

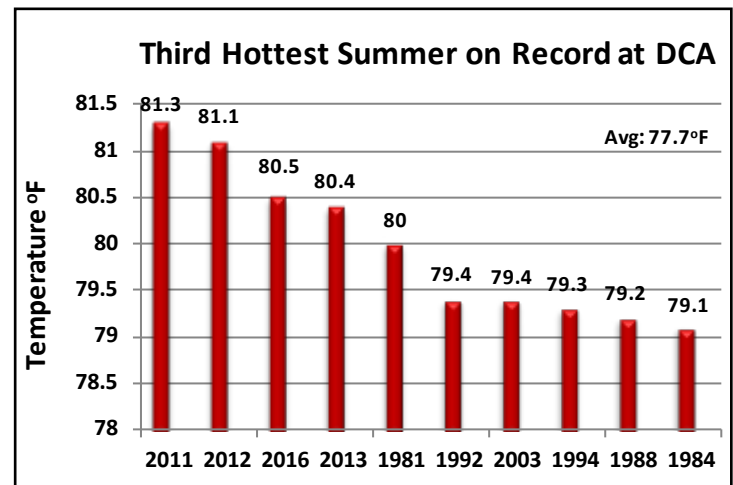
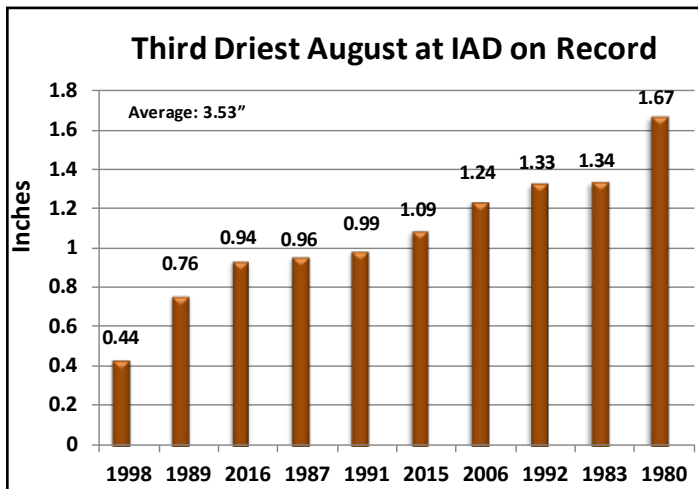


PRESTO

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



AUGUST 2016: August: All-Time Hottest at IAD; Second Hottest at DCA Summer: Third Hottest at DCA, IAD



August Highlights

- Hottest on record at IAD; 2nd hottest at DCA; 6th hottest at BWI
- DCA set new record with 23 days of maximum temperatures at or above 90°F, topping 22 days in 1980; IAD marked 20 such days
- Month's most intense heat occurred from the 10th-17th when DCA recorded maximum readings at or above 95°F, and included three days, 13th-15th, with readings at or above 100°F
- DCA's minimum of 81°F on the 12th and 13th not only broke records for the date but also equaled its warmest August minimum temperature
- Third driest August at IAD on record (0.96")
- On the 13th, thunderstorms north and south of Washington generated gusts to 67 mph near Germantown and a tree fell onto wires near Garrett Park (Montgomery County), MD; winds gusted to 72 mph at a buoy near the Aberdeen Proving Ground; trees blocked a road near Leeland (Stafford County), VA
- On the 17th, five trees were blown down on Capitol Hill in D.C., a large tree brought down wires near Takoma Park (Montgomery County) and there were multiple reports of downed trees in Annandale and across several other locations in Fairfax County, VA; rainfall totaled 2.29" near North Laurel (Howard County), MD, and 1.88" near Leesburg (Loudoun County), VA

Summer Highlights

- Third hottest summer on record in Washington and at IAD; 5th hottest at BWI
- DCA reported 51 days with readings at or above 90°F, including 46 in July and August, breaking the record of 43 set in 1988. IAD recorded 43 days at or above 90°F and BWI, 39 such days
- Above normal temperatures for the 7th consecutive June at DCA and BWI; 9th year in the past 10
- On June 21, severe thunderstorms spawned an EF-0 long track tornado across west central Howard County, MD. Maximum wind speeds were estimated at 80 mph, with a maximum path width of 500 yards and length of 12.75 miles, causing tree and property damage. Hail was measured at 1.50" near Clarksburg (Montgomery County), MD, and 1.25" near Reston (Fairfax County), VA. Deluges of water cascaded down the escalators of the Cleveland Park Metro Station in D.C., closing the station; rainfall totals included 3.38" in Damascus (Montgomery County), MD, and 2.81" near Annapolis (Ann Arundel County), MD
- In July, 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 July 25; first such occurrence since July 26, 2012
- DCA's minimum of 80°F or greater from July 24-27 equaled its second longest streak on record
- Historic flooding occurred in Ellicott City (Howard County), MD, during the early to mid-evening on July 30. 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 Patascope 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.

August 2016

Temperatures: Near record to record warmth prevailed during the final month of meteorological summer: DCA, +4.6°F; BWI and IAD, +4.0°F. DCA's average temperature of 82.7°F was just 0.1°F shy of equaling 1980 for the hottest August on record. DCA's 23 days with maximum temperatures at or above 90°F topped the 22 days in 1980 as the most ever in August. IAD reported 20 days at or above 90°F. IAD's average temperature of 79.4°F marked its hottest August. BWI observed 14 days at or above 90°F, with an average temperature of 79.1°F, BWI observed its 6th hottest August. The month's most intense heat occurred from the 10th-17th when DCA recorded maximum readings at or above 95°F, and included 3 days 13th-15th with readings at or above 100°F. DCA's high temperatures were at or above 90°F for 12 consecutive days (10th-21st). IAD reported readings at or above 95°F from the 11th-16th and at BWI from the 11th-14th. The heat and uncomfortably warm nights resulted in numerous records at DCA: high of 101°F on the 13th, 100°F on the 14th and 99°F on the 12th. DCA equaled record maximum minimums of 80°F on the 14th and 77°F on the 26th. DCA's minimum of 81°F on the 12th and 13th not only broke records for the date but equaled its warmest August minimum temperature. BWI's 79°F high minimum on the 12th broke a record for the date. IAD high of 99°F on the 13th was a record and its high of 95°F on the 26th equaled a record. IAD also set four new records and equaled two more for high minimum temperatures.

Precipitation: Rainfall was highly variable: near normal at DCA, 2.79" (-0.14"), above normal at BWI, 3.96" (+0.67"), and IAD reported its 3rd driest 0.96" (-2.57"). Four widespread outbreaks of strong to severe thunderstorms occurred during the month. On the 6th, the Shenandoah Valley was struck by damaging thunderstorm winds that knocked down trees near Stevensburg (Culpeper County) and near Monticello (Albemarle County); a flash flood washed away portions of a bridge in Charlottesville, VA. Rainfall totaled 2.18" near Culpeper. On the 13th, thunderstorms north and south of Washington generated gusts to 67 mph near Germantown and a tree fell onto wires near Garrett Park (Montgomery County), MD; winds gusted to 72 mph at a buoy near the Aberdeen Proving Ground; trees blocked a road near Leeland (Stafford County), VA. On the 13th, thunderstorms north and south of Washington resulted in winds gusted to 67 mph near Germantown and a tree fell onto wires near Garrett Park (Montgomery County). On the evening of the 15th, numerous trees fell along River Drive near Potomac Heights (Fairfax County), VA; in MD, a tree blew down near Darnell Drive in Olney (Montgomery County). Many locations reported their heaviest rainfall of the month with more than an 1", and in some locations, over 2". Greatest amounts included 2.38" near Pasadena (Anne Arundel County), MD, 2.26" near Remington (Fauquier County), VA, and 1.80" at the White House. Calendar day rainfall records were set at BWI (1.64") and at DCA (1.16"). On the 17th, damaging thunderstorm winds occurred in D.C. and the immediate metro area. Five trees landed on Capitol Hill, a large tree brought down wires near Takoma Park (Montgomery County) and there were multiple reports of downed trees in Annandale and several other locations across Fairfax County. Rainfall totaled 2.29" near North Laurel (Howard County), MD, and 1.88" near Leesburg (Loudoun County), VA. On the 21st, a thunderstorm dumped 1.43" near Manassas (Prince William County), VA and 1.34" near Suitland (Prince Georges County), MD. Finally, on the evening of the 31st, thunderstorms produced heavy rainfall across northern Maryland, including 2.72 in Norrisville, (Harford County), and 1.57" in Mount Airy (Carroll County).

August 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	73.7	82.7	78.1	+4.6	101/13	67/23,24	2.79	2.93	-0.14	24.93
Baltimore (BWI)	89.1	69.2	79.1	75.1	+4.0	98/13,14	59/23	3.96	3.29	+0.67	31.10
Dulles (IAD)	90.3	68.6	79.4	75.4	+4.0	99/13	61/9,23	0.96	3.53	-2.57	28.00

Summer (June-August) Temperatures: Summer temperatures were well above normal: DCA, +3.6°F; BWI, +3.5°F; and IAD, +2.4°F. June featured just slightly above normal temperatures and included a mini heat wave occurred from the 19th-21st when DCA and BWI reported readings at or above 90°F. The month's hottest day was June 11 when maximum temperatures soared to 96°F at DCA and BWI and to a daily record high of 95°F at IAD; but it was the only day during the month when temperatures exceeded or reached 95°F. July turned up the heat and humidity. Maximum temperatures were at or above 90°F at DCA from the 13th through month's end, except on the 20th. 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, its 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. August broke heat records (see monthly summary).

Summer Precipitation: Rainfall amounts varied based on location and intensity: DCA, 3.68" (-0.10"); and BWI, 3.20" (-0.26"); were slightly below normal, while IAD was well above: 6.35" (+2.35"), marking its 3rd wettest June in the past 10 years. June included numerous severe weather events resulting in minor flooding, wind damage and hail. On June 16, a severe thunderstorm struck portions of Virginia. Mount Weather (Clark County), VA, reported wind and hail damage from straight line winds estimated at 70-80 mph. Dozens of trees were uprooted and some vehicles were dented from golf-ball size hail. Hail as large as 2.75" (baseball size) struck near Bluemont (Loudoun County). Torrential rainfall occurred in many areas including a calendar day record of 2.82" at IAD. On June 21, an EF-0 long track tornado sliced across west central Howard County, MD. Maximum wind speeds were estimated at 80 mph, with a maximum path width of 500 yards and path length of 12.75 miles, causing tree and property damage. Hail was measured at 1.50" near Clarksburg (Montgomery County). Rain cascaded down the escalators of Cleveland Park Metro Station in D.C., closing the station. Rainfall totals included 3.38" in Damascus (Montgomery County).

July's most notable event was historic flooding in Ellicott City (Howard County), MD, 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 Patascopo 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. Also on July 19, an initial line of severe storms struck portions of the Shenandoah with 1.75" of rain in Haywood (Madison County), VA. Later that evening, a severe thunderstorm resulted in widespread tree damage 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. On July 28: torrential rainfall, 6.30", inundated near Ridge (St. Mary's County), MD, 3.66" near Potomac (Montgomery County). For August, variable rainfall prevailed (see monthly summary).

Summer 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
National (DCA)	89.4	71.7	80.5	76.9	+3.6	101/8-13	53/6-9	9.60	10.44	-0.84
Baltimore (BWI)	87.5	67.1	77.3	73.8	+3.5	100/7-25	46/6-9	13.25	10.82	+2.43
Dulles (IAD)	88.0	66.7	77.3	74.9	+2.4	100/7-25	47/6-9	10.33	11.18	-0.85

Looking Ahead: Does a Hot Summer Lead to a Warm Autumn? After experiencing the 3rd hottest summer on record in Washington, will autumn continue the trend of above normal temperatures? Here's a look at the most recent 10 summer seasons and the corresponding autumn temperatures departures at DCA.

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Summer	+3.5	+1.9	+1.2	+1.4	+3.5	+4.2	+4.0	+0.1	+1.4	+1.4
Fall	?	+2.5	-1.6	+0.1	-0.1	+0.7	+3.1	+0.9	+0.4	+3.8