

North Carolina Emergency Management - Risk Management

Monitoring Potential Flood/Surge Impacts of Hurricane Matthew - 10/13/2016 2300 Update

Risk Management continues to monitor potential riverine and coastal flooding impacts of Hurricane Matthew.

Summary of Key Points and Updates:

Riverine Flooding: Major rivers including the Lumber, Cape Fear, Neuse, and Tar Rivers all have current and forecasted major flooding effects through this week. Neuse River forecasted to reach above record levels.

- Current Conditions - Major Flooding – 10 gages, Moderate Flooding – 4 gages, and Minor Flooding – 7 gages. Over the past 6 hours: 1 gage decreased from major to moderate (Black River near Tomahawk), 1 decreased from moderate to minor (Tar River at 97 at Rocky Mount), and 2 decreased to below flood stage and were removed from our list (Trent River near Trenton, Stony Creek near Rocky Mount).
- Forecasted Condition – Major Flooding – 2 gages, Moderate Flooding – 0 gages, Receding Flooding – 14 gages, Cresting – 1 gage.
- NE Cape Fear River at Burgaw crested at 1845 Thursday (10/13) afternoon and it not forecast to return to below flood stage until the middle of next week at the earliest.
- The Lumber River is receding throughout Robeson County; however it remains at major flooding in Lumberton.
- Neuse River at Goldsboro exceeded record stage by 10-inches and is receding but remains at major flooding.
- Neuse River at Kinston is forecast to crest 1.3 feet above flood of record this evening.
- Trent River at Pollocksville is currently cresting and depending on timing of the peak flows from the Neuse River in New Bern, water levels in Pollocksville could further increase or see a bounce if they are receding.
- Tar River at Rocky Mount is receding and expected to return below flood stage Friday afternoon.
- Tar River at Tarboro crested Thursday morning.
- Tar River at Greenville is forecast to peak early Saturday morning.
- Peak Riverine Flood Stages: Currently cresting or receding on smaller streams while major rivers are expected to peak at various times today through Saturday.

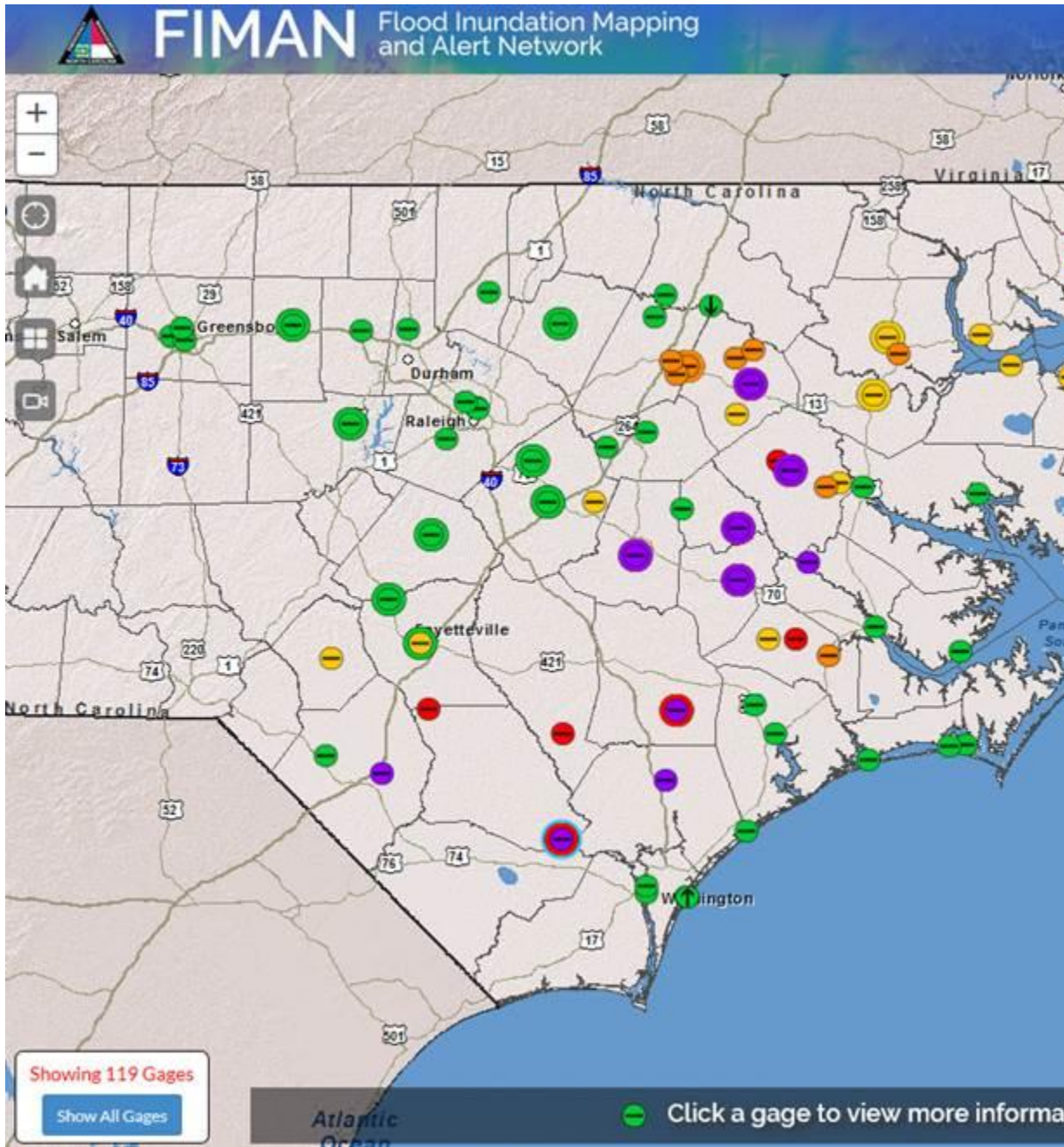
Riverine Flooding

The NOAA Southeast River Forecast Center (SERFC) is issuing riverine flood forecasts that include the potential impacts of Hurricane Matthew in North Carolina. Their data is shown in the FIMAN map below.

Based on the FIMAN current conditions and the Southeast River Forecast Center (SERFC) predictions minor to major riverine flooding is occurring and is forecasted to continue to occur in the Piedmont and Coastal Plain of North Carolina through next week. Below is a detailed summary of the Southeast River Forecast Center (SERFC) riverine flood modeling and monitoring forecast, the NC Flood inundation and Alert Network (FIMAN) riverine and coastal current and forecasted flooding and structure damages, the RENCi Coastal Emergency Risks Assessment (CERA) ADCIRC model flood surge predictions and NOAA coastal gage current and forecasted water levels.

FIMAN Gages

FIMAN is currently showing widespread flooding with multiple gages at major stage Coastal Plain, Sand Hills and eastern Piedmont of North Carolina (See Current Conditions Table Below). Based on forecasted flooding conditions by the SERFC a list of major rivers that have the potential to experience flood impacts are in the table below. This only includes streams that are gaged, non-gaged streams may experience similar conditions. The severity of current and potential forecasted flooding impacts are summarized where the data is available in the Flood Impact Summary Report, also below.



Major Rivers to Monitor for Potential Flood Impacts

Lumber River
Cape Fear River
NE Cape Fear River
Neuse River
Trent River
Tar River
Contentnea Creek
Cashie River

Current Conditions – Minor, Moderate and Major Flooding

Branch	Gage Name	Current Conditions		
		Stage	Condition	Buildings Damaged
Eastern	Northeast Cape Fear River near Burgaw	17.7 ft	Major	279
Eastern	Tar River at Greenville	24.3 ft	Major	341
Eastern	Lumber River at Lumberton	19.3 ft	Major	567
Eastern	Neuse River near Goldsboro	27.8 ft	Major	99
Eastern	Neuse River at Kinston	28.2 ft	Major	221
Eastern	Contentnea Creek at Hookerton	20.5 ft	Major	0
Eastern	Cape Fear River at Lock #1 near Kelly	28.3 ft	Major	NA
Eastern	Neuse River near Fort Barnwell	19.5 ft	Major	NA
Eastern	NE Cape Fear River near Chinquapin	16.1 ft	Major	5
Central	Tar River at Tarboro	35.8 ft	Major	255
Eastern	Tar River at Us 264 Bypass near Rock Springs	24.7 ft	Moderate	134
Eastern	Black River near Tomahawk	20.5 ft	Moderate	NA
Eastern	Trent R. at Trenton at N. Weber St	21.3 ft	Moderate	23
Eastern	Cape Fear River Lock near Tarheel	19.7 ft	Moderate	NA
Eastern	Chicod Cr at SR1760 near Simpson	12.2 ft	Minor	24
Eastern	Trent R. at Pollocksville	8.3 ft	Minor	11
Eastern	Cashie River In Windsor at S. King St	3.3 ft	Minor	4
Central	Tar River at 97 at Rocky Mount	22.8 ft	Minor	2
Central	Swift Cr. At 97 Nr. Leggett	16.5 ft	Minor	19
Central	Fishing Cr at 97 near Leggett	23.4 ft	Minor	3
Central	Tar River at Us 301 Bypass at Rocky Mount	13.0 ft	Minor	0

Current Conditions – Sound Monitoring

Gage Name	BFE	Stage	Condition	Trend
Tar River at Grimesland	12.7	8.7	Monitor	Very slowly increasing (0.02'/hr).
Pamlico River at Washington	10	2.6	Normal	Minor tidal fluctuations.
Pungo River at Belhaven	7	1.6	Normal	Minor tidal fluctuations.
Trent River at Hwy 70 New Bern	8	1.7	Normal	Minor tidal fluctuations.

Forecasted Conditions – Moderate and Major Flooding

Forecast Conditions (Southeast River Forecast Center)

Gage Name	Peak Stage	Peak Date/Time	Buildings Touched by Flooding	Buildings with Flooding in Structure	Condition	County
Eastern Branch Gages						
NE Cape Fear River near Burgaw	17.8 ft	Receding	324	156	Major	Pender
Cape Fear River at Lock #1 near Kelly	28.5 ft	Cresting	No FIMAN Library	No FIMAN Library	Major	Bladen
Tar River at Greenville	24.5 ft	10/15/2016 2:00	341	74	Major	Pitt
Neuse River at Kinston	28.8 ft	10/15/2016 2:00	303	170	Major	Lenoir
Neuse River near Goldsboro	29.7 ft	Receding	131	57	Major	Wayne
Lumber River at Lumberton	24.7 ft	Receding	528	528	Major	Robeson
Contentnea Creek at Hookerton	24.2 ft	Receding	1	0	Major	Greene
Little River at Manchester	31.8 ft	Receding	18	18	Major	Cumberland
Cape Fear River at Fayetteville	58.9 ft	Receding	10	6	Major	Cumberland
NE Cape Fear River near Chinquapin	20.2 ft	Receding	64	14	Major	Duplin
Cashie River at SR1257 near Windsor	16.6 ft	Receding	0	0	Major	Bertie
Central Branch Gages						
Tar River at Tarboro	36.3 ft	Receding	255	118	Major	Edgecombe
Tar River at 97 at Rocky Mount	28.7 ft	Receding	94	27	Major	Nash
Tar River at Louisburg	23.2 ft	Receding	0	0	Moderate	Franklin
Cape Fear at Lillington	19.4 ft	Receding	6	6	Moderate	Harnett
Neuse River Near Clayton	21.0 ft	Receding	1	0	Major	Johnston
Neuse River at Smithfield	29.1 ft	Receding	50	25	Major	Johnston
Western Branch Gages						
None reporting forecasted Minor flood levels or above at this time						



Potential for River Flooding Timeline

Site	Current River Stage (ft)	Forecast Crest (ft)	Timing of Crest	Record Crest (ft)	Fall Below Major	Fall Below Moderate	Fall Below Minor	Minor Flood Stage (ft)	Moderate Flood Stage (ft)	Major Flood Stage (ft)
Tar River at Greenville (PGVN7)	24.4	24.5	Friday	Floyd 29.7	Late 17 th	18 th	19 th	13	17	19
Neuse River at Kinston (KINN7)	28.2	28.8	Saturday AM	Previous Floyd 27.71	19 th or 20 th	>10 days	>10 days	14	18	21
Contentnea Creek at Hookerton (HOKN7)	20.5	-	Tuesday, 10/11/16 24.15'	Floyd 28.3	15 th	16 th	19 th	13	16	18
Northeast Cape Fear River at Chinquapin (CHIN7)	16.2	-	Tuesday, 10/11/16 19.98'	Floyd 23.5	14 th	15 th	16 th	13	15	16
Roanoke River at Williamston (WLLN7)	11.6	-	Tuesday, 10/11/16 11.8'	20.5	-	-	-	12	13	15

We will continue to monitor and will provide updates as needed/requested.