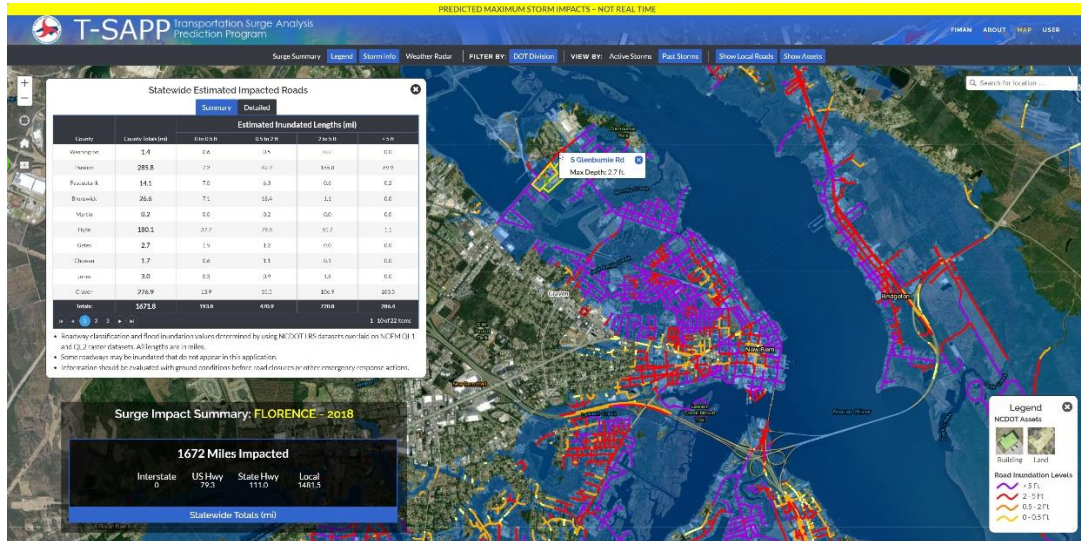


## Real-Time Storm Surge Predictions



Shown is the T-SAPP dashboard interface focused on a coastal town with predicted road flood impacts.

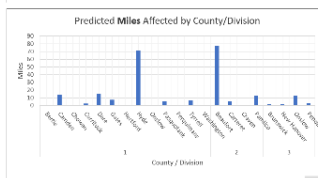
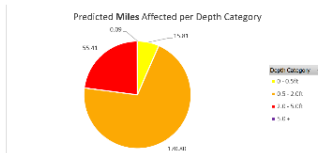
NCDOT’s Transportation Surge Analysis Prediction Program, or T-SAPP, is an application that models roadway impacts from forecasted hurricane and tropical storm surges at a local level. This dashboard application maps predicted flood inundation and roadway impacts for the entire North Carolina coastline allowing Emergency Managers and First Responders to have awareness of potential flooding along roadways from an approaching storm. The goal of T-SAPP is to provide visualization and metrics for roadway inundation and to identify potentially impacted NCDOT assets during a storm surge event.

### How T-SAPP Works

The T-SAPP modelling process kicks off by automatically downloading predicted storm surge data that is made available by the UNC Institute of Marine Sciences. T-SAPP uses these data and LiDAR-derived elevations to estimate flooding along roadways. Inundated roadways and flood extents are posted on the T-SAPP dashboard, along with data statistics that provide insight into which areas may be more affected by predicted storm surge. Roadways displayed in the dashboard can be filtered by geographic area such as Division or County, or by the Route Class.

Detailed roadway flood impacts can be viewed individually by selecting roadways from the impact list or viewed in the summary impact table that displays mileage of each route type categorized by depth category. Summarized data can also be displayed in the charts tab, showing counties’ total roadway mileage affected by flooding. Flooded roadways can be downloaded in CSV form as a detailed table with route attributes or summarized by county, so it can be shared outside of the application.

Division/County	1	2	3	4	5	Total
1	0.0	3.8	2.5	84.5	35.2	126.0
→ Hyde	0.0	3.1	1.4	53.7	13.6	71.9
→ Ware	0.0	0.0	0.0	4.7	0.1	4.8
→ Camden	0.0	0.0	0.0	4.7	0.1	4.8
→ Blaine	0.0	0.0	0.0	0.1	0.7	0.8
→ Hertel	0.0	0.1	0.0	3.6	1.0	4.7
→ Pasquotank	0.0	0.4	0.6	2.7	2.3	5.9
→ Currituck	0.0	0.0	0.0	1.4	1.1	2.5
→ Chowan	0.0	0.0	0.0	3.8	0.4	4.2
→ Perquimans	0.0	0.0	0.0	3.5	0.3	3.8
→ Bertie	0.0	0.0	0.0	2.2	0.6	2.8
→ Washington	0.0	0.0	0.0	3.1	0.4	3.5
→ Onslow	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	3.8	1.2	35.3	96.1	136.4
→ Beaufort	0.0	3.8	1.2	29.1	50.3	74.4
→ Franklin	0.0	0.0	0.0	10.1	2.2	12.3
→ Currituck	0.0	0.1	0.0	3.1	2.3	5.7
→ Craven	0.0	0.0	0.0	3.0	0.2	3.2
3	0.0	0.0	0.0	3.7	33.2	36.9
→ Onslow	0.0	0.0	0.0	3.0	0.0	3.0
→ Beaufort	0.0	0.0	0.0	0.7	33.2	33.9
→ Currituck	0.0	0.0	0.0	0.0	3.2	3.2
→ New Hanover	0.0	0.0	0.0	0.0	3.7	3.7
Total	0.0	7.6	4.7	123.5	106.5	242.3



For more information about T-SAPP, please contact:

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T-SAPP chart comparing flooded road mileage by county.

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