

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>ATLANTIC NORTH</b>				
<b>TIDAL POTOMAC KEY BRIDGE TO INDIAN HD MD COUNTY --- LONG BRANCH ES (ARLNL) [38.87, -77.09]</b>				
	11/02/18 20:14 EST	0		Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 20:25 EST	0		Source: Mesonet
A wind gust of up to 34 knots was observed in Arlington, VA.				
<b>TIDAL POTOMAC KEY BRIDGE TO INDIAN HD MD COUNTY --- (DCA)REAGAN NATIONAL AIRPORT [38.86, -77.03]</b>				
	11/02/18 20:17 EST	0		Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 20:17 EST	0		Source: ASOS
A wind gust of up to 34 knots was observed at Washington National Airport (KDCA).				
<b>TIDAL POTOMAC KEY BRIDGE TO INDIAN HD MD COUNTY --- NATIONALS PARK (WSHNP) [38.87, -77.01]</b>				
	11/02/18 20:19 EST	0		Marine Thunderstorm Wind (MG 37 kt)
	11/02/18 20:19 EST	0		Source: Mesonet
A wind gust of 37 knots was measured at Nationals Park.				
<b>PATAPSCO RIVER INCLUDING BALTIMORE HARBOR COUNTY --- BALTIMORE KEY BRIDGE (FSKM2) [39.22, -76.53]</b>				
	11/02/18 20:48 EST	0		Marine Thunderstorm Wind (MG 35 kt)
	11/02/18 20:54 EST	0		Source: Mesonet
A wind gust of 35 knots was measured at the Francis Scott Key Bridge.				
<b>CHESAPEAKE BAY SANDY PT TO N BEACH MD COUNTY --- THOMAS POINT (TPLM2) [38.90, -76.44]</b>				
	11/02/18 21:00 EST	0		Marine Thunderstorm Wind (MG 38 kt)
	11/02/18 22:00 EST	0		Source: Buoy
A wind gust of 38 knots was measured at Thomas Point.				
<b>CHESAPEAKE BAY POOLES IS TO SANDY PT MD COUNTY --- HART MILLER ISLAND (HRT) [39.25, -76.37]</b>				
	11/02/18 21:07 EST	0		Marine Thunderstorm Wind (MG 37 kt)
	11/02/18 21:12 EST	0		Source: Mesonet
A wind gust of 37 knots was measured at Hart Miller Island.				
<b>CHESAPEAKE BAY SANDY PT TO N BEACH MD COUNTY --- GREENBERRY POINT (GBY) [38.97, -76.46]</b>				
	11/02/18 21:09 EST	0		Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 21:09 EST	0		Source: Buoy
A wind gust of up to 34 knots was observed at Greenbury Point.				
<b>TIDAL POTOMAC INDIAN HD TO COBB IS MD COUNTY --- BABAR POINT (BAB) [38.31, -77.03]</b>				
	11/02/18 21:12 EST	0		Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 21:12 EST	0		Source: Mesonet
A wind gust of up to 34 knots was observed at Babar Point.				
<b>TIDAL POTOMAC INDIAN HD TO COBB IS MD COUNTY --- 1.3 WSW POTOMAC LIGHT 33 (LT3) [38.33, -77.01]</b>				
	11/02/18 21:18 EST	0		Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 21:24 EST	0		Source: Mesonet
A wind gust of up to 34 knots was observed at Dahlgren.				
<b>TIDAL POTOMAC INDIAN HD TO COBB IS MD COUNTY --- 1.4 NW POTOMAC LIGHT 33 (LT3) [38.35, -77.01]</b>				
	11/02/18 21:18 EST	0		Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 21:23 EST	0		Source: Mesonet
A wind gust of up to 34 knots was observed at Pylons.				

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<b>TIDAL POTOMAC COBB IS MD TO SMITH PT VA COUNTY --- COBB POINT (COB) [38.24, -76.83]</b>				
	11/02/18 21:19 EST		0	Marine Thunderstorm Wind (MG 36 kt)
	11/02/18 21:54 EST		0	Source: Buoy
A wind gust of 36 knots was measured at Cobb Point.				
<b>CHESAPEAKE BAY POOLES IS TO SANDY PT MD COUNTY --- GUNPOWDER (GUN) [39.36, -76.37]</b>				
	11/02/18 21:24 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 21:24 EST		0	Source: Mesonet
A wind gust of up to 34 knots was observed at Gunpowder.				
<b>CHESAPEAKE BAY POOLES IS TO SANDY PT MD COUNTY --- TOLCHESTER MD (TCBM2) [39.32, -76.25]</b>				
	11/02/18 21:24 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 21:24 EST		0	Source: Mesonet
A wind gust of up to 34 knots was observed at Tolchester.				
<b>TIDAL POTOMAC INDIAN HD TO COBB IS MD COUNTY --- POTOMAC LIGHT 33 (LT3) [38.34, -76.99]</b>				
	11/02/18 21:26 EST		0	Marine Thunderstorm Wind (MG 38 kt)
	11/02/18 21:31 EST		0	Source: Mesonet
A wind gust of 38 knots was measured at Potomac Light.				
<b>PATAPSCO RIVER INCLUDING BALTIMORE HARBOR COUNTY --- ORIOLE PARK AT CAMDEN YARDS (BLTPC) [39.28, -76.62]</b>				
	11/02/18 21:30 EST		0	Marine Thunderstorm Wind (MG 34 kt)
	11/02/18 21:30 EST		0	Source: Mesonet
A wind gust of 34 knots was measured at Oriole Park.				
<b>CHESAPEAKE BAY SANDY PT TO N BEACH MD COUNTY --- TOLLY POINT (TOL) [38.94, -76.44]</b>				
	11/02/18 21:36 EST		0	Marine Thunderstorm Wind (MG 41 kt)
	11/02/18 21:36 EST		0	Source: Buoy
A wind gust of 41 knots was measured at Tolly Point.				
<b>TIDAL POTOMAC INDIAN HD TO COBB IS MD COUNTY --- CUCKOLD CREEK (CCK) [38.31, -76.93]</b>				
	11/02/18 21:45 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 21:45 EST		0	Source: Mesonet
A wind gust of up to 34 knots was observed at Cuckold Creek.				
<b>CHESAPEAKE BAY SANDY PT TO N BEACH MD COUNTY --- HERRING BAY (HRB) [38.73, -76.54]</b>				
	11/02/18 21:46 EST		0	Marine Thunderstorm Wind (MG 42 kt)
	11/02/18 21:51 EST		0	Source: Buoy
A wind gust of 42 knots was measured at Herring Bay.				
<b>CHESAPEAKE BAY N BEACH TO DRUM PT MD COUNTY --- MID BAY BUOY [38.47, -76.38]</b>				
	11/02/18 22:12 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 22:12 EST		0	Source: Buoy
A wind gust of up to 34 knots was observed at Cove Point.				
<b>CHESAPEAKE BAY N BEACH TO DRUM PT MD COUNTY --- 8.7 NNE GOOSES REEF BUOY (44062) [38.67, -76.34]</b>				
	11/02/18 22:13 EST		0	Marine Thunderstorm Wind (MG 38 kt)
	11/02/18 22:13 EST		0	Source: Buoy
A wind gust of 38 knots was measured at Blackwalnut Harbor.				
<b>CHOPTANK RIVER TO CAMBRIDGE MD AND THE LITTLE CHOPTANK RIVER COUNTY --- BLACKWALNUT HARBOR (BWH) [38.68, -76.33]</b>				

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	11/02/18 22:18 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/02/18 22:18 EST		0	Source: Buoy

A wind gust of up to 34 knots was observed at Blackwalnut Harbor.

**A dynamic low pressure system tracked through the Mid-Atlantic states on the evening of November 2nd. A squall line developed along the cold front, and while instability was limited, deep and low level shear were strong enough to support the development of a quasi-linear convective system. This produced gusty winds across the waters.**

CHESAPEAKE BAY SANDY PT TO N BEACH MD COUNTY --- GREENBERRY POINT (GBY) [38.97, -76.46]				
	11/06/18 09:59 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/06/18 09:59 EST		0	Source: Buoy

A wind gust of up to 34 knots was observed at Greenbury Point.

CHESAPEAKE BAY POOLES IS TO SANDY PT MD COUNTY --- TOLCHESTER MD (TCBM2) [39.32, -76.25]				
	11/06/18 11:06 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/06/18 11:06 EST		0	Source: Buoy

A wind gust of up to 34 knots was observed at Tolchester.

CHESAPEAKE BAY SANDY PT TO N BEACH MD COUNTY --- KENT ISLAND (KNT) [38.92, -76.36]				
	11/06/18 11:42 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/06/18 11:42 EST		0	Source: Buoy

A wind gust of up to 34 knots was observed at Kent Island.

TIDAL POTOMAC INDIAN HD TO COBB IS MD COUNTY --- BABAR POINT (BAB) [38.31, -77.03]				
	11/06/18 11:42 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/06/18 11:42 EST		0	Source: Buoy

A wind gust of up to 34 knots was observed at Babar Point.

CHESAPEAKE BAY SANDY PT TO N BEACH MD COUNTY --- THOMAS POINT (TPLM2) [38.90, -76.44]				
	11/06/18 12:00 EST		0	Marine Thunderstorm Wind (MG 40 kt)
	11/06/18 12:00 EST		0	Source: Buoy

A wind gust of 40 knots was measured at Thomas Point.

**Mild and moist air with limited instability moved across the region ahead of an eastward moving cold front. This combined with high amounts of wind shear to create a squall line that moved across the waters, producing gusty winds.**

TIDAL POTOMAC INDIAN HD TO COBB IS MD COUNTY --- CUCKOLD CREEK (CCK) [38.31, -76.93]				
	11/24/18 17:00 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/24/18 17:00 EST		0	Source: Buoy

A wind gust of up to 34 knots was observed at Cuckold Creek.

TIDAL POTOMAC COBB IS MD TO SMITH PT VA COUNTY --- COBB POINT (COB) [38.24, -76.83]				
	11/24/18 17:04 EST		0	Marine Thunderstorm Wind (MG 43 kt)
	11/24/18 17:29 EST		0	Source: Buoy

A wind gust of 43 knots was measured at Cobb Point.

TIDAL POTOMAC COBB IS MD TO SMITH PT VA COUNTY --- PINEY POINT (PPTM2) [38.13, -76.53]				
	11/24/18 17:06 EST		0	Marine Thunderstorm Wind (MG 40 kt)
	11/24/18 17:36 EST		0	Source: Buoy

A wind gust of 40 knots was measured at Piney Point.

TIDAL POTOMAC COBB IS MD TO SMITH PT VA COUNTY --- LEWISSETTA (LWS) [38.00, -76.47]				
	11/24/18 17:24 EST		0	Marine Thunderstorm Wind (EG 34 kt)
	11/24/18 17:30 EST		0	Source: Buoy

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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A wind gust of up to 34 knots was observed near Lewisetta.

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**TIDAL POTOMAC COBB IS MD TO SMITH PT VA COUNTY --- LEWISSETTA MD (LWTV2) [38.00, -76.47]**

	11/24/18 17:24 EST	0	0	Marine Thunderstorm Wind (EG 34 kt)
	11/24/18 17:30 EST	0	0	Source: Buoy

A wind gust of up to 34 knots was observed at Lewisetta.

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**CHESAPEAKE BAY DRUM PT TO SMITH PT VA COUNTY --- PATUXENT RIVER ASOS (KNAK) [38.29, -76.41]**

	11/24/18 17:37 EST	0	0	Marine Thunderstorm Wind (MG 39 kt)
	11/24/18 17:54 EST	0	0	Source: ASOS

A wind gust of 39 knots was measured at Patuxent River (KNHK).

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**TANGIER SOUND AND THE INLAND WATERS SURROUNDING BLOODSWORTH ISLAND COUNTY --- CRISFIELD CG (CRS) [37.97, -75.88]**

	11/24/18 17:40 EST	0	0	Marine Thunderstorm Wind (MG 34 kt)
	11/24/18 18:50 EST	0	0	Source: Buoy

A wind gust of 34 knots was measured at Crisfield.

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**TIDAL POTOMAC COBB IS MD TO SMITH PT VA COUNTY --- POTOMAC POINT LOOKOUT BUOY (44042) [38.03, -76.34]**

	11/24/18 17:40 EST	0	0	Marine Thunderstorm Wind (MG 39 kt)
	11/24/18 17:50 EST	0	0	Source: ASOS

A wind gust of 39 knots was measured at Potomac Point Lookout.

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**CHESAPEAKE BAY N BEACH TO DRUM PT MD COUNTY --- MID BAY BUOY [38.47, -76.38]**

	11/24/18 18:30 EST	0	0	Marine Thunderstorm Wind (MG 34 kt)
	11/24/18 19:12 EST	0	0	Source: Buoy

A wind gust of 34 knots was measured at Cove Point.

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**TANGIER SOUND AND THE INLAND WATERS SURROUNDING BLOODSWORTH ISLAND COUNTY --- RACCOON POINT (RAC) [38.14, -75.79]**

	11/24/18 18:54 EST	0	0	Marine Thunderstorm Wind (EG 34 kt)
	11/24/18 18:54 EST	0	0	Source: Buoy

A wind gust of up to 34 knots was observed at Raccoon Point.

A low pressure system moved up the east coast of the United States on November 24th with the warm sector of the system moving across the waters during the late day hours. This generated a limited amount of instability which combined with high levels of wind shear to produce gusty showers.

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### DISTRICT OF COLUMBIA

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**(DC-Z001) DISTRICT OF COLUMBIA**

	11/10/18 22:00 EST	0	0	Frost/Freeze
	11/11/18 09:00 EST	0	0	

High pressure, clear skies, and light winds led to temperatures that fell below freezing.

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**(DC-Z001) DISTRICT OF COLUMBIA**

	11/15/18 05:00 EST	0	0	Winter Weather
	11/15/18 15:00 EST	0	0	

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the 15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including snow, sleet, and rain across the District.

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>DISTRICT OF COLUMBIA COUNTY --- 1.2 SW WALTER REED [38.97, -77.05], 0.8 SW WALTER REED [38.97, -77.04], 0.5 WSW WALTER REED [38.98, -77.04], 0.7 WSW WALTER REED [38.98, -77.04], 1.3 SW WALTER REED [38.97, -77.05]</b>				
	11/24/18 18:44 EST		0	Flood (due to Heavy Rain)
	11/25/18 01:16 EST		0	Source: River/Stream Gage

The stream gage on the Rock Creek in DC exceeded the 7 foot flood stage during the indicated period. Water reached several portions of the Valley Trail between Picnic Areas 7 and 10 in Rock Creek Park. The peak level of 7.37 feet occurred at 11:00 PM on the 24th.

A negatively tilted trough approached the area on the 24th as surface low pressure tracked up toward the Great Lakes and secondary low pressure formed along the Carolina Coast. Lift ahead of the negatively tilted trough/within the left exit region of an upper-level jet streak led to a period of moderate to heavy rain through much of the day on the 24th. Rainfall totals were generally between 1-2 inches across the area, resulting in many instances of flooding.

<b>(DC-Z001) DISTRICT OF COLUMBIA</b>				
	11/26/18 21:09 EST		0	Coastal Flood
	11/26/18 22:39 EST		0	

Southerly onshore flow ahead of a strong low pressure system led to increased tidal anomalies and moderate coastal flooding across portions of the upper tidal Potomac.

### MARYLAND, Central

<b>HOWARD COUNTY --- 1.6 W LONG CORNER [39.33, -77.18]</b>				
	11/02/18 19:18 EST		0	Thunderstorm Wind (EG 61 kt)
	11/02/18 19:18 EST		0	Source: Emergency Manager

A sign and gazebo were damaged at Lu and Joe's Restaurant. Multiple trees were also down near the 19000 block of Windsor Forest Road.

<b>HOWARD COUNTY --- 1.7 NW LONG CORNER [39.35, -77.17], 1.8 NNW LONG CORNER [39.35, -77.16]</b>				
	11/02/18 19:19 EST		0	Tornado (EF1, L: 0.59 mi , W: 200 yd)
	11/02/18 19:20 EST		0	Source: NWS Storm Survey

A tornado touched down in extreme northwestern Howard County, Maryland, approximately 1 mile south of Interstate 70/US-40/Baltimore National Pike at 8:19 PM EDT. Several wooden power poles were snapped along Penn Shop Road just east of MD-27/Ridge Road, indicative of winds over 100 MPH. The path continued northeastward into Carroll County.

<b>CARROLL COUNTY --- 2.2 SSW MT AIRY [39.35, -77.17], 1.9 SSE COVER [39.40, -77.11]</b>				
	11/02/18 19:20 EST		0.90M	Tornado (EF2, L: 4.86 mi , W: 400 yd)
	11/02/18 19:26 EST		0	Source: NWS Storm Survey

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>A tornado moved northeastward from Howard County and entered Carroll County around 8:20 PM EDT on the evening of November 2nd. Several trees were downed along Bennett Road. Numerous trees were downed in the Pheasant Ridge community just south of MD-144/Frederick Road, and several mobile homes were heavily damaged. Several power poles were snapped along MD-144/Frederick Road.</p> <p>As the tornado crossed Interstate 70/US-40/Baltimore National Pike, numerous trees and branches were downed in the roadway and on vehicles, which appeared to have been pulled off the roadway by the winds. No injuries were reported.</p> <p>The tornado proceeded to move into the retail area of Mt. Airy, where a canopy over the gas pumps at High's Dairy Store was partially torn off, and the TJ Maxx roof was lifted up and partially removed. There were also numerous trees snapped and uprooted in a convergent manner behind the shopping center to near the Mt. Airy water tower. In the immediate path, virtually no trees were left undamaged, indicative of winds over 100 MPH.</p> <p>The tornado continued northward from this point, where several outbuildings at the Knills Farm Market just east of MD-27/Ridge Road were severely damaged or completely destroyed, including a metal silo which twisted and collapsed. Nearby along Watersville Road, several more power poles were snapped purely from wind (not from trees falling on power lines). On either side of the farm, virtually all trees in the tornado's path were downed in a convergent manner, including at a residence along Watersville Road, with some showing signs of bark being stripped by the wind. This was one area where maximum winds are estimated to have been near 120 mph.</p> <p>The tornado continued northeastward, with several residences experiencing shingle and roof damage/removal along Arrowwood Circle, and downed numerous trees and power lines, consistent with winds around 90 MPH.</p> <p>Numerous hardwood trees, virtually all in the tornado's path, were snapped with signs of stripped bark along the 6000 block of Runkles Road. At Snell's Greenhouses, water was completely removed from a pond, and several greenhouses were destroyed. A nearby home weather station in the tornado's path just to the northeast measured a wind gust of 112 mph. Based on this, it is likely the tornado's maximum winds again approached 120 mph in this area. This occurred at around 825 PM EDT, when the FAA's Terminal Doppler Weather Radar near Washington Dulles International Airport showed it's strongest rotational signature.</p> <p>The last evidence of tornadic damage was observed on Gillis Falls Road where a few trees were uprooted in convergent fashion just east of Runkles Road. Radar imagery from the FAA's Terminal Doppler Weather Radar near Washington Dulles International Airport showed the tornadic velocity couplet dissipate just north of Gillis Ford Road at about 826 PM EDT.</p> <p>The damage estimate was provided by Carroll County Emergency Management.</p>				
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<b>CARROLL COUNTY --- 0.4 NNE SHILOH [39.61, -76.88]</b>				
	11/02/18 19:42 EST		0	Thunderstorm Wind (MG 62 kt)
	11/02/18 19:42 EST		0	Source: Trained Spotter
A trained spotter reported a measured 71 mph (62 knot) gust.				
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<b>HOWARD COUNTY --- 1.1 W HIGHLAND [39.18, -76.99]</b>				
	11/02/18 19:54 EST		0	Thunderstorm Wind (EG 50 kt)
	11/02/18 19:54 EST		0	Source: Emergency Manager
Multiple power lines were downed near the intersection of Ten Oaks Road and Linden Church Road. A tree was also blown down in the 7000 block of Mink Hollow Road.				
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<b>HOWARD COUNTY --- 0.7 S MARRIOTSVILLE [39.34, -76.90]</b>				
	11/02/18 20:04 EST		0	Thunderstorm Wind (EG 50 kt)
	11/02/18 20:04 EST		0	Source: Emergency Manager
A large tree was blown down across the road near the 1200 block of Marriottsville Road.				
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<b>BALTIMORE CITY (C) COUNTY --- 0.3 W PENN MARY JCT [39.27, -76.56], 0.2 NE HOLABIRD [39.27, -76.53]</b>				
	11/02/18 20:42 EST	2	0	Tornado (EF1, L: 1.50 mi , W: 150 yd)
	11/02/18 20:44 EST		0	Source: NWS Storm Survey

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>A tornado touched down in Baltimore City at about 9:42 PM EDT on Friday evening, November 2, 2018. Initial damage was to a tractor trailer which was blown over on Interstate 95 just north of the Fort McHenry Tunnel. A few trees were topped just west of the interstate, and a fence line blew over on South Newkirk Street just to the east. This damage is consistent with winds of about 70 MPH.</p> <p>The tornado tracked generally eastward roughly parallel to Holabird Avenue. It blew in large garage doors on both side of the building at Flexi-Van Leasing facility, consistent with wind speeds over 90 MPH.</p> <p>As it continued eastward, it impacted the north building of the Amazon sorting facility, reaching a peak intensity of around 105 MPH. It blew the roof off a portion of the building, including iron rafters. With the loss of the roof, the eight inch concrete wall panels pushed in and collapsed into the building towards the north end of the west wall. Two fatalities occurred inside the building with the wall collapse. About a dozen truck trailers were pushed over, moved, or rolled by the wind. Two of the trailers were noted to have been blown in an opposite direction of the wind that toppled the wall. Several light stanchions and signs were blown over, and several car windows were blown out by flying debris. Radar data from the FAA's Terminal Doppler Weather Radar near Baltimore-Washington International Thurgood Marshall Airport indicated this was around 9:43 PM EDT, and this is when the strongest velocity signature was noted.</p> <p>The tornado continued east along the south side of Holabird Avenue, uprooting several large trees, and snapping dozens of large branches, consistent with winds of about 80 MPH.</p> <p>Damage along the entire path was mainly convergent, and while much of the damage was from west-southwest to east-northeast, there were several notable exceptions of damage in differing directions. An eyewitness fire fighter outside the Baltimore City Fire Department Engine 50 firehouse in the area saw the swirling debris and funnel cloud as it passed. The tornado lifted as it reached the intersection with Dundalk Avenue, which according to radar would have been at about 9:44 PM EDT.</p> <p>Direct Fatalities: M54PS, M37PS</p>				
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<b>BALTIMORE COUNTY --- 0.1 NNW ST HELENA [39.27, -76.53], 0.7 ENE DUNDALK [39.27, -76.51]</b>				
	11/02/18 20:44 EST		15K	Tornado (EF1, L: 1.22 mi , W: 150 yd)
	11/02/18 20:45 EST	1	0	Source: NWS Storm Survey
<p>A tornado tracked eastward from Baltimore City into southern Baltimore County near the city of Dundalk, around 9:44 PM EDT. After it initially lifted, the tornado briefly touched down one last time at the Holabird East Apartments on 4 Georges Court in Dundalk. The northeast building in the complex was unroofed entirely, and the building was uninhabitable displacing 42 people. The strong southwest wind hit the building broadside and lifted the roof off the building. No other damage was noted in the area. Lifting of the entire roof is consistent with wind speeds near 100 MPH. A resident reported swirling winds with the event. One resident in the building was treated for cuts. This was the last area of damage, and the tornado signature on radar weakened after this point just after 9:45 PM EDT. The monetary damage is an estimate provided by the county emergency management office.</p>				
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<b>HARFORD COUNTY --- 1.1 W SCARFF [39.53, -76.45]</b>				
	11/02/18 20:48 EST		0	Thunderstorm Wind (EG 50 kt)
	11/02/18 20:48 EST		0	Source: State Official
<p>Trees were blown down on Pleasantville Road.</p>				
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<b>HARFORD COUNTY --- 0.5 W GIBSON [39.58, -76.34]</b>				
	11/02/18 21:03 EST		0	Thunderstorm Wind (EG 50 kt)
	11/02/18 21:03 EST		0	Source: State Official
<p>Trees and wires were blown down along Conowingo Road.</p>				
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<b>CHARLES COUNTY --- 1.6 WSW NEWBURG CLIFFTON ARP [38.36, -77.00]</b>				
	11/02/18 21:06 EST		0	Thunderstorm Wind (EG 50 kt)
	11/02/18 21:06 EST		0	Source: 911 Call Center
<p>A tractor trailer truck partially overturned on the US-301 Harry Nice Bridge.</p>				
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<b>CHARLES COUNTY --- 0.8 ESE POPES CREEK [38.39, -76.97]</b>				
	11/02/18 21:20 EST		0	Thunderstorm Wind (EG 50 kt)
	11/02/18 21:20 EST		0	Source: NWS Storm Survey
<p>Multiple trees were blown down in the 12200 block of Popes Creek Road near Edge Hill Road.</p>				
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<b>CHARLES COUNTY --- 0.9 SW SPRINGHILL [38.49, -76.99]</b>				
	11/02/18 21:21 EST		0	Thunderstorm Wind (EG 50 kt)
	11/02/18 21:21 EST		0	Source: State Official

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A tree was blown down near the intersection of Preference Drive and US-301 Crain Highway.

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**CHARLES COUNTY --- 0.7 S ALLENS FRESH [38.41, -76.95]**

	11/02/18 21:25 EST	0	Thunderstorm Wind (EG 50 kt)
	11/02/18 21:25 EST	0	Source: NWS Storm Survey

Straight line winds caused minor damage to the roof of the overhang of the Citgo Gas Station on US-301 Crain Highway near MD-234 Budds Creek Road. Several trees were also downed along Glasva School Road. A barn was destroyed on Edgewater Drive just north of MD-234 Budds Creek Road.

**A dynamic low pressure system tracked through the Mid-Atlantic states on the evening of November 2nd. A squall line developed along the cold front, and while instability was limited, deep and low level shear were strong enough to support the development of a quasi-linear convective system. The most intense portions of the system were able to generate localized severe damaging winds and tornadoes.**

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**CARROLL COUNTY --- 1.3 NNW KEYMAR [39.62, -77.24], 1.2 NNW KEYMAR [39.62, -77.24], 1.1 NNW KEYMAR [39.61, -77.24], 1.3 NW KEYMAR [39.62, -77.24]**

	11/02/18 21:05 EST	0	Flood (due to Heavy Rain)
	11/03/18 00:57 EST	0	Source: River/Stream Gage

The stream gage on the Big Pipe Creek in Bruceville exceeded the 8 foot flood stage during the indicated period, flooding Keysville-Bruceville Road. The peak level of 9.54 feet was observed at 23:15 EST on November 2nd.

**A dynamic low pressure system tracked through the Mid-Atlantic states on the evening of November 2nd, producing a period of stratiform precipitation in the late afternoon, followed by a potent squall line during the evening hours.**

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**(MD-Z011) SOUTHERN BALTIMORE, (MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z016) CHARLES, (MD-Z017) ST. MARY'S, (MD-Z018) CALVERT, (MD-Z507) NORTHWEST HARFORD, (MD-Z508) SOUTHEAST HARFORD**

	11/10/18 22:00 EST	0	Frost/Freeze
	11/11/18 09:00 EST	0	

High pressure, clear skies, and light winds led to temperatures that fell below freezing.

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**(MD-Z003) WASHINGTON, (MD-Z004) FREDERICK, (MD-Z005) CARROLL, (MD-Z006) NORTHERN BALTIMORE, (MD-Z501) EXTREME WESTERN ALLEGANY, (MD-Z502) CENTRAL AND EASTERN ALLEGANY, (MD-Z503) NORTHWEST MONTGOMERY, (MD-Z505) NORTHWEST HOWARD, (MD-Z507) NORTHWEST HARFORD**

	11/15/18 05:00 EST	0	Winter Storm
	11/16/18 00:00 EST	0	

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**(MD-Z011) SOUTHERN BALTIMORE, (MD-Z013) PRINCE GEORGES, (MD-Z014) ANNE ARUNDEL, (MD-Z504) CENTRAL AND SOUTHEAST MONTGOMERY, (MD-Z506) CENTRAL AND SOUTHEAST HOWARD, (MD-Z508) SOUTHEAST HARFORD**

	11/15/18 05:00 EST	0	Winter Weather
	11/15/18 15:00 EST	0	

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the 15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including heavy snow and mixed precipitation northwest of the I-95 corridor, and mainly rain in southern Maryland.

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**(MD-Z003) WASHINGTON, (MD-Z004) FREDERICK**

	11/24/18 07:00 EST	0	Winter Weather
	11/24/18 13:00 EST	0	

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**(MD-Z501) EXTREME WESTERN ALLEGANY, (MD-Z502) CENTRAL AND EASTERN ALLEGANY**

	11/24/18 07:00 EST	0	Winter Storm
	11/24/18 15:00 EST	0	

An area of low pressure developed along the Gulf Coast on the night of November 23rd, and tracked northeastward to the North and South Carolina coastlines during the daytime hours on the 24th, strengthening to around 990mb on the night of the 24th as it continued moving northeastward through the Delmarva to off the coast of New Jersey by the morning of the 25th. The system then began weakening on the 25th as it moved out into the western Atlantic Ocean. Widespread rain was brought to the region, along with a period of freezing rain and ice accumulations along and west of the Blue Ridge/Catoctin Mountains.



## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>MONTGOMERY COUNTY --- 1.9 N DARNESTOWN [39.13, -77.30], 2.0 N DARNESTOWN [39.13, -77.30], 1.9 N DARNESTOWN [39.13, -77.29], 1.8 N DARNESTOWN [39.13, -77.30]</b>				
	11/24/18 18:38 EST		0	Flood (due to Heavy Rain)
	11/25/18 04:14 EST		0	Source: River/Stream Gage
The stream gage on the Seneca Creek at Dawsonville exceeded the 7.5 foot flood stage during the indicated period, leading to flooding of the Seneca Creek Greenway, as well as a small portion of Berryville Road west of Darnestown. The peak level of 8.18 feet occurred at 7:55 PM on the 25th.				
<b>CARROLL COUNTY --- 1.3 NNW KEYMAR [39.62, -77.24], 1.2 NNW KEYMAR [39.62, -77.24], 1.1 NNW KEYMAR [39.61, -77.24], 1.3 NNW KEYMAR [39.62, -77.24]</b>				
	11/24/18 18:56 EST		0	Flood (due to Heavy Rain)
	11/24/18 23:36 EST		0	Source: River/Stream Gage
The stream gage on the Big Pipe Creek at Bruceville exceeded the 8 foot flood stage during the indicated period, leading to flooding on Keysville-Bruceville Road. The peak level of 9.06 feet occurred at 9:00 PM on the 24th.				
<b>MONTGOMERY COUNTY --- 0.9 NW ROCK CREEK FOREST [38.99, -77.06], 0.7 NW ROCK CREEK FOREST [38.99, -77.06], 0.7 NW ROCK CREEK FOREST [38.99, -77.06], 0.7 WNW ROCK CREEK FOREST [38.99, -77.06]</b>				
	11/24/18 19:12 EST		0	Flood (due to Heavy Rain)
	11/24/18 21:12 EST		0	Source: Fire Department/Rescue
Water rescue required of people stranded by floodwaters in the Meadowbrook Park Community Center.				
<b>MONTGOMERY COUNTY --- 0.8 SW BRIGHTON [39.19, -77.04], 0.7 SW BRIGHTON [39.19, -77.04], 0.7 SW BRIGHTON [39.19, -77.04], 0.8 SW BRIGHTON [39.19, -77.04]</b>				
	11/24/18 19:36 EST		0	Flood (due to Heavy Rain)
	11/24/18 21:36 EST		0	Source: Fire Department/Rescue
Car stranded in floodwaters on Brighton Dam Road at the Hawlings River.				
<b>MONTGOMERY COUNTY --- 0.8 NW ROCK CREEK FOREST [38.99, -77.06], 0.8 SW GEORGETOWN JCT [38.99, -77.06], 0.9 WSW GEORGETOWN JCT [38.99, -77.06], 0.7 WNW ROCK CREEK FOREST [38.98, -77.06], 0.5 NNW ROCK CREEK FOREST [38.99, -77.05], 0.6 N ROCK CREEK FOREST [38.99, -77.05]</b>				
	11/24/18 20:32 EST		0	Flood (due to Heavy Rain)
	11/24/18 22:32 EST		0	Source: Fire Department/Rescue
Beach Drive closed from East West Highway to the DC line due to flooding of Rock Creek.				
<b>BALTIMORE COUNTY --- 0.2 SW GLENCOE [39.55, -76.63], 0.7 SW GLENCOE [39.54, -76.64], 0.9 SSW GLENCOE [39.54, -76.64], 0.8 NE SPARKS [39.54, -76.64], 0.8 WSW GLENCOE [39.54, -76.64], 0.4 W GLENCOE [39.55, -76.64], 0.8 NW GLENCOE [39.56, -76.64], 0.7 NW GLENCOE [39.56, -76.64]</b>				
	11/24/18 20:36 EST		0	Flood (due to Heavy Rain)
	11/25/18 05:42 EST		0	Source: River/Stream Gage
The stream gage on Gunpowder Falls at Glencoe exceeded the flood stage of 7 feet during the indicated time period, leading to flooding on portions of Upper Glencoe Road, Lower Glencoe Road, Sparks Road and Home Road. Additionally, water began to enter buildings off of Sparks Road. The peak level of 10.74 feet occurred at 12:15 AM on the 25th.				
<b>FREDERICK COUNTY --- 1.0 NE UTICA [39.54, -77.39], 0.9 NW CERESVILLE [39.46, -77.38], 1.4 S LIBERTYTOWN [39.46, -77.25], 1.5 NW JOHNSVILLE [39.54, -77.25]</b>				
	11/24/18 21:06 EST		0	Flood (due to Heavy Rain)
	11/24/18 23:06 EST		0	Source: State Official
Frederick County 911 Center reported about thirty roads closed due to high water. The areas that had the most closures were north and east of Frederick City.				
<b>MONTGOMERY COUNTY --- 0.9 SE MT ZION [39.17, -77.09], 0.9 SE MT ZION [39.17, -77.09], 1.1 SE MT ZION [39.17, -77.09], 1.0 SE MT ZION [39.17, -77.09]</b>				
	11/24/18 21:06 EST		0	Flood (due to Heavy Rain)
	11/24/18 23:06 EST		0	Source: Fire Department/Rescue
Car stranded in high water near the intersection of Volunteer Drive and Olney-Laytonsville Road.				

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>HARFORD COUNTY --- 0.5 SW SINGER [39.47, -76.34], 0.6 SSW SINGER [39.47, -76.34], 0.9 SSW SINGER [39.47, -76.34], 0.9 SSW SINGER [39.47, -76.34], 0.6 SW SINGER [39.47, -76.34], 0.6 SW SINGER [39.47, -76.34]</b>				
	11/24/18 21:11 EST		0	Flood (due to Heavy Rain)
	11/24/18 23:46 EST		0	Source: River/Stream Gage
The stream gage on Otter Point Creek at Edgewood exceeded the 8 foot flood stage during the indicated period, leading to flooding along Winters Run Road near Singer Road. The peak level of 8.38 feet occurred at 10:15 PM on the 24th.				
<b>HOWARD COUNTY --- 4.0 S SAVAGE [39.07, -76.84], 4.2 S SAVAGE [39.07, -76.84], 4.1 S SAVAGE [39.07, -76.83], 3.9 S SAVAGE [39.07, -76.84]</b>				
	11/24/18 21:23 EST		0	Flood (due to Heavy Rain)
	11/25/18 03:35 EST		0	Source: River/Stream Gage
The stream gage on the Little Patuxent River at Savage exceeded the flood stage of 10 feet during the indicated period. Riverside trains began to flood, and water approached fields off of Bald Eagle Drive, as well as Brock Bridge Road. The peak level of 10.59 feet occurred at 11:00 PM on the 24th.				
<b>HOWARD COUNTY --- 0.7 N COLUMBIA [39.24, -76.85], 0.7 NNE COLUMBIA [39.24, -76.85], 0.7 NNE COLUMBIA [39.24, -76.85], 0.6 N COLUMBIA [39.24, -76.85]</b>				
	11/24/18 23:34 EST		0	Flood (due to Heavy Rain)
	11/25/18 01:34 EST		0	Source: Emergency Manager
Road closed due to flooding at intersection of Route 108 and Woodland Road.				
<b>BALTIMORE COUNTY --- 0.8 SSW OELLA [39.26, -76.79], 0.6 S OELLA [39.26, -76.78], 1.7 SE OELLA [39.25, -76.76], 1.6 SSE OELLA [39.25, -76.77]</b>				
	11/24/18 23:56 EST		0	Flood (due to Heavy Rain)
	11/25/18 03:52 EST		0	Source: River/Stream Gage
The stream gage on the Patapsco River at Elkridge (ERDM2) exceeded the 15 foot flood stage during the indicated period, leading to flooding along River Road in Patapsco Valley State Park. Large portions of the park also flooded near the playground off Gunn Road. The peak level of 15.3 feet occurred at 1:45 AM on the 25th.				
<b>ST. MARY'S COUNTY --- 0.3 NE GREAT MILLS [38.23, -76.50], 0.4 NE GREAT MILLS [38.23, -76.49], 0.4 E GREAT MILLS [38.23, -76.49], 0.2 E GREAT MILLS [38.23, -76.50]</b>				
	11/25/18 00:45 EST		0	Flood (due to Heavy Rain)
	11/25/18 00:45 EST		0	Source: River/Stream Gage
The stream gage on the St. Marys River at Great Mills exceeded the 6 feet flood stage during the indicated period. Flat Iron Road flooded, and water entered some yards in Great Mills. The peak level of 6.00 feet occurred at 12:45 AM on the 25th.				
<b>FREDERICK COUNTY --- 1.2 E LIME KILN [39.35, -77.41], 0.3 WSW REELS MILL [39.37, -77.39], 0.4 SSW PEARL [39.39, -77.37], 0.4 SSE GROVE [39.40, -77.38], 0.3 E FREDERICK JCT [39.38, -77.39], 0.8 S FREDERICK JCT [39.37, -77.40], 0.9 NE LIME KILN [39.36, -77.42]</b>				
	11/25/18 08:35 EST		0	Flood (due to Heavy Rain)
	11/25/18 17:08 EST		0	Source: River/Stream Gage
The river gage on the Monocacy River at Frederick exceeded the 15 foot flood stage during the indicated period, leading to flooding of portions of Pinecliff Park, as well as many of the low-lying fields at Monocacy National Battlefield. The peak level of 15.57 feet occurred at 1:45 PM on the 25th.				
<b>A negatively tilted trough approached the area on the 24th as surface low pressure tracked up toward the Great Lakes and secondary low pressure formed along the Carolina Coast. Lift ahead of the negatively tilted trough/within the left exit region of an upper-level jet streak led to a period of moderate to heavy rain through much of the day on the 24th. Rainfall totals were generally between 1-2 inches across the area, resulting in many instances of flooding.</b>				
<b>(MD-Z014) ANNE ARUNDEL, (MD-Z017) ST. MARY'S</b>				
	11/26/18 14:30 EST		0	Coastal Flood
	11/26/18 20:03 EST		0	
Southerly onshore flow ahead of a strong low pressure system led to increased tidal anomalies and moderate coastal flooding across portions of the western shore of the Chesapeake Bay and lower tidal Potomac.				

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<b>FAIRFAX COUNTY --- 0.2 SW CLARKS CROSSING [38.92, -77.30], 0.2 SSW CLARKS CROSSING [38.92, -77.30], 0.2 S CLARKS CROSSING [38.92, -77.30], 0.2 SW CLARKS CROSSING [38.92, -77.30]</b>				
	11/05/18 11:04 EST		0	Flood (due to Heavy Rain)
	11/05/18 13:04 EST		0	Source: Department of Highways
Lawyers Road closed near Hunter Mill Road due to flooding.				
<b>FAIRFAX COUNTY --- 0.8 SSE BURKE [38.79, -77.27], 0.8 SSE BURKE [38.79, -77.27], 0.9 S BURKE [38.79, -77.27], 0.9 SSE BURKE [38.79, -77.27]</b>				
	11/05/18 11:04 EST		0	Flood (due to Heavy Rain)
	11/05/18 15:00 EST		0	Source: Department of Highways
Burke Road closed near Heritage Square Drive due to flooding.				
<b>FAIRFAX COUNTY --- 1.0 WSW TREMONT [38.85, -77.24], 0.9 WSW TREMONT [38.85, -77.24], 1.0 WSW TREMONT [38.85, -77.24], 1.1 WSW TREMONT [38.85, -77.24]</b>				
	11/05/18 11:04 EST		0	Flood (due to Heavy Rain)
	11/05/18 15:00 EST		0	Source: Department of Highways
Woodburn Road closed due to flooding near intersection with Spicewood Drive.				
<b>FAIRFAX COUNTY --- 1.7 S KENMORE [38.93, -77.27], 1.7 N VIENNA [38.92, -77.26], 1.8 SSE KENMORE [38.93, -77.26], 1.6 S KENMORE [38.93, -77.27]</b>				
	11/05/18 11:04 EST		0	Flood (due to Heavy Rain)
	11/05/18 13:04 EST		0	Source: Department of Highways
Old Courthouse Road closed near Besley Road due to flooding.				
<b>FAIRFAX COUNTY --- 2.5 SSW SUNSET HILLS [38.92, -77.37], 2.4 SSW SUNSET HILLS [38.92, -77.37], 2.2 SSW SUNSET HILLS [38.92, -77.37], 2.3 SSW SUNSET HILLS [38.92, -77.37]</b>				
	11/05/18 11:04 EST		0	Flood (due to Heavy Rain)
	11/05/18 13:04 EST		0	Source: Department of Highways
Fox Mill Road closed near Steeplechase Drive due to flooding.				
<b>FAIRFAX COUNTY --- 2.4 NNW VALE [38.91, -77.36], 2.5 NNW VALE [38.91, -77.37], 1.9 NNW VALE [38.91, -77.36], 1.9 NNW VALE [38.91, -77.36]</b>				
	11/05/18 13:00 EST		0	Flood (due to Heavy Rain)
	11/05/18 15:00 EST		0	Source: Law Enforcement
Fox Mill Road closed near Thoroughbred Road and between Westwood Hills Drive and Shady Mill Lane due to flooding.				
<b>A steady, soaking rain driven by isentropic ascent to the north of a warm front, occurred primarily during the morning hours of the 5th. Most locations received 1-2 inches of rainfall, which led to localized flooding.</b>				
<b>(VA-Z054) ARLINGTON, (VA-Z057) KING GEORGE</b>				
	11/10/18 22:00 EST		0	Frost/Freeze
	11/11/18 09:00 EST		0	
High pressure, clear skies, and light winds led to temperatures that fell below freezing.				
<b>(VA-Z025) AUGUSTA, (VA-Z026) ROCKINGHAM, (VA-Z028) FREDERICK, (VA-Z029) PAGE, (VA-Z030) WARREN, (VA-Z031) CLARKE, (VA-Z050) WESTERN LOUDOUN, (VA-Z507) NORTHERN VIRGINIA BLUE RIDGE, (VA-Z508) CENTRAL VIRGINIA BLUE RIDGE</b>				
	11/15/18 03:00 EST		0	Winter Storm
	11/16/18 00:00 EST		0	
<b>(VA-Z036) NELSON, (VA-Z037) ALBEMARLE, (VA-Z038) GREENE, (VA-Z039) MADISON, (VA-Z040) RAPPAHANNOCK, (VA-Z050) ORANGE, (VA-Z051) CULPEPER, (VA-Z052) PRINCE WILLIAM, (VA-Z053) FAIRFAX, (VA-Z054) ARLINGTON, (VA-Z501) NORTHERN FAUQUIER, (VA-Z502) SOUTHERN FAUQUIER, (VA-Z503) WESTERN HIGHLAND, (VA-Z504) EASTERN HIGHLAND, (VA-Z506) EASTERN LOUDOUN</b>				
	11/15/18 03:00 EST		0	Winter Weather
	11/16/18 00:00 EST		0	

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including heavy snow and mixed precipitation north of I-66 and west of I-81, and mainly rain in central Virginia.

**PRINCE WILLIAM COUNTY --- 2.6 SW ADEN [38.62, -77.56], 2.9 SSW ADEN [38.61, -77.56], 2.7 SSW ADEN [38.61, -77.55], 2.4 SSW ADEN [38.62, -77.55]**

	11/15/18 11:37 EST	0	Flood (due to Heavy Rain)
	11/16/18 12:27 EST	0	Source: River/Stream Gage

The stream gage on Cedar Run at Aden exceeded the 10 foot flood stage during the indicated period, flooding Fleetwood Drive near Cedar Run. The peak level of 11 feet occurred at 8:36 AM on November 16th.

**CULPEPER COUNTY --- 2.5 NW RAPIDAN [38.34, -78.10], 1.6 NW RAPIDAN [38.34, -78.09], 0.9 NW RAPIDAN [38.33, -78.08], 0.9 NW RAPIDAN [38.33, -78.08], 1.3 NW RAPIDAN [38.33, -78.09], 1.7 NW RAPIDAN [38.34, -78.09], 2.4 NW RAPIDAN [38.34, -78.10], 2.5 NW RAPIDAN [38.34, -78.10]**

	11/15/18 19:54 EST	0	Flood (due to Heavy Rain)
	11/15/18 23:54 EST	0	Source: River/Stream Gage

The stream gage on the Robinson River at Locust Dale exceeded the 11 foot flood stage during the indicated period. Water covered portions of Route 721 (Robinson River Road) and agricultural flooding occurred. The peak level of 11.54 feet occurred at 9:45 PM.

**PRINCE WILLIAM COUNTY --- 1.1 NNW YORKSHIRE [38.80, -77.44], 0.8 NNW YORKSHIRE [38.79, -77.44], 0.5 NNW YORKSHIRE [38.79, -77.43], 0.2 W YORKSHIRE [38.78, -77.43], 0.1 WNW YORKSHIRE [38.78, -77.43], 0.5 NNW YORKSHIRE [38.79, -77.43], 1.0 NNW YORKSHIRE [38.79, -77.44], 1.1 NNW YORKSHIRE [38.80, -77.44]**

	11/16/18 04:00 EST	0	Flood (due to Heavy Rain)
	11/16/18 09:20 EST	0	Source: River/Stream Gage

The stream gage on the Bull Run at Manassas Park exceeded the 12 foot flood stage during the indicated period. Water covered backyards in the Yorkshire area and flooded portions of the Bull Run trail system. The peak level of 12.23 feet occurred at 7:00 AM.

**A potent upper-level low approached the area from the Mississippi Valley as low pressure developed along the North Carolina coastline and moved north. Heavy precipitation (some of which fell in the form of snow) overspread the area during the morning of the 15th and lasted through the mid-afternoon hours, leading to some localized instances of flooding.**

**(VA-Z025) AUGUSTA, (VA-Z026) ROCKINGHAM, (VA-Z027) SHENANDOAH, (VA-Z028) FREDERICK, (VA-Z029) PAGE, (VA-Z030) WARREN, (VA-Z031) CLARKE, (VA-Z036) NELSON, (VA-Z037) ALBEMARLE, (VA-Z038) GREENE, (VA-Z039) MADISON, (VA-Z040) RAPPAHANNOCK, (VA-Z050) ORANGE, (VA-Z501) NORTHERN FAUQUIER, (VA-Z503) WESTERN HIGHLAND, (VA-Z504) EASTERN HIGHLAND, (VA-Z505) WESTERN LOUDOUN, (VA-Z507) NORTHERN VIRGINIA BLUE RIDGE, (VA-Z508) CENTRAL VIRGINIA BLUE RIDGE**

	11/24/18 05:00 EST	0	Winter Weather
	11/24/18 13:00 EST	0	

An area of low pressure developed along the Gulf Coast on the night of November 23rd, and tracked northeastward to the North and South Carolina coastlines during the daytime hours on the 24th, strengthening to around 990mb on the night of the 24th as it continued moving northeastward through the Delmarva to off the coast of New Jersey by the morning of the 25th. The system then began weakening on the 25th as it moved out into the western Atlantic Ocean. Widespread rain was brought to the region, along with a period of freezing rain and ice accumulations along and west of the Blue Ridge.

**FAIRFAX COUNTY --- 1.0 NE CENTREVILLE [38.84, -77.41], 1.4 WSW LEGATO [38.84, -77.39], 1.4 WSW LEGATO [38.84, -77.39], 1.1 NE CENTREVILLE [38.84, -77.41]**

	11/24/18 17:45 EST	0	Flood (due to Heavy Rain)
	11/24/18 19:45 EST	0	Source: Law Enforcement

Both eastbound lanes of Lee Highway were closed at Stringfellow Road due to floodwaters.

**FAIRFAX COUNTY --- 1.1 WSW TREMONT [38.85, -77.24], 1.0 WSW TREMONT [38.85, -77.24], 0.9 WSW TREMONT [38.85, -77.24], 1.0 WSW TREMONT [38.85, -77.24]**

	11/24/18 17:46 EST	0	Flood (due to Heavy Rain)
	11/24/18 19:46 EST	0	Source: Fire Department/Rescue

Water rescue required after car became stranded in floodwaters on Woodburn Road at Accotink Creek.

**FAIRFAX COUNTY --- 0.2 SW CLARKS CROSSING [38.92, -77.30], 0.1 WSW CLARKS CROSSING [38.92, -77.30], 0.2 SSE CLARKS CROSSING [38.92, -77.30], 0.3 S CLARKS CROSSING [38.92, -77.30]**

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	11/24/18 18:30 EST		0	Flood (due to Heavy Rain)
	11/24/18 20:30 EST		0	Source: State Official

Lawyers Road at Hunter Mill Road was closed due to high water.

**FAIRFAX COUNTY --- 0.5 E DONOVANS CORNER [38.77, -77.31], 0.6 E DONOVANS CORNER [38.77, -77.31], 0.7 E DONOVANS CORNER [38.77, -77.31], 0.6 E DONOVANS CORNER [38.77, -77.31]**

	11/24/18 18:30 EST		0	Flood (due to Heavy Rain)
	11/24/18 20:30 EST		0	Source: State Official

Burke Lake Road at Jeremiah Court was closed due to high water.

**FAIRFAX COUNTY --- 0.8 SSE BURKE [38.79, -77.27], 0.8 SSE BURKE [38.79, -77.27], 0.9 SSE BURKE [38.79, -77.26], 0.9 SSE BURKE [38.79, -77.27]**

	11/24/18 18:30 EST		0	Flood (due to Heavy Rain)
	11/24/18 20:30 EST		0	Source: State Official

Burke Road at Heritage Square Drive was closed due to high water.

**FAIRFAX COUNTY --- 2.2 NNW VALE [38.91, -77.36], 2.3 NNW VALE [38.91, -77.36], 2.3 NNW VALE [38.91, -77.36], 2.3 NNW VALE [38.91, -77.36]**

	11/24/18 18:30 EST		0	Flood (due to Heavy Rain)
	11/24/18 20:30 EST		0	Source: State Official

Fox Mill Road at Folkstone Drive was closed due to high water.

**LOUDOUN COUNTY --- 1.4 S LEESBURG MUNI [39.06, -77.55], 1.2 S LEESBURG MUNI [39.06, -77.55], 1.2 S LEESBURG MUNI [39.06, -77.55], 1.4 S LEESBURG MUNI [39.06, -77.55]**

	11/24/18 19:42 EST		0	Flood (due to Heavy Rain)
	11/24/18 21:42 EST		0	Source: State Official

Road closed due to high water at the intersection of Shreve Mill Road and Sycolin Road.

**PRINCE WILLIAM COUNTY --- 1.2 NNW YORKSHIRE [38.80, -77.44], 0.8 NNW YORKSHIRE [38.79, -77.44], 0.5 NNW YORKSHIRE [38.79, -77.43], 0.2 W YORKSHIRE [38.78, -77.43], 0.1 WNW YORKSHIRE [38.78, -77.43], 0.6 NNW YORKSHIRE [38.79, -77.43], 1.0 NNW YORKSHIRE [38.79, -77.44], 1.1 NNW YORKSHIRE [38.80, -77.44]**

	11/24/18 23:35 EST		0	Flood (due to Heavy Rain)
	11/25/18 08:56 EST		0	Source: River/Stream Gage

The stream gage on the Bull Run at Manassas Park exceeded the 12 foot flood stage during the indicated period. Water covered backyards in the Yorkshire area and flooded portions of the Bull Run trail system. The peak level of 13.48 feet occurred at 5:40 AM on the 25th.

**PRINCE WILLIAM COUNTY --- 2.6 SSW ADEN [38.62, -77.56], 2.8 SSW ADEN [38.61, -77.56], 2.7 SSW ADEN [38.61, -77.55], 2.5 SSW ADEN [38.62, -77.55]**

	11/25/18 00:15 EST		0	Flood (due to Heavy Rain)
	11/25/18 08:53 EST		0	Source: River/Stream Gage

The stream gage on Cedar Run at Aden exceeded the 10 foot flood stage during the indicated period, flooding Fleetwood Drive near Cedar Run. The peak level of 10.48 feet occurred at 5:45 AM on November 25th.

**PRINCE WILLIAM COUNTY --- 0.8 N BRISTOW [38.73, -77.53], 0.8 N BRISTOW [38.73, -77.53], 0.5 N BRISTOW [38.73, -77.53], 0.5 NNW BRISTOW [38.73, -77.53]**

	11/25/18 00:54 EST		0	Flood (due to Heavy Rain)
	11/25/18 04:41 EST		0	Source: River/Stream Gage

The stream gage on the Broad Run at Bristow exceeded the 9.5 foot flood stage during the indicated period. Piper Lane flooded near Manassas Airport and trails along the stream were also flooded. The peak level of 10.93 feet occurred at 3:16 AM on the 25th.

**A negatively tilted trough approached the area on the 24th as surface low pressure tracked up toward the Great Lakes and secondary low pressure formed along the Carolina Coast. Lift ahead of the negatively tilted trough/within the left exit region of an upper-level jet streak led to a period of moderate to heavy rain through much of the day on the 24th. Rainfall totals were generally between 1-2 inches across the area, resulting in many instances of flooding.**

(VA-Z503) WESTERN HIGHLAND

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
	11/28/18 01:00 EST		0	Cold/Wind Chill
	11/28/18 09:00 EST		0	

A low pressure system moved up the eastern seaboard of the United States from November 26th through the 27th, with cold temperatures and strong northwest winds funneling behind the system from the night of the 27th into the morning of the 28th. This was able to produce wind chill values as low as -10 degrees over the higher terrain near the Allegheny Front.

### WEST VIRGINIA, East

#### (WV-Z505) WESTERN PENDLETON, (WV-Z506) EASTERN PENDLETON

11/15/18 03:00 EST	0	Winter Weather
11/16/18 00:00 EST	0	

#### (WV-Z050) HAMPSHIRE, (WV-Z051) MORGAN, (WV-Z052) BERKELEY, (WV-Z053) JEFFERSON, (WV-Z055) HARDY, (WV-Z501) WESTERN GRANT, (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL

11/15/18 05:00 EST	0	Winter Storm
11/16/18 00:00 EST	0	

An area of low pressure developed across the southeastern United States on the night of November 14th, and tracked northeastward along the North and South Carolina coastlines during the daytime hours on the 15th, strengthening to around 995mb on the night of the 15th as it continued moving northward through the Delmarva to New Jersey by the morning of the 16th. Further strengthening to around 985 mb occurred on the 16th as the system sped up and moved towards Nova Scotia. Widespread precipitation was brought to the region, including heavy snow and mixed precipitation.

#### (WV-Z050) HAMPSHIRE, (WV-Z051) MORGAN, (WV-Z052) BERKELEY, (WV-Z053) JEFFERSON, (WV-Z055) HARDY, (WV-Z501) WESTERN GRANT, (WV-Z505) WESTERN PENDLETON, (WV-Z506) EASTERN PENDLETON

11/24/18 05:00 EST	0	Winter Weather
11/24/18 13:00 EST	0	

#### (WV-Z502) EASTERN GRANT, (WV-Z503) WESTERN MINERAL, (WV-Z504) EASTERN MINERAL

11/24/18 07:00 EST	0	Winter Storm
11/24/18 15:00 EST	0	

An area of low pressure developed along the Gulf Coast on the night of November 23rd, and tracked northeastward to the North and South Carolina coastlines during the daytime hours on the 24th, strengthening to around 990mb on the night of the 24th as it continued moving northeastward through the Delmarva to off the coast of New Jersey by the morning of the 25th. The system then began weakening on the 25th as it moved out into the western Atlantic Ocean. Widespread rain was brought to the region, along with a period of freezing rain and ice accumulations.

#### BERKELEY COUNTY --- 2.2 WSW VANCLEVESVILLE [39.42, -77.94], 2.0 ENE (MRB)SHEPHERD FLD MR [39.42, -77.95], 2.6 SSE (MRB)SHEPHERD FLD MR [39.37, -77.96], 2.8 SSE (MRB)SHEPHERD FLD MR [39.37, -77.95], 3.0 ESE (MRB)SHEPHERD FLD MR [39.38, -77.93], 0.3 SW BLAIRTON [39.45, -77.92], 1.0 WSW BLAIRTON [39.44, -77.94]

11/25/18 06:30 EST	0	Flood (due to Heavy Rain)
11/25/18 12:01 EST	0	Source: River/Stream Gage

The river gage on the Opequon Creek at Martinsburg exceeded the 10 foot flood stage during the indicated period, leading to flooding along portions of Douglas Grove Road (County Road 9/16) and Bowers Road. Additionally, water covered the stream access point at the Van Metre Ford Pedestrian Bridge. The peak level of 10.32 feet occurred at 9:30 AM on the 25th.

A negatively tilted trough approached the area on the 24th as surface low pressure tracked up toward the Great Lakes and secondary low pressure formed along the Carolina Coast. Lift ahead of the negatively tilted trough/within the left exit region of an upper-level jet streak led to a period of moderate to heavy rain through much of the day on the 24th. Rainfall totals were generally between 1-2 inches across the area, resulting in many instances of flooding.

#### (WV-Z501) WESTERN GRANT, (WV-Z505) WESTERN PENDLETON

11/27/18 19:00 EST	0	Winter Weather
11/28/18 10:00 EST	0	

Gusty northwest flow behind a departing low pressure system combined with lingering low level moisture and elevated terrain to generate up-slope snow showers along and near the Allegheny Front from the afternoon of November 27th into the morning of the 28th.

## Storm Data and Unusual Weather Phenomena - November 2018

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
(WV-Z505) WESTERN PENDLETON	11/28/18 01:00 EST		0	Cold/Wind Chill
	11/28/18 09:00 EST		0	

A low pressure system moved up the eastern seaboard of the United States from November 26th through the 27th, with cold temperatures and strong northwest winds funneling behind the system from the night of the 27th into the morning of the 28th. This was able to produce wind chill values as low as -10 degrees over the higher terrain near the Allegheny Front.