



## Piedmont Triad AmRRON ExSum Hurricane Florence (Update 8)

### Key Judgments:

Florence is continuing to weaken and is now picking up forward speed as it prepares to turn northward along the Appalachian mountains. The storm has not left the area. It is continuing to deliver damaging rain and wind to the region.

The number of deaths being reported across the Carolinas as a result of Florence ranges from 5 to 9 depending on the source.

Flooding is a major concern as rain continues in the region through the area causing streams and rivers to rise and overflow their banks. Flash flood alerts are in effect for most of North Carolina extending into western Virginia and northern South Carolina. Many areas of North Carolina are also under tornado warnings.

Many people who have evacuated their homes and businesses will not be able to return for at least a few more days to check on them due to continued flooding, impassable roads and dangerous conditions.

AmRRON members are conducting nets according to the AmRRON SOI. AmCON Level remains at Level-1 (Active Incident – Regional).



### Introduction:

Florence has weakened to a tropical depression but its siege of heavy rain continues, triggering flash flooding and river flooding from the Carolinas into western Virginia and eastern West Virginia. Portions of the Northeast will also see locally heavy rain from Florence's remnants.

At 5 a.m. Sunday, Florence was moving at 8 mph (13 kph), with its center located about 20- miles (35 kilometers) southwest of Columbia, South Carolina. Florence's top sustained winds were holding at 35 mph (55 kph).

### Substantiation:

**2018-09-15-1323Z – wxii12.com: Major river flooding expected as Florence weakens to tropical depression**

<https://www.wxii12.com/article/tropical-depression-florence-north-south-carolina/22998590>

Florence's heavy rainfall is forecast to continue, potentially causing catastrophic inland flooding. The hurricane center says some areas along North Carolina's coast could see up to 40 inches (100 centimeters) of total rain by the time Florence passes through early next week.

Residents in the Piedmont-Triad area should monitor the potential for major flooding from Florence's tropical rain bands. Meteorologist say as much as a foot of rain could fall in some parts of the region, and there is a concern of river flooding. A Flash Flood Watch is in effect for Alamance, Davidson, Forsyth, Guilford and Randolph counties until 8 a.m. Monday.

North Carolina Gov. Roy Cooper calls Florence the "uninvited brute" that could wipe out entire communities.



**2018-09-15-2100Z – weather.com: 'We Face Walls of Water': Florence Kills 8 in North Carolina, Forces New Evacuations as Floodwaters Rise**

<https://weather.com/storms/hurricane/news/2018-09-14-hurricane-florence-north-carolina-impacts>

- Florence's heavy rain will continue to soak the Carolinas, western Virginia and eastern West Virginia into Monday.
- Rainfall totals of 20 to 30 inches have been reported.
- Major to record river flooding is forecast in parts of the Carolinas, rivaling Hurricane Matthew (2016) or Hurricane Floyd (1999) in some locations.
- Flooding and landslides are possible in the Appalachians as well.

The greatest risk of additional flooding Sunday into early Monday is from northern South Carolina to North Carolina, southwest Virginia and eastern West Virginia.

Here's what to expect for additional rainfall totals, according to the National Hurricane Center:

- 4 to 6 inches (locally 8 inches) from southern North Carolina into northern South Carolina. Storm totals including what has already fallen will be 30 to 40 inches in southeastern North Carolina.
- 5 to 10 inches from central and western North Carolina to far southwest Virginia. Storm totals including what has already fallen are expected to be 15 to 20 inches in western North Carolina.
- 2 to 4 inches (locally 6 inches) in west-central Virginia.

It's important to note that you do not need rain nearly as heavy as what has fallen near the coast of the Carolinas to trigger major flash flooding and landslides in the Appalachians, due to the runoff enhancement of terrain.

**2018-09-16-1545Z – AP: Florence death toll swells to 14 as rivers rise**

<https://apnews.com/4e419a203e854a75bd3b0e1c96458d45/Florence-death-toll-swells-to-14-as-rivers-rise>

Radar showed parts of the sprawling storm over six states, but North and South Carolina were in the bull's-eye. The head of Federal Emergency Management Agency, Brock Long, said officials were still focused on finding and rescuing people. "We'll get through this. It'll be ugly, but we'll get through it," Long told NBC's "Meet The Press."

Stream gauges across the region showed water levels rising steadily, with forecasts calling for rivers to crest Sunday and Monday at or near record levels: The Little River, the Cape Fear, the Lumber, the Neuse, the Waccamaw and the Pee Dee were all projected to burst their banks, possibly flooding nearby communities. Authorities ordered the immediate evacuation of up to 7,500 people living within a mile (1.6 kilometers) of a stretch of the Cape Fear River and the Little River, about 100 miles (160 kilometers) from the North Carolina coast. The evacuation zone included part of the city of Fayetteville, population 200,000.

Coast Guard helicopters took off across the street to rescue stranded people from rooftops and swamped cars. The Marines rescued about 20 civilians from floodwaters near Camp Lejeune, using Humvees and amphibious assault vehicles, the base reported.

**Fox Company (Forward Observer) Reports:**

2018-09-16-0913E: Oath Keepers is sending a team to Lumberton to provide security.

2018-09-16-1005E: National Weather Service...WILMINGTON HAS BROKEN ITS ALL-TIME ANNUAL RAINFALL RECORD AND IS EXPERIENCING ITS WETTEST WEATHER EVENT IN HISTORY... AS OF 9:00 AM THIS MORNING, ANNUAL RAINFALL IN WILMINGTON, NORTH CAROLINA TOTALS 86.79 INCHES. THIS BREAKS THE PREVIOUS ANNUAL RECORD OF 83.65 INCHES SET DURING 1877. HURRICANE FLORENCE HAS DROPPED 23.59 INCHES IN WILMINGTON SO FAR. THIS BREAKS THE



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RECORD FOR THE WETTEST SINGLE WEATHER EVENT IN THE CITY'S HISTORY. THE PREVIOUS RECORD WAS SET DURING A SIGNIFICANT FLOOD EVENT IN LATE SEPTEMBER 2010 AT 22.54 INCHES. THE PREVIOUS RECORD RAINFALL DUE TO A NAMED TROPICAL SYSTEM WAS HURRICANE FLOYD AT 19.06 INCHES IN SEPTEMBER 1999.

2018-09-16-1041E: Lumberton -- CNR is reporting they have 11 boats (includes 1 air-boat), 1 -2 1/2 ton truck, and abt 30 ppl for boots on the ground. Source Alpha channel.

\*Multiple reports of trees down, power outages, flooding, and structure damage.

**AmRRON SitReps:**

2018-09-16-0038Z: CM13: Power out in McCormick County, winds 10-15 mph

2018-09-16-1130Z: G8R: Power still out, cell phone coverage spotty, flooding in area but not affecting qth, everyone okay.

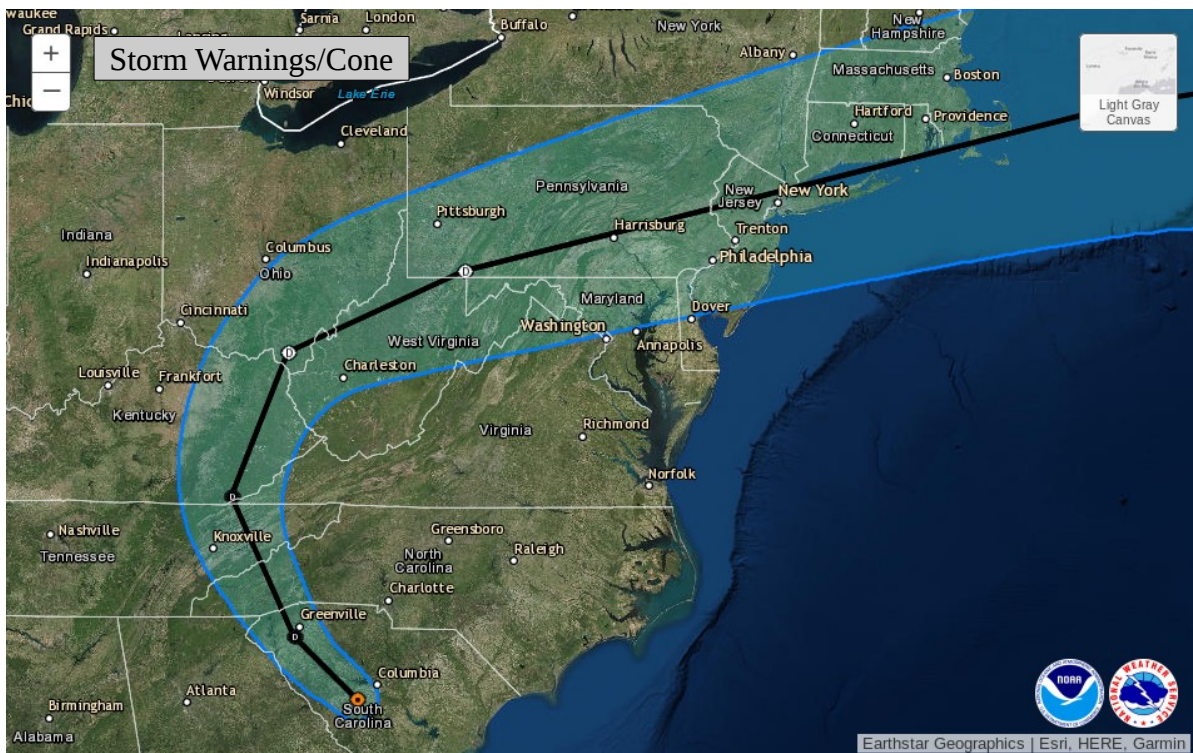
2018-09-16-1135Z: G8R: Reported family in Wilmington in need of rescue due to rising flood waters.

2018-09-16-1643Z: kg4aqh:0ballcall Just to let everyone know, My hf antennas came down in the storm. I've restored two and one more to go. We have had a total of 7 inches of rain so far. Wind has died down. The center of circulation is west of Columbia, SC and headed out. We should jve sunshine this afternoon or tomorrow. we only had power outage for about 4 hrs all total. I hope and pray that everybody gets thru this ok.\n\nGod Bless,\n\nAbb\nKG4AQH

**Outlook:**

The rain is expected to let up beginning on Monday with scattered showers and thunderstorms remaining. Flooding will continue across the stage. Emergency rescue teams will continue to be busy into the first part of the week with swift water rescue.

Power outages across North Carolina and South Carolina as of 11200Z are 660,980 and 58793 respectively. Power restoration for the affected areas may take 2-3 weeks in some locations.

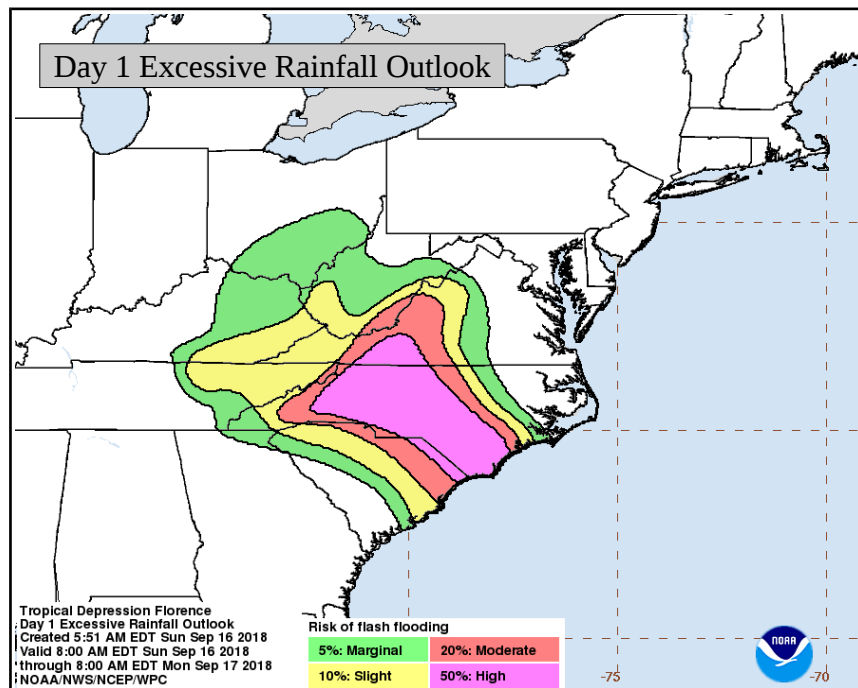




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**Potential Hazards Being Monitored:**

- Neuse River at Kinston, North Carolina: Major flooding (21 feet) is ongoing, and it may rise to near 25 feet during the week ahead. Homes and businesses begin flooding when the river reaches 21 feet. This would be just over two feet below the Floyd 1999 crest, and more than 3 feet below the Matthew 2016 crest.
- N.E. Cape Fear River at Burgaw, North Carolina: Major flooding (16 feet) is forecast to begin Sunday, and record flooding could be by Monday or Tuesday. The current flood of record is a crest of 22.5 feet from Hurricane Floyd in 1999. The National Weather Service noted that homes are flooded when the river reaches 16 feet, and many more take on water as it rises toward the record height.
- N.E. Cape Fear River at Chinquapin, North Carolina: This location set a new record flood level Sunday morning, topping the previous record of 23.5 feet from Hurricane Floyd in 1999. "Devastating flooding" occurs across the county once the river reaches 23 feet, according to the National Weather Service. The river may rise a few more feet into early week.
- Lumber River at Lumberton, North Carolina: Major flooding is ongoing and the level is now close to Hurricane Matthew's record of 24.39 feet. Flooding of homes can begin once the river reaches 17 feet. Interstate 95 has been closed between mile markers 13 and 22.
- Little River at Manchester, North Carolina: Major flooding (27 feet) is expected Sunday. The river could rise above Hurricane Matthew's record flood level of 32.19 feet early this week.
- Cape Fear River at Fayetteville, North Carolina: Major flooding (58 feet) is forecast by Monday or Tuesday. It could rise to its fifth-highest level on record if it tops Matthew's flood of 58.94 feet.
- Waccamaw River near Conway, South Carolina: Major flooding (14 feet) may be by Tuesday, and record flooding is possible by the latter part of this week. The previous flood of record is 17.87 feet from Hurricane Matthew in 2016. Water begins to surround homes when the river reaches 13 feet. Records here date to at least 1894.
- Major flooding is also forecast on the Little Pee Dee River at Galivants Ferry, South Carolina, the Neuse River near Goldsboro, North Carolina, the Yadkin River at Elkin, North Carolina, and the Dan River in southwestern Virginia.





**References:**

- 1) Previous PT AmRRON Executive Summaries related to Hurricane Florence
  - ExSum – PT AmRRON 2018-09-08-A Tropical Storm/Hurricane Conditions for NC in the Coming Week
  - ExSum – PT AmRRON 2018-09-10-A Hurricane Florence
  - ExSum – PT AmRRON 2018-09-11-A Hurricane Florence (Update)
  - ExSum – PT AmRRON 2018-09-12-A Hurricane Florence (Update 2)
  - ExSum – PT AmRRON 2018-09-13-A Hurricane Florence (Update 3)
  - ExSum – PT AmRRON 2018-09-14-A Hurricane Florence (Update 3)
  - ExSum – PT AmRRON 2018-09-14-B Hurricane Florence (Update 4)
  - ExSum – PT AmRRON 2018-09-15-A Hurricane Florence (Update 5)
  - ExSum – PT AmRRON 2018-09-15-B Hurricane Florence (Update 6)
  - ExSum – PT AmRRON 2018-09-15-B Hurricane Florence (Update 7)
- 2) AmRRON Communications Condition Level: <https://amrron.com/net-resourcestools/amcon-amrron-communications-condition-level/>
- 3) AmRRON Tropical Storm/Hurricane for Coming Week: <https://amrron.com/2018/09/09/tropical-storm-hurricane-conditions-for-nc-in-the-coming-week/>
- 4) NWS: National Hurricane Preparedness: <https://www.weather.gov/wrn/hurricane-preparedness>
- 5) NOAA: National Hurricane Center: [https://www.nhc.noaa.gov/refresh/graphics\\_at1+shtml/092830.shtml?cone#contents](https://www.nhc.noaa.gov/refresh/graphics_at1+shtml/092830.shtml?cone#contents)
- 6) w3kwh.com: Current Band Conditions: <https://w3kwh.com/current-band-conditions/>