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: MOUNT VERNON, IN **COOP ID: 126001**

Climate Division: IN 7 **NWS Call Sign:** **Elevation: 420 Feet** **Lat: 37˚56N** **Lon: 87˚54W**

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	37.9	22.7	30.3	73	1943	24	40.4	1990	-21	1912	7	14.5	1977	1076	0	.0	.0	5.9	9.4	24.7	1.6
Feb	43.5	26.2	34.9	78+	1911	16	42.1	1990	-13	1905	13	21.0	1978	844	0	.0	.0	9.8	5.8	19.9	.7
Mar	54.1	35.4	44.8	90	1929	24	51.4	1973	-3+	1960	5	37.6	1996	627	0	.0	.0	20.2	.9	12.5	@
Apr	65.4	44.9	55.2	91+	1906	28	60.8	1981	21	1923	1	49.2	1983	305	10	.0	.1	27.8	.0	2.3	.0
May	75.2	54.7	65.0	98	1908	21	71.4	1987	31+	1903	1	60.4	1981	114	111	.0	1.0	30.9	.0	.0	.0
Jun	83.7	63.8	73.8	105	1954	28	77.0	1984	41	1903	14	69.1	1974	5	267	.1	7.4	30.0	.0	.0	.0
Jul	87.4	67.7	77.6	109	1901	24	81.4	1993	50+	1911	26	74.9	1984	0	390	.4	14.0	31.0	.0	.0	.0
Aug	85.9	65.3	75.6	104+	1930	8	80.9	1983	44	1965	29	70.7	1992	4	332	.3	10.5	31.0	.0	.0	.0
Sep	80.0	57.6	68.8	107+	1953	2	73.3	1998	30	1928	26	63.4	1974	41	154	.0	4.3	30.0	.0	.0	.0
Oct	68.7	45.7	57.2	96	1953	2	64.4	1971	22+	1925	29	51.3	1976	267	26	.0	.2	30.4	.0	1.8	.0
Nov	54.9	37.1	46.0	83+	1937	1	52.2	1999	-1	1950	25	38.1	1976	572	0	.0	.0	19.7	.4	10.7	.0
Dec	42.8	27.3	35.1	77	1982	3	43.0	1971	-16	1989	22	22.2	1989	929	0	.0	.0	9.8	5.2	20.9	.7
Ann	65.0	45.7	55.4	109	Jul 1901	24	81.4	Jul 1993	-21	Jan 1912	7	14.5	Jan 1977	4784	1290	.8	37.5	276.5	21.7	92.8	3.0

\+ 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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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	3.39	3.29	5.13	1959	21	10.08	1982	.47	1981
Feb	3.15	2.79	3.30	1914	19	7.44	1989	.74	1983
Mar	4.56	4.31	5.10	1943	19	8.28	1979	1.62	1971
Apr	4.36	3.31	7.40	1996	29	11.45	1983	1.45	1976
May	5.38	4.42	4.84	1961	8	13.09	1981	1.99	1987
Jun	4.04	4.08	3.73	2000	17	8.94	1985	.81	1984
Jul	4.09	3.86	4.34	1909	11	9.09	1979	.58	1974
Aug	3.03	2.85	3.95	1948	11	7.16	1975	.10	1976
Sep	2.65	2.38	7.27	1945	25	5.66	1993	.36	1999
Oct	2.91	2.46	4.36	1910	6	6.38	1983	1.08	2000
Nov	4.35	4.14	3.10	1994	5	8.78	1979	.38	1999
Dec	3.72	3.58	3.90	1932	30	10.86	1982	.66	1976
Ann	45.63	47.45	7.40	Apr 1996	29	13.09	May 1981	.10	Aug 1976

Mean Number of Days (3)

Month	Daily Precipitation >= 0.01	>= 0.10	>= 0.50	>= 1.00
Jan	9.5	5.9	2.0	.7
Feb	8.8	5.6	2.4	.6
Mar	11.7	7.5	3.0	1.3
Apr	11.4	7.5	2.7	.9
May	10.9	8.0	3.7	1.6
Jun	9.3	6.6	3.5	1.1
Jul	7.9	5.9	3.0	1.2
Aug	6.8	4.9	2.1	.9
Sep	7.1	4.6	2.0	.5
Oct	7.5	4.9	2.1	.6
Nov	9.4	6.7	3.1	1.3
Dec	10.1	6.6	2.9	.8
Ann	110.4	74.7	32.5	11.5

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	.77	1.08	1.58	2.02	2.47	2.94	3.48	4.11	4.95	6.28	7.53
Feb	.97	1.26	1.71	2.10	2.47	2.85	3.28	3.78	4.42	5.43	6.36
Mar	1.67	2.09	2.71	3.23	3.72	4.22	4.77	5.40	6.21	7.46	8.61
Apr	1.22	1.64	2.26	2.81	3.34	3.90	4.52	5.25	6.19	7.68	9.06
May	1.74	2.25	3.00	3.65	4.27	4.91	5.61	6.43	7.48	9.13	10.65
Jun	1.26	1.65	2.22	2.70	3.17	3.66	4.20	4.83	5.64	6.91	8.08
Jul	1.22	1.60	2.19	2.69	3.18	3.69	4.25	4.91	5.77	7.10	8.34
Aug	.41	.65	1.08	1.51	1.95	2.44	3.00	3.70	4.64	6.18	7.67
Sep	.70	.95	1.33	1.67	2.00	2.35	2.74	3.20	3.80	4.74	5.62
Oct	.98	1.26	1.66	2.00	2.33	2.67	3.04	3.47	4.02	4.88	5.67
Nov	1.08	1.49	2.12	2.68	3.24	3.83	4.48	5.26	6.28	7.89	9.40
Dec	1.14	1.50	2.02	2.48	2.91	3.37	3.87	4.46	5.22	6.41	7.50
Ann	32.67	35.19	38.40	40.85	43.01	45.11	47.27	49.65	52.55	56.74	60.36

\+ 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	4.5	1.5	1	#	10.0	1978	17	20.9	1979	14	1978	20	7	1977	2.4	1.7	.5	.2	@	6.3	3.2	1.8	.6
Feb	3.8	1.5	1	#	9.5	1993	26	17.7	1993	9	1993	27	5	1978	1.7	1.3	.4	.2	.0	5.6	4.0	2.0	.0
Mar	1.9	.5	#	#	8.0	1996	20	10.5	1975	8	1996	21	1	1996	.8	.7	.2	.1	.0	1.3	.6	.3	.0
Apr	.4	.0	#	0	5.0	1971	7	8.5	1971	4	1971	7	#+	1997	.2	.1	.1	@	.0	.1	.1	.0	.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	3.5	1993	30	3.5	1993	3	1993	30	#	1993	@	@	@	.0	.0	@	@	.0	.0
Nov	.5	.0	#	0	5.5	1977	27	7.0	1977	5	1977	27	#+	1997	.2	.2	@	@	.0	.2	.1	@	.0
Dec	2.1	2.0	#	#	6.5	1984	6	8.0	1973	6	1990	28	1	1996	1.1	.9	.3	.1	.0	2.6	.8	.2	.0
Ann	13.3	5.5	N/A	N/A	10.0	Jan 1978	17	20.9	Jan 1979	14	Jan 1978	20	7	Jan 1977	6.4	4.9	1.5	.6	@	16.1	8.8	4.3	.6

+ 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	4/28	4/23	4/20	4/18	4/15	4/12	4/10	4/06	4/02
32	4/17	4/13	4/10	4/07	4/05	4/03	3/31	3/28	3/24
28	4/11	4/06	4/03	3/30	3/28	3/25	3/21	3/18	3/13
24	3/25	3/21	3/18	3/16	3/13	3/11	3/08	3/05	3/01
20	3/16	3/10	3/05	3/01	2/26	2/22	2/18	2/14	2/07
16	3/12	3/04	2/26	2/21	2/16	2/12	2/06	2/01	1/23

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	9/30	10/05	10/09	10/13	10/16	10/19	10/23	10/26	11/01
32	10/13	10/19	10/22	10/25	10/28	10/31	11/03	11/07	11/12
28	10/25	10/30	11/03	11/06	11/09	11/12	11/15	11/19	11/24
24	11/02	11/08	11/13	11/17	11/21	11/25	11/29	12/04	12/10
20	11/13	11/20	11/25	11/30	12/04	12/08	12/13	12/18	12/25
16	11/26	12/03	12/08	12/12	12/16	12/20	12/24	12/30	1/06

Freeze Free Period

Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	202	196	191	187	183	179	175	171	164
32	222	216	212	209	206	202	199	195	189
28	246	239	234	230	226	222	217	212	205
24	271	265	260	256	252	248	244	239	233
20	304	296	290	285	280	276	271	265	257
16	333	322	315	308	302	296	289	282	271

***** 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	1076	844	627	305	114	5	0	4	41	267	572	929	4784
60	921	704	480	183	52	1	0	0	10	157	427	774	3709
57	828	624	395	124	28	0	0	0	4	106	346	689	3144
55	775	572	342	92	18	0	0	0	2	79	294	631	2805
50	628	443	226	35	5	0	0	0	0	31	184	489	2041
32	217	113	19	0	0	0	0	0	0	0	9	130	488

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	164	193	416	695	1020	1252	1413	1351	1103	782	428	224	9041
55	9	9	25	97	325	562	700	638	415	148	23	11	2962
57	0	4	17	70	273	502	638	576	357	113	14	7	2571
60	0	0	9	38	204	412	545	483	273	71	6	0	2041
65	0	0	0	10	111	267	390	332	154	26	0	0	1290
70	0	0	0	2	49	138	236	194	68	7	0	0	694

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	43	88	237	479	791	1030	1186	1127	884	556	249	77	43	131	368	847	1638	2668	3854	4981	5865	6421	6670	6747
45	18	42	143	341	637	880	1031	972	734	408	153	37	18	60	203	544	1181	2061	3092	4064	4798	5206	5359	5396
50	4	15	79	217	483	730	876	817	584	274	87	13	4	19	98	315	798	1528	2404	3221	3805	4079	4166	4179
55	0	3	37	126	337	580	721	662	436	163	42	5	0	3	40	166	503	1083	1804	2466	2902	3065	3107	3112
60	0	0	11	64	205	431	566	507	299	84	13	0	0	0	11	75	280	711	1277	1784	2083	2167	2180	2180
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	24	52	136	282	503	707	824	774	579	345	137	44	24	76	212	494	997	1704	2528	3302	3881	4226	4363	4407

(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