

NOAA's National Weather Service
Hydrometeorological Design Studies Center
 Precipitation Frequency Data Server (PFDS)



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NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: PA

DATA DESCRIPTION

Data type: Units: Time series type:

SELECT LOCATION

1. Manually:

a) Enter location (decimal degrees, use "-" for S and W) latitude: longitude:

b) Select station (click here for a list of stations used in frequency analysis for PA):

2. Use map:

a) Select location (move crosshair or double click)
 b) Click on station icon (show stations on map)

LOCATION INFORMATION:
 Name: Centre Hall, Pennsylvania, US
 Latitude: 40.8000°
 Longitude: -77.7000°
 Elevation: 1285 ft

* source: Google Maps

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES
 WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION
 NOAA Atlas 14, Volume 2, Version 3

PF tabular PF graphical Supplementary information

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)¹

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.326 (0.292-0.366)	0.389 (0.347-0.437)	0.473 (0.423-0.531)	0.539 (0.480-0.603)	0.625 (0.553-0.696)	0.691 (0.609-0.771)	0.759 (0.664-0.845)	0.829 (0.721-0.921)	0.927 (0.797-1.03)	1.00 (0.854-1.11)
10-min	0.507 (0.453-0.569)	0.608 (0.542-0.683)	0.736 (0.657-0.825)	0.832 (0.741-0.931)	0.956 (0.846-1.07)	1.05 (0.923-1.17)	1.14 (1.00-1.27)	1.24 (1.08-1.38)	1.36 (1.17-1.51)	1.46 (1.24-1.62)
15-min	0.621 (0.555-0.696)	0.743 (0.663-0.835)	0.903 (0.807-1.01)	1.02 (0.911-1.15)	1.18 (1.05-1.32)	1.30 (1.14-1.45)	1.42 (1.24-1.58)	1.54 (1.34-1.71)	1.70 (1.48-1.89)	1.82 (1.55-2.02)
30-min	0.822 (0.735-0.923)	0.994 (0.888-1.12)	1.24 (1.11-1.39)	1.42 (1.27-1.59)	1.67 (1.48-1.86)	1.85 (1.63-2.07)	2.05 (1.79-2.28)	2.25 (1.95-2.50)	2.52 (2.17-2.80)	2.73 (2.33-3.03)
60-min	1.00 (0.897-1.13)	1.22 (1.09-1.37)	1.55 (1.39-1.74)	1.81 (1.61-2.02)	2.16 (1.92-2.41)	2.44 (2.15-2.72)	2.74 (2.40-3.05)	3.05 (2.65-3.39)	3.49 (3.00-3.87)	3.83 (3.27-4.26)
2-hr	1.14 (1.01-1.29)	1.39 (1.22-1.56)	1.76 (1.58-1.99)	2.08 (1.81-2.32)	2.49 (2.18-2.79)	2.85 (2.47-3.18)	3.22 (2.79-3.59)	3.63 (3.11-4.04)	4.23 (3.58-4.70)	4.72 (3.98-5.25)
3-hr	1.23 (1.10-1.38)	1.49 (1.33-1.67)	1.88 (1.67-2.11)	2.19 (1.95-2.46)	2.65 (2.34-2.95)	3.03 (2.66-3.36)	3.44 (3.00-3.82)	3.89 (3.36-4.30)	4.54 (3.87-5.02)	5.09 (4.30-5.62)
6-hr	1.52 (1.37-1.70)	1.83 (1.65-2.05)	2.28 (2.05-2.55)	2.68 (2.38-2.96)	3.20 (2.85-3.55)	3.65 (3.23-4.04)	4.13 (3.62-4.56)	4.65 (4.04-5.13)	5.42 (4.68-5.97)	6.06 (5.15-6.87)
12-hr	1.89 (1.71-2.10)	2.27 (2.05-2.52)	2.82 (2.54-3.13)	3.28 (2.95-3.63)	3.95 (3.52-4.36)	4.62 (4.00-4.97)	5.14 (4.51-5.64)	5.82 (5.06-6.36)	6.83 (5.85-7.45)	7.68 (6.50-8.37)
24-hr	2.25 (2.09-2.43)	2.70 (2.51-2.93)	3.36 (3.11-3.63)	3.90 (3.61-4.21)	4.69 (4.32-5.05)	5.36 (4.91-5.76)	6.09 (5.54-6.54)	6.89 (6.21-7.38)	8.07 (7.18-8.64)	9.05 (7.97-9.70)
2-day	2.61 (2.42-2.84)	3.13 (2.90-3.40)	3.88 (3.59-4.21)	4.51 (4.16-4.88)	5.42 (4.97-5.88)	6.20 (5.65-6.69)	7.05 (6.38-7.60)	7.97 (7.18-8.59)	9.33 (8.27-10.1)	10.5 (9.19-11.3)

3-day	2.78 (2.58-3.01)	3.32 (3.08-3.61)	4.11 (3.80-4.45)	4.76 (4.39-5.15)	5.71 (5.24-6.17)	6.52 (5.95-7.03)	7.39 (6.71-7.97)	8.34 (7.51-9.00)	9.74 (8.66-10.5)	10.9 (9.60-11.8)
4-day	2.94 (2.73-3.19)	3.52 (3.27-3.82)	4.34 (4.01-4.70)	5.02 (4.63-5.43)	6.01 (5.52-6.48)	6.84 (6.25-7.38)	7.74 (7.04-8.35)	8.72 (7.86-9.41)	10.2 (9.05-11.0)	11.4 (10.0-12.3)
7-day	3.46 (3.24-3.72)	4.13 (3.87-4.44)	5.03 (4.70-5.39)	5.75 (5.37-6.16)	6.77 (6.29-7.26)	7.61 (7.04-8.18)	8.50 (7.82-9.11)	9.44 (8.63-10.1)	10.8 (9.78-11.6)	11.9 (10.7-12.8)
10-day	4.01 (3.76-4.28)	4.75 (4.47-5.00)	5.71 (5.38-6.10)	6.48 (6.06-6.92)	7.55 (7.05-8.07)	8.43 (7.83-9.00)	9.34 (8.63-9.98)	10.3 (9.45-11.0)	11.7 (10.6-12.5)	12.7 (11.5-13.7)
20-day	5.55 (5.23-5.90)	6.54 (6.16-6.95)	7.63 (7.19-8.11)	8.49 (7.99-9.02)	9.64 (9.05-10.2)	10.5 (9.87-11.2)	11.4 (10.7-12.1)	12.3 (11.5-13.1)	13.5 (12.5-14.4)	14.5 (13.3-15.4)
30-day	6.97 (6.61-7.37)	8.17 (7.74-8.63)	9.39 (8.88-9.91)	10.3 (9.78-10.9)	11.6 (10.9-12.2)	12.5 (11.8-13.2)	13.4 (12.6-14.2)	14.4 (13.4-15.2)	15.6 (14.5-16.5)	16.5 (15.3-17.5)
45-day	8.66 (8.43-9.34)	10.4 (9.85-10.9)	11.8 (11.2-12.4)	12.8 (12.2-13.5)	14.1 (13.4-14.9)	15.1 (14.3-15.9)	16.0 (15.1-16.9)	16.9 (15.9-17.8)	18.0 (16.9-19.0)	18.8 (17.6-19.9)
60-day	10.7 (10.2-11.2)	12.6 (11.9-13.1)	14.0 (13.3-14.7)	15.1 (14.4-15.9)	16.5 (15.8-17.3)	17.6 (16.7-18.4)	18.5 (17.5-19.4)	19.4 (18.4-20.4)	20.6 (19.4-21.8)	21.4 (20.2-22.5)

Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in csv format:

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US Department of Commerce
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 National Weather Service
 National Water Center (formerly OHD)
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TABLE 5.1
Pennsylvania Rainfall by County
(For Use with Technical Release 55 - Urban Hydrology for Small Watersheds)
NOT TO BE USED WITH THE RATIONAL EQUATION

COUNTY	24 HR RAINFALL FOR VARIOUS FREQUENCIES							COUNTY	24 HR RAINFALL FOR VARIOUS FREQUENCIES						
	1 yr.	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.		1 yr.	2 yr.	5 yr.	10 yr.	25 yr.	50 yr.	100 yr.
Adams	2.52	3.02	3.77	4.43	5.48	6.45	7.59	Lackawanna	2.12	2.55	3.15	3.69	4.55	5.35	6.30
Allegheny	1.97	2.35	2.88	3.30	3.90	4.40	4.92	Lancaster	2.51	3.02	3.85	4.56	5.63	6.56	7.59
Armstrong	2.03	2.42	2.95	3.40	4.01	4.53	5.06	Lawrence	1.99	2.37	2.90	3.33	3.94	4.44	4.96
Beaver	1.97	2.35	2.87	3.30	3.90	4.40	4.91	Lebanon	2.50	3.02	3.84	4.55	5.64	6.59	7.67
Bedford	2.19	2.62	3.27	3.81	4.60	5.27	5.99	Lehigh	2.69	3.24	4.05	4.73	5.75	6.63	7.60
Berks	2.65	3.19	4.00	4.68	5.67	6.50	7.41	Luzerne	2.37	2.84	3.53	4.13	5.08	5.96	6.99
Blair	2.23	2.68	3.33	3.87	4.63	5.28	5.96	Lycoming	2.38	2.85	3.53	4.12	5.04	5.88	6.87
Bradford	2.05	2.44	2.98	3.41	3.99	4.45	4.93	McKean	2.08	2.48	3.03	3.48	4.13	4.66	5.21
Bucks	2.71	3.26	4.10	4.80	5.81	6.67	7.59	Mercer	2.05	2.44	2.99	3.43	4.07	4.58	5.13
Butler	2.02	2.40	2.93	3.37	3.98	4.49	5.02	Mifflin	2.36	2.83	3.52	4.10	4.95	5.68	6.49
Cambria	2.17	2.59	3.18	3.68	4.39	4.97	5.59	Monroe	2.63	3.16	3.92	4.60	5.68	6.70	7.91
Cameron	2.11	2.53	3.10	3.60	4.35	5.02	5.80	Montgomery	2.67	3.21	4.03	4.70	5.68	6.50	7.38
Carbon	2.74	3.29	4.09	4.79	5.92	6.96	8.20	Montour	2.35	2.82	3.50	4.09	5.05	5.94	6.99
Centre	2.20	2.64	3.29	3.82	4.58	5.22	5.91	Northampton	2.64	3.16	3.95	4.61	5.60	6.45	7.41
Chester	2.70	3.25	4.07	4.75	5.73	6.55	7.44	Northumberland	2.32	2.78	3.45	4.04	4.96	5.82	6.83
Clarion	2.09	2.49	3.05	3.50	4.14	4.67	5.22	Perry	2.34	2.81	3.49	4.08	5.03	5.90	6.92
Clearfield	2.13	2.54	3.12	3.60	4.28	4.85	5.44	Philadelphia	2.72	3.28	4.12	4.83	5.85	6.72	7.68
Clinton	2.18	2.61	3.19	3.67	4.34	4.89	5.47	Pike	2.45	2.94	3.64	4.26	5.23	6.13	7.20
Columbia	2.38	2.85	3.54	4.14	5.10	5.99	7.04	Potter	2.01	2.40	2.96	3.44	4.21	4.91	5.74
Crawford	2.08	2.49	3.04	3.50	4.14	4.67	5.23	Schuylkill	2.77	3.33	4.14	4.85	5.96	6.97	8.17
Cumberland	2.35	2.82	3.50	4.11	5.08	5.97	7.02	Snyder	2.60	3.12	3.88	4.55	5.59	6.56	7.71
Dauphin	2.50	3.01	3.78	4.45	5.50	6.44	7.52	Somerset	2.06	2.46	3.08	3.61	4.44	5.16	5.97
Delaware	2.69	3.25	4.10	4.82	5.87	6.75	7.72	Sullivan	2.54	3.04	3.73	4.30	5.12	5.82	6.58
Elk	2.08	2.48	3.02	3.48	4.12	4.65	5.21	Susquehanna	2.23	2.67	3.26	3.74	4.41	4.96	5.55
Erie	2.13	2.56	3.19	3.71	4.46	5.09	5.76	Tioga	1.96	2.34	2.88	3.35	4.07	4.73	5.49
Fayette	2.08	2.47	3.02	3.46	4.08	4.60	5.13	Union	2.41	2.89	3.58	4.19	5.13	6.01	7.04
Forest	2.06	2.46	3.00	3.45	4.08	4.59	5.14	Venango	2.05	2.45	2.99	3.44	4.07	4.58	5.12
Franklin	2.44	2.94	3.65	4.26	5.17	5.97	6.86	Warren	2.07	2.47	3.01	3.47	4.11	4.63	5.19
Fulton	2.27	2.73	3.39	3.93	4.73	5.40	6.13	Washington	1.99	2.38	2.91	3.35	3.96	4.46	4.99
Greene	2.01	2.40	2.92	3.36	3.96	4.45	4.96	Wayne	2.38	2.86	3.53	4.12	5.03	5.86	6.83
Huntingdon	2.21	2.65	3.29	3.83	4.60	5.25	5.94	Westmoreland	2.05	2.45	2.99	3.43	4.06	4.57	5.11
Indiana	2.15	2.57	3.14	3.62	4.29	4.85	5.44	Wyoming	2.16	2.58	3.18	3.69	4.46	5.14	5.91
Jefferson	2.09	2.50	3.05	3.50	4.14	4.67	5.23	York	2.45	2.96	3.80	4.53	5.65	6.64	7.76
Juniata	2.36	2.83	3.52	4.11	5.02	5.84	6.79								

NWS - NOAA Atlas 14, Sept 25-29, 2008

NOTE: Data from this table may not be used for final design of E&S or PCSM BMPs.