Keystone Riverine Flooding Events in South Carolina

Prepared by

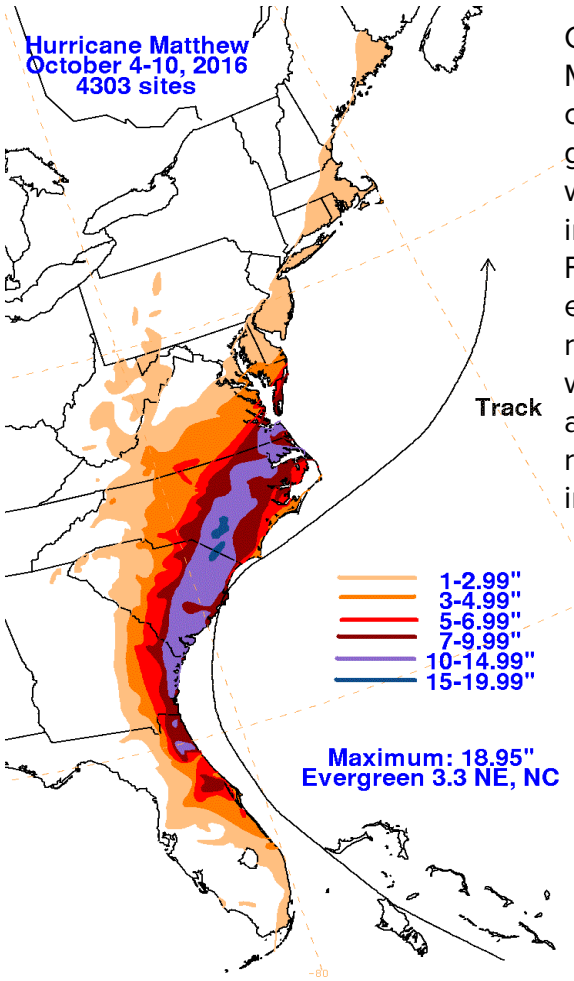
South Carolina State Climatology Office

Land, Water, and Conservation Division

South Carolina Department of Natural Resources

Flooding in Loris, SC from Florence in 2018 (Hope Mizzell/SCDNR))

HURRICANE MATTHEW
OCTOBER 2016



On October 8, Hurricane Matthew made landfall near McClellanville as a Category 1 hurricane. Matthew caused severe beach erosion, and hurricane-force gusts downed thousands of trees along the coast and well inland. The remnants of Matthew dumped 10-17 inches of rain from Savannah, Georgia, through Florence, South Carolina, and into a wide area of eastern North Carolina. The most widespread heavy rain fell in the Pee Dee Basin and into North Carolina, where significant flooding occurred. Rainfall totals across portions of the Pee Dee surpassed the record rains of the "Bulls Bay Hurricane" in 1916 and "Hazel" in 1954.

Rainfall Totals (Oct 8 - 10)	Station	County
17.11"	Dillon 3.8 NW	Dillon
15.06"	Mullins	Marion
14.10"	Daufuskie Island 1.7 SW	Beaufort
13.56"	Kingstree 7.9 NW	Williamsburg
13.05"	Reevesville 1.0 SSE	Dorchester
12.39"	NWS Charleston	Charleston
11.32"	Yemassee 1 N	Hampton

On October 9, the Lumber, Little Pee Dee, and Waccamaw rivers had swelled to a "Major Flood Stage" and were rising. On October 12, the Little Pee Dee River at Galivant's Ferry rose to 17.10 feet. The town of Nichols was submerged under the adjacent Lumber River floodwaters. Non-elevated property along the Waccamaw River near and below Conway had to be abandoned. The Waccamaw River near Conway reached a record stage of 17.89 feet on October 18, surpassing the flood of September 1928. Many riverside docks and decks, private or state-owned, had been swept away. On November 2, and after 25 days at or above flood stage (11 feet), the Waccamaw River near Conway subsided to below flood stage.

Flooding in Marion County, SC. (Maria Cox Lamm/SCDNR)

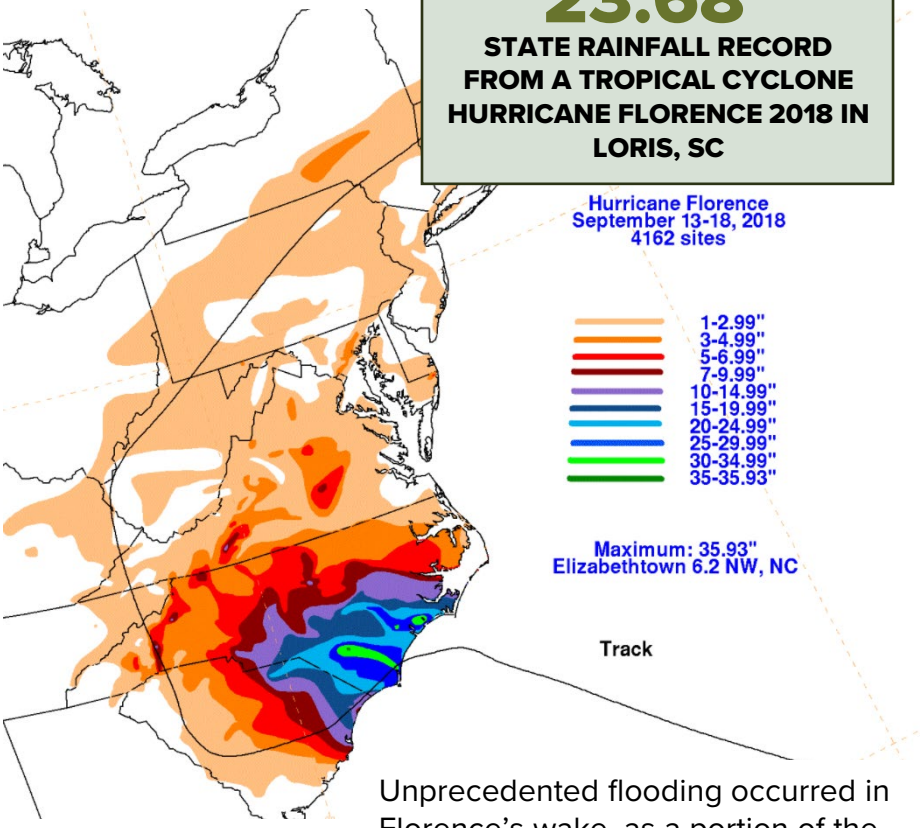
More information at http://www.dnr.sc.gov/matthew2016

TROPICAL CYCLONE FLORENCE
SEPTEMBER 2018

Florence was a Category 1 Hurricane when it made landfall near Wrightsville Beach, North Carolina, on September 14. It proceeded to stall and remain nearly stationary for an entire day before it began a slow turn to the southwest, which is not a typical movement for tropical cyclones. It traveled across South Carolina at a speed of 2-3 mph. The storm continued to weaken during the 15th and accelerated to the north-northeast and out of the state on September 16. The slow-moving system dropped more than 30 inches of rain across portions of eastern North Carolina and over 20 inches in Chesterfield and Horry counties.

23.68"

STATE RAINFALL RECORD FROM A TROPICAL CYCLONE HURRICANE FLORENCE 2018 IN LORIS, SC



River Gauge	Florence Crest (ft.)	Previous Crest (ft.)	Previous Crest Data/Event
Waccamaw at Longs	20.22	17.94	9/22/1999 Hurricane Floyd
Waccamaw above Conway	19.82	15.77	10/16/2016 Hurricane Matthew
Waccamaw at Conway	21.16	17.87	10/18/2016 Hurricane Matthew
Pee Dee at Bennettsville	94.25	89.94	04/12/2003
Black Creek Near Quinby	17.37	16.81	10/05/2015 October Floods
Little Pee Dee at Galivants Ferry	17.21	17.10	10/12/2016 Hurricane Matthew

More information at http://www.dnr.sc.gov/florence2018

Unprecedented flooding occurred in Florence's wake, as a portion of the excessive amount of rainfall measured in North Carolina fell in the Yadkin-Pee Dee River watershed. For weeks after the initial landfall, flooding plagued most of the Pee Dee Region, with significant impacts along the Pee Dee, Little Pee Dee, Lumber, Lynches, and Waccamaw rivers and their tributaries. Many of these river gauges reached crest values that fell within the top five highest measured crests at their locations, while several of the rivers set new record crest values. The Pee Dee River at Pee Dee reached a height of 31.83 ft. during the flooding, which was 1.5 ft. lower than the historic crest of 33.3 ft. in 1945. Gauges along Waccamaw exceed previous record crests by three or more feet during this event.