

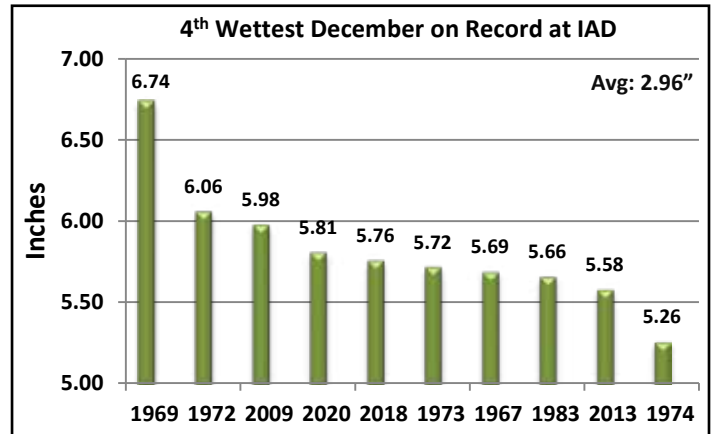
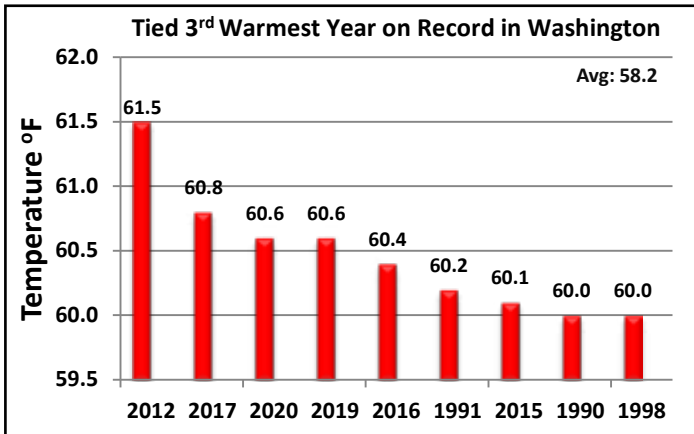


# PRESTO

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



## DECEMBER 2020: Near Normal Temperatures with Little Snowfall ANNUAL: Very Warm; Wet Near Metros and South but Dry North and West with Frequent Severe Weather and Almost No Snow



### December Highlights

- ✿ The area observed above normal temperatures at all three major airports: DCA, +1.7°F; BWI, +2.7°F; and IAD, +2.4°F.
- ✿ On the 1<sup>st</sup>, heavy snow fell in the mountains of western Maryland and eastern West Virginia with up to 11" in McHenry (Garrett County) MD.
- ✿ More than 2" of rain fell on the 4<sup>th</sup>-5<sup>th</sup> in some locations causing minor flooding problems in eastern Maryland and central Virginia
- ✿ On the 14<sup>th</sup>, more than an inch of rain fell in the metro area, resulting in a daily rainfall record of 1.24" at IAD. Areas to the north and west measured 1"-3" of snow.
- ✿ The month's only widespread winter event occurred on the 16<sup>th</sup>. Significant snow and sleet fell north and west of the metro areas, with 8"-12" snow totals. High total was 12.1" at Sabillasville (Frederick County), MD. The metro areas reported minor to moderate amounts of snow, sleet, and freezing rain, with 1"-4" of snow for most locations. Opal (Fauquier County), VA, had up to 0.50 inches of ice accumulation. IAD also set a record daily precipitation of 1.30".
- ✿ On the 24<sup>th</sup>-25<sup>th</sup>, heavy rain caused flooding around the metro and areas in central Virginia. Light snow fell on Christmas in many locations. Accumulations were generally less than an inch but up to 3" in the mountains of western Maryland, eastern West Virginia and western Virginia.

### Annual Highlights

- ✿ The year again had well above normal with Washington, tying for 3<sup>rd</sup> warmest year on record (see graphic): DCA, +2.4°F, BWI, +3.6°F, and IAD +2.4°F.
- ✿ Well above normal annual precipitation in either metro areas: DCA, 57.34" (+17.60"), BWI, 57.38" (+15.50") and IAD, 49.46" (+7.93"). (See Figure 2, Page 3)
- ✿ There was very little winter weather. It was the least snowy calendar year at Washington on record.
- ✿ On February 7, there was a rare winter severe weather outbreak. [See link for summary.](#)
- ✿ IAD set a record maximum of 80°F and record high minimum of 55°F on March 20; DCA tied a record at 83°F
- ✿ On April 12-13, a major storm resulted in severe weather, heavy rainfall, flooding and severe winds. An EF-1 tornado hit Frizzellburg in Carroll County, MD. Strong to severe thunderstorms caused damaging wind gusts that uprooted a tree, blowing it into a house roof near Dundalk (Baltimore County), MD. Rainfall totals were between 2"-3" across the region. All three major airports set calendar day records on the 13<sup>th</sup>: 2.33" at DCA; 1.97" at BWI and 1.79" at IAD. Peak gusts of 63 mph were reported at Calvert Cliffs (Calvert County), MD, and 62 mph at Patuxent River Naval Air Station (St. Mary's County), MD.
- ✿ On May 9, accumulating snow fell on the Blue Ridge and Allegheny mountains, including 1.0" in Hightown, (Highland County), VA; flurries were reported in the metro areas, marking the first May snow observed in the metro areas since the May 9, 1977, historic Hudson Valley snowstorm.
- ✿ IAD set maximum temperature records of 95°F on June 3 and 91°F on June 4.
- ✿ BWI set a record daily rainfall of 2.18" on June 4; winds from that same line of thunderstorms downed dozens of trees in Virginia and West Virginia; several water rescues were reported in Maryland on June 5. On June 6, hail and strong marine winds were observed east and southeast of the metro areas.
- ✿ DCA set a daily rainfall record on July 7, with 2.04"; an area near Brandywine, (Prince George's County), MD, was drenched with 8.36".
- ✿ Tropical Storm Isaias moved through the metro areas on August 4, causing 1 fatality, 4 tornadoes and numerous reports of wind damage. (See image on page 3)
- ✿ On August 6, 2 EF-0 tornadoes were verified, one near Harrison, VA, and one near Earlysville, VA, downing trees and damaging a vehicle and school fence.
- ✿ On August 7, a heavy rain and flooding emergency occurred in Loudoun County, VA, with just over 6" reported near Leesburg, resulting in water rescues.
- ✿ An EF-1 tornado was confirmed near Edgewater (Anne Arundel County), MD, on September 3. Rain from the event resulted in a water rescue in Montgomery County and car sinking in Baltimore County.
- ✿ Two rounds of slow-moving areas of heavy rains on September 10 resulted in extreme rainfall totals of 4.87" in Hyattsville Hills (Prince George's County), MD, 4.09" at Michigan Park in D.C., and 3.37" in Alexandria, VA. DCA set a daily record rainfall of 2.88". Twenty vehicles were stranded by flood waters.
- ✿ On September 20 and 22, BWI tied a record low at 42°F. There was widespread frost with some freezing temperatures to the north and west.
- ✿ Heavy rain from Hurricane Zeta's remnants on October 29 caused widespread flooding across central Virginia, the metro areas and east. High totals include 3.80" near Keswick, (Albemarle County) VA; 3.65" at Afton (Albemarle County), VA, and 2.55" at the National Arboretum in D.C.; DCA measured 2.26", BWI, 2.21" and IAD, 1.68". Multiple road closures were reported throughout the area.
- ✿ On November 7-11, a total of five record high maximums were set or tied across the three airports; IAD reached 77°F on both the 8<sup>th</sup> and 10<sup>th</sup>
- ✿ On November 11, the metro areas and east were deluged with heavy rains that led to flooding. High totals include 7.50" at Sotterly (Marys County), MD; 6.00" in Stuarts Draft, (Albemarle County), VA. Heavy rain resulted in daily rainfall records at each of the major airports: DCA, 2.02", BWI, 1.91" and IAD, 1.21".
- ✿ On November 30, an EF-1 tornado was confirmed at Port Deposit, (Cecil County), MD, the 13<sup>th</sup> tornado of the year for the region. The system also brought heavy rain. DCA, BWI and IAD set daily record rainfall records with 2.39", 2.74" and 1.38", respectively.

## December 2020

**Temperatures:** The first month of meteorological winter featured above normal temperatures. Positive departures were +1.7°F at DCA, +2.7°F at BWI and +2.4°F at IAD. Locations across Maryland, northern Virginia and eastern West Virginia were generally 1-3°F above their monthly normal. There were no exceptionally warm or cold periods in the month. The warmest temperatures occurred from the 11<sup>th</sup>-13<sup>th</sup> when DCA and BWI reported 66°F on the 13<sup>th</sup> and IAD, 65°F on the 12<sup>th</sup> and 13<sup>th</sup>. The coolest period was from the 26<sup>th</sup>-27<sup>th</sup>; On the 26<sup>th</sup>, DCA reported a high of 37°F, BWI, 34°F and IAD 35°F.

**Precipitation:** Well above normal precipitation but little snowfall was measured in the final month of 2019. DCA, 4.96" (+1.91"); BWI, 4.58" (+1.21") and IAD, 5.81" (+2.85"). December was another wet month with most locations receiving 1-3 inches more precipitation than normal. Dulles had its 4<sup>th</sup> wettest December on record. The month did include one widespread winter event on the 16<sup>th</sup>. Significant snow and sleet fell north and west of the metro areas, with 8"-12" snow totals. High total was 12.1" at Sabillasville (Frederick County), MD. The metro areas reported minor to moderate amounts of snow, sleet, and freezing rain, from 1"-4" of snow for most locations. Opal (Fauquier County), VA, had up to 0.50 inches of ice accumulation. IAD also set a record daily precipitation of 1.30". Areas north and west had some additional winter weather (see December highlights).

### December 2020 Weather Statistics for the Washington/Baltimore Area

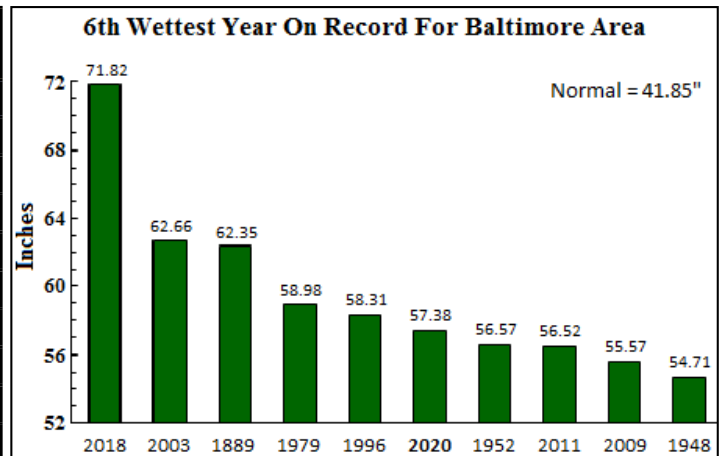
Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)			
	AvMx	AvMin	AvgT	NmIT	DepNml	Max	Min	Total	Nml	DepNml	Snow
National (DCA)	48.5	34.3	41.4	39.7	+1.7	66/13	23/26	4.96	3.05	+1.91	T
Baltimore (BWI)	48.5	30.3	39.4	36.7	+2.7	66/13	21/19	4.58	3.37	+1.21	1.6
Dulles (IAD)	47.5	30.5	39.0	36.6	+2.4	65/12,13	19/27	5.81	2.96	+2.85	2.4

**Annual (January-December) Temperatures:** This was the 11<sup>th</sup> consecutive year with above normal temperatures at DCA and BWI, the 6<sup>th</sup> consecutive year at IAD. Positive departures were +2.4°F at DCA, +3.6°F at BWI, and +2.4°F at IAD. Consistent warmth best describes the 2020 temperature trend. Ten of the 12 months recorded above normal temperatures, with only April and May observing below normal readings. BWI had the greatest yearly temperature anomaly at +3.6°F, while DCA and IAD were each +2.4°F above normal. IAD tied July 2011 for its all-time record warmest month with an average monthly temperature of 81.0°F. For the year, DCA recorded 46 days at 90°F or higher, BWI, 47, and IAD 39. The year featured no subfreezing days at the three major airports. DCA's minimum average temperature was 52.4°F, tying the 2<sup>nd</sup> highest on record.

**Annual Precipitation:** There was above normal annual precipitation at all three airports: DCA, 57.34" (+17.60"), BWI, 57.38" (+15.50") and IAD, 49.47" (+7.93"). It was the second wettest year at DCA and BWI since 2003 (only 2018 was wetter). It was the least snowiest calendar year on record at DCA, 0.2"; BWI reported just 3.1" and IAD, 2.3". There was a large difference in precipitation amounts from west to east across NWS Baltimore Washington Forecast Area. The wettest areas, near the metro, southern Maryland and central Virginia, were well above normal, 15"-25" in most cases. There were some areas in southern Maryland and central Virginia (see **Figure 2**), that observed more than 70" of precipitation in 2020. Leonardtown, (St. Mary's County), MD, unofficially set a Maryland state annual precipitation record with 86.89". Areas in central and western Maryland, northwestern Virginia and eastern West Virginia were near or below normal in annual precipitation (See **Table 1**). The minimum yearly precipitation in the forecast area was measured at Maugansville, near Hagerstown, (Washington County) MD, which observed 30.10" for 2020. The difference between the maximum and minimum yearly precipitation values within NWS Baltimore/Washington's forecast area is an incredible 56.79". The year also included plenty of severe weather and several tornado events. See annual highlights for details.

**Table 1: Yearly 2020 Precipitation Totals for Primary Climate Stations in NWS Baltimore/Washington Forecast Area**

Station	2020 Precipitation	Departure from Normal
Leonardtown	86.89"*	Unknown
BWI	57.38"	+15.50"
DCA	57.34"	+17.60"
IAD	49.47"	+7.92"
Charlottesville	50.57"	+7.86"
Annapolis	49.42"	Unknown
Martinsburg	34.88"	-3.82"
Hagerstown	30.14"	-9.15"
Maugansville	30.10"***	Unknown



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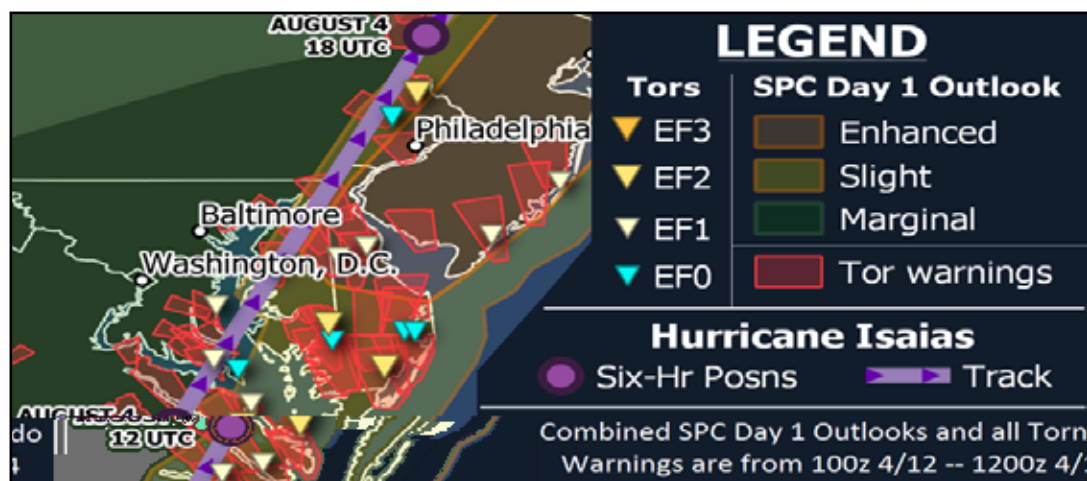
Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)			
	AvMx	AvMin	AvgT	NmIT	DepNml	Max	Min	Year	Nml	DepNml	Snow
National (DCA)	68.8	52.4	60.6	58.2	+2.4	99/7-19,7-20	22/2-15	57.34	39.74	17.60	0.2
Baltimore (BWI)	68.4	49.0	58.7	55.1	+3.6	100/7-19,7-20	19/1-21,22;2-15	57.38	41.88	15.50	3.1
Dulles (IAD)	67.9	47.6	57.7	55.3	+2.4	99/7-20	15/2-15	49.47	41.54	7.93	2.3

**Looking Ahead to January:** Will this January reverse the trend to above normal snowfall? For the last 10 years, DCA has observed subnormal snowfall in December with most years followed by subnormal January snowfall. Normal DCA snowfall in December is 2.3", January, 5.6".

Year	'11-'12	'12-'13	'13-'14	'14-'15	'15-'16	'16-'17	'17-'18	'18-'19	'19-'20	'20-21
December	T	0.2	1.5	T	0.0	T	1.9	0.0	0.4	T
January	1.7	0.9	6.6	3.6	18.8	1.4	1.2	0.0	0.2	?

# Appendix: Tornadoes from Hurricane Isaias and Extreme Rainfall Variation and Record Low Snow

**Figure 1:** Tornadoes from Remnants of Hurricane Isaias, August 4, 2020



**Figure 2:** Estimated total precipitation values for the calendar year 2020 across the forecast area for NWS Baltimore/Washington. Image is from NWS Advanced Hydrologic Prediction Service (AHPS).



**Figure 3:** 2020 saw the record lowest calendar year snowfall total for the Washington Area (since 1885).

