Oct	2.62	2.58	2.73	1991	26	6.40	1983	.60	1982
Nov	3.23	2.55	3.01	1993	14	7.49	1985	.62	1976
Dec	2.58	2.51	2.79	1901	13	6.83	1990	.31	1976
Ann	37.90	36.79	4.70	Mar 1904	25	14.21	Jul 1992	.12	Feb 1987

Mean Number of Days (3)

Daily Precipitation

Month	>= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.9	5.1	.9	.2
Feb	9.9	4.7	.9	.2
Mar	11.4	6.5	1.6	.4
Apr	13.3	8.0	2.3	.7
May	12.8	8.3	2.9	1.0
Jun	11.6	7.4	2.9	1.2
Jul	10.2	6.5	3.1	1.2
Aug	9.8	5.8	2.8	1.0
Sep	8.8	5.5	2.1	.8
Oct	9.8	5.6	1.9	.5
Nov	11.3	6.4	2.4	.5
Dec	11.6	5.9	1.7	.4
Ann	131.4	75.7	25.5	8.1

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	.54	.72	.99	1.23	1.46	1.70	1.96	2.28	2.68	3.32	3.91
Feb	.39	.56	.83	1.07	1.32	1.58	1.88	2.23	2.70	3.45	4.16
Mar	.91	1.17	1.54	1.85	2.15	2.47	2.80	3.20	3.71	4.50	5.22
Apr	1.35	1.67	2.14	2.52	2.89	3.26	3.66	4.13	4.72	5.63	6.46
May	1.88	2.24	2.73	3.12	3.49	3.86	4.25	4.71	5.27	6.13	6.90
Jun	1.46	1.88	2.49	3.02	3.52	4.04	4.61	5.27	6.13	7.45	8.68
Jul	1.27	1.69	2.32	2.87	3.40	3.96	4.57	5.29	6.23	7.70	9.06
Aug	1.04	1.38	1.91	2.36	2.81	3.27	3.79	4.39	5.18	6.41	7.56
Sep	.51	.77	1.21	1.63	2.05	2.51	3.04	3.68	4.54	5.92	7.24
Oct	.83	1.07	1.44	1.76	2.06	2.38	2.72	3.13	3.65	4.47	5.22
Nov	.86	1.17	1.63	2.04	2.45	2.87	3.34	3.90	4.62	5.76	6.83
Dec	.80	1.05	1.41	1.72	2.03	2.34	2.68	3.08	3.60	4.41	5.16
Ann	28.48	30.34	32.70	34.48	36.05	37.56	39.11	40.82	42.88	45.85	48.40

\+ 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: 1901-2001
(3) Derived from 1971-2000 serially complete daily data

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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	7.8	7.0	2	2	8.0	1999	2	25.7	1978	17	1978	31	9	1996	5.8	3.3	.8	.2	.0	13.6	7.1	3.5	.8
Feb	6.2	4.2	2	1	8.0	1982	4	17.5	1993	16	1982	4	11	1978	4.7	2.3	.6	.2	.0	10.6	5.4	4.1	1.8
Mar	3.5	2.8	1	#	6.0	1988	4	11.5	1975	11	1984	1	4	1984	2.8	1.5	.4	.1	.0	3.8	1.7	.9	.1
Apr	.7	#	#	#	5.0	1982	9	8.0	1982	5	1982	9	#+	2000	.4	.2	.1	@	.0	.3	.1	@	.0
May	#	.0	#	0	#	1996	1	#+	1996	#+	1996	1	#+	1996	.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	3.0	1989	19	5.0	1989	3	1989	19	#+	1993	.2	.2	@	.0	.0	.1	@	.0	.0
Nov	1.2	.5	#	#	4.3	1997	14	7.5	1980	4	1997	16	1	1997	1.2	.5	.1	.0	.0	1.1	.2	.0	.0
Dec	5.8	3.7	1	#	9.0	1973	20	23.0	1973	12	1973	23	5	2000	4.4	2.3	.5	.2	.0	6.7	3.8	1.9	.3
Ann	25.4	18.2	N/A	N/A	9.0	Dec 1973	20	25.7	Jan 1978	17	Jan 1978	31	11	Feb 1978	19.5	10.3	2.5	.7	.0	36.2	18.3	10.4	3.0

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

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	9/25	9/27	9/30	10/02	10/05	10/08
32	9/24	9/28	10/01	10/04	10/06	10/09	10/11	10/14	10/18
28	10/04	10/09	10/13	10/16	10/19	10/22	10/25	10/28	11/02
24	10/18	10/23	10/27	10/31	11/03	11/06	11/09	11/13	11/19
20	10/23	10/30	11/04	11/09	11/13	11/17	11/21	11/26	12/03
16	11/09	11/17	11/22	11/27	12/01	12/05	12/10	12/15	12/23

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	159	152	148	144	140	136	133	128	122
32	175	169	165	161	158	154	151	147	141
28	200	194	189	185	181	177	173	169	162
24	231	223	217	213	208	203	198	193	185
20	258	249	242	236	230	225	219	212	202
16	287	277	270	265	259	254	248	241	232

***** 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	1277	1052	846	485	211	30	4	25	105	424	736	1106	6301
60	1122	912	691	340	120	7	0	5	39	289	586	951	5062
57	1029	828	604	260	79	3	0	0	18	218	498	858	4395
55	967	774	545	211	57	1	0	0	10	177	440	801	3983
50	817	644	404	110	21	0	0	0	2	95	305	656	3054
32	341	247	79	1	0	0	0	0	0	1	29	233	931

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	87	120	256	507	873	1122	1267	1187	940	607	283	150	7399
55	0	3	9	28	217	433	554	474	259	71	4	5	2057
57	0	0	6	17	177	375	492	412	208	50	1	0	1738
60	0	0	0	6	125	289	399	324	139	27	0	0	1309
65	0	0	0	1	60	162	248	189	55	7	0	0	722
70	0	0	0	0	23	69	118	91	13	1	0	0	315

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	16	30	118	306	635	897	1040	962	729	397	143	34	16	46	164	470	1105	2002	3042	4004	4733	5130	5273	5307
45	5	8	68	196	483	747	885	807	579	264	81	15	5	13	81	277	760	1507	2392	3199	3778	4042	4123	4138
50	0	2	35	113	342	597	730	652	433	163	44	4	0	2	37	150	492	1089	1819	2471	2904	3067	3111	3115
55	0	0	14	53	216	449	575	497	294	86	17	0	0	0	14	67	283	732	1307	1804	2098	2184	2201	2201
60	0	0	2	21	122	304	420	344	182	36	4	0	0	0	2	23	145	449	869	1213	1395	1431	1435	1435
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	4	16	85	186	388	593	709	646	473	251	86	20	4	20	105	291	679	1272	1981	2627	3100	3351	3437	3457

(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