

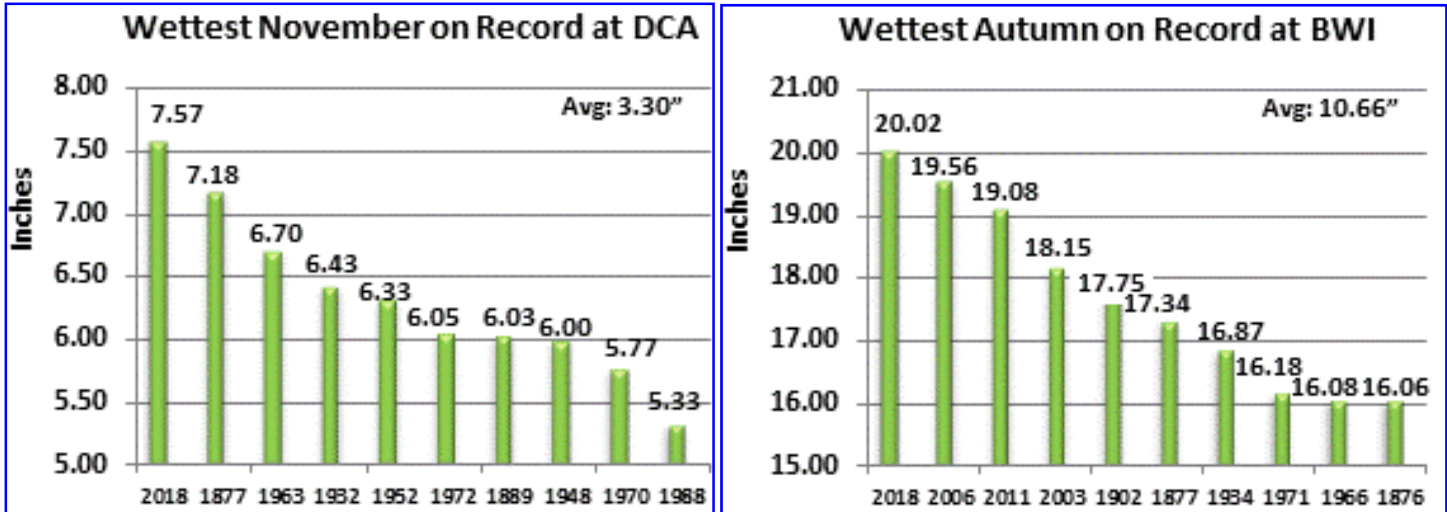


PRESTO

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



NOVEMBER 2018: Record Precipitation at DCA and BWI; Subnormal Temperatures AUTUMN: Excessively Wet, Above Normal Temperatures



November Highlights

- ✦ DCA and BWI recorded subnormal temperatures for the first month since April: DCA, -3.1°F, BWI, -2.9°F at BWI, IAD, -3.8°F
- ✦ Coolest November since 1997 in Washington
- ✦ Maximum temperatures in 30s on 5 days at IAD, 2 days at BWI and 1 day at DCA
- ✦ Record precipitation at DCA and BWI; IAD recorded its 2nd greatest amount and most since 1963: DCA, 7.57"; BWI, 8.14"; IAD, 7.68"
- ✦ On the 2nd, an intense line of storms spawned two tornadoes. An EF-1 with winds estimated at 100 mph, struck Mt. Airy (Carroll County), MD, causing tree and property damage and knocking down power lines. A 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 occurred on the 15th when generally 1"-3" of snowfall accumulated 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.

Autumn Highlights

- ✦ Wettest November on record at DCA, BWI and second wettest at IAD after 1979: DCA, 20.36" (+10.07"), BWI, 20.02" (+9.36") and IAD, 17.72" (+7.14")
- ✦ Above normal seasonal temperatures: DCA 61.5°F (+1.5°F), BWI, 58.6°F (+1.8°F) and IAD, 57.9°F (+1.2°F)
- ✦ Well above normal September temperatures: +4.4°F at DCA, +5.2°F at BWI and +4.5°F at IAD: 5th warmest September on record in Washington, 10th in Baltimore (warmest since 1970) and 3rd warmest at IAD
- ✦ Excessively wet September with over 9" of rain at DCA and BWI, resulting in the 5th wettest September on record in Washington, 6th in Baltimore and 8th at IAD. Rainfall totals through 9 months have exceeded the average annual total at the three airports
- ✦ 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. Totals included 4.40" near Sabillasville (Frederick County), MD, and 3.45" near Sherando (Augusta County), VA. Calendar day records were 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 near Montpelier (Prince Georges County) and near Rosedale (Baltimore County), MD. A water rescue occurred on a bridge near Roseland (Nelson County), VA. 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.
- ✦ From October 1-11, DCA recorded 8 days at or above 80°F; BWI and IAD reported 9 such days; IAD equaled a calendar day record of 86°F on the 3rd. Then from the 12th through month's end, the area observed subnormal readings: IAD recorded 10 days with maximum readings in the 50s and 1 day (26th) with a maximum of 48°F, equaling a record low for the day. BWI recorded 8 days with high temperatures in the 50s and 1 day, also the 26th, reaching just 49°F. DCA reported 7 days in the 50s between the 18th and 27th.
- ✦ On October 11 remnants from Hurricane Michael brought heavy rain across the area. Totals in Maryland included 7.39" near Accokeek (Charles County), 6.86" near Ridge (St. Mary's County) and 5.76" near Londontowne (Ann Arundel County). In Virginia, high totals included 8.40" at the Montebello Fish Culture (Nelson County); 6.50" in Jersey (King George County) and 4.62" in Spotsylvania Courthouse (Spotsylvania County). The metro areas were drenched with 1.5"-4.0". Multiple vehicles were stranded in water at least knee high in St. Charles (Charles County), MD, and strong winds blew down 10-15 trees, one on a house, in southern St. Mary's County.

November 2018

Temperatures: Subnormal temperatures prevailed for the first month since April at DCA and BWI: DCA, -3.1°F, BWI, -2.9°F and IAD, -3.8°F. November was the coolest at DCA since 1997. After a relatively mild start during the first 8 days, including the first 2 days with high temperatures in the 70s, readings were below normal for most of the remainder of the month. Maximum temperatures were in the 40s on 9 days at DCA with 1 day in the 30s; 13 days in the 40s and 2 in the 30s at BWI; and at IAD, 10 days in the 40s and 5 in the 30s. IAD equaled a record low maximum of 34°F on the 23rd. Minimum temperatures were also consistently cold with BWI reporting 14 days with minimums at or below 32°F, 13 such days at IAD and 6 at DCA.

Precipitation: DCA and BWI measured record precipitation for the month and IAD recorded its 2nd greatest amount since 1979: DCA 7.57" (+4.40"), BWI, 8.14" (+4.84") and IAD 7.68" (+4.27"). The three airports featured 3 days with greater than 1" of precipitation: 15th, 24th and 5th at DCA and BWI and on the 2nd at IAD. The season's first winter storm occurred on the 15th with most of metro area measuring 1"-3" and all three airports establishing calendar day records: DCA, 3.0", IAD, 1.7", BWI, 1.4" before the event changed to rain. Significant snowfall accumulated further north and west where much of the event remained all snow with heaviest amounts near Sabillasville (Carroll County) with 9.0" and near Lovettsville (Loudon County), VA with 7.2".

On the 2nd, over an inch of rain was reported at many locations including 2.38" near Taneytown (Carroll County), MD, 1.76" in Purcellville (Loudon County), VA, and a calendar day record 1.32" at IAD. Severe weather struck during the evening in portions of Maryland as a line of storms spawned two tornadoes. The first tornado was an EF-1 with winds estimated at 100 mph, maximum path width 400 yards and path length of 4.7 miles, struck Mt. Airy (Carroll County) causing tree and property damage and knocked down some power lines. About an hour later, a second EF-1 tornado hit Dundalk (Baltimore County) with winds estimated at 105 mph, maximum path length at 150 yards and path length of 2.5 miles. Two fatalities and one injury occurred in a building severely damaged causing a wall to collapse. On the 5th, the area was impacted by heavy rainfall with high totals including 1.69" near Port Tobacco Village (Charles County), MD, 1.45" near Barboursville (Orange County), VA, and a calendar day record 1.44" at DCA. IAD reported a calendar day record 1.11" of precipitation. The final major event occurred on the 24th when many areas measured over 2" of rain, which flooded roads and resulted in numerous water rescues including Meadowbrook Park Community Center near Chevy Chase (Montgomery County), MD. Greatest totals were 2.64" in Lisbon (Howard County), MD, and 2.54" near Lorton (Fairfax County), VA.

November 2018 Weather Statistics for the Washington/Baltimore Area

Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)				
	AvMx	AvMin	AvgT	NmlT	DepNml	Max	Min	Total	Nml	DepNml	Snow	Year to Date
National (DCA)	53.0	40.1	46.5	49.6	-3.1	76/1	28/23	7.57	3.17	+4.40	1.4	60.46
Baltimore (BWI)	51.3	35.9	43.6	46.5	-2.9	75/1	24/23	8.14	3.30	+4.84	1.7	65.28
Dulles (IAD)	50.2	35.1	42.6	46.4	-3.8	74/1	25/11	7.68	3.41	+4.27	3.0	60.99

Autumn (Sep-Nov) Temperatures: Despite a cold finish, autumn featured above normal temperatures at the major airports: DCA, +1.5°F; BWI, +1.8°F; and IAD, +1.2°F. The season started with the 5th warmest September on record in Washington, 10th in Baltimore (warmest since 1970) and 3rd warmest at IAD. DCA and BWI recorded 5 consecutive days with highs at or above 90°F and IAD, 4 such days. Cloud cover and humidity resulted in average monthly minimum readings setting all-time September records: DCA 69.1°F and IAD 65.4°F; and tied for 5th warmest at BWI, 66.0°F. 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. From October 12 to month's end, maximum readings struggled to reach the 50s, more typical of mid-to-late November. BWI and IAD, marked the season's first freeze on October 22nd when minimum readings reached 32°F at BWI and 29°F at IAD. November continued cool (see monthly summary above).

Autumn Precipitation: 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. Totals at DCA, 20.36" (+10.07"), BWI, 20.02" (+9.36") and IAD, 17.72" (+7.14"). It was the 5th wettest September on record in Washington, 6th in Baltimore and 8th at IAD. BWI recorded 18 days with measurable rain including 2 days with more than 2" and 8 consecutive days with measurable rain (7th-14th). DCA and IAD reported measurable rain on 16 days with DCA recording 1 day with over 2" and 2 days over 1". IAD measured 3 days with over 1" of rain. The wettest event started as thunderstorms on the evening of the 7th-8th, deluging some areas. Several vehicles were stranded in high water in D.C. and a vehicle was trapped in high water on the George Washington Parkway in Arlington, VA. Rainfall totaled 3.49" in Takoma Park (Montgomery County), MD, and 2.89" at DCA. On September 17-18, remnants from Hurricane Florence produced heavy rain, flooded roads, trapping several vehicles near Montpelier (Prince Georges County) and near Rosedale (Baltimore County), MD. A water rescue occurred on a bridge near Roseland (Nelson County), VA. 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.

October was the first month since March with subnormal rainfall. There were some significant events though. On October 11, the entire area was impacted with a soaking rain when the remnants from Hurricane Michael passed through. Rainfall totals were greatest south and east of the metro areas. Highest amounts in Maryland included 7.39" near Accokeek (Charles County) and in Virginia, 8.40" at the Montebello Fish Culture (Nelson County). The metro area generally was drenched with between 1.5"-4.0". Multiple vehicles were stranded in water at least knee high in St. Charles (Charles County), MD, and strong winds blew down 10-15 trees, one of a house, in southern St. Mary's County. November broke rainfall records and included snow (see monthly summary above).

Autumn 2018 Weather Statistics for the Washington/Baltimore Area

Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)			
	AvMx	AvMin	AvgT	NmlT	DepNml	Max	Min	Total	Nml	DepNml	Snow
National (DCA)	68.2	54.8	61.5	60.0	+1.5	95/9-4	28/11-23	20.36	10.29	+10.07	1.4
Baltimore (BWI)	66.5	50.7	58.6	56.8	+1.8	95/9-6	24/11-23	20.02	10.66	+9.36	1.7
Dulles (IAD)	65.9	50.0	57.9	56.7	+1.2	94/9-4,6	25/11-11	17.72	10.58	+7.14	3.0

Looking Ahead to December: For the 8th consecutive year, DCA has recorded subnormal snowfall in December. Will December 2018 bring more snow? Shown below are the most recent 10 years of December snowfall in Washington. Normal DCA December snowfall is 2.3".

Year	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
December Snowfall	1.9	0	0	Trace	1.5	0.2	Trace	2.1"	16.6"	Trace