

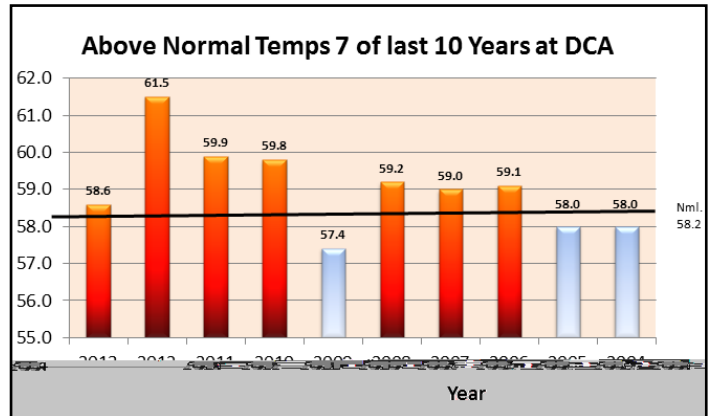
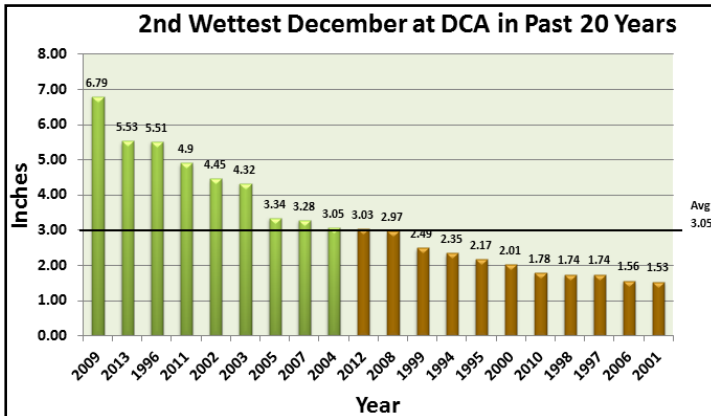


# PRESTO

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



## DECEMBER 2013: Wet with Numerous Snowfall Events North and West of Immediate Metro Area ANNUAL: Above Normal Temperatures



### December Highlights

- Above normal temperatures with positive departures: DCA and IAD, +2.6°F, BWI, +2.9°F
- Unseasonably warm from 19<sup>th</sup>-23<sup>rd</sup> with temperature soaring to record levels of 70°F or greater on the 21<sup>st</sup>-22<sup>nd</sup> at DCA, BWI and IAD
- BWI low temperature of 62°F was the warmest minimum ever recorded on any day during the winter season (Dec. 1-Feb. 28-29). IAD minimum low of 62°F was its warmest minimum on record in December and tied with January 8, 1998, as its warmest during the winter season
- Well above normal precipitation: DCA, 5.53" (+2.48"); BWI, 5.27" (+1.90") and IAD 5.58" (+2.62"); DCA recorded its 9<sup>th</sup> wettest December
- Significant snowfall north and west of the immediate metro areas on the 8<sup>th</sup>, 10<sup>th</sup> and 14<sup>th</sup>. Totals in Maryland on the 8<sup>th</sup> included 9.0" in Norrisville (Harford County) and 8.5" near Westminster (Carroll County). On the 10<sup>th</sup>, totals included 6.3" near Taneytown (Carroll County), MD, and 5.0" near Thurmont (Frederick County), MD; Bluemont (Loudoun County), VA, observed 4.3". On the 14<sup>th</sup>, totals included 4.0" near Fort Ritchie (Frederick County), MD, and 3.6" near Millers (Carroll County), MD

### Annual Highlights

- IAD recorded nine out of past 10 years with above normal temperatures; BWI, 8; DCA, 7
- Tropical-like moisture plume deluges area on Jan. 30-31 with torrential rainfall totalling more than 4" in some areas: 4.52" near Paeonian Spring, VA (Loudoun County) and 4.31" near Winfield, MD (Carroll County). Heavy rainfall flooded roads and several water rescues occurred on roads in rapidly rising water
- On March 6-7, a coastal storm brought heavy snowfall across the Potomac Highlands: Totals in Virginia included 20.3" in Fishersville (Augusta County), 20.1" near Singers Glen (Rockingham County), and 20.0" near Linden (Warren County); in metro area, heaviest snowfall totals included 12.0" at Mt. Weather (Loudoun County), VA, 6.7" near Chantilly (Fairfax County), VA, and 5.8" near Manchester, (Carroll County), MD
- The season's largest snowfall fell on March 25-26: highest snowfall total was 5.5" near Long Green, MD, (Baltimore County). In Virginia, highest total was 6.9" in Marshall (Fauquier County). BWI and IAD set a daily snowfall record of 3.2" and 3.3" respectively. DCA's 1.4" was its first 1 inch or greater snow event since the Commuteageddon Storm on January 26, 2011, a record 788 days
- Very cold minimum readings on April 2-4 with subfreezing temperatures at many locations. BWI observed its first occurrence in April of 3 consecutive days with minimums in the 20s since April 5-8, 1982. IAD minimums of 24°F on the 3<sup>rd</sup> and 22°F on the 4<sup>th</sup> were its first occurrence of 2 consecutive days with minimum readings below 25°F in April since April 9-10, 1977
- Two tornadoes confirmed on April 19: EF-1 with estimated wind speeds of 90 mph struck Fredericksburg, VA, and EF-0 tornado struck Largo, MD, in Prince Georges County, with estimated wind speeds of 85 mph; in Spotsylvania County, VA, straight-line thunderstorm wind gusts were estimated to 80 mph. The severe weather caused property damage, uprooted trees and resulted in heaviest rainfall of month: 1.88" in Sykesville (Howard County) and 1.82" in Eldersburg, (Carroll County), MD. IAD's total of 1.20" broke a daily record, while DCA recorded wind gusts to 53 mph during a thunderstorm.
- On June 13, an 18 mile long track EF-0 tornado moved through Montgomery County, MD, causing damage to 14 homes. Maximum wind speeds were 75 mph with a path width of 150 yards. Additionally, there was a parallel 7 mile path of damage just south of the tornado from southern Rockville to Glenmont.
- A second long track tornado on June 13 occurred in St. Marys County covering 13.8 miles, with a width of 200 yards and extending from Oakley to California, MD. Four additional EF-0 tornadoes touched down: two in Spotsylvania County, the first near Thornburg, with wind speeds to 80 mph, causing tree and property damage; and the second near Alsop with winds to 70 mph, causing tree damage; the third tornado was sited in California, MD (St. Mary's County), wind speeds to 75 mph and tree damage, and the fourth twister was verified in King George County, VA, with wind speeds to 70 mph and tree damage. In addition, winds gusts to 59 mph in Ashburn, VA (Loudoun County), funnel clouds were observed near Countryside and at BWI, and baseball size hail (2.75") struck near Callaway (St. Marys County), MD.
- The summer marked just one major heat wave from July 15-21 with maximum readings at or above 90°F daily at DCA, BWI and IAD; DCA and BWI recorded 5 consecutive days with highs at or above 95°F: July 15-19; DCA recorded 5 consecutive days, July 16-21, with minimums at or above 80°F, longest period on record in Washington
- DCA observed 6 of the first 12 days of September with highs above 90°F
- Strong to severe thunderstorms impact portions of the area on September 11 with winds knocking down trees near Taylorstown (Loudoun County), VA, and in Rockville (Montgomery County), MD; hail measuring up to 0.88" struck Reisterstown (Baltimore County), MD, and up to 0.75" in Potomac (Montgomery County), MD. Torrential downpours caused a tributary of Cabin John Creek to flood roads near Congressional Manor in Montgomery County.
- A long duration storm on Oct. 9-13 drenched area with 4"-6" totals over the 5 days. Greatest totals in Maryland included 7.60" in Thurmont (Frederick County), 6.66" in Ellicott City (Howard County) and 6.36" in Millers (Carroll County). Highest totals in Virginia were 7.15" at the NWS Forecast Office in Sterling (Loudoun County), 6.68" in Herndon and 6.22" in Oakton (Fairfax County); Washington, DC, measured 5.10". Daily rainfall records were set on Oct 11 at all three major airports: 3.66" at BWI, 3.38" at IAD and 2.76" at DCA. The soaking rainfall resulted in numerous flooded roads with several water rescues throughout the region.

## December 2013

**Temperatures:** The month featured above normal temperatures: +2.9°F at BWI and + 2.6°F at DCA and IAD. High soared into the 60s on the 5<sup>th</sup> and 6<sup>th</sup> and then from the 19<sup>th</sup> -23<sup>rd</sup> at DCA and 20<sup>th</sup>-23<sup>rd</sup> at BWI and IAD. Records were broken or tied at all three airports on the 21<sup>st</sup> & 22<sup>nd</sup> with max readings 72°F at DCA, 71°F at BWI and 70°F/71°F at IAD. Minimums were exceptionally warm on the 22<sup>nd</sup>. BWI low temp of 62°F was the warmest minimum ever recorded on any day during the winter season (Dec. 1-Feb.28/29). IAD low of 62°F was its warmest minimum on record in December and tied with January 8, 1998, as its warmest during the winter season. DCA's minimum of 57°F on the 22<sup>nd</sup> broke a daily record. In sharp contrast, the area marked several cold days. Highs held in the 30s on 4 days at DCA, 9 days at BWI and 3 days IAD. BWI and IAD recorded three subfreezing highs: 8<sup>th</sup>, 12<sup>th</sup>, 25<sup>th</sup>. Minimums bottomed out into the teens on 5 days at IAD and 2 days at BWI.

**Precipitation:** December totals were well above normal across the area: DCA 5.53" (+2.48"); BWI 5.27" (+1.90") and IAD 5.58" (+2.62"). DCA recorded its 9<sup>th</sup> wettest December on record and 2<sup>nd</sup> wettest in past 20 years (see graphic). The first significant event was a soaking rain on the 6<sup>th</sup>-7<sup>th</sup>; amounts were greater than an inch at many locations including 1.61" near Taneytown (Carroll County), MD, and 1.50" at the Dalecarlia Reservoir in Washington.

The first winter storm of the season occurred the next day, 8<sup>th</sup>, with significant snowfall north and west of Washington and in downtown Baltimore. Totals in Maryland included 9.0" in Norrisville (Harford County) and 8.5" near Westminster (Carroll County). In Virginia, totals included 5.0" in Purcellville (Loudoun County). Many locations north and west of the cities also were impacted with significant icing with freezing rain: Woolsey (Fauquier County), VA, and in Germantown (Montgomery County), MD, both measured 0.3". The ice downed some trees and power lines. Then on the 10<sup>th</sup>, a second snow event, again brought heavier amounts north and west of the major cities: In Maryland, totals included 6.3" near Taneytown (Carroll County) and 5.0" near Thurmont (Frederick County); In Virginia, Bluemont (Loudoun County) observed 4.3". On the 14<sup>th</sup>, a third winter storm resulted in more snow north and west of the metro area, mainly in Maryland. Totals included 4.0" near Fort Ritchie (Frederick County) and 3.6" near Millers (Carroll County). The month ended with two additional heavy rainfall events. Greatest totals from the 23<sup>rd</sup>-24<sup>th</sup> included 1.16" in Sterling (Loudoun County), VA, and 1.13" in Woodbine (Howard County), MD. Finally, on the 30<sup>th</sup>, Stanardville (Greene County), VA, and Columbia, (Howard County), MD, measured 1.92".

### December 2013 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	YTD
National (DCA)	49.8	34.7	42.3	39.7	+2.6	72/21,22	22/25	5.53	3.05	+2.48	1.5	44.24
Baltimore (BWI)	47.5	31.6	39.6	36.7	+2.9	71/21,22	18/25	5.27	3.37	+1.90	2.9	42.93
Dulles (IAD)	48.0	30.4	39.2	36.6	+2.6	71/22	17/12,13	5.58	2.96	+2.62	2.6	45.34

**Annual Temperatures:** The year was near slightly above normal with 3 months (February, August and November) below normal at all three airport and September below normal at IAD and BWI. Departures were +0.4°F at DCA, +2.1°F at BWI and +0.1°F at IAD. The year started with well above normal readings across the area on all but 5 days, Jan. 22-27, when Arctic air entrenched the area. The 47°F rise in maximum readings from the 25<sup>th</sup> to the 30<sup>th</sup> was the largest increase at DCA since January 1994. Spring started cool with DCA and BWI's average March temperatures their coolest since 2005, while IAD's average temperature (40.2°F) was its coldest since 1996. On April 10<sup>th</sup> the mercury soared to a record 91°F at DCA and BWI, marking the first 90°F or greater day of the season. June began the 9<sup>th</sup> consecutive above normal summer at DCA and IAD and 4<sup>th</sup> consecutive such season at BWI. In contrast to the last 3 years though, the major airports recorded only slightly above normal temperatures. The season's only major heat wave occurred from July 15-21; DCA and BWI recorded 5 consecutive days during this period with highs at or above 95°F, July 15-19. Fall featured near normal temperatures. September and October began warm with DCA recording 6 days above 90°F in September and 2 such days in October. The area got experienced and early taste of winter with colder than normal November readings. December was a seesaw (see monthly summary).

**Annual Precipitation:** The year marked well above normal precipitation across the area: DCA, 44.24" (+4.50), BWI, 42.93" (+1.05"), and IAD 45.34" (+3.81) but snowfall was significantly below normal: DCA, 5.5" (-9.9"), BWI, 9.5" (-10.6") IAD 17.1" (-4.9"). The first 2 months of 2013 featured little snowfall weather and below normal precipitation in most of the area. March included three wintry events, the last of which on March 25-26 resulted in DCA's first 1 inch or greater of snow since the Commuteageddon Storm on January 26, 2011, a record 788 days. Severe weather season started on April 19 with two tornadoes: an EF-1 near Fredericksburg, VA, and an EF-0 near Largo, VA, both causing tree and property damage. After a dry spring, June was the wettest month in Washington since May 2008 and tied for 7<sup>th</sup> wettest month in Baltimore. On June 10, four EF-0 tornadoes struck in Maryland resulting in tree and property damage. On June 13, a weakening Derecho struck near Reese, MD, with 1.5" hail. In the afternoon, a second round of severe weather produced an 18 mile track EF-0 tornado in Montgomery County, causing significant damage to 14 homes. A second long track tornado that day struck in St. Marys County, MD, covering 13.8 miles with a width of 200 yards from Oakley to California, MD, resulting in tree and property damage. Four additional short track EF-0 tornadoes also touched down: two each in Virginia and Maryland, resulting in tree damage. IAD observed its 2<sup>nd</sup> wettest July on record, most of which fell on July 11-12. July also featured two EF-0 tornadoes in Maryland, causing tree and property damage: a tornado in Clinton (Prince George's County) slammed the area with estimated wind speeds to 60 mph, a maximum path width of 75 yards and path length of 2.3 miles. The second tornado struck just after midnight on the 23<sup>rd</sup> near Darlington (Harford County). On Sep. 12, strong to severe thunderstorms knocked down trees in the metro area and caused Cabin John Creek to overflow, flooding Bradley Blvd. in Montgomery County, MD. One injury was reported at BWI when lightning struck an employee while he was shutting down a generator at the airport tower, according to press reports. On Oct. 7, a frontal system dropped over 2" of rain in parts of the area. From Oct. 9-13, the area measured 4"-6" of rainfall from a slow moving storm system. Daily rainfall records were set on the October 11 at all three major airports: 3.66" at BWI, 3.38" at IAD and 2.76" at DCA. The soaking rainfall resulted in numerous flooded roads with several water rescues throughout the region. On Nov. 26<sup>th</sup>-27<sup>th</sup>, a major storm drenched the area with more than 2 inches in many locations. December brought the season's first measurable snowfall (see monthly summary).

### Annual 2013 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)	66.8	50.7	58.6	58.2	+0.4	97/7-17	15/1-23	44.24	39.74	+4.50	5.5
Baltimore (BWI)	64.9	46.5	55.8	53.7	+2.1	97/7-18	11/1-25	42.93	41.88	+1.05	9.5
Dulles (IAD)	65.3	45.6	55.4	55.5	-0.1	97/7-18	9/1-23	45.34	41.53	+3.81	17.1

**Looking Ahead to January:** Will January snowfall continue subnormal? Listed below are the most recent 10 years when DCA observed subnormal snowfall in December and the corresponding January total. Normal DCA snowfall is 5.6".

Year	'98-'99	'99-'00	'00-'01	'04-'05	'06-'07	'08-'09	'10-'11	'11-'12	'12-'13	'13-'14
December	0.5	T	2	0.1	T	T	2.1	T	0.2	1.5
January	2.2	14.5	2.4	6.4	1.3	1.9	7.3	2.0	0.9	?