

# Climatography of the United States

## No. 20

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

Station: PHILADELPHIA INTL AP, PA

1971-2000

COOP ID: 366889

Climate Division: PA 3

NWS Call Sign: PHL

Elevation: 5 Feet

Lat: 39° 52N

Lon: 75° 14W

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	39.0	25.5	32.3	74	1950	26	41.0	1998	-7+	1982	17	20.4	1977	1020	0	.0	.0	5.6	8.0	24.8	.4
Feb	42.1	27.5	34.8	74+	1949	15	41.8	1998	-4	1961	2	23.2	1979	858	0	.0	.0	7.6	5.3	20.8	.1
Mar	51.3	35.1	43.2	86	1998	30	48.9	1977	7	1984	10	35.9	1984	681	2	.0	.0	17.6	.7	12.6	.0
Apr	62.0	44.2	53.1	94	1976	18	58.5	1994	19	1982	7	48.6	1975	362	10	.0	.4	27.7	.0	2.0	.0
May	72.1	54.8	63.5	97+	1991	30	69.7	1991	28	1966	11	59.5	1997	113	70	.0	1.3	30.9	.0	.0	.0
Jun	80.6	64.0	72.3	100+	1952	26	77.1	1994	44+	1957	9	68.6	1977	12	234	.1	4.6	30.0	.0	.0	.0
Jul	85.5	69.7	77.6	104	1966	3	81.2	1994	51	1966	21	74.1	2000	1	395	.3	10.5	31.0	.0	.0	.0
Aug	84.0	68.5	76.3	101+	1953	31	80.7	1980	44	1986	29	72.7	1992	2	351	.0	7.3	31.0	.0	.0	.0
Sep	76.7	60.9	68.8	100+	1953	2	73.1	1980	35	1963	25	65.6	1984	39	152	.0	1.6	30.0	.0	.0	.0
Oct	65.7	48.7	57.2	89+	1951	5	63.9	1971	25+	1962	25	52.0	1988	269	19	.0	.0	30.5	.0	.7	.0
Nov	54.8	39.5	47.1	84	1950	1	53.3	1975	15+	1955	29	40.5	1976	545	2	.0	.0	21.1	.1	7.3	.0
Dec	44.2	30.6	37.4	73+	1998	4	42.8	1984	1+	1980	25	25.6	1989	857	0	.0	.0	9.6	3.6	19.2	.0
Ann	63.2	47.4	55.3	104	Jul 1966	3	81.2	Jul 1994	-7+	Jan 1982	17	20.4	Jan 1977	4759	1235	.4	25.7	272.6	17.7	87.4	.5

+ 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](http://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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Lat: 39°52N

Lon: 75°14W

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	3.52	3.16	2.32	1998	23	8.86	1978	.50	1981	10.9	6.7	2.7	.9	1.08	1.41	1.91	2.34	2.76	3.19	3.66	4.22	4.94	6.07	7.11
Feb	2.74	2.86	1.95	1966	13	6.44	1979	.75	1991	9.7	5.6	2.0	.6	.94	1.20	1.57	1.89	2.20	2.51	2.86	3.26	3.77	4.57	5.30
Mar	3.81	3.92	2.27	1975	19	7.01	1980	1.16	1987	10.5	6.7	2.8	1.0	1.33	1.69	2.21	2.65	3.07	3.50	3.97	4.52	5.22	6.31	7.31
Apr	3.49	3.07	2.43	1986	16	8.12	1983	.52	1985	10.9	6.6	2.6	.8	1.19	1.52	2.00	2.41	2.80	3.20	3.64	4.15	4.81	5.83	6.77
May	3.89	3.79	2.49+	1989	2	7.03	1983	.70+	1986	11.7	7.0	2.6	.8	1.37	1.74	2.27	2.71	3.14	3.58	4.06	4.61	5.33	6.43	7.44
Jun	3.29	3.11	4.62	1973	29	7.88	1973	.57	1988	10.0	6.0	2.1	.8	.72	1.03	1.51	1.94	2.38	2.85	3.37	4.00	4.82	6.14	7.38
Jul	4.39	4.32	4.38	1989	5	10.42	1994	.68	1983	9.4	5.9	2.6	1.3	1.08	1.49	2.13	2.70	3.26	3.86	4.52	5.31	6.35	7.99	9.52
Aug	3.82	3.74	4.77	1971	27	9.61	1971	.80	1980	8.4	5.7	2.4	1.2	1.18	1.54	2.08	2.55	3.00	3.46	3.98	4.58	5.36	6.57	7.70
Sep	3.88	3.22	6.63	1999	16	13.07	1999	1.12	1972	9.1	5.7	2.4	1.1	1.03	1.40	1.96	2.45	2.94	3.45	4.01	4.68	5.56	6.92	8.21
Oct	2.75	2.59	3.82	1980	25	5.99	1995	.94	1994	8.0	4.8	2.0	.7	1.05	1.31	1.67	1.98	2.27	2.56	2.88	3.24	3.71	4.43	5.09
Nov	3.16	2.67	3.99	1977	7	9.06	1972	.32	1976	9.4	5.7	2.0	.6	.56	.84	1.30	1.73	2.17	2.65	3.19	3.85	4.73	6.15	7.50
Dec	3.31	2.94	2.30	1948	30	8.47	1996	.77	1980	10.6	6.0	2.4	.8	.71	1.02	1.50	1.94	2.38	2.85	3.38	4.02	4.85	6.19	7.45
Ann	42.05	41.31	6.63	Sep 1999	16	13.07	Sep 1999	.32	Nov 1976	118.6	72.4	28.6	10.6	30.11	32.43	35.39	37.64	39.63	41.56	43.54	45.74	48.40	52.26	55.59

+ 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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Climate Division: PA 3

NWS Call Sign: PHL

Elevation: 5 Feet

Lat: 39°52N

Lon: 75°14W

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	6.4	5.0	1	0	9.3	1978	20	23.4	1978	11	1978	21	4	1982	4.3	1.9	.7	.2	.0	6.0	2.6	1.4	.1
Feb	6.6	3.5	1	0	21.1	1983	11	27.6	1979	22	1983	12	4+	1979	3.4	1.5	.7	.3	.1	5.2	3.1	1.3	.3
Mar	3.2	2.3	#	0	11.7	1993	13	12.4	1993	12	1993	14	1+	1993	2.0	.8	.3	.1	@	1.2	.5	.2	.1
Apr	.6	.0	#	0	3.5	1982	6	4.3	1971	3	1997	1	#	2000	.4	.2	.1	.0	.0	.1	@	.0	.0
May	.0	.0	#	0	.0	0	0	.0	0	0	0	0	#	2000	.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	0	2.1	1979	10	2.1	1979	0	0	0	0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0
Nov	.4	#	#	0	2.8	1989	23	4.6	1989	5	1989	23	#	1995	.3	.2	.0	.0	.0	.2	.1	@	.0
Dec	2.0	.9	#	0	9.0	2000	30	10.5	2000	9	2000	31	1	1982	1.6	.5	.3	.1	.0	1.2	.5	.2	.0
Ann	19.3	11.7	N/A	N/A	21.1	Feb 1983	11	27.6	Feb 1979	22	Feb 1983	12	4+	Jan 1982	12.0	5.1	2.1	.7	.1	13.9	6.8	3.1	.5

+ 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: PHL**

**Elevation: 5 Feet**

**Lat: 39° 52N**

**Lon: 75° 14W**

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	4/27	4/23	4/20	4/18	4/15	4/13	4/10	4/07	4/03
32	4/19	4/14	4/11	4/08	4/06	4/03	4/01	3/29	3/24
28	4/09	4/04	4/01	3/29	3/26	3/23	3/20	3/16	3/11
24	3/30	3/25	3/21	3/18	3/15	3/12	3/09	3/05	2/28
20	3/24	3/18	3/14	3/10	3/06	3/03	2/27	2/23	2/16
16	3/13	3/05	2/27	2/22	2/18	2/13	2/08	2/03	1/26
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	10/12	10/17	10/20	10/23	10/26	10/29	11/01	11/04	11/09
32	10/20	10/25	10/29	11/01	11/04	11/07	11/10	11/13	11/18
28	11/03	11/09	11/12	11/16	11/19	11/22	11/25	11/29	12/05
24	11/16	11/22	11/25	11/29	12/02	12/05	12/08	12/12	12/17
20	11/28	12/04	12/08	12/12	12/15	12/18	12/21	12/26	12/31
16	12/10	12/17	12/22	12/27	12/31	1/04	1/08	1/13	1/21
Freeze Free Period									
Temp (F)	Probability of longer than indicated freeze free period (Days)								
	.10	.20	.30	.40	.50	.60	.70	.80	.90
36	214	206	201	197	193	189	184	179	172
32	234	226	221	216	211	206	201	196	188
28	257	250	245	241	237	234	229	225	218
24	282	275	270	265	261	257	252	247	240
20	308	299	293	288	283	278	272	266	257
16	344	334	327	321	315	310	304	297	287

\* 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:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormals.html)

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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	1020	858	681	362	113	12	1	2	39	269	545	857	4759
60	860	706	520	219	42	1	0	0	4	153	390	701	3596
57	767	622	430	149	19	0	0	0	1	102	308	608	3006
55	705	566	373	109	10	0	0	0	0	76	256	552	2647
50	562	435	239	40	1	0	0	0	0	29	147	409	1862
32	156	88	13	0	0	0	0	0	0	0	2	71	330

Base	Cooling Degree Days (1)												
Above	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
32	124	151	362	637	981	1213	1414	1371	1101	774	448	210	8786
55	1	1	15	71	278	523	701	658	412	129	25	3	2817
57	1	0	10	51	225	463	639	596	354	95	17	1	2452
60	0	0	6	29	155	374	546	503	270	56	8	0	1947
65	0	0	2	10	70	234	395	351	152	19	2	0	1235
70	0	0	0	3	24	119	240	204	68	4	0	0	662

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	40	58	173	409	742	980	1174	1132	869	537	239	76	40	98	271	680	1422	2402	3576	4708	5577	6114	6353	6429
45	14	22	88	269	587	830	1019	977	719	384	139	33	14	36	124	393	980	1810	2829	3806	4525	4909	5048	5081
50	3	7	38	155	434	680	864	822	570	246	68	6	3	10	48	203	637	1317	2181	3003	3573	3819	3887	3893
55	0	0	16	77	285	530	709	667	420	137	27	2	0	0	16	93	378	908	1617	2284	2704	2841	2868	2870
60	0	0	4	30	162	384	554	512	276	61	7	0	0	0	4	34	196	580	1134	1646	1922	1983	1990	1990
Base	Growing Degree Units for Corn (Monthly)												Growing Degree Units for Corn (Accumulated Monthly)											
50/86	21	33	96	223	448	666	822	793	570	299	118	36	21	54	150	373	821	1487	2309	3102	3672	3971	4089	4125

(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.  
Complete documentation for the 1971-2000 Normals is available on the internet from:  
[www.ncdc.noaa.gov/oa/climate/normal/usnormals.html](http://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.

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>a. Temperature/ Precipitation Tables<ol style="list-style-type: none"><li>1. 1971-2000 Monthly Normals</li><li>2. Cooperative Summary of the Day</li><li>3. National Weather Service station records</li><li>4. 1971-2000 serially complete daily data</li></ol></li><li>b. Degree Day Table<ol style="list-style-type: none"><li>1. Monthly and Annual Heating and Cooling Degree Days Normals to Selected Bases derived from 1971-2000 Monthly Normals</li><li>2. Daily Normal Growing Degree Units to Selected Base Temperatures derived from 1971-2000 serially complete daily data</li></ol></li></ol> | <ol style="list-style-type: none"><li>c. Snow Tables<ol style="list-style-type: none"><li>1. Snow Climatology</li><li>2. Cooperative Summary of the Day</li></ol></li><li>d. Freeze Data Table<br/>1971-2000 serially complete daily data</li></ol> |
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## References

U.S. Climate Normals 1971-2000, [www.ncdc.noaa.gov/normal.html](http://www.ncdc.noaa.gov/normal.html)  
U.S. Climate Normals 1971-2000-Products Clim20, [www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html](http://www.ncdc.noaa.gov/oa/climate/normal/usnormalsprods.html)  
Snow Climatology Project Description, [www.ncdc.noaa.gov/oa/climate/monitoring/snowclim/mainpage.html](http://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](http://www1.ncdc.noaa.gov/pub/data/special/serialcomplete_jam_0900.pdf)