



On the Impact of Extratropical Systems and Tropical Storms in the Characterization of Flood Risk for the Eastern United States

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Flooding in the eastern US reflects a mixture of flood generating mechanisms, with landfalling tropical cyclones and extratropical systems playing central roles. These precipitation systems represent a major risk for insured property and can lead to extensive damage through storm surge flooding, inland flooding and heavy rainfall, or extreme windspeeds.

The focus of this work revolves around two main issues:

- 1) For a given extratropical system or landfalling tropical storm, what is the extent of the inland flooding?
- 2) What is the rainfall distribution and storm evolution for flood events in the eastern US?

Results are presented using case studies of both extratropical systems and landfalling tropical storms in the eastern US. The results of this study could be used to feed into the next generation of cat-models and assist in the calculation of damages from inland flood damage and heavy rainfall.