

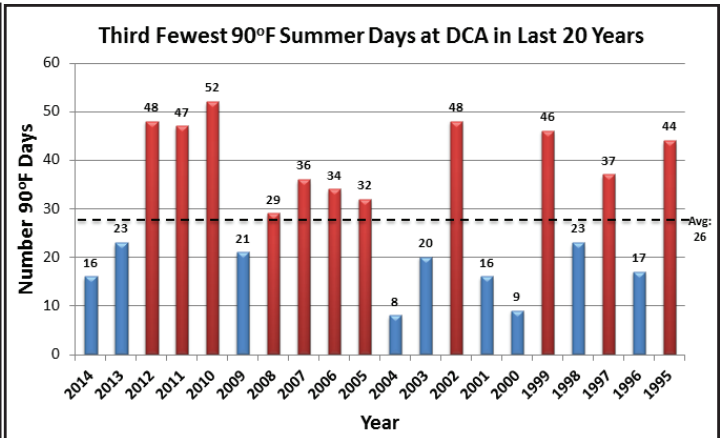
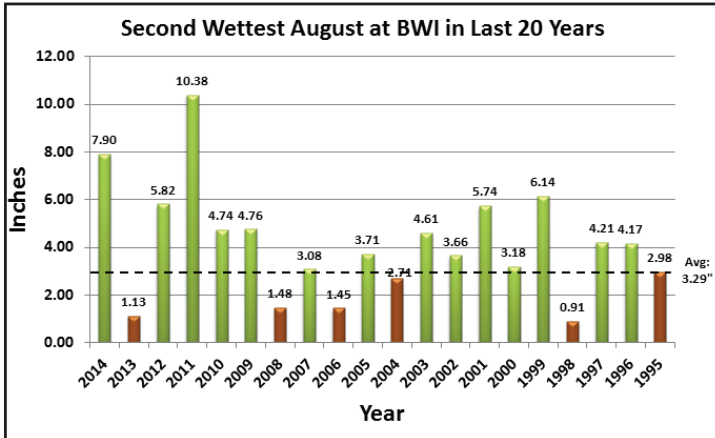


PRESTO

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



August 2014: Excessive Rainfall, Flooding Event On The 12th; Summer: Subnormal Temperatures, Above Normal Rainfall



August Highlights

- All three airports recorded subnormal temperatures: DCA, -0.4°F; BWI, -3.6°F; and IAD, -3.6°F
- DCA recorded only 3 days with highs at or above 90°F, fewest since 2004; BWI and IAD, just 1 day, least at both locations since 2000
- Second wettest August at BWI in last 20 years (7.90") and wettest August at IAD since 2003 (5.15")
- On the 12th, lines of intense showers and thunderstorms stalled over some areas resulting in torrential rainfall, significant urban and street flooding and numerous water rescues. Suburban Maryland was deluged with 5"-8" of rain; DC and Northern Virginia measured 2"-4"; highest amounts in Maryland included 10.32" near Green Haven (Anne Arundel County), 8.75" near Dundalk (Baltimore County), and 7.83" near Pumphrey (Baltimore County); In DC, the Dalecarlia Reservoir measured 4.80"; in Virginia, 4.30" was recorded near Tysons Corner, (Fairfax County), VA. BWI's total of 6.30" not only broke a daily record but also was its second greatest daily rainfall total, exceeded only by 7.62" on August 23, 1933, during the Great Chesapeake Potomac Hurricane.

Summer Seasonal Highlights

- Summer temperatures were near normal at the three major airports: DCA, +1.2°F, BWI, -1.6°F, IAD, -0.9°F
- DCA recorded its coolest summer since 2009, BWI, 2004; IAD 2000
- IAD observed just 9 summer 90°F or higher days, third fewest in last 20 years; and tied for third fewest at DCA (16) and BWI (10)
- On June 8, an EF-1 tornado struck Martinsburg, WV, with estimated wind speeds of 90 mph, path length of 1 mile and width of 100 yards, causing tree and property damage
- On June 10, torrential downpours caused flooding in Berwyn Heights, (Prince Georges County), MD. The area was inundated with 4"-5" of rain in 2 hours, resulting in 24 water rescues and forcing residents to evacuate two dozen homes, according to press reports
- A stormy June 19 began with early morning thunderstorms resulting in frequent cloud to ground lightning and power loss to a reported 22,000 customers. Severe weather reports from the event included 1.25" hail in Park Heights, (Baltimore City), MD; wind gusts to 64 mph near North Beach (Anne Arundel County), MD; and 0.88" hail near Manassas (Prince William County), VA. During the afternoon, areas south and east of Washington were hit again with hail measuring 1.75" in Pine Grove (Page County), VA, 1.25" near Big Meadows (Madison County), VA, and a funnel cloud was observed near Clinton, (Prince Georges County), MD
- In July, 5 daily record low temperatures were tied or broken at BWI; IAD observed 3 records lows
- Coollest July since 2001 at IAD and since 2009 at DCA and BWI
- On July 3, thunderstorm winds tore a roof off an apartment building in College Park, MD, and caused a tree to fall on a house near American University in DC; wind gusts measured 70 mph; 2.0" hail was measured near Armel, (Frederick County), VA; and 1.75" near Mount Airy, (Carroll County), MD. One woman was injured by lightning in Montgomery County, MD, and a second person hurt in Toms Brook, (Shenandoah County), VA, when high winds caused a tree to fall on a vehicle. A reported 80,000 homes and businesses across the area lost power
- On July 8, one child was killed and eight were injured by falling tree branches from damaging thunderstorm winds at a youth campsite near Lineboro, (Carroll County), MD. Winds gusted to 63 mph near Millers (Carroll County), MD, and to 61 mph at Martin Airport in Baltimore County, MD. A reported 90,000 homes and businesses across the area lost power during the event

August 2014

Temperatures: For the second consecutive month, monthly average temperatures were subnormal at all three major airports. Negative departures were -0.4°F at DCA, -2.6°F at BWI and -3.6°F at IAD. The month included no extended periods of heat and humidity. DCA recorded only 3 days with highs at or above 90°F (fewest since 2004) with just 1 such day at BWI and at IAD, the fewest at both locations since 2000. Many overnights were pleasantly cool. IAD noted 10 days with minimum readings below 60°F.

Precipitation: Monthly rainfall totals were above normal at the three major airports. Amounts varied considerably across the region due to the spatial coverage and intensity of showers and thunderstorms. Monthly totals at DCA were 3.39" (+0.46"); BWI, 7.90" (+4.61"); and IAD, 5.15" (+1.62"). BWI recorded its greatest monthly total in August since 2011 and IAD reported its wettest August since 2003. The month included numerous severe weather events and hazardous conditions. On the 3rd, 1.0" hail was observed along Mt. Wilson Lane in Baltimore and 0.88" in Owings Mills, MD. Rainfall totaled 1.73" in Potomac, (Montgomery County), MD.

The month's most dramatic event occurred on the 12th when lines of intense showers and thunderstorms lingered over some areas, resulting in extreme rainfall amounts, leading to significant urban and street flooding and to numerous water rescues. Much of the metro area was deluged with 5"-8" of rain; DC and Northern Virginia measured 2"-4"; highest amounts in Maryland included 10.32" near Green Haven (Ann Arundel County), 8.75" near Dundalk (Baltimore County), and 7.83" near Pumphrey (Baltimore County). In DC, 4.80" was measured at the Dalecarlia Reservoir and in Virginia, 4.30" at Tysons Corner (Fairfax County). BWI's total of 6.30" not only broke a daily record but also was its second greatest daily rainfall total, exceeded only by 7.62" on August 23, 1933, from the Great Chesapeake Potomac Hurricane. Water overflowed the roadways at BWI damaging up to 100 cars in long-term parking lots. The road leading to the MARC and AMTRAK train stations were closed due to flooding as well as the Baltimore Harbor Tunnel. The outer loop of the Baltimore Beltway was closed by flooding at Quarantine Road. Rock Creek Park in Washington exceeded its flood stage of 7 feet resulting in flooded roads and park areas while water rescues from homes were reported near Piscataway Creek near Clinton (Prince Georges County), MD. A water spout was observed in Shady Side, MD.

Isolated severe weather occurred on the 20th with thunderstorm wind damage near Hollymead, (Albemarle County), VA, and on the 21st near Bel Air, (Harford County), MD. Heavy rainfall soaked isolated areas on the 22nd with 2.02" reported in Charlottesville, (Albemarle County), VA, and on the following day 1.40" was measured in Manassas, (Prince William County), VA. The month's final event occurred on the last day of August as more thunderstorms rolled through the region during the evening. Trees were down on the George Washington Parkway ramp to the American Legion Bridge in Fairfax, VA, and a tree fell on the I-495 outer loop to Connecticut Ave near Chevy Chase, (Montgomery County), MD. Rainfall was heavy in some areas. Totals in Virginia included 2.48" in Rixeyville (Culpeper County) and 2.25" in Broad Run (Fauquier County).

August 2014 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	YTD
National (DCA)	85.6	69.7	77.7	81.1	-0.4	96/31	62/15	3.39	2.93	+0.46	33.67
Baltimore (BWI)	82.5	62.5	72.5	75.1	-2.6	92/31	54/15	7.90	3.29	+4.61	38.27
Dulles (IAD)	82.0	61.7	71.8	75.4	-3.6	90/31	53/15,29	5.15	3.53	+1.62	36.21

Summer (June-August)Temperatures: Most of the area experienced a cooler than normal summer for the second consecutive year: DCA, +1.2°F, BWI, -1.6°F, IAD, -0.9°F. There were no extensive periods of excessive heat and humidity. Only one minor heat wave occurred from July 15-21. DCA observed just 16 days of 90°F or greater temperatures, BWI, 10; IAD, 9. It was the third fewest at IAD since 1994 and tied for third fewest at DCA and BWI. June kicked off summer with normal to above normal temperatures. From June 16-18, temperatures reached or exceeded 90°F. DCA reported a record 97°F on the 17th. July was cooler than normal. DCA recorded only 9 days with highs at or above 90°F, 6 at BWI and 5 at IAD. BWI broke or tied 5 daily record low temperatures records: on the 5th, the mercury equaled a low of 55°F; on the 18th and 25th, 57°F set a new record. On the 29th, 59°F equaled the current record and on the 30th, BWI reported a record of 55°F. August continued cool (see monthly summary).

Summer Precipitation: Above normal precipitation was recorded at the three major airports for the second consecutive summer at DCA and IAD and fourth consecutive summer at BWI: DCA, +0.94; BWI, +3.83; IAD, +0.68. On June 8, an EF-1 tornado struck Martinsburg, WV, with estimated wind speeds of 90 mph. The tornado's path length was 1 mile and its width, 100 yards, causing tree and property damage. Closer to the metro area, IAD was deluged with a calendar day rainfall record, 1.71". On June 10, torrential downpours caused flooding in Berwyn Heights, (Prince Georges County), MD. The area was inundated with 4"-5" of rainfall in just 2 hours, resulting in 24 water rescues and forcing residents to evacuate two dozen homes, according to press reports. Strong thunderstorms caused frequent cloud to ground lightning across most the area after midnight on the 19th, resulting in loss of power to a reported 22,000 customers. July was wet with numerous severe weather events. On the 3rd, damaging thunderstorm winds with gusts to 70 mph tore off an apartment building roof in College Park, MD, and knocked a tree onto a house near American University in DC. On July 8, a child was killed and eight were injured when thunderstorm winds knocked tree onto a youth campsite near Lineboro, (Carroll County), MD; a reported 90,000 homes and businesses across the area lost power. On July 13, an EF-0 tornado touched down near Glengary, (Berkeley County), WV, causing tree damage. On the 15th, funnel clouds were observed near Port Tobacco, (King George County) VA, and near Towson (Baltimore County), MD. Rainfall totals included 4.30" in Prince Frederick (Calvert County), MD. On the 23rd, hail up to 1.75" (golf ball size) struck near Harmony, (Shenandoah County), VA. August continued wet and stormy (see summary above).

Summer 2014 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)	86.4	69.8	78.1	76.9	+1.2	99/8-2	58/6-2	11.38	10.44	+0.94
Baltimore (BWI)	83.7	63.8	73.8	75.4	-1.6	96/6-18	50/6-1	14.65	10.82	+3.83
Dulles (IAD)	82.9	62.7	72.8	73.7	-0.9	95/8-2	48/8-30	11.86	11.18	+0.68

Looking Ahead to Winter: After a below normal summer at Dulles, is the area primed for a cooler than normal winter? Below are the last 10 subnormal summers averages at Dulles and the corresponding average temperatures for the following winter season: Average summer temperature at Dulles: 74.9°F, average winter temperature: 35.3°F.

Most Recent 10 Subnormal Summers at Dulles and Subsequent Winter Average Temperature										
Year	2014	2004	2003	2001	2000	1998	1997	1996	1992	1990
Summer	72.8	73.5	73.6	73.7	72.3	74.0	72.7	72.8	71.6	74.2
Winter	?	36.7	32.9	39.8	32.8	37.8	39.4	37.1	35.1	38.3