## 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

**COOP ID: 364214** 

Lon: 79°07W

Station: INDIANA 3 SE, PA

**Climate Division: PA 9** 

**NWS Call Sign:** 

Temperature (°F)

Elevation: 1,102 Feet Lat: 40°36N

									ŗ	Гетр	eratui	re (°F)									
	Mea	<b>n</b> (1)						Extr	emes				Days (1) emp 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	35.7	18.9	27.3	75	1950	25	36.0+	1998	-24+	1994	19	13.3	1977	1168	0	.0	.0	4.0	11.7	27.4	2.6
Feb	39.4	20.3	29.9	74	1997	21	37.8	1998	-26	1961	2	17.3	1978	985	0	.0	.0	5.8	8.4	24.4	2.0
Mar	49.9	28.1	39.0	86	1998	31	45.5	1973	-10+	1960	8	31.5	1984	807	0	.0	.0	15.0	2.6	21.5	.3
Apr	61.2	36.6	48.9	91	1976	18	53.2	1985	10	1950	7	43.4	1975	483	0	.0	@	25.1	.1	11.4	.0
May	71.3	46.2	58.8	91	1962	18	65.2	1991	20	1957	3	53.9	1994	230	36	.0	@	30.6	.0	2.3	.0
Jun	78.7	54.7	66.7	95	1953	21	71.7	2000	31+	1949	8	62.9	1972	52	102	.0	.7	30.0	.0	@	.0
Jul	82.1	59.1	70.6	98+	1988	7	75.1	1999	35	1988	1	67.4	1984	6	179	.0	2.7	31.0	.0	.0	.0
Aug	80.5	58.2	69.4	99	1988	17	73.2	1995	34	1965	29	66.0	1992	15	150	.0	1.5	31.0	.0	.0	.0
Sep	73.6	52.0	62.8	97+	1953	2	67.6	1971	25	1957	27	59.0	1976	107	42	.0	.4	30.0	.0	.2	.0
Oct	63.3	40.9	52.1	87+	1949	10	59.1	1971	11	1952	21	46.7	1976	408	7	.0	.0	28.0	.0	5.8	.0
Nov	51.3	32.9	42.1	81	1961	3	50.0	1999	-4	1958	30	33.4	1976	687	0	.0	.0	16.1	.9	16.6	.0
Dec	40.4	24.5	32.5	75+	1982	3	40.0	1982	-19	1951	17	18.7	1989	1009	0	.0	.0	6.4	6.9	25.0	.9
Ann	60.6	39.4	50.0	99	Aug 1988	17	75.1	Jul 1999	-26	Feb 1961	2	13.3	Jan 1977	5957	516	.0	5.3	253.0	30.6	134.6	5.8

<sup>+</sup> Also occurred on an earlier date(s)

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

Issue Date: February 2004 023-A

- (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

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

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										Pı	recipit	tation	(incl	nes)													
	Me	one/	P	recip	itatio	on Total	S			М	ean N	Numbo Pays (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													
	Medi					Extremes	5			D	aily Pre	cipitatio	n	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	3.44	3.22	1.70	1986	20	7.15	1978	1.10	1980	17.2	9.2	1.6	.4	1.22	1.54	2.01	2.41	2.78	3.17	3.59	4.08	4.71	5.68	6.57			
Feb	2.96	2.86	2.09	1988	2	6.38	1986	.70	1987	14.2	7.0	1.6	.3	1.14	1.41	1.81	2.13	2.44	2.76	3.10	3.49	4.00	4.77	5.48			
Mar	3.93	3.61	2.42	1985	29	8.04	1989	1.64	1990	14.2	8.8	2.4	.7	1.79	2.13	2.61	3.00	3.37	3.73	4.12	4.57	5.13	5.98	6.75			
Apr	3.76	3.97	2.08	1977	3	6.74	1998	1.22	1971	14.4	9.0	2.4	.5	1.56	1.90	2.39	2.78	3.15	3.53	3.94	4.41	5.00	5.90	6.72			
May	4.48	4.71	2.56	1997	26	7.04	1997	1.80	1991	14.1	9.4	3.0	.8	2.17	2.56	3.08	3.50	3.89	4.28	4.69	5.17	5.76	6.65	7.45			
Jun	4.95	4.69	4.29	1978	17	12.10	1972	1.17	1979	13.0	8.9	3.4	1.2	1.48	1.95	2.66	3.26	3.85	4.46	5.14	5.93	6.96	8.57	10.05			
Jul	4.95	4.78	5.27	1977	20	13.31	1977	2.30	1975	12.2	8.2	3.6	1.3	2.08	2.53	3.16	3.68	4.17	4.66	5.19	5.80	6.57	7.74	8.80			
Aug	4.03	3.62	3.12	1959	30	7.91	1975	1.58	1995	11.6	7.3	3.1	.9	1.72	2.09	2.60	3.02	3.41	3.80	4.23	4.72	5.33	6.27	7.13			
Sep	4.31	3.95	2.55	1962	28	9.23	1996	1.33	1985	11.7	7.8	3.0	1.1	1.66	2.06	2.63	3.11	3.55	4.01	4.51	5.08	5.81	6.93	7.95			
Oct	3.03	2.99	3.91	1954	16	5.93	1976	.78	1982	11.8	6.8	2.0	.6	1.02	1.31	1.73	2.09	2.43	2.78	3.17	3.62	4.19	5.09	5.91			
Nov	3.97	3.70	2.85	1997	8	10.61	1985	1.31	1998	14.0	8.3	2.5	.8	1.44	1.81	2.35	2.80	3.23	3.67	4.15	4.70	5.41	6.51	7.51			
Dec	3.27	3.25	1.91	1991	3	6.79	1990	1.49	1980	15.7	8.1	2.1	.4	1.61	1.89	2.27	2.57	2.85	3.13	3.43	3.77	4.20	4.83	5.41			
Ann	47.08	47.26	5.27	Jul 1977	20	13.31	Jul 1977	.70	Feb 1987	164.1	98.8	30.7	9.0	38.20	40.01	42.27	43.96	45.43	46.84	48.28	49.85	51.73	54.41	56.69			

<sup>+</sup> Also occurred on an earlier date(s)

Complete documentation available from:

www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

<sup>#</sup> Denotes amounts of a trace

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

<sup>\*\*</sup> Statistics not computed because less than six years out of thirty had measurable precipitation

<sup>(1)</sup> From the 1971-2000 Monthly Normals

<sup>(2)</sup> Derived from station's available digital record: 1948-2001

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Climate Division: PA 9 NWS Call Sign: Elevation: 1,102 Feet Lat: 40°36N Lon: 79°07W

										Snov	v (incl	hes)														
						Sno	ow To	tals							Mean Number of Days (1)											
	Mean	s/Medi	ans (1)	)					Extre	mes (2)							ow Fa		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	16.3	14.3	4	2	21.0	1994	5	57.0	1978	30	1978	22	16	1977	11.0	6.2	1.8	.5	.1	16.9	9.9	6.8	2.9			
Feb	12.4	9.0	3	2	14.0	1971	14	36.7	1972	33	1977	8	17	1977	8.0	4.5	1.3	.4	.1	14.7	9.1	6.0	2.7			
Mar	7.4	7.1	1	#	20.0	1993	14	23.0	1999	22	1993	15	5	1994	5.0	3.1	.8	.4	.1	6.2	2.8	1.7	.2			
Apr	1.8	1.0	#	#	5.0	1987	4	9.0	1987	4	1985	9	#+	2000	1.3	.8	.1	@	.0	.9	.1	.0	.0			
May	#	.0	0	0	#	1977	9	#+	1977	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	.0	.0	#	0	1.0	1972	19	1.0	1972	#+	1997	28	#+	1997	@	@	.0	.0	.0	.0	.0	.0	.0			
Nov	3.3	1.6	#	#	15.0	1995	15	26.8	1995	13	1995	16	3	1995	2.8	1.1	.2	.1	@	2.3	.7	.3	.1			
Dec	8.4	7.5	1	1	14.0	1992	11	21.2	1995	14	1995	29	6	1995	6.7	3.9	.8	.2	@	8.9	4.0	2.0	.4			
Ann	49.6	40.5	N/A	N/A	21.0	Jan 1994	5	57.0	Jan 1978	33	Feb 1977	8	17	Feb 1977	34.8	19.6	5.0	1.6	.3	49.9	26.6	16.8	6.3			

<sup>+</sup> Also occurred on an earlier date(s) #Denotes trace amounts

Complete documentation available from: www.ncdc.noaa.gov/oa/climate/normals/usnormals.html

<sup>@</sup> Denotes mean number of days greater than 0 but less than .05

<sup>-9/-9.9</sup> represents missing values Annual statistics for Mean/Median snow depths are not appropriate

<sup>(1)</sup> Derived from Snow Climatology and 1971-2000 daily data

<sup>(2)</sup> Derived from 1971-2000 daily data

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Climate Division: PA 9 NWS Call Sign:

Freeze Data Spring Freeze Dates (Month/Day) Probability of later date in spring (thru Jul 31) than indicated(\*) Temp (F) .10 .20 .30 .40 .60 .70 .80 .90 36 6/13 6/05 5/31 5/27 5/23 5/19 5/14 5/09 5/02 32 5/26 5/21 5/17 5/14 5/11 5/08 5/05 5/02 4/26 28 5/07 5/03 4/30 4/28 4/26 4/23 4/21 4/18 4/14 4/27 4/13 3/30 24 4/23 4/19 4/16 4/11 4/08 4/04 20 4/16 4/11 4/08 4/05 4/03 3/31 3/28 3/25 3/21 4/03 3/23 16 4/08 3/29 3/26 3/19 3/16 3/12 3/06 Fall Freeze Dates (Month/Day) Probability of earlier date in fall (beginning Aug 1) than indicated(\*) Temp (F) .20 .30 .40 .50 .70 .10 .60 .80 .90 9/21 36 9/12 9/17 9/24 9/26 9/29 10/02 10/05 10/10 32 9/27 10/02 10/06 10/09 10/11 10/14 10/17 10/21 10/26 28 10/11 10/16 10/19 10/22 10/24 10/27 10/29 11/02 11/06 24 10/15 10/21 10/26 10/30 11/02 11/06 11/09 11/14 11/20 20 11/01 11/07 11/11 11/15 11/19 11/22 11/26 11/30 12/06 11/23 11/27 12/01 12/04 12/13 16 11/13 11/19 12/08 12/19 Freeze Free Period **Probability of longer than indicated freeze free period (Days)** Temp (F) .10 .20 .30 .40 .50 .60 .70 .80 .90 149 141 135 130 126 121 102 36 116 110 32 172 165 161 156 152 149 144 139 133 28 199 193 188 184 181 177 173 162 169 24 227 218 212 207 202 197 192 186 177 254 245 239 234 229 224 20 219 213 204 257 16 277 269 263 253 248 242 236 228

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

Complete documentation available from:

<sup>\*</sup> Probability of observing a temperature as cold, or colder, later in the spring or earlier in the fall than the indicated date.

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	Degree Days to Selected Base Temperatures (°F)														
Base						Heatin	g Degree	Days (1)							
Below	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
65	1168	985	807	483	230	52	6	15	107	408	687	1009	5957		
60	1013	845	652	337	129	14	0	1	38	273	538	854	4694		
57	920	761	559	255	84	5	0	0	17	203	452	761	4017		
55	858	705	502	205	59	2	0	0	9	163	397	702	3602		
50	711	570	360	102	20	0	0	0	2	85	267	559	2676		
32	254	173	49	0	0	0	0	0	0	0	21	159	656		

Base	Cooling Degree Days (1)														
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann		
32	109	113	264	508	829	1040	1196	1158	925	623	324	173	7262		
55	0	0	5	22	176	353	483	445	244	73	10	3	1814		
57	0	0	0	12	138	295	421	383	192	51	4	0	1496		
60	0	0	0	4	91	214	328	290	123	27	1	0	1078		
65	0	0	0	0	36	102	179	150	42	7	0	0	516		
70	0	0	0	0	11	32	65	53	7	0	0	0	168		

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	22	29	118	299	594	813	963	922	695	385	152	46	22	51	169	468	1062	1875	2838	3760	4455	4840	4992	5038				
45	7	9	65	185	439	663	808	767	545	252	78	20	7	16	81	266	705	1368	2176	2943	3488	3740	3818	3838				
50	0	1	32	101	297	513	653	612	397	142	39	5	0	1	33	134	431	944	1597	2209	2606	2748	2787	2792				
55	0	0	8	48	174	366	498	458	258	64	13	1	0	0	8	56	230	596	1094	1552	1810	1874	1887	1888				
60	0	0	1	15	87	227	345	304	144	22	2	0	0	0	1	16	103	330	675	979	1123	1145	1147	1147				
Base		Growing Degree Units for Corn (Monthly)													Gr	owing D	egree Un	its for C	orn (Acc	umulate	d Month	ly)						
50/86	10	27	88	199	372	528	645	615	433	230	92	30	10	37	125	324	696	1224	1869	2484	2917	3147	3239	3269				

(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

#### 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

- c. Snow Tables
  - 1. Snow Climatology
  - 2. Cooperative Summary of the Day
- d. Freeze Data Table

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

### 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