

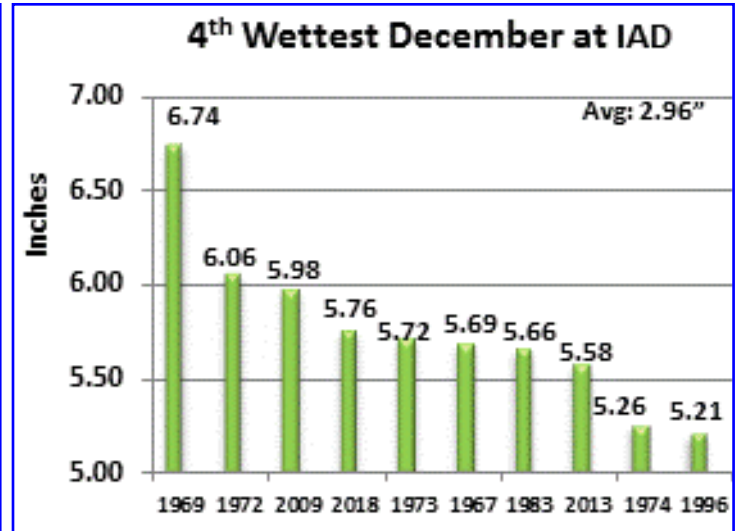
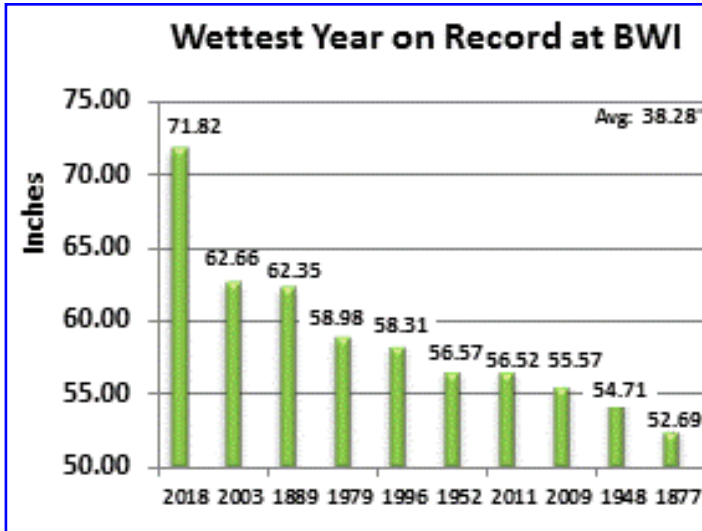


PRESTO

PRECipitation Summary and Temperature Observations
For the Washington, DC and Baltimore, MD Area



DECEMBER 2018: Major Mid-Month Rainfall; Heavy Snow South of DC on 9th and Well Above Normal Temperatures ANNUAL: Wettest on Record in Washington, Baltimore, IAD; 10th Warmest Year on Record at DCA and 11th IAD



December Highlights

- Above normal temperatures at all three airports: DCA, +3.8°F, BWI, +3.0°F; IAD, +2.2°F
- Seventh December in the past 8 years with above normal temperatures at DCA, BWI and IAD
- Above normal precipitation at all three airports but no snow or ice: DCA, 5.82" (+3.17"), BWI, 6.54" (+3.17), IAD, 5.76" (+2.80)
- From the 14th-16th, over 3" across the area with DCA, BWI and IAD setting calendar day totals on the 15th with 2.55" at DCA, 2.49" at IAD and 2.24" at BWI. Greatest totals included 4.32" at NW Branch Anacostia (Prince Georges County), MD; 4.34" near Woolsey (Prince William County), VA and 3.53" in Washington resulting in flooded roads and water rescues
- Major snowstorm south of Washington on the 9th. Totals in VA included 21.0" at Wintergreen and 16.8" near Afton (Nelson County), 15.5" in Sherando (Augusta County) and 12.9" in Charlottesville (Albemarle County) while Ridge in St. Mary's County, MD measured 6.5"

Annual Highlights

- Wettest year on record at DCA, 66.28" (+26.54"), BWI, 71.82" (+33.54"), and IAD, 66.74" (+26.08")
- Record 23 days with at least 1.0" or greater rainfall in Washington
- 9th consecutive warmer than normal year at DCA, 4th at BWI and IAD: DCA and BWI, +1.6°F; IAD, +0.9°F.
- Brutally cold first week of January with the average temperature at BWI a record 15.2°F, breaking the previous record by more than 3°F; Washington's average temperature was its 4th coldest on record at 19.0°F and coldest since 1918; IAD recorded a record cold first week at 15.3°F
- On Mar. 2, a high impact wind storm resulted a long-duration event with strong and damaging winds. Gusts peaked at 71 mph at IAD, 62 mph at DCA and 61 mph at IAD.
- Early season heat wave with readings at or above 90°F from May 2-4 at DCA and BWI and on May 3-4 at IAD. DCA set a record at 91°F on May 2; BWI set daily records each day: 90°F, 92°F and 91°F; IAD equaled daily records on 2nd and 4th at 88°F and 90°F respectively
- On May 27, major flood again devastated historic Ellicott City, leading to one death and major property damage; multiple water rescues were reported. Catonsville, MD, also reported widespread flash flooding. Rainfall up to 10.38" in Catonsville (Baltimore County) and 8.40" in Ellicott City (Howard County)
- On June 3, 3"-5"+ of rain flooded roads and rivers. Highest totals in Maryland included 5.39" near Eldersburg (Carroll County). Closer in suburbs totals included 4.82" in Greenbelt (Prince Georges County), MD, 3.30" near Lincolnia (Fairfax County), VA, and 2.75" at the National Arboretum in Washington.
- From July 17-31, region was deluged with 7" to 16"+ of rain. BWI's monthly total 16.73" was second wettest month, trailing only August 1955 (18.35"). IAD's total of 11.21" was its wettest July and 4th wettest month ever. DCA's monthly amount of 9.73" was its 5th wettest July and wettest since 1945
- On September 8-9, remnants of Tropical Storm Gordon brought heavy rain that combined with gusty winds and saturated soils, toppled trees and power lines near Mitchellville (Prince Georges County), MD, and near Sterling Park (Loudoun County), VA. Calendar day records set at BWI, 2.23", DCA, 1.59" and IAD 1.40"
- On September 17-18, remnants from Hurricane Florence produced heavy rain, flooded roads, trapping several vehicles. Rainfall totaled 3.70" near Baltimore City and 3.26" near McLean (Fairfax County), VA; BWI set a daily record 2.22" on the 18th.
- On October 11 remnants from Hurricane Michael totaled 7.39" near Accokeek (Charles County), MD, 6.86" and 8.40" at the Montebello Fish Culture (Nelson County), VA; the metro areas were drenched with 1.5"-4.0". Multiple vehicles were stranded in St. Charles (Charles County), MD, and strong winds blew down 10-15 trees, one on a house, in southern St. Mary's County.
- On Nov. 2, an intense line of storms spawned two tornadoes: EF-1 with winds estimated at 100 mph, struck Mt. Airy (Carroll County), MD, causing tree and property damage and knocking down power lines; Second EF-1 tornado hit Dundalk (Baltimore County), MD, with winds estimated at 105 mph. Two fatalities and one injury occurred in a severely damaged building when a wall collapsed.
- The season's first winter storm on Nov 15 left 1"-3" of snowfall across the metro and all three airports set calendar day records: IAD, 3.0"; BWI, 1.7"; and DCA, 1.4". Significant snowfall accumulated further north and west including 9" in Sabillasville (Carroll County), MD, and 7.2" near Lovettsville (Loudoun County), VA.

December 2018

Temperatures: For the 7th December in the past 8 years, above normal temperatures were recorded at the three major airports. Positive departures were +3.8°F at DCA, +3.0°F at BWI and +2.2°F at IAD, resulting in the 8th month in 2018 with above normal temperatures at DCA and BWI and 7th month at IAD. Temperatures were consistently above normal. DCA, BWI and IAD observed 10 days with maximum temperatures at or above 50°F. DCA also recorded 3 days at or above 60°F including a balmy 67°F on the 21st; BWI and IAD reported 2 such days including 66°F on the 21st. There were no intrusions of arctic air during the month. Only on the 9th did IAD fail to rise above freezing (32°F). Minimum temperatures were frequently well above normal. DCA observed 10 days at or above 40°F, IAD 6 days and BWI 5 days.

Precipitation: Just as in 2018, the final month was excessively wet. Monthly totals were 5.82" (+2.77") at DCA, 6.54" (+3.17") at BWI and 5.76" (+2.80") at IAD. It was the wettest December since 2009 at the three major airports and the 9th month at DCA, BWI and IAD with above normal precipitation. About half of the month's precipitation occurred during a 3-day period from the 14th-16th when more than 3" fell across the area; DCA, BWI and IAD set calendar day totals on the 15th: DCA, 2.55"; IAD, 2.49"; and BWI 2.24". Greatest totals included 4.32" at Northwest Branch Anacostia (Prince Georges County), MD; 4.34" near Woolsey (Prince William County), VA, and 3.53" in Washington. The copious rainfall resulted in flooding and the closure of numerous roads. Water rescues occurred in Clifton (Fairfax County), VA, and near Brookeville (Montgomery County), MD. On the 20th-21st, heavy rain led to 5"-6" of water flowing across Rte. US-250 near Staunton (Augusta County), VA. The following day featured rare December severe thunderstorms with quarter size (1.0") hail pelting Reese (Carroll County), MD, and high winds knocking down a tree near Sterling Park (Loudoun County), VA. Over an inch of rain was reported at all three airports on the 28th. The year closed appropriately with additional rainfall on New Year's Eve. A major snowfall impacted locations south of Washington on the 9th. Totals in Virginia included 21.0" at Wintergreen and 16.8" near Afton (Nelson County), 15.5" in Sherando (Augusta County) and 12.9" in Charlottesville (Albemarle County); Total were lower in Maryland with Ridge in St. Mary's County measured 6.5".

December 2018 Weather Statistics for the Washington/Baltimore Area

Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)			
	AvMx	AvMin	AvgT	NmIT	DepNml	Max	Min	Total	Nml	DepNml	Snow
National (DCA)	50.1	36.8	43.5	39.7	+3.8	67/21	26/11	5.82	3.05	+2.77	0
Baltimore (BWI)	48.1	31.3	39.7	36.7	+3.0	63/21	19/8	6.54	3.37	+3.17	0
Dulles (IAD)	47.5	30.1	38.8	36.6	+2.2	66/21	18/8	5.76	2.96	+2.80	T

Annual (Jan-Dec) Temperatures: It was the 9th consecutive warmer than normal year at DCA, 4th at BWI and IAD: DCA and BWI, +1.6°F; IAD, +0.9°F. The year started with an Arctic blast. Washington's average January temperature was its coldest since 1918. In contrast, February was the 3rd warmest on record in Washington, 12th warmest in Baltimore and second warmest at IAD; temperatures soared to the 80s on Feb. 21. March was colder than February at all three major airports, the first such occurrence in Washington since 1890. It was the coolest April since 1997 at IAD and since 2007 at DCA and BWI. May was the 3rd warmest in record in Washington, 5th warmest in Baltimore and 2nd warmest at IAD. Early season heat wave with readings at or above 90°F from May 2-4 at DCA and BWI and on the 3rd-4th at IAD. DCA set a record at 91°F on 2nd; BWI set daily records each day: 90°F, 92°F and 91°F; IAD equaled daily records on 2nd and 4th at 88°F and 90°F respectively. All three summer months were above normal. The heat peaked on July 3 with 99°F at BWI, 97°F at DCA and 96°F at IAD. September was the 5th warmest on record in Washington, 10th in Baltimore (warmest since 1970) and 3rd warmest at IAD. The first 11 days of October were more typical of summer than autumn. Temperatures soared into the 80s; DCA surged to 90°F on October 4. November was cold but December swung back to warm (see monthly summary above).

Annual Precipitation: It was the wettest year on record at all three major airports: DCA, 66.28" (+26.54"), BWI, 71.82" (+33.54"), and IAD, 66.74" (+26.08"). Snowfall was below normal: DCA, 7.3" (-8.1"), BWI, 12.8" (-7.3) and IAD, 10.3" (-11.7"). January and March were the only two months with below normal precipitation. February ended drought conditions in the area with measurable rainfall on 17 days at IAD and 15 at DCA and BWI. The year's heaviest snowfall occurred March 21, when 4"-8" fell across most of the metro area. Highest amounts included 17.5" near Sabillasville (Frederick County), MD, and 12.0" in Staunton, VA. On May 27, a storm dropped 10.38" in Catonsville (Baltimore County), MD, and 8.40" in Ellicott City (Howard County); for the second time in 3 years, a devastating flash flood inundated the historic district of Ellicott City, leading to the death of one person and major damage to homes and businesses. A state of emergency was declared for Howard County. It was the wettest summer in Washington since 1942, since 1955 in Baltimore and wettest on record at IAD. On June 3, 3"-5"+ of rain flooded roads and rivers. Highest totals in Maryland included 5.39" near Eldersburg (Carroll County). Closer in suburbs totals included 4.82" in Greenbelt (Prince Georges County), MD, 3.30" near Lincolnia (Fairfax County), VA, and 2.75" at the National Arboretum in Washington. For the first time ever in Washington, there was no measurable rainfall during the first 16 days of July. Then from July 17-31, the region was deluged with 7"-16+" of rain. BWI's monthly total of 16.73" (+12.66") was its second wettest month ever. IAD's total of 11.21" (+7.54") was its wettest July on record. DCA's July total, 9.73" (+6.00"), was its wettest since 1945. Severe weather caused two deaths on July 23 according to press reports: one when a tree fell on a house in Fairfax County, VA, and a second in Howard County, MD, when a firefighter fell through the floor of a home struck by lightning. Although October featured below normal precipitation, autumn 2018 was the wettest on record at DCA and BWI and 2nd wettest on record at IAD after 1979 largely as a result of the remnants of three tropical storms Gordon, Florence and Michael. On October 11 remnants from Hurricane Michael totaled 7.39" near Accokeek (Charles County), MD, 6.86" and 8.40" at the Montebello Fish Culture (Nelson County), VA; the metro areas were drenched with 1.5"-4.0". November was another record precipitation month at DCA and BWI. The season's first winter storm occurred on November 15 with most of the metro area measuring 1"-3" and all three airports setting calendar day records: DCA, 3.0", IAD, 1.7", BWI, 1.4". On November 2, two EF-1 tornadoes struck Maryland resulting in two fatalities and one injury when a severely damaged building caused a wall to collapse. December was wet (see monthly summary above).

2018 Annual Weather Statistics for the Washington/Baltimore Area

Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)				Year
	AvMx	AvMin	AvgT	NmIT	DepNml	Max	Min	Nml	DepNml	Snow		
National (DCA)	67.7	51.9	59.8	58.2	+1.6	98/7-16	8/1-7	39.74	+26.54	7.3	66.28	
Baltimore (BWI)	65.9	47.5	56.7	55.1	+1.6	99/7-3	1/1-7	38.28	+33.54	12.8	71.82	
Dulles (IAD)	65.7	46.5	56.2	55.3	+0.9	96/7-3	-1/1-7	40.66	+26.08	10.3	66.74	

Looking Ahead to 2019: With the wettest year on record behind us, what does 2019 hold? Below are the top 10 wettest years at DCA and annual rainfall totals for the next year. Average annual rainfall at DCA is 39.74".

Year	2018/2019	1889/1890	2003/2004	1878/1879	1886/1887	1948/1949	1937/1938	1891/1892	1906/1907	1877/1878
Record Year	66.28	61.33	60.83	60.09	58.17	57.54	54.29	52.95	52.92	52.59
Next Year	?	41.59	42.49	32.83	35.08	39.86	35.09	42.34	44.65	60.09