



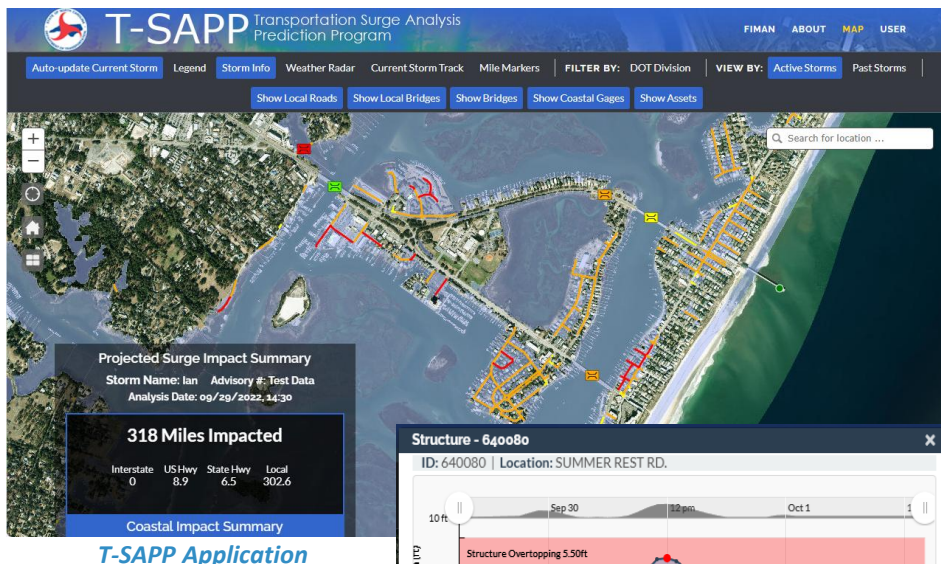
T-SAPP Transportation Surge Analysis Prediction Program

T-SAPP provides forecasted flooding impacts to roads, bridges, and other NCDOT assets in support of risk-based decision-making during storm surge events.

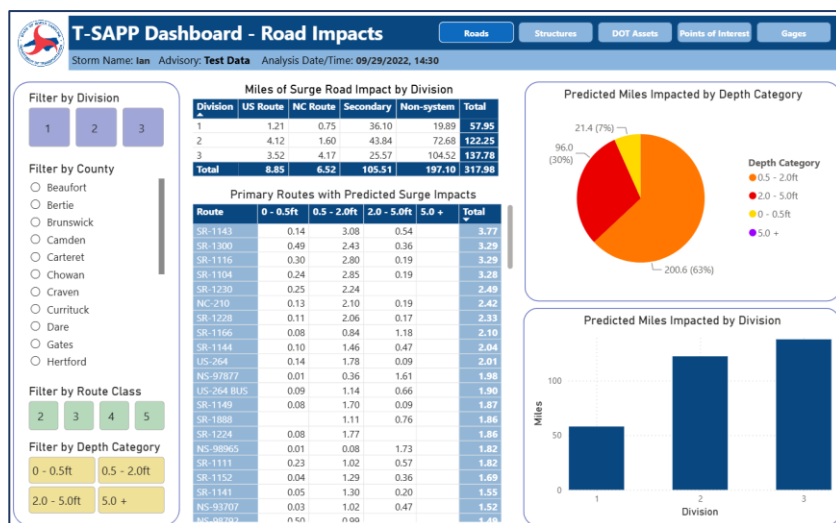
Program: During a major storm event, North Carolina Transportation officials are tasked with monitoring roadway conditions and potential impacts from storm surge to bridges and NCDOT buildings. To support this mission NCDOT developed T-SAPP, a web-based tool used to provide NCDOT officials and emergency management stakeholders with real-time and forecasted flood inundation depths in support of risk-based decision-making during storm surge events. The application covers 11,000 miles of coastal roads and all 20 coastal counties. The goal of T-SAPP is to provide visualization and metrics for roadway inundation, bridge hydraulic performance, and identify potentially impacted NCDOT assets. This will enhance NCDOT's responsiveness during flooding events by generating data and reports for use in disaster response and planning.

How It 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 across coastal divisions, and reports predicted depths at impacted roads, structures, NCDOT buildings, and coastal gages. Impacts provided in an interactive map on the T-SAPP application, and can be filtered by Division or County.

T-SAPP also provides insight into the timing of these impacts by providing time-series charts of depths at impacted structures and buildings.



Structures Pop-Up with Time-Series



Power BI Dashboard

Enhanced Reporting: In addition to the map application, detailed summaries of the impacts can be viewed in the T-SAPP Power BI Dashboard. Tabs for roads, structures, DOT Assets, points of interest, and coastal gages allow viewers to navigate charts and summary tables of predicted storm surge impacts and filter the data to suit their needs.

For more information about T-SAPP, please contact:

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