



# **CAREER: Data-driven Models of Human Mobility and Resilience for Decision Making**

PI: Vanessa Frias-Martinez

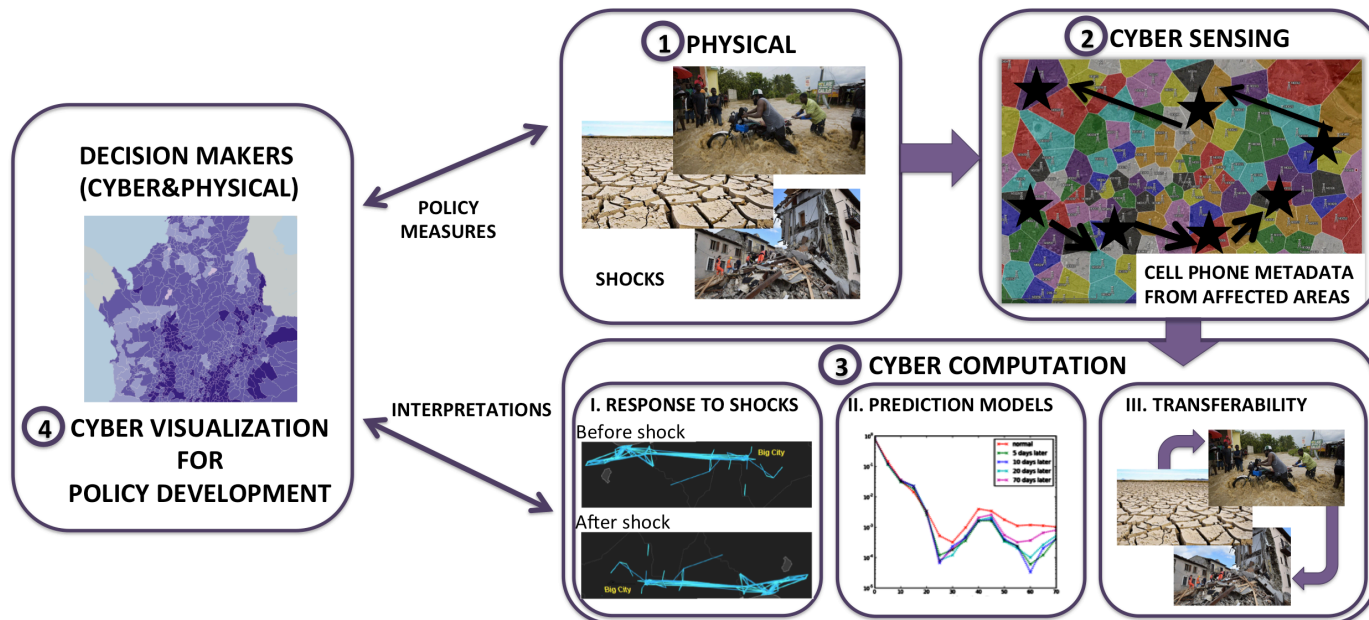
University of Maryland, College Park

vfrias@umd.edu

NSF-1750102

Poster Time and Location: Session 2, Friday 1-2:15pm, #252

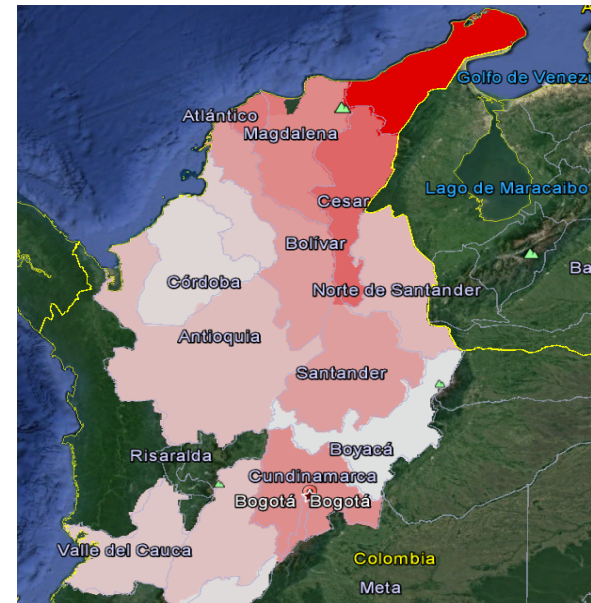
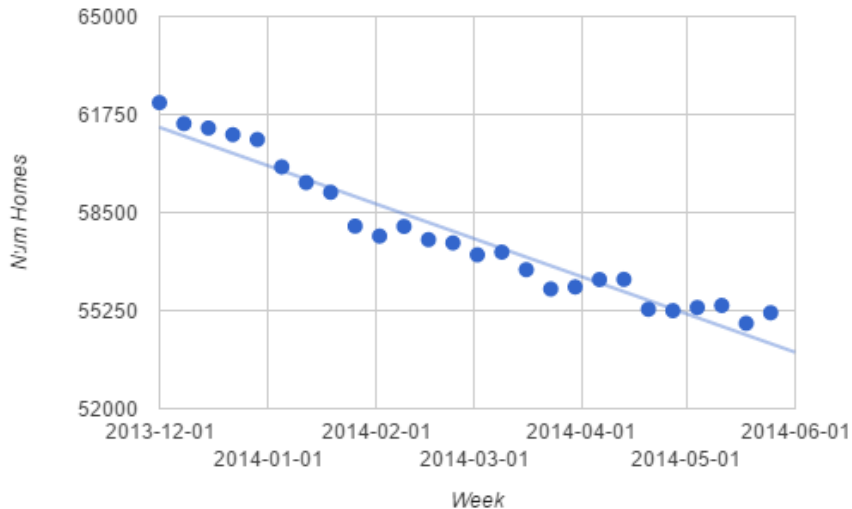
# Description



- **Understand Human Behaviors during Shocks: Mobility Patterns and Resilience and Provide Usable Information for Decision Makers**
- **Societal-scale CPS with cell-phone based cyber sensing of location information (cell phone metadata)**
- **Research Thrusts: (i) Explain Behaviors in Context, (ii) Predict Behaviors (what-if tools), (iii) Evaluate model transferability across shocks, space, time and datasets**

# Findings

$R^2=0.93$  – 10% of the population left



GravExp and RadExt predict about 60%

- **Droughts in La Guajira, Colombia**
- **Education and Broader Impacts: Student collaborations with decision makers for information usability; hackathon on the use of individual location data for natural disasters**

