



# Displacement due to Catastrophic Hurricanes

Assessing Potential Magnitude and Policy Implications for Housing and Land Development

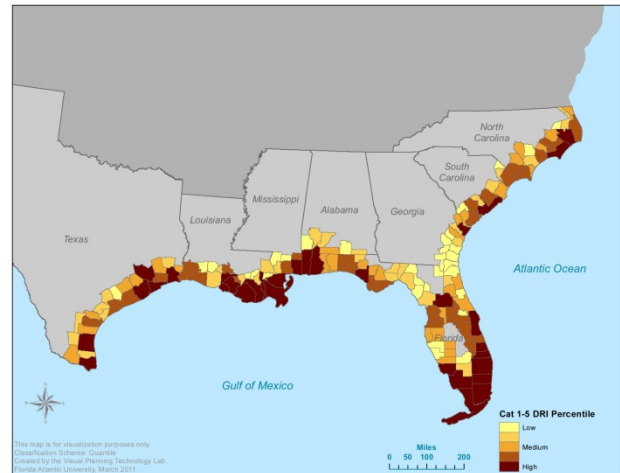
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## Personnel

**Principal Investigators:** Ann-Margaret Esnard, Ph.D. & Alka Sapat, Ph.D.  
**Collaborators:** Diana Mitsova, Ph.D.; Yanmei Li, Ph.D.; Joyce Levine, Ph.D.  
**Sponsor:** National Science Foundation (NSF)  
**Research Assistants:** Michael Borque, Chris Chagdes, Edie Cleary, Shannon Estenoz, Martin Fitts, Umar Ghuman, Donald Johnson, Rachel Kalin, Christine Mitchell, Nick Sofoul, Mark Welsh, Staci Zavatarro

## Project Description

Catastrophic hurricane disasters such as Andrew and Katrina highlighted dilemmas of population displacement, as well as gaps in our knowledge about the magnitude and patterns of the potential displacement problem in the United States. As part of a collaborative effort, we received funding from the National Science Foundation to formulate a Displacement Risk Index (DRI) that shows spatial patterns and to examine policies that can reduce displacement vulnerability. We collected data for over 75 indicators and related variables to account for physical vulnerability, social vulnerability and community resilience; created a Hurricane Exposure Probability metric derived using hurricane tracks for the period 1851-2008; in addition to developing the new Displacement Risk Index. The study area, 158 counties, was the coastal portions (an area two counties "deep") of the eight most hurricane-prone states.



Note: High DRI percentile scores (dark brown) signal that a county with a high potential for population displacement from hurricanes.

## Publications

- 📖 Esnard A-M, A Sapat and D Mitsova. 2011. An Index of Relative Displacement Risk to Hurricanes. *Natural Hazards*. DOI: 10.1007/s11069-011-9799-3
- 📖 Sapat, A., C.M. Mitchell, Y. Li and A-M Esnard. 2011. Policy Learning: Katrina, Ike and Post-Disaster Housing. *International Journal of Mass Emergencies and Disasters* 29(1):26-56
- 📖 Mitchell, C.M., A-M. Esnard and A. Sapat. 2011. Hurricane Events and the Displacement Process in the United States. *Natural Hazards Review* DOI: 10.1061 / (ASCE) NH.1527-6996.0000064
- 📖 Welsh, M.G. and A-M Esnard. 2009. Closing Gaps in Local Housing Recovery Planning for Disadvantaged Displaced Households. *Cityscape: A Journal of Policy Development and Research* 11(3):87-104.
- 📖 Levine, J., A-M Esnard and A. Sapat. 2007. Population displacement and Housing Dilemmas due to Catastrophic Hurricanes. *Journal of Planning Literature* 22(1):3-15.