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: GREENSBURG, IN **COOP ID: 123547**

Climate Division: IN 5 **NWS Call Sign:** **Elevation: 935 Feet** **Lat: 39˚21N** **Lon: 85˚30W**

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	34.4	18.7	26.6	72	1950	25	36.7	1990	-24	1985	20	10.4	1977	1193	0	.0	.0	4.0	12.9	26.9	3.4
Feb	39.7	22.0	30.9	75	1972	29	39.3	1976	-23	1965	4	14.3	1978	956	0	.0	.0	7.1	8.0	21.8	2.0
Mar	50.4	31.7	41.1	82	1986	31	49.5	1973	-13	1960	6	32.6	1984	741	0	.0	.0	16.4	1.9	16.8	.1
Apr	61.7	41.9	51.8	87+	1954	25	57.9	1985	13	1964	1	47.2	1982	400	4	.0	.0	25.9	.0	5.5	.0
May	72.4	52.6	62.5	93	1949	4	69.7	1991	22	1963	1	57.0	1997	164	86	.0	.1	30.8	.0	.4	.0
Jun	81.1	61.6	71.4	101+	1954	26	75.2	1991	30	1966	1	66.6	1982	17	206	@	3.0	30.0	.0	.0	.0
Jul	84.7	65.3	75.0	105	1954	14	79.1	1999	42	1967	16	71.3	1984	0	311	.1	6.7	31.0	.0	.0	.0
Aug	82.9	63.2	73.1	102	1953	31	78.4	1995	38+	1964	13	69.1	1992	9	259	.1	4.5	31.0	.0	.0	.0
Sep	76.8	56.2	66.5	104	1953	2	71.5	1998	27	1963	30	62.0	1974	65	110	.0	1.3	30.0	.0	.1	.0
Oct	64.7	43.9	54.3	92+	1951	5	61.3	1971	13	1952	21	47.8	1988	347	16	.0	.0	28.9	.0	3.9	.0
Nov	51.3	34.6	43.0	82	1950	1	48.0	1999	-12	1958	30	34.2	1976	662	0	.0	.0	16.2	1.0	13.9	.0
Dec	39.7	24.6	32.2	73	1982	2	40.9	1982	-23+	1963	20	18.5	1989	1019	0	.0	.0	6.6	7.4	23.7	1.4
Ann	61.7	43.0	52.4	105	Jul 1954	14	79.1	Jul 1999	-24	Jan 1985	20	10.4	Jan 1977	5573	992	.2	15.6	257.9	31.2	113.0	6.9

\+ 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

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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	2.56	2.55	4.60	1959	21	6.93	1982	.27	1981
Feb	2.42	2.12	2.93	1975	23	4.77	1986	.16	1978
Mar	3.66	3.37	4.10	1964	9	7.91	1989	1.13	1994
Apr	4.31	4.07	4.00	1996	29	11.82	1996	1.13	1971
May	5.03	4.50	2.78	1985	2	9.35	1990	2.10	1991
Jun	4.32	4.20	3.09	1960	23	10.74	1998	.91	1991
Jul	4.12	3.89	3.27	1962	15	10.06	1992	1.46	1972
Aug	4.21	3.74	4.21	1987	3	10.82	1995	.42	1996
Sep	3.07	3.01	2.89	2001	10	9.98	1974	.17	1998
Oct	3.07	2.71	3.60	1985	20	6.63	1983	.92	1982
Nov	3.81	3.17	2.93	1948	19	9.89	1985	1.06	1976
Dec	3.20	3.12	2.60	1948	15	8.91	1990	.45	1976
Ann	43.78	43.83	4.60	Jan 1959	21	11.82	Apr 1996	.16	Feb 1978

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	10.3	6.0	1.4	.4
Feb	8.5	5.4	1.6	.4
Mar	11.6	7.5	2.6	.7
Apr	13.3	8.8	2.8	.8
May	12.2	8.6	3.7	1.3
Jun	10.4	7.2	3.2	1.2
Jul	10.1	7.3	2.8	1.1
Aug	8.8	6.1	2.8	1.3
Sep	8.4	5.7	2.2	.9
Oct	9.0	5.9	2.1	.6
Nov	10.8	7.2	2.9	1.0
Dec	10.7	6.9	2.2	.6
Ann	124.1	82.6	30.3	10.3

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	.59	.83	1.20	1.54	1.88	2.23	2.63	3.11	3.74	4.73	5.67
Feb	.41	.62	.98	1.31	1.65	2.02	2.44	2.95	3.64	4.75	5.80
Mar	1.30	1.64	2.14	2.56	2.96	3.37	3.82	4.34	5.01	6.03	6.98
Apr	1.43	1.84	2.44	2.95	3.44	3.94	4.49	5.14	5.97	7.26	8.44
May	2.02	2.48	3.14	3.68	4.19	4.71	5.27	5.92	6.74	8.00	9.14
Jun	1.49	1.90	2.50	3.00	3.48	3.97	4.51	5.14	5.95	7.20	8.35
Jul	1.70	2.08	2.61	3.04	3.45	3.87	4.32	4.84	5.49	6.50	7.41
Aug	.98	1.37	1.98	2.54	3.09	3.67	4.32	5.10	6.13	7.75	9.28
Sep	.53	.80	1.25	1.67	2.10	2.57	3.10	3.75	4.61	6.01	7.35
Oct	.96	1.25	1.68	2.05	2.41	2.79	3.20	3.68	4.30	5.26	6.16
Nov	1.40	1.76	2.27	2.70	3.11	3.53	3.98	4.51	5.18	6.22	7.17
Dec	1.05	1.36	1.80	2.18	2.55	2.92	3.34	3.82	4.44	5.40	6.29
Ann	33.36	35.43	38.06	40.03	41.77	43.44	45.15	47.04	49.31	52.57	55.37

\+ 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

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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	6.5	3.0	2	1
Feb	4.5	2.7	1	#
Mar	2.3	1.3	#	#
Apr	.2	.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	.1	.0	#	0
Nov	.9	.0	#	#
Dec	3.5	3.0	#	#
Ann	18.0	10.0	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	9.0	1979	7	22.9	1977	16+	1996	8	11	1977
Feb	6.0	1993	16	14.7	1979	16	1977	1	7	1978
Mar	18.0	1996	20	18.0	1996	8	1980	2	2	1978
Apr	3.0	1992	2	3.0	1992	3	1992	2	#+	1997
May	.3	1989	7	.3	1989	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	1.5	1993	30	3.0	1993	1	1993	30	#	1993
Nov	4.2	1975	27	7.0	1971	3	1977	28	#+	1997
Dec	7.0	1981	17	12.5	1981	8	1981	21	3	2000
Ann	18.0	Mar 1996	20	22.9	Jan 1977	16+	Jan 1996	8	11	Jan 1977

Mean Number of Days (1)

Snow Fall >= Thresholds

Month	0.1	1.0	3.0	5.0	10.0
Jan	3.3	2.4	.6	.2	.0
Feb	2.1	1.4	.4	.1	.0
Mar	1.1	.9	.3	.1	@
Apr	.2	.2	@	.0	.0
May	@	.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	.1	.1	.0	.0	.0
Nov	.7	.3	.1	.0	.0
Dec	1.8	1.5	.4	.1	.0
Ann	9.3	6.8	1.8	.5	@

Snow Depth >= Thresholds

Month	1	3	5	10
Jan	9.2	4.9	3.1	1.8
Feb	7.5	5.1	3.1	.3
Mar	1.8	1.0	.5	.0
Apr	.1	@	.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	.5	.1	.0	.0
Dec	3.7	2.0	.4	.0
Ann	22.8	13.1	7.1	2.1

+ 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

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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	5/15	5/10	5/06	5/04	5/01	4/28	4/25	4/22	4/17
32	5/06	5/01	4/27	4/24	4/21	4/18	4/15	4/12	4/07
28	4/23	4/17	4/14	4/11	4/08	4/05	4/01	3/29	3/24
24	4/18	4/12	4/07	4/04	3/31	3/28	3/24	3/20	3/14
20	4/03	3/28	3/24	3/21	3/17	3/14	3/11	3/07	3/01
16	3/17	3/11	3/07	3/04	2/28	2/25	2/21	2/17	2/11

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

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	176	170	165	161	157	153	149	144	137
32	201	193	187	182	177	172	167	161	153
28	224	216	211	206	202	197	193	187	180
24	251	241	233	227	221	215	209	202	192
20	274	265	259	254	249	244	238	232	223
16	305	296	290	285	280	275	270	263	255

***** 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.

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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	1193	956	741	400	164	17	0	9	65	347	662	1019	5573
60	1038	816	588	264	86	3	0	0	22	224	514	864	4419
57	945	734	503	193	53	1	0	0	9	163	430	775	3806
55	883	682	445	152	37	0	0	0	5	128	375	718	3425
50	740	552	314	72	12	0	0	0	1	62	249	574	2576
32	289	184	44	0	0	0	0	0	0	0	20	182	719

Cooling Degree Days (1)

Base Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	119	152	326	594	945	1179	1334	1272	1035	692	348	187	8183
55	0	6	14	56	269	490	621	559	349	106	13	9	2492
57	0	1	10	37	223	430	559	497	294	79	8	4	2142
60	0	0	2	19	164	343	466	405	216	47	2	0	1664
65	0	0	0	4	86	206	311	259	110	16	0	0	992
70	0	0	0	0	36	98	168	136	42	4	0	0	484

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	31	57	172	387	710	944	1088	1029	798	461	184	53	31	88	260	647	1357	2301	3389	4418	5216	5677	5861	5914
45	8	26	103	264	555	794	933	874	648	322	107	27	8	34	137	401	956	1750	2683	3557	4205	4527	4634	4661
50	0	7	57	163	403	644	778	719	499	205	54	8	0	7	64	227	630	1274	2052	2771	3270	3475	3529	3537
55	0	1	28	89	268	495	623	564	354	113	22	1	0	1	29	118	386	881	1504	2068	2422	2535	2557	2558
60	0	0	8	41	155	350	468	409	226	55	5	0	0	0	8	49	204	554	1022	1431	1657	1712	1717	1717
Base	**Growing Degree Units for Corn (Monthly)**												**Growing Degree Units for Corn (Accumulated Monthly)**											
50/86	11	34	103	226	440	637	751	706	516	276	100	29	11	45	148	374	814	1451	2202	2908	3424	3700	3800	3829

(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