

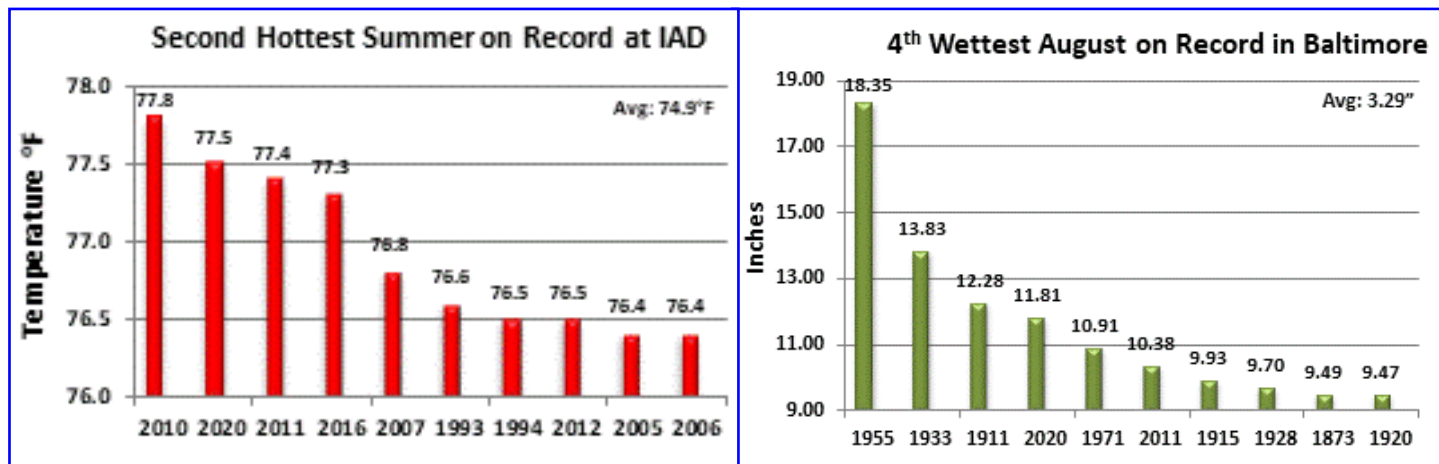


PRESTO

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



AUGUST 2020: Hot and Very Wet with Ample Severe Weather SUMMER: Hot with Exceptional Wet to Dry Areas; Tropical Weather, Tornadoes, Flooding and Frequent Thunderstorms



August Highlights

- Temperatures were again above normal for the month: BWI +3.6°F, IAD +2.3°F, and DCA + 1.5°F.
- Rainfall was well above normal around the metro areas but below normal in western areas: BWI, +8.52"; DCA, +5.80"; and IAD, + 4.11".
- IAD marked a record warm low of 77°F on the 2nd.
- Tropical Storm Isaias moved north near the metro areas on the 4th, causing 1 fatality, 4 tornadoes and numerous reports of wind damage.
- Daily record rainfalls were set on the 4th at DCA, 2.48" and IAD, 1.87".
- On the 6th, two EF-0 tornadoes were verified near Harrison, VA, and near Earlysville, VA, downing trees and damaging a vehicle and school fence.
- On the 7th, heavy rain and flooding emergency occurred in Loudoun County, VA, with just over 6" reported near Leesburg, resulting in water rescues.
- BWI measured 3.51" of rain on the 12th, including 2.91" in one hour, but, surprisingly, did not set a record.
- On the Chesapeake Bay, two waterspouts occurred on the 13th off St. Mary's County, MD, and multiple waterspouts occurred on the 19th about 3 miles west of Crisfield, MD.
- BWI measured a record warm low of 74°F on the 25th.
- Heavy rain caused flooding in Virginia on the 31st, including 4.21" in North Garden (Albermarle County), VA.

Summer Highlights

- The area had above normal seasonal temperatures: DCA, 80.2°F (+2.5°F); BWI, 78.8°F (+3.9°F); IAD, 77.5°F (+2.6°F); 2nd warmest summer on record IAD, 3rd at Baltimore and 5th in Washington.
- DCA reported 44 days at or above 90°F for the summer, BWI, 46 (including 2 at 100°F) and IAD, 38 such days.
- Rainfall was well above normal for the season: DCA, 18.75" (+8.31"); BWI, 21.19" (+10.37"); IAD, 17.70" (+6.52").
- DCA and BWI marked their 11th consecutive summer with above normal temperatures.
- A heat wave early in June led to IAD setting high maximum temperature records of 95°F on June 3 and 91°F on June 4.
- On June 4-5, heavy rain resulted in the greatest rainfall in a 2-day period in some areas since December 12-14, 2019; BWI set a record daily rainfall of 2.18"; thunderstorm winds downed dozens of trees in Virginia and West Virginia on the 4th, and several water rescues were reported in Maryland on the 5th.
- Severe weather on June 23 and 25 led to widespread hail and thunderstorm wind damage including 0.75" hail across eastern West Virginia; Montgomery County, MD, also saw wind and hail damage: 1" hail fell in Bethesda, a 70 mph wind gust was measured in Gaithersburg and a 68 mph gust was reported in Germantown.
- DCA noted a record 28 days with 90°F or greater in July.
- On June 27, widespread wind and flooding occurred from the metro area east; a car was stranded in high water on I-495.
- On July 6-7, there were 87 local storm reports of damaging winds, hail and flooding across much of the area, including 1" hail near Baltimore and a 69 mph wind gust at Bolling Air Force Base in southeast D.C. On the 7th, record daily rainfall at DCA with 2.04"; Brandywine, (Prince George's County), MD, was drenched with 8.36". Such an extreme 1-day total is likely seen once every ~150 years.
- On July 19, IAD set a record high temperature of 98°F and on July 20, a record high minimum of 75°F.
- Severe weather on July 21 resulted in 43 local storm reports, primarily wind damage with a few hail reports, including 1" hail in La Plata, (Charles County), MD, and numerous trees down near Harrisonburg, (Rockingham County), VA.
- On July 22, more severe weather yielded 131 storm reports, nearly 100 of those reports were downed trees from damaging winds

August 2020

Temperatures: Readings were well above normal: DCA, 79.6°F (+1.5°F); BWI, 78.7°F (+3.6°F); IAD, 77.7°F (+2.3°F). Temperatures were at or above 90°F on 7 days at DCA, 10 days at BWI and 9 at IAD. August 2020 had above average temperatures for most locations although not as extreme as July. Dulles set a record warm low of 77°F on the 2nd and BWI set a record warm low of 74°F on the 25th. Most of the month had above average daily temperatures but there were some periods where temperatures were a little below average, the 15th-21st and 30th-31st.

Precipitation: The metro areas were well above normal: DCA, 8.73" (+5.80"), BWI, +11.81" (+8.52") and IAD, 7.64" (+4.11"). Central Maryland, north-central Virginia and west to the Shenandoah Valley were well below normal. The driest areas were around Hagerstown, MD, and in the eastern panhandle of West Virginia. Charlotte Hall (St. Mary's County) MD, measured 19.95" for the month and 36.25" for the summer, 33.58" in just July-August, the greatest total of any site in the U.S. excluding the Pacific territories and just shy of its normal annual total. In contrast, Martinsburg, WV, measured only 3.22". DCA was almost 300 percent of normal rainfall; BWI, over 350 percent and IAD was more than 200 percent above normal rainfall. BWI had its 4th wettest August on record with 11.81" and wettest August since 1955, including 3.51" on the 12th, which, surprisingly, was not a record for the day. IAD had its 3rd wettest August on record with 7.64" including 1.87" on the 4th which set a daily record.

Severe Weather: August continued the active summer trend with numerous severe weather events. The day with the most significant severe weather was the 4th when former Hurricane Isaias, then a tropical storm, moved north over areas of eastern Virginia and Maryland. Isaias produced a plethora of wind damage reports, 4 tornadoes (2 EF-1s and 2 EF-0s), and, unfortunately, one fatality when a tree fell on a moving vehicle near Charlotte Hall, MD. There were also two EF-0 tornadoes on the 6th near Harrison and Earlysville, VA, downing trees and damaging a vehicle and school fence.

August 2020 Weather Statistics for the Washington/Baltimore Area

Location	Station Temperatures (°F)					Extreme/Day		Precipitation			
	AvMx	AvMin	AvgT	NmlT	DepNml	Max	Min	Total	Nml	DepNml	Year to Date
National (DCA)	87.0	72.2	79.6	78.1	+1.5	93/27,28	66/17,30	8.73	2.93	+5.80	35.85
Baltimore (BWI)	87.4	70.0	78.7	75.1	+3.6	94/2,27	62/17	11.81	3.29	+8.52	37.61
Dulles (IAD)	86.6	68.8	77.7	75.4	+2.3	93/10,27	60/30	7.64	3.53	+4.11	34.22

Summer (June-August) Temperatures: Seasonal temperatures were higher than normal: DCA, 80.2°F (+2.5°F); BWI, 78.8°F (+3.9°F); IAD, 77.5°F (+2.6°F). DCA and BWI marked their 11th consecutive summer with above normal temperatures. July observed the most above normal days. Dulles tied its hottest month on record in July and its 2nd warmest summer on record, with an average monthly temperature of 77.5°F. Dulles' hottest average summer temperature is 77.8°F set in 2010. BWI reported its 3rd hottest summer; 2010 has the record with 79.3°F. DCA marked its 5th hottest summer on record with an 80.2°F average. DCA's record is 81.3°F set in 2010. DCA had a record 28 days with 90°F or greater in July. Between June 27 and August 15, Washington marked a record 50 consecutive days with minimum temperatures at or above 70°F.

Summer Precipitation: Rainfall was well above normal in the metro areas: DCA, 18.75" (+8.31"); BWI, 21.19" (+10.37"), IAD, 17.70" (+6.52"). Summer rainfall showed a distinct pattern of well above normal near the metro areas with well below normal for points west. The areas with the most seasonal rainfall were in Maryland to the south and east of D.C. Waldorf (Charles County) measured 35" and Clinton (Prince George's County), 30" MD. The driest areas were around Hagerstown, MD, and the eastern panhandle of West Virginia with only 6" to 10", a difference of more than 2 feet. See the appendix for a map of CoCoRaHS rainfall totals during the summer and a table for some specific amounts.

Summer Severe Weather: Summer 2020 was marked by frequent severe weather. On June 4-5, heavy rain resulted in the greatest rainfall in a 2-day period for some areas since December 12-14, 2019. BWI set a record daily rainfall of 2.18". Thunderstorm winds downed dozens of trees in Virginia and West Virginia on the 4th, and several water rescues were reported in Maryland on the 5th. On June 22-23, thunderstorm wind damage and hail occurred area wide with maximum wind gusts of 66 mph recorded by a buoy near Dahlgren, VA (on the Potomac River east of Fredericksburg, VA); 1" hail was observed in Burtonsville (Montgomery County), MD, and nickel-sized hail was reported in Laurel (Prince George's County), MD. On the 23rd, 1" hail was measured in Inwood (Berkeley County), WV. Then on June 25th, widespread hail and thunderstorm wind damage was reported, including 0.75" hail across eastern West Virginia; Montgomery County, MD, also saw wind and hail damage: 1" hail fell in Bethesda, a 70 mph wind gust was measured in Gaithersburg and a 68 mph gust was reported in Germantown.

July started with severe weather on the 1st in Anne Arundel and St. Mary's counties, MD, and Albemarle, VA, with damaging winds and hail up to golf ball size reported in Anne Arundel County. On July 6-7, there were 87 local storm reports of damaging winds, hail and flooding across much of the area, including 1" hail near Baltimore and a 69 mph wind gust at Bolling Air Force Base in southeast D.C. On the 7th, DCA reported record daily rainfall of 2.04"; Brandywine, (Prince George's County), MD, was drenched with 8.36". July 16th included damaging winds and large hail across western Maryland and neighboring West Virginia, where 1.50" hail was measured in Allegheny County, MD. Then on July 22nd, 131 storm reports were filed, nearly 100 of those reports were downed trees from damaging winds. Finally, on July 28th, severe weather resulted in 31 local storm reports including a 66 mph gust at a Potomac River buoy at Swan Point, MD.

Summer 2020 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)	88.4	72.0	80.2	77.7	+2.5	99/7-19,7-20	54/6-1	18.75	10.44	+8.31
Baltimore (BWI)	88.5	69.1	78.8	74.9	+3.9	100/7-19,7-20	47/6-1	21.19	10.82	+10.37
Dulles (IAD)	87.5	67.4	77.5	74.9	+2.6	99/7-20	46-6-1	17.70	11.18	+6.52

Looking Ahead to Autumn: After a warmer than normal summer with above normal precipitation, what does autumn hold for the Washington area? Below are notable statistics.

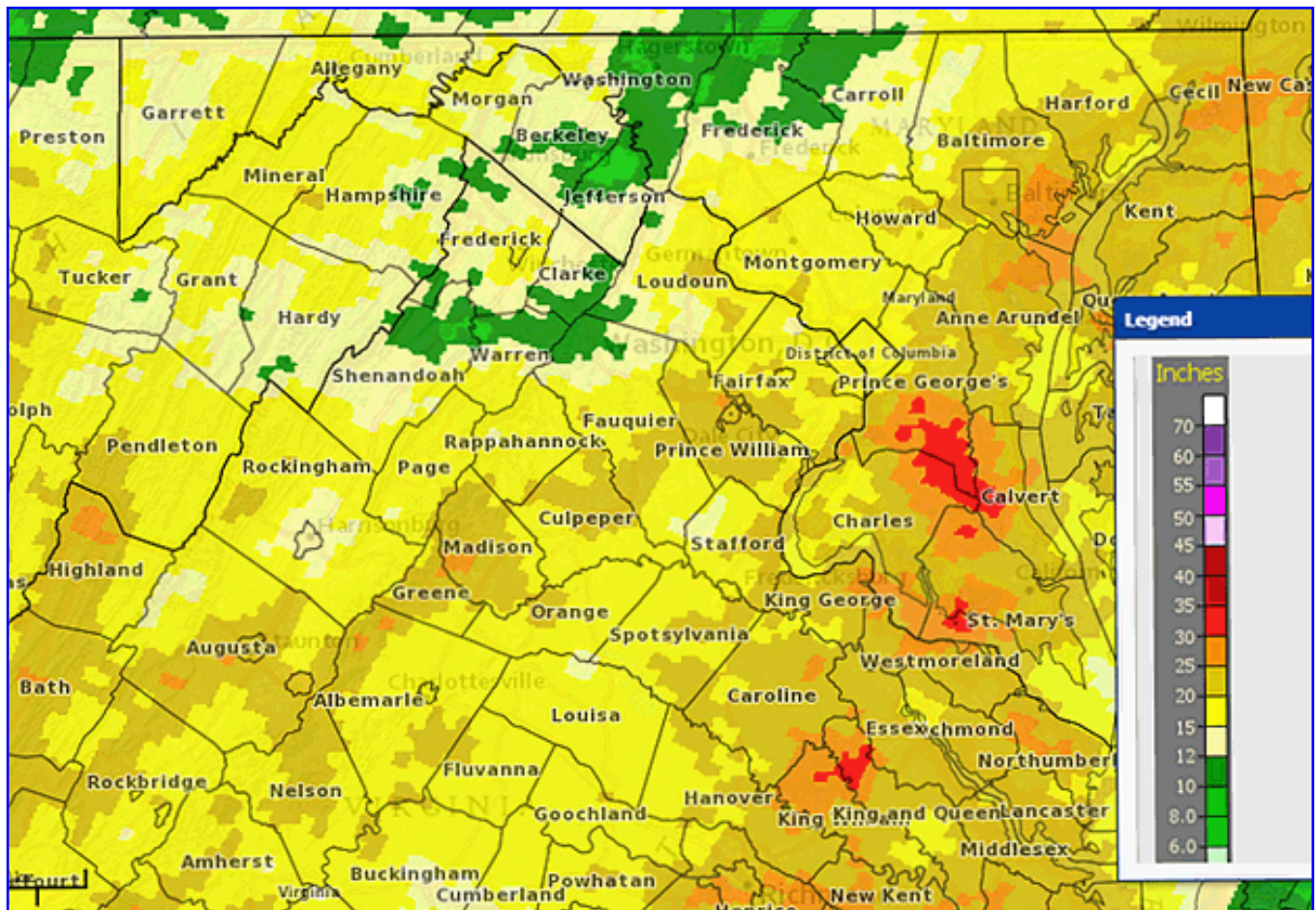
Autumn Temperature Extremes

Coldest: 1917, Average Temperature: 52.9°F; (-6.5°F)
Warmest: 1973 and 1931, Average Temperature: 63.1°F (+3.7°F)
Extreme Minimum Temperature: 11°F, Nov. 30, 1929
Extreme Maximum Temperature: 104°F, Sep. 7, 1881
Most Days With Lows < 32°F, 19 in 1901; **Highs > 90°F,** 14 in 1980

Autumn Precipitation Extremes

Wettest: 1934, 21.78" (+11.74")
Driest: 1930, 1.83"; (-8.21")
Snowiest: 1987, 11.5"
Most 1 Day Precipitation: 5.16", Sep. 2, 1922
Most Snowfall in 1 Day: 11.5", Nov. 11, 1987

Appendix: Summer 2020 Graphics and Tables



Shown above are 90-day rainfall (June 2 through September 1) totals from CoCoRaHS. Areas in green saw near- or below-normal summer precipitation, areas in orange and red saw approximately 200-300 percent of their normal summer rainfall.

Station	2020 Summer Rainfall	Normal Summer Rainfall	Departure from Normal
BWI	21.19"	10.82"	+10.37"
DCA	18.75"	10.44"	+8.31"
IAD	17.70"	11.18"	+6.52"
Charlottesville	14.05"	11.67"	+2.38"
Annapolis	11.12"	12.61"	-1.49"
Martinsburg	8.53"	10.51"	-1.98"
Hagerstown	5.90"	10.43"	-4.53"

Station	2020 Summer Avg. Temp	Rank	Warmer Summers
IAD	77.5°F	2 nd	2010 (77.8°F)
BWI	78.8°F	3 rd	2010 (79.3°F), 1943 (79.1°F)
DCA	80.2°F	5 th	2010 (81.3°F), 2011 (81.1°F), 2016 (80.5°F), 2012 (80.4°F)