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### Disaster Resilience Indicators, Floyd-Matthew Mitigation, NC

The purpose of this study is to improve the understanding of the impacts of state and local level mitigation actions intended to enhance community resiliency, support effective and equitable recovery, and reduce flood fatalities and losses by providing an empirical analysis of the post-Hurricane Floyd (1999) statewide mitigation actions and consequences of Hurricane Matthew (2016). The study examines the impacts of Hurricane Matthew in light of flood hazard mitigation actions implemented in each of six study counties in North Carolina after Hurricane Floyd in 1999. The study builds on the theory developed by the scientific community about community resilience.

Two types of studies were conducted. An exploratory study examined whether 17 theoretical indicators of resilience demonstrate if communities saved time and money as they recovered from Hurricane Matthew. The other study, a losses avoided study, examined whether the acquisition of flood-prone properties by county and municipal governments increased resilience following Hurricane Matthew. The hazard mitigation projects in the study were implemented after Hurricane Floyd, which struck the coast of North Carolina in 1999 and caused \$2 billion of damage, and before Hurricane Matthew, which caused \$967 million in North Carolina.

This study supports the DHS Science & Technology Flood Apex Program objective by examining how indicators of resilience and flood hazard mitigation efforts relate to the experience of communities damaged by those two hurricanes.

**Presentation Theme:** Empirical study of performance of disaster resilience indicators in six counties in North Carolina after Hurricane Matthew in 2016. Those communities were believed to build disaster resilience and capacity since hurricane Floyd in 1998.

**Collaborators, Advisor(s) and Department(s) that assisted with this research:**

Gavin Smith, Dept. of Landscape Architecture at NC State University

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