



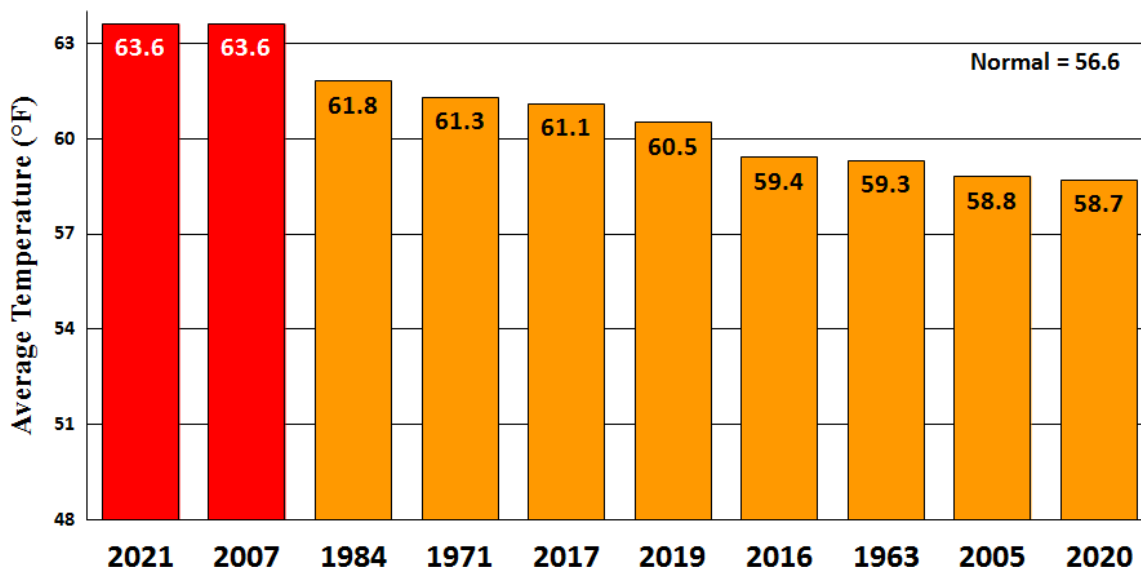
PRESTO

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



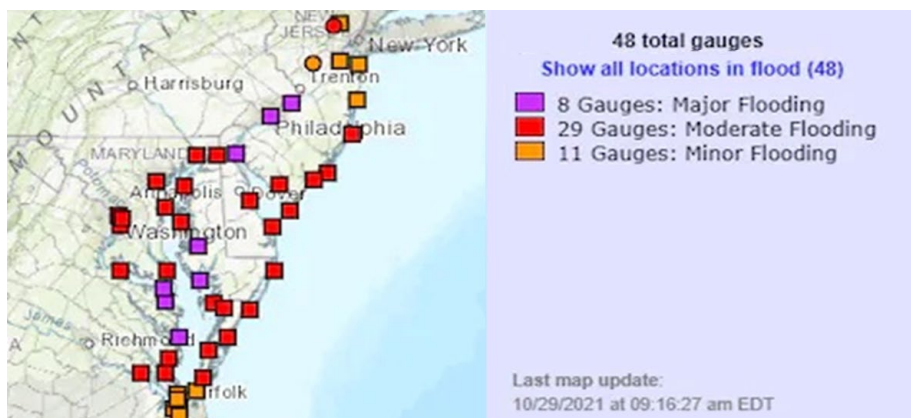
OCTOBER 2021: Anomalously Warm; Final Week's Rains Bring Near-Normal Precipitation To Otherwise Dry Month

Tied All-Time Warmest October At Dulles



October Highlights

- ☁ Anomalously well above normal **temperatures**: DCA 66.3°F (+5.5); BWI 64.7°F (+7.3); IAD **63.6°F** (+7.0)
- ☁ 6th – Dulles sets **record high** minimum, 67°F ... 25th – DCA equals, BWI and IAD set a **record high** - all at 80°F
- ☁ Overall near normal **precipitation**: DCA 3.27" (-0.39"); BWI 5.24" (+1.30); IAD 4.28" (+0.63)
- ☁ 25th – Heavy rains, wind damage, and flooding occurred from areas near and east of the metro
- ☁ 28th-29th – Strong easterly winds and heavy rains caused widespread coastal flooding along the Chesapeake Bay and Potomac River (see below) and freshwater flooding for many areas, closing many roads, while tree damage occurred from the winds



Author: Wayne Presnell, Editor: Monica Parker, Contributors: Alexander McGinnis, Andy Horvitz

NWS Analyze Forecast and Support Office, contact: Wayne.Presnell@noaa.gov; PRESTO online at: <http://www.weather.gov/publications/presto>

October 2021

October Temperatures: Average monthly temperatures were well above normal for the entire area: DCA 66.3°F (+5.5); BWI 64.7°F (+7.3); IAD 63.6°F (+7.0). At IAD, this tied for the warmest October (2007) on record (see above graphic), while DCA and BWI observed their second and third warmest October on record, respectively. DCA equaled, while BWI and IAD both set new **record highs** of 80°F on the 25th. Across the region, the warmest afternoons were observed on the 3rd-5th, including 88F at Webster Naval (St. Mary's Co.), MD, and several monthly maximums of 86F from Keyser (Mineral Co.), WV, to Charlottesville and Fredericksburg, VA, up to the National Arboretum (Northeast), DC. A few mountain locations failed to surpass the mid 70s. On the 25th, most sites rebounded into the 65-75F range. The coldest morning was on the 19th for most spots, although only a few mountain locations observed frost, and only isolated mountain sites, like Mill Gap (Highland Co.), WV had their first freeze.

October Precipitation and Flooding: The month was generally dry but two wet systems near the end of the month bumped the rain totals to near or slightly above average for most locations: DCA 3.27" (-0.39"); BWI 5.24" (+1.30"); IAD 4.28" (+0.63"). For the region, monthly totals of 3-6 inches were common, although most mountain locales saw less. The peak axis of monthly rainfall, 7-9" along the southern VA foothills, connected to a local maximum of 4-6" from the metros to Cecil County, MD. On the 5th, thunderstorms brought 1-3 inches of rainfall to many southern counties, with as much as **3.62"** recorded in Criglersville (Madison Co.), VA. The 6th followed with isolated storms that dumped as much as **2.65"** in western Albemarle Co., VA with even a debris flow reported in Churchville (Augusta Co.), VA. Numerous 2-day totals of 1.50-4.50 inches were seen in VA from Waynesboro to western Fauquier County. Following light rains on the 16th, a dry third week of the month preceded two significant rains. Through the 24th, DCA, BWI and IAD only recorded 0.12", 0.23", and 0.51", respectively.

The 25th's late day thunderstorms quickly led to soaking evening rains, with widespread 1-2" totals east of the mountains, including a 2-3" band along the I-95 corridor; greatest reports were **2.92"** in northern Fairfax County, VA, **2.84"** in Friendship Heights (Northwest), DC, and **2.76"** near Ellicott City, MD. Virtually all of the region then received a soaking rain from late on the 28th through the 29th, widespread 2-3" totals across both Piedmont and Coastal Plain; with **4.51"** in Suitland (Prince George's Co.), MD, **4.25"** near Syria (Madison Co.), VA, **2.25"** in Friendship Heights, DC, and **2.10"** in Shannondale (Jefferson Co.), WV. Over 20 reports of flooding were found along/near the Blue Ridge, including over a dozen closed roads. Less-common coastal flooding was widespread along both the Chesapeake Bay and Potomac River, as the modest storm combined with strong high pressure off the east coast to produce a long period (and fetch) of easterly winds; 10 local sites reached moderate flood, and water overflowed the seawall near Colton's Point (St. Mary's Co.), MD, resulting in basements and garages flooding ... later that afternoon the tide gauge at Solomon's Island (Calvert Co.) indicated an **all-time record high crest**. The above map shows all tide gauge locations in the Mid-Atlantic that experienced minor (orange), moderate (red) and major (purple) flooding on the 29th, which was the worst for many locations since Hurricane Isabel in September 2003.

October Severe Weather: Following October's rather dry start, more potent thunderstorms were isolated for the month's first 3 weeks. A few storms on the 4th downed trees and dropped nickel-sized hail in Warren Co., VA. On the 16th, a waterspout moved through the Chesapeake Bay near the Bay Bridge, while strong maritime wind gusts followed a cold front. Winds on the 25th gusted in storms to 64 mph in Centreville (Fairfax Co.), and there were over a dozen reports of downed trees in Harford County, MD. The 26th's gradient winds led to another dozen reports of downed trees and wires across the region, especially Fairfax County, VA. The 29th's winds from both thunderstorms and synoptic gradient led to over 50 reports of downed trees from pre-dawn through midday, spread across the eastern half of the region, especially for DC and western suburbs, as well as MD's northern counties.

October 2021 Weather Statistics for the Washington/Baltimore Area

Location	Station Temperatures (°F)					Extreme/Day		Precipitation (inches)			
	Av Max	Av Min	Avg T	Nml T	ΔNml	Max	Min	Total	Nml P	ΔNml	Year To Date
National (DCA)	74.0	58.5	66.3	60.8	+5.5	83/4,5	47/19	3.27	3.66	-0.39	42.48
Baltimore (BWI)	74.2	55.2	64.7	57.4	+7.3	86/3	43/19	5.24	3.94	+1.30	38.64
Dulles (IAD)	73.3	54.0	63.6	56.6	+7.0	85/3	39/19	4.28	3.65	+0.63	33.59

Looking Ahead: Do warm Octobers often lead to warm Novembers? The last three Octobers that had well above normal monthly temperatures were 2019, 2017 and 2007. At all three stations, the following November was either below normal or near normal in monthly temperature.

DCA Average Temperatures During/After Warm Octobers					
Year	OCT	NOV	Year	OCT	NOV
2021	66.3	??	2016	63.1	52.6
2020	61.9	54.3	2014	62.9	48.0
2019	64.1	46.1	2013	62.4	46.6
2018	62.6	46.5	2010	61.5	50.5
2017	64.9	49.8	2007	67.0	49.8

Monthly averages > 1.0°F above/below normal are shaded accordingly, with months > 3.0°F also with bold, pigmented font.

Normal (1991-2020) Average Monthly Temperatures at DCA are... October – 60.8, November – 49.9