

Abstract

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Leveraging Mobile LiDAR for Flood Risk Assessment, Mitigation Planning and Disaster Response.

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The mobile mapping industry has experienced an explosion of technology in recent years. The efficiency of data collection has increased dramatically due to the full synchronization and georeferencing of data from multiple sensors, capturing data at traffic speeds in a single pass, and extracting intelligent information using automated processes. These methods and tools have been utilized by engineers, surveyors, and geospatial professionals for inventory, examination, change detection, asset collection and management, modeling and design.

The North Carolina Floodplain Mapping Program (www.ncfloodmaps.com) is leveraging this new technology to assist in collected data for flood risk assessment and mitigation activities. Over the past 18 months, North Carolina has used this technology to rapidly collected Finished Floor Elevations (FFE) for all buildings inside the SFHS for the State’s coastal counties. In addition, the Mobile LiDAR is being used to collect extensive topographic details for levees and using this dataset to assess levee freeboard and identify potential areas for levee failures based on slope and relation to flood levels (freeboard).

In the early 2012, NC Floodplain Mapping is using this technology to develop detailed Roadway elevation layers for all State Maintained roads (4,100 miles) subject to flooding from Hurricane storm surge. The resulting products will be used as an Emergency Management planning tool for quantifying inundation roadways for evaluation support and emergency management.

This presentation will specifically highlight the roadway LiDAR project and how the data can be used to assist in disaster preparedness and response.