

Climatology of the United States

No. 20

1971-2000

Station: NORRISTOWN, PA

COOP ID: 366370

Climate Division: PA 3

NWS Call Sign:

Elevation: 70 Feet

Lat: 40°07N

Lon: 75°22W

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	38.6	22.6	30.6	72	1967	25	39.1	1998	-12	1982	18	20.0	1977	1067	0	.0	.0	3.8	9.1	27.9	.7
Feb	42.5	24.8	33.7	75	1954	16	40.2	1998	-5+	1979	18	21.7	1979	879	0	.0	.0	6.2	5.9	23.4	.4
Mar	51.7	32.7	42.2	80+	1963	25	48.0	1977	8+	1980	1	35.9	1984	706	0	.0	.0	15.3	.8	17.5	.0
Apr	63.5	41.8	52.7	98	1976	19	57.4	1976	15	1982	7	49.0	1975	372	1	.0	.3	26.6	.0	5.1	.0
May	74.3	51.8	63.1	98	1962	19	68.6	1991	29	1966	10	59.4	1997	117	56	.0	.6	30.9	.0	.0	.0
Jun	83.0	60.9	72.0	100+	1952	26	75.5	1976	28	1966	23	68.7	1982	7	215	.0	3.6	30.0	.0	.0	.0
Jul	87.0	65.9	76.5	103+	1957	21	80.9	1999	48	1979	6	72.1	2000	0	355	.2	8.1	31.0	.0	.0	.0
Aug	85.2	64.2	74.7	106	2001	10	79.5	1980	40	1982	30	70.2	1982	4	304	.1	5.3	31.0	.0	.0	.0
Sep	77.6	56.1	66.9	102	1953	2	72.2	1980	35+	1963	24	64.3	1984	41	97	@	1.3	30.0	.0	.1	.0
Oct	66.3	43.9	55.1	90	1959	5	61.1	1971	26+	1952	26	50.8	1988	317	10	.0	.0	30.3	.0	2.1	.0
Nov	55.0	35.5	45.3	85	1971	2	51.6	1975	14	1986	15	40.2	1976	593	0	.0	.0	21.1	@	13.5	.0
Dec	43.7	27.0	35.4	76	2001	6	41.7	1982	-10	1983	25	23.2	1989	919	0	.0	.0	7.1	4.4	24.4	.1
Ann	64.0	43.9	54.0	106	Aug 2001	10	80.9	Jul 1999	-12	Jan 1982	18	20.0	Jan 1977	5022	1038	.3	19.2	263.3	20.2	114.0	1.2

+ 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/normal/usnormals.html

Issue Date: February 2004

(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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No. 20

1971-2000

National Climatic Data Center
Federal Building
151 Patton Avenue
Asheville, North Carolina 28801
www.ncdc.noaa.gov

Station: NORRISTOWN, PA

COOP ID: 366370

Climate Division: PA 3

NWS Call Sign:

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Lon: 75°22W

Precipitation (inches)																								
	Precipitation Totals									Mean Number of Days (3)				Precipitation Probabilities (1) Probability that the monthly/annual precipitation will be equal to or less than the indicated amount										
	Means/ Medians(1)		Extremes							Daily Precipitation				Monthly/Annual Precipitation vs Probability Levels 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	3.85	3.35	2.58	1986	26	9.29	1979	.51	1981	12.0	7.3	3.0	1.0	1.12	1.49	2.04	2.51	2.98	3.46	3.99	4.62	5.43	6.71	7.89
Feb	2.93	2.81	1.78	1973	3	6.08	1979	.83	1980	9.5	6.0	2.0	.5	1.12	1.39	1.78	2.10	2.41	2.72	3.06	3.45	3.95	4.72	5.42
Mar	3.95	4.33	2.56	1975	20	7.65	1994	1.17	1985	11.0	7.2	2.6	1.1	1.43	1.80	2.34	2.78	3.21	3.65	4.13	4.68	5.39	6.48	7.48
Apr	3.74	3.50	2.42	1986	17	8.84	1983	1.19	1985	11.8	6.9	2.8	.9	1.46	1.80	2.30	2.71	3.09	3.49	3.92	4.41	5.04	6.00	6.88
May	4.66	4.44	3.26	1984	30	8.98	1989	1.04	1986	8.5	5.6	2.1	.6	1.68	2.12	2.75	3.29	3.79	4.31	4.88	5.53	6.37	7.66	8.85
Jun	3.65	3.32	3.61	2001	17	8.62	1982	.64	1986	11.5	6.7	2.7	1.0	1.03	1.38	1.90	2.36	2.81	3.27	3.79	4.40	5.18	6.42	7.58
Jul	4.52	4.54	4.83	1986	27	8.17	1975	1.08	1983	11.6	7.1	2.9	1.1	1.54	1.96	2.59	3.12	3.62	4.14	4.71	5.38	6.23	7.55	8.76
Aug	4.55	4.08	5.60	1971	28	10.41	1973	1.42	1980	10.2	6.7	2.6	1.0	1.82	2.24	2.84	3.32	3.79	4.26	4.76	5.35	6.09	7.22	8.25
Sep	4.49	3.99	4.04	1985	27	10.00	1999	1.04	1978	9.3	6.1	2.7	1.5	1.18	1.60	2.25	2.83	3.39	3.98	4.64	5.42	6.44	8.04	9.55
Oct	3.31	3.44	2.68	1970	23	7.50	1995	1.09	1994	5.9	3.7	1.4	.4	1.17	1.48	1.94	2.32	2.68	3.05	3.46	3.93	4.54	5.48	6.34
Nov	3.89	3.77	3.04	1972	9	8.92	1972	.50	1976	10.0	5.9	2.5	1.3	1.09	1.46	2.01	2.50	2.98	3.48	4.03	4.68	5.52	6.85	8.08
Dec	3.61	3.23	2.09	1986	25	8.89	1973	.46	1980	9.5	5.8	2.1	1.0	.73	1.06	1.59	2.07	2.56	3.09	3.68	4.40	5.34	6.85	8.28
Ann	47.15	45.84	5.60	Aug 1971	28	10.41	Aug 1973	.46	Dec 1980	120.8	75.0	29.4	11.4	35.43	37.74	40.68	42.90	44.85	46.73	48.66	50.79	53.35	57.05	60.22

+ 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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Station: NORRISTOWN, PA

COOP ID: 366370

Climate Division: PA 3

NWS Call Sign:

Elevation: 70 Feet

Lat: 40°07N

Lon: 75°22W

Snow (inches)																							
Snow Totals															Mean Number of Days (1)								
Means/Medians (1)					Extremes (2)										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	9.3	7.8	2	2	10.0	1987	23	19.0	1978	13	1978	23	6	1977	3.8	2.9	1.2	.4	.1	13.6	8.6	5.0	.7
Feb	10.4	9.0	3	2	17.0	1983	12	25.3	1978	19	1983	12	10	1978	2.5	1.9	1.1	.8	.3	10.5	6.6	5.2	2.7
Mar	2.4	.0	#	#	7.5	1984	9	8.5	1984	10	1978	7	4	1978	.8	.8	.2	.2	.0	2.2	1.8	1.5	.3
Apr	.9	.0	#	0	5.0	1983	20	5.0	1983	5	1983	20	#+	1986	.4	.3	.1	.1	.0	.3	.2	.1	.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	#	.0	#	0	#	1979	10	#+	1979	#	1979	10	#	1979	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.2	.0	#	0	1.8	1978	27	3.3	1978	2	1978	28	#+	1980	.1	.1	.0	.0	.0	.2	.0	.0	.0
Dec	2.1	1.2	#	#	5.5	1979	20	5.5	1979	6	1979	20	1	1981	1.4	.7	.3	.1	.0	2.8	1.4	.2	.0
Ann	25.3	18.0	N/A	N/A	17.0	Feb 1983	12	25.3	Feb 1978	19	Feb 1983	12	10	Feb 1978	9.0	6.7	2.9	1.6	.4	29.6	18.6	12.0	3.7

+ 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

Complete documentation available from:

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NWS Call Sign:

Elevation: 70 Feet

Lat: 40°07N

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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	5/12	5/07	5/04	5/01	4/28	4/25	4/22	4/19	4/14
32	4/26	4/23	4/21	4/19	4/17	4/15	4/13	4/10	4/07
28	4/21	4/15	4/11	4/07	4/04	4/01	3/28	3/24	3/18
24	4/02	3/27	3/22	3/18	3/14	3/10	3/06	3/01	2/22
20	3/22	3/16	3/12	3/09	3/06	3/02	2/27	2/23	2/17
16	3/13	3/07	3/03	2/28	2/24	2/21	2/18	2/13	2/08
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	9/30	10/05	10/09	10/13	10/17	10/21	10/26	11/02
32	10/06	10/13	10/17	10/21	10/25	10/29	11/02	11/07	11/13
28	10/19	10/26	10/30	11/03	11/07	11/11	11/15	11/19	11/26
24	11/04	11/09	11/13	11/15	11/18	11/21	11/24	11/27	12/02
20	11/09	11/16	11/21	11/26	11/30	12/04	12/09	12/14	12/21
16	11/23	12/01	12/06	12/10	12/14	12/19	12/23	12/28	1/04
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	194	185	178	172	167	162	156	150	141
32	213	205	200	195	191	186	182	176	169
28	242	233	227	221	216	211	205	199	190
24	270	262	257	253	249	245	240	235	228
20	291	284	278	273	269	264	259	254	246
16	316	308	302	297	292	288	283	277	269

* 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

Complete documentation available from:
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Climate Division: PA 3 NWS Call Sign: Elevation: 70 Feet Lat: 40°07N Lon: 75°22W

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	1067	879	706	372	117	7	0	4	41	317	593	919	5022
60	912	739	551	230	45	1	0	0	9	191	444	764	3886
57	819	655	459	158	20	0	0	0	3	131	357	671	3273
55	757	599	401	116	10	0	0	0	1	98	303	612	2897
50	610	466	263	43	1	0	0	0	0	40	181	468	2072
32	177	101	16	0	0	0	0	0	0	0	4	99	397

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	133	147	333	619	962	1198	1378	1323	1046	716	401	203	8459
55	0	0	5	45	260	508	665	610	357	101	10	3	2564
57	0	0	1	27	207	448	603	548	299	72	4	0	2209
60	0	0	0	10	139	359	510	455	215	39	1	0	1728
65	0	0	0	1	56	215	355	304	97	10	0	0	1038
70	0	0	0	0	15	98	207	168	28	1	0	0	517

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	18	36	120	349	688	894	1091	1034	766	458	185	46	18	54	174	523	1211	2105	3196	4230	4996	5454	5639	5685
45	4	14	52	214	533	744	936	879	616	311	101	17	4	18	70	284	817	1561	2497	3376	3992	4303	4404	4421
50	0	3	21	118	380	594	781	724	466	174	46	4	0	3	24	142	522	1116	1897	2621	3087	3261	3307	3311
55	0	0	4	57	234	445	626	569	322	82	14	1	0	0	4	61	295	740	1366	1935	2257	2339	2353	2354
60	0	0	1	23	120	305	471	415	193	28	6	0	0	0	1	24	144	449	920	1335	1528	1556	1562	1562
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	9	26	76	201	401	587	747	706	485	256	115	27	9	35	111	312	713	1300	2047	2753	3238	3494	3609	3636

(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.
Complete documentation for the 1971-2000 Normals is available on the internet from:
www.ncdc.noaa.gov/oa/climate/normal/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 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/normal.html
U.S. Climate Normals 1971-2000-Products Clim20, www.ncdc.noaa.gov/oa/climate/normal/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