



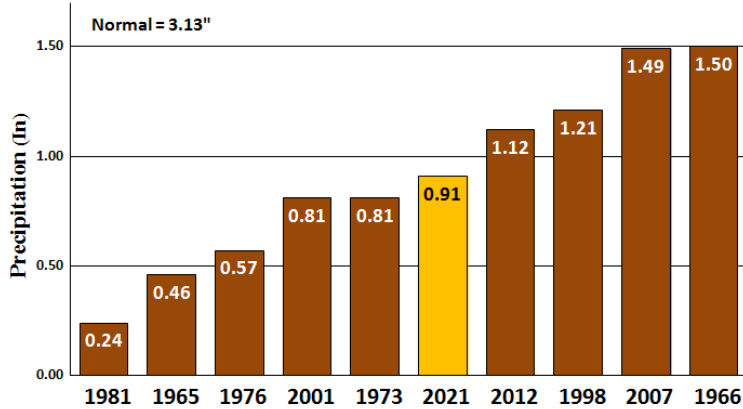
PRESTO

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

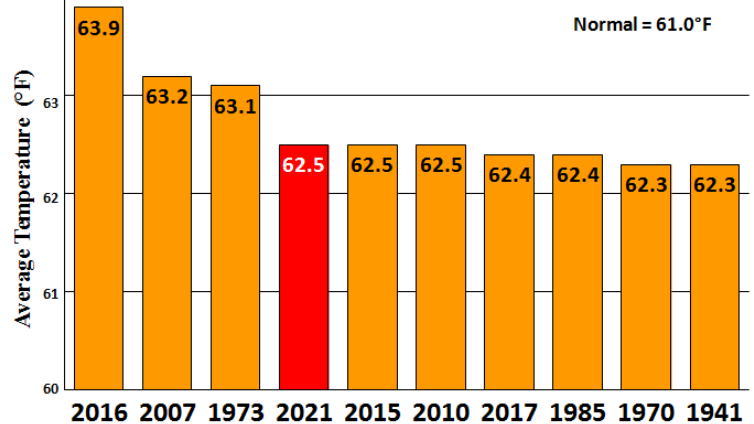


NOV 2021: Cool, Dry...FALL: Warm, Occasional Heavy Rains

6th Driest November On Record At Dulles



Tied 4th Warmest Autumn On Record In Washington



November Highlights

- Below normal **temperatures**: DCA 47.9°F (-2.0); BWI 45.4°F (-1.5); IAD 44.2°F (-1.8); IAD record low max **49F** (2nd)
- 3rd and 4th: First freeze at IAD and BWI, respectively ... **23rd**: First freeze at DCA
- Well below normal **precipitation**: DCA 0.98" (-1.93); BWI 1.33" (-1.80); IAD 0.91" (-2.22)
- 12th: Bulk of rainfall falls at most locations, over 1.00" reported at many locations Frederick and westward
- 14th and 15th: First snowfall in mountains of MD and WV, generally 1-3"
- 26th: Reported wind gusts to near 50 mph across much of the area, 60 mph near Point Lookout (St. Mary's Co.), MD
- 30th: Light snow in the MD mountains totals under 1". Trace in some locations east of mountains, including BWI, IAD

Fall Season Highlights

- Record warm October led above normal **temperatures**: DCA 62.5°F (+1.5); BWI 60.5°F (+2.7); IAD 59.3°F (+2.2)
- Below normal **precipitation** despite occasional heavy rains: DCA 8.28" (-2.22); BWI 12.61" (+1.10); IAD 9.91" (-0.81)
- 9/1-2: **Post-Tropical Storm IDA** brought **2-4"** rain to most spots, with **8.16"** near Frederick (Frederick Co.), MD; BWI and MRB set daily records with **4.13"** and **3.54"**, respectively. **2 tornadoes** tracked just west of the Chesapeake Bay, including a long track **EF-2** that damaged western Annapolis (Anne Arundel Co.), MD, and a subsequent **EF-0** along coastal Baltimore Co., MD. Flooding also led to at least **6 swift/high water rescues** in Frederick Co., MD, with 11 people rescued from a school bus in Thurmont, MD.
- 9/16: Heavy rains in Piedmont (up to **3.43"** in Lincolnia (Fairfax Co.), VA strand several vehicles and block lanes in numerous highways. A **record high minimum** of 69F tied at IAD.
- 9/21-23: Widespread **2-3"** rainfall totals, with **4.08"** near Emmitsburg (Frederick Co.), MD and **3.83"** in Friendship Heights (Northwest), DC, led to widespread flooding with **2 swift water rescues** in Frederick Co., MD. Dozens of roads, bridges, and exit ramps were closed from Frederick Co., VA to Washington, D.C. to Harford Co., MD, including major highways and interstates.
- 10/28-29: Strong easterly winds, heavy rains caused widespread coastal flooding along the Chesapeake Bay and Potomac River and freshwater flooding for many areas, closing many roads, while winds downed trees.

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November & Fall Season 2021

November Temperatures: It was a cool month overall with the 3 primary stations averaging around 2°F below normal. There was no exceptional cold but persistent below average temperatures. The only daily temperature record occurred when IAD tied a record low maximum temperature on the 2nd with 49F. IAD and BWI had their first freezes of the season on the 3rd and 4th, respectively, while DCA did not observe a freeze until Nov. 23rd. Both DCA and BWI had their first freeze 6 days after their normal date.

November Precipitation and Severe Weather: November was a dry month with the three airports all observing around 2" below normal. It was the 6th driest November on record at IAD, 11th driest for Baltimore, and 12th driest for Washington; all of which were in the 90th percentile or greater. Most of the month's precipitation fell on the 12th, with the greatest reports ranging from **1.93"** in Harrisonburg, VA, and 1.90" near falling Waters (Berkeley Co.), WV, to 1.58" in Maugansville (Washington Co.), MD and 1.18" in Friendship Heights (Northwest), DC. Very little precipitation occurred the rest of the month. There were a few windy days where wind gusts exceeded 40 mph. The highest gusts occurred on the 26th with several measuring over 50 mph across much of the area and a 60 mph gust near Annapolis, MD.

November 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	Snow	Year To Date
National (DCA)	57.0	38.8	47.9	49.9	-2.0	74/18	30/24	0.98	2.91	-1.93	0.0	43.46
Baltimore (BWI)	56.6	34.2	45.4	46.9	-1.5	75/9	27/20	1.33	3.13	-1.80	T	39.97
Dulles (IAD)	56.3	32.1	44.2	46.0	-1.8	76/9	22/24	0.91	3.13	-2.22	T	34.50

Fall (Sep-Nov) Temperatures: Overall, the Fall was much above average in temperature mainly due to October's well above normal readings. September was slightly above normal and November was below normal. October's departures from normal monthly temperatures were generally 5-7°F across the area. DCA averaged 1.5°F warmer than normal for the Fall. BWI averaged 2.7°F above normal and IAD averaged 2.2°F above normal. On October 6th Dulles set a **record high** minimum, 67°F; while on October 25th, DCA equaled, while BWI and IAD set a **record high** - all at 80°F.

Fall (Sep-Nov) Precipitation and Severe Weather: The Fall was relatively dry with most areas observing below to near normal amounts. Heavy rains did occur but they were limited to a few days each month and to isolated areas. The vast majority of the days of the Fall did not see any rain at all. DCA was 2.22 inches below normal for the fall with November being the driest. BWI was 1.1 inches above normal despite November being 1.80 inches below normal. IAD was 0.81 inches below normal for the Fall with November being 2.22 inches below normal. September provided almost all of the severe weather as October and November were relatively quiet months. The greatest impacts from severe weather occurred on September 1st and 2nd as the remnants of tropical storm Ida moved through the area bringing flooding rains and two tornadoes (EF-0 and EF-2) in the DC metro.

On September 8th -9th, thunderstorms blew down trees/power lines, with several roads closed due to high water, mainly in Frederick Co., MD. On September 15th storms brought down multiple trees/power lines, along with 1-2" rain to parts of Washington and Frederick Counties, MD. On September 28th, slow-moving cells brought a dozen reports of severe hail as large as 1.75" across VA, which accumulated 1-2" **deep** in Greene Co. October 25th brought heavy rains, wind damage, and flooding from areas near and east of the metro.

Fall 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	Snow	Greatest Day
National (DCA)	70.9	54.0	62.5	61.0	+1.5	90/9-13,15	30/11-24	8.28	10.50	-2.22	0.0	1.55/10-25
Baltimore (BWI)	70.9	50.1	60.5	57.8	+2.7	91/9-15	27/11-20	12.61	11.51	+1.10	T	4.13/ 9-1
Dulles (IAD)	70.1	48.4	59.3	57.1	+2.2	89/9-8,14,15	22/11-24	9.91	10.72	-0.81	T	2.42/10-25

Looking Ahead: The last five cold Novembers (2019, 2018, 2014, 2013 and 2012) were followed by Decembers with above normal temperatures at all 3 primary stations. Will December 2021 continue the pattern?

Average Temps	2012		2013		2014		2018		2019		2021	
	NOV	DEC	NOV	DEC	NOV	DEC	NOV	DEC	NOV	DEC	NOV	DEC
DCA	46.6	45.4	46.6	42.3	48.0	43.7	46.5	43.5	46.1	42.1	47.9	?
BWI	42.9	42.7	43.6	39.6	43.4	39.9	43.6	39.7	44.3	39.9	45.4	?
IAD	42.5	41.9	42.9	39.2	41.8	38.3	42.6	38.8	42.2	39.0	44.2	?
1991-2000 Normal Monthly Temps (°F) (Nov, Dec): DCA (49.9, 41.7) ... BWI (46.9, 38.6) ... IAD (46.0, 37.7)												