

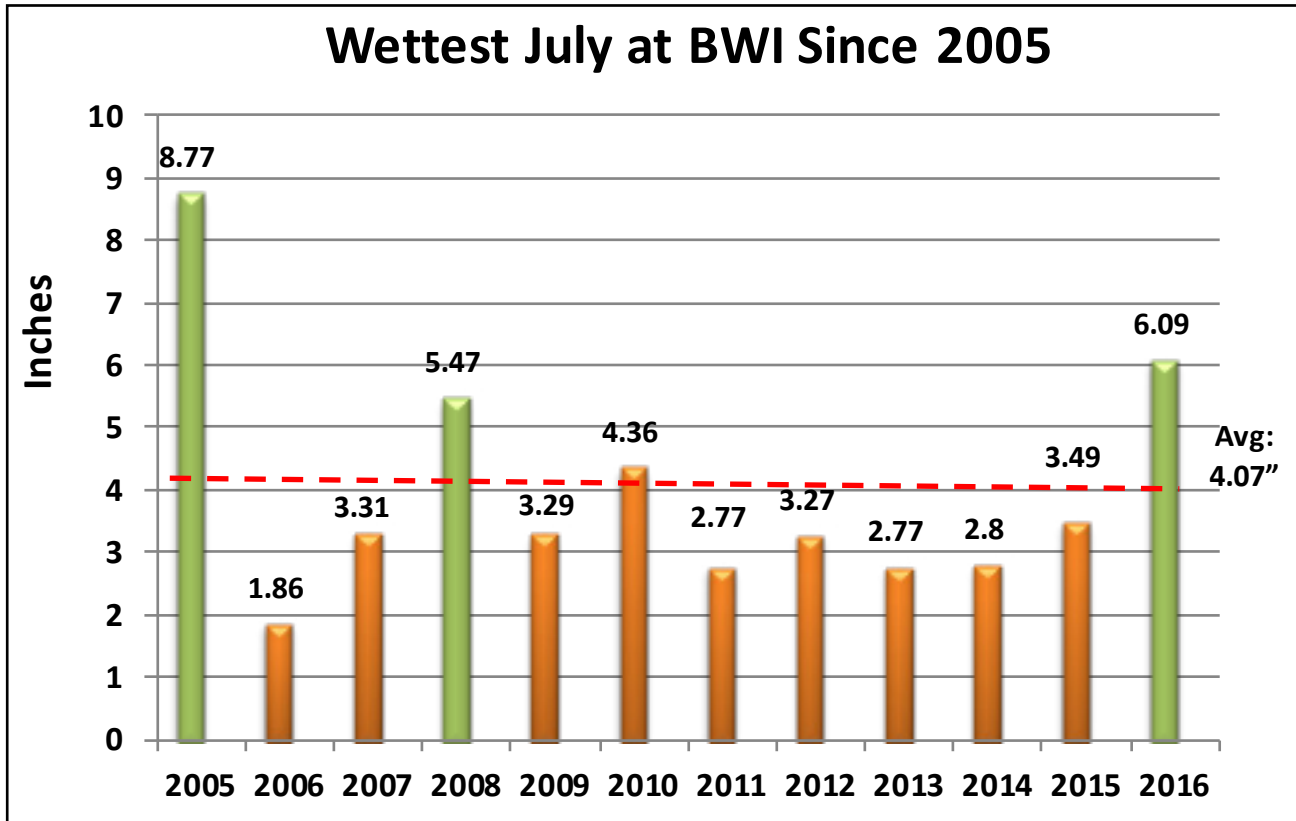


PRESTO

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



JULY 2016: Hot; Frequent Severe Weather, Destructive Flooding in Ellicott City, MD



July Highlights

- ✦ Well above normal temperatures: +2.9°F at DCA, +2.8°F at IAD, +2.7°F at BWI
- ✦ DCA marked 23 days at or above 90°F, including all but 1 day from the 13th through month's end
- ✦ DCA, BWI and IAD observed 100°F readings on 25th; first such occurrence since July 26, 2012
- ✦ DCA's minimum of 80°F or greater from the 24th-27th equaled its second longest streak on record
- ✦ Historic flooding occurred in Ellicott City (Howard County), MD, during the early to mid-evening on the 30th. Torrential downpours dumped 5.96" in 2 hours, for a storm total of 6.36". The rain resulted in a flash flood when water overflowed streams joining the nearby Patascopo River. The river rose 13 feet in 100 minutes, submerging much of the historic Old Town section of the city. According to press reports, there were two fatalities, 120 water rescues, at least 200 buildings damaged and 6 destroyed, and hundreds of vehicles damaged when a wall of water rushed down Main Street, damages estimated in the millions.
- ✦ On the 19th, severe thunderstorms in the evening caused widespread tree damage on the National Mall near the Washington Monument, which some press reports compared in scope to damage resulting from the June 29, 2012, Derecho. Hail was measured at 1.75" near the U.S. Capitol and 1.50" near the White House. Rainfall totaled 1.75" in Washington and 1.55" near Suitland (Prince Georges County), MD; PEPCO reported about 10,000 customers lost power at the height of the storm.

July 2016

Temperatures: Mid-summer heat and humidity was in full swing across the area in July. Positive departures were +2.9°F at DCA, +2.8°F at IAD and +2.7°F at BWI. The year marked the 8th out of the past 11 with above normal July readings at DCA. Maximum temperatures were at or above 90°F at DCA from the 13th through month's end, except on the 20th when the high temperature was 89°F. DCA recorded 23 days at or above 90°F, marking the most such days in a month since 2011 and its fourth highest total of 90°F days on record; BWI recorded 20 such days, its third highest total; IAD recorded 21 such days, it's second highest. The area's hottest day was the 25th when all three airports soared to 100°F, setting a record at IAD and equaling a record at DCA and BWI. It was the first triple digit reading at the three area airports since July 26, 2012. Minimum readings were frequently uncomfortably warm and humid. DCA's minimum of 80°F or greater from the 24th-27th equaled its second longest streak on record. DCA's low of 81°F on the 25th and 80°F on the 26th were daily record high minimums, and its high minimum of 81°F on the 27th equaled a record. IAD set a new record high minimum of 74°F on the 13th and 75°F on the 27th and equaled a high minimum of 76°F on the 26th.

The month did include some moderate temperatures. Maximum reading held in the 70s on the 3rd and 4th at DCA and IAD and 2nd-4th at BWI, including an unseasonably cool Independence Day when rain-filled skies kept maximum readings at 72°F at IAD, 73°F at BWI and 74°F at DCA.

Precipitation: Rainfall was highly variable across the area due to localized showers and thunderstorms. DCA and IAD recorded slightly drier than normal totals: 3.13" (-0.60") at DCA and 3.02" (-0.65") at IAD, while BWI was well above normal: 6.09" (+2.02"), it's wettest July since 2005 (see graphic). The month's most notable event was historic flooding in Ellicott City (Howard County), MD, during the early to mid-evening on the 30th. Torrential downpours in a 2-hour period dumped 5.96" on the city for a storm total of 6.36". The unprecedented total over a short duration resulted in a destructive flash flood in old town when water overflowing streams joining the nearby Patascpo River; the river rose 13 feet in 100 minutes. According to press reports, there were two fatalities, 120 water rescues, at least 200 buildings damaged and 6 destroyed, and hundreds of vehicles damaged when a wall of water rushed down Main Street, damages estimated in the millions.

The month included four other significant severe storms. During the late afternoon on the 18th, damaging thunderstorm winds resulted in one person injured when a tree crashed onto a car neat Clifton (Fairfax County), VA; winds snapped a telephone pole in half near Lutherville (Baltimore County), MD, and a tree was downed near Chevy Chase Section (Montgomery County), MD.

The next day, an initial line of severe storms struck portions of the Shenandoah with 1.75" of rain in Haywood (Madison County), VA, followed by an evening thunderstorm that formed near Germantown (Montgomery County). This storm grew rapidly and spread southward across Montgomery and Prince Georges Counties into D.C. and across part of Northern Virginia. Widespread tree damage occurred on the National Mall near the Washington Monument, which press reports compared to damage resulting from the June 29, 2012, Derecho. Hail was measured at 1.75" near the U.S. Capitol and 1.50" near the White House. Rainfall totaled 1.75" in D.C, and 1.55" near Suitland (Prince Georges County), MD. PEPCO estimated 10,000 customers lost power at the height of the storm.

A third event occurred on the 16th with 1.0" hail striking near Essex (Baltimore County), dime to nickel size hit near Reston (Fairfax County) VA, and 0.75" in Laurel (Prince Georges County); 2.28" soaked Severn (Anne Arundel County), MD, and 1.87" was reported near Ashburn (Loudoun County), VA.

The final significant event occurred on the 28th when torrential rainfall, 6.30", inundated near Ridge (St. Mary's County), MD, 3.90" was measured near Long Green (Baltimore County) and 3.66" near Potomac (Montgomery County). Flooded roads were reported in Brookeville (Montgomery County), and winds gusted to 66 mph near Smith Island, VA.

July 2016 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	Year to Date
National (DCA)	91.2	74.2	82.7	79.8	+2.9	100/25	64/3	3.13	3.73	-0.60	22.14
Baltimore (BWI)	89.6	69.8	79.7	77.0	+2.7	100/25	63/11,21	6.09	4.07	+2.02	27.14
Dulles (IAD)	89.7	69.2	79.5	76.7	+2.8	100/25	60/21	3.02	3.67	-0.65	27.04

A Hot August? June and July recorded above normal average temperatures in Washington. Will DCA continue the trend in the final month of climatological summer? Below is a look back below at the most recent 10 years when both June and July featured above normal readings at DCA and the corresponding August monthly departures.

Last 10 Years with Above Normal Average June and July Temperatures at DCA										
Year/Avg Temp	2016	2015	2013	2012	2011	2010	2008	2005	2002	1994
June/75.2°F	76.2	78.1	76.5	76.3	78.8	80.6	80.6	75.7	76.1	79.4
July/79.8°F	82.7	81.5	81.2	84.0	84.3	83.1	83.1	80.5	80.9	81.8
August/78.1°F	?	79.3	77.1	81.0	80	80.2	80.2	80.1	81.1	75.5