

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Community Clustering of Socio-Ecological Vulnerability to Coastal-Change Hazards along the U.S. Northeast Coast (Hurricane Sandy)

Discipline: Interdisciplinary
Type of Project: Research
Funding Agency: USGS
Other Partners/Cooperators: University of Colorado Boulder
Effective Dates: 4/17/2014 - 4/16/2016
Funding Amount: \$25,985

Investigators and Agency Representative:

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Project Abstract: The goal of this research is to create a new framework for social vulnerability metrics that can be validated with observed data and used by a broad community of scientists, planners, and responders to understand the particular needs/vulnerabilities in particular places. The *central hypothesis* is that the robustness and utility of social vulnerability indicators will significantly improve through improving input geospatial social data and methods. The *rationale* is that the production of more nuanced and statistically reliable vulnerability measures will increase their credibility and use in decision-making for risk reduction needs.

Using a study area of the Atlantic states affected by Hurricane Sandy (NC to NY), the investigation of the hypothesis is based on three *specific objectives*:

1. Identify hotspots of community vulnerability to dune erosion, inundation regimes, and overwash potential related to typical annual winter storms, nor'easter storms, and category 1-4 hurricanes for coastal communities.
2. Develop a framework that allows the examination of differential in vulnerability caused by multiple hazard types (erosion, inundation, and overwash) for the different hazard scenarios (winter storms, nor-easters, and cat 1-4 hurricanes).
3. Incorporate new and diverse forms of geospatial data into vulnerability indicators.

Outcomes with completions dates: April 16, 2016

Keywords: Socio-Ecological Vulnerability, coastal change hazards, University of Colorado Boulder