Gone with the Flood: Natural Disasters, Selective Migration, and Media Sentiment

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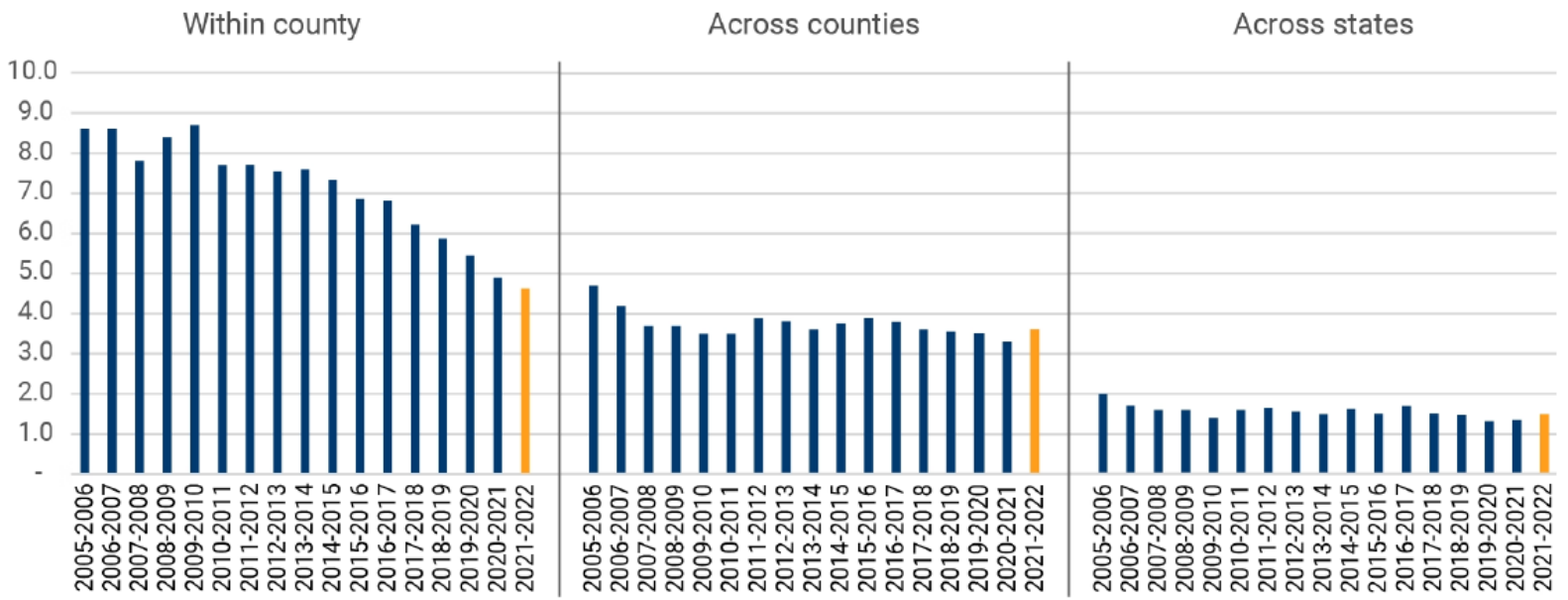
Paper Summary

- This paper examines the effects of flood events on inflow and outflow migration.
- Inflow migration and outflow migration increase by 1.9% and 2.7% respectively.
- These migrations lead to a 5.3% decrease in housing prices and a 7.4% increase in housing rent post-flood.

Comment #1 County-level analysis may be less appropriate

(1) Most migrations in the US are within-county migrations

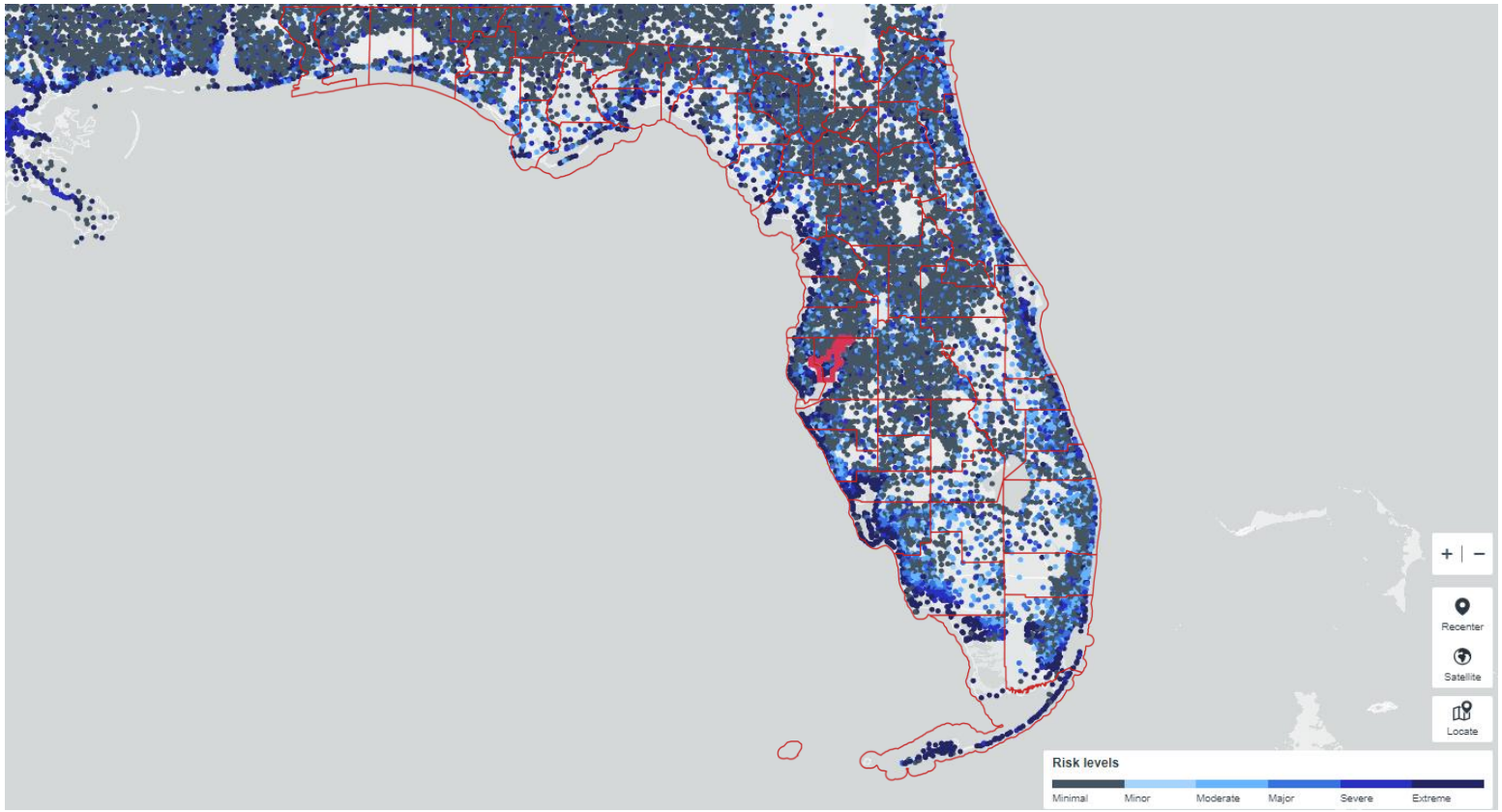


Migration rates by type of move, 2005 to 2022

Source: First Street Foundation and US Census Bureau Current Population Survey

Comment #1 County-level analysis may be less appropriate

(2) Flood risk/event is very localized



Source: Tiger Shapefile, riskfactor.com

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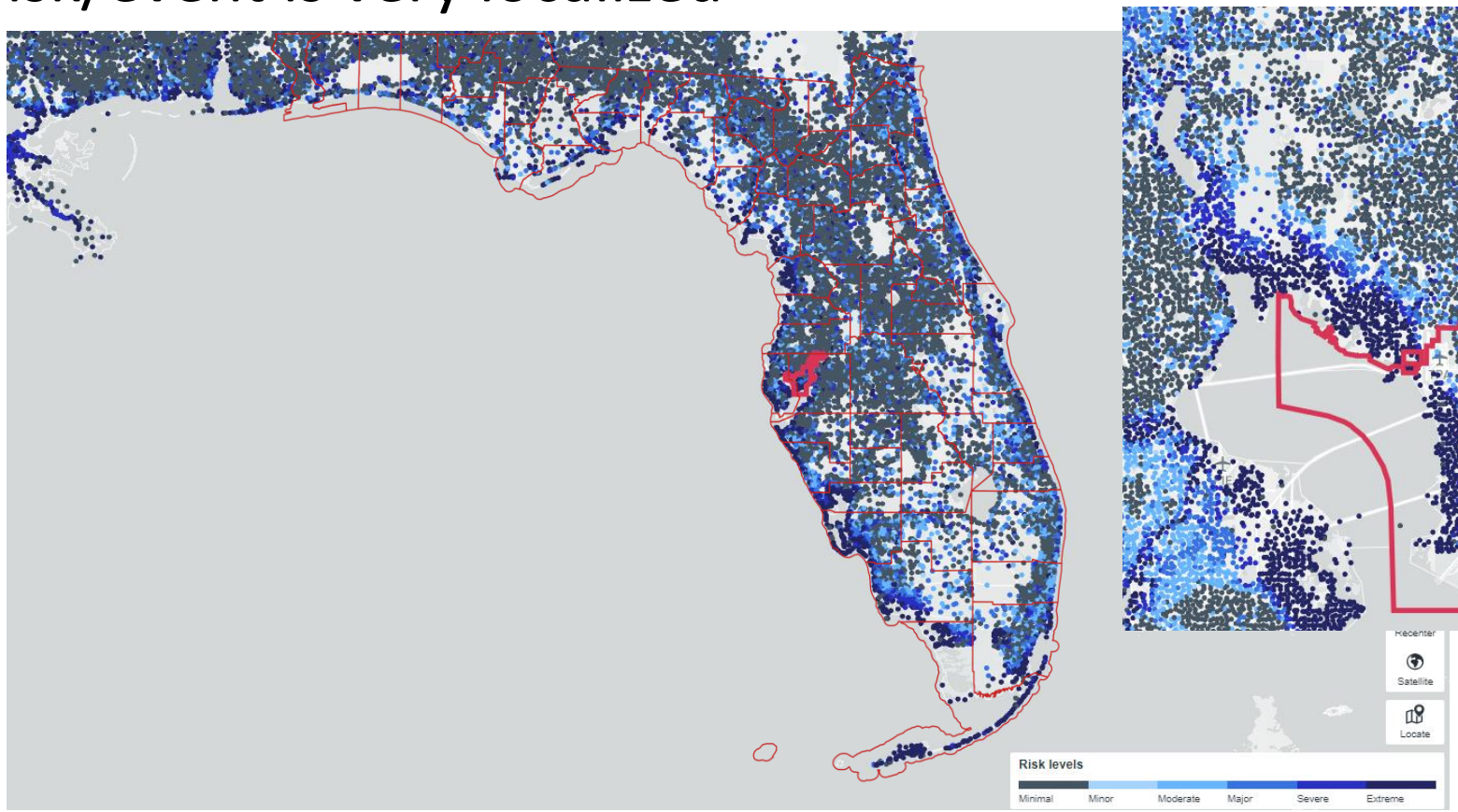
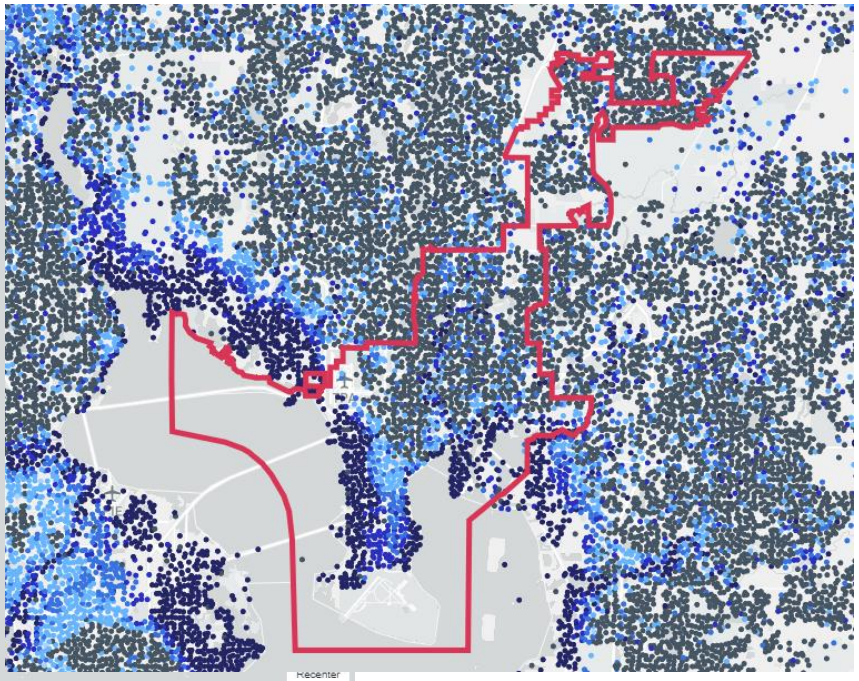
Tampa, FL





Source: Tiger Shapefile, riskfactor.com

Comment #1 County-level analysis may be too coarse

- Use micro-level data to study this research question:
  - Individual-level Migration data: Equifax (mortgage borrowers) or Infutor (Both renters & homeowners)
  - Micro-level flood events data: FEMA National Flood Insurance Program (NFIP) Redacted Claims (lat/lon, census tract, zip code)
  - Property-level flood risk data: National flood hazard map or First Street Flood Risk
  - Identify short-term migration
- Study migrant demographics – education/employment/age + income/race/household size
- Study long-term effects on changes in economic and demographic makeup

Comment #2 Choice of Control Group

- Control group = Surrounding counties within the twelve nearest non-flooded counties
  - Show a figure of treated county and the surrounding control counties
- Issue: Flood-induced migration to/from neighbouring counties?
  - Show that results are robust across various control groups

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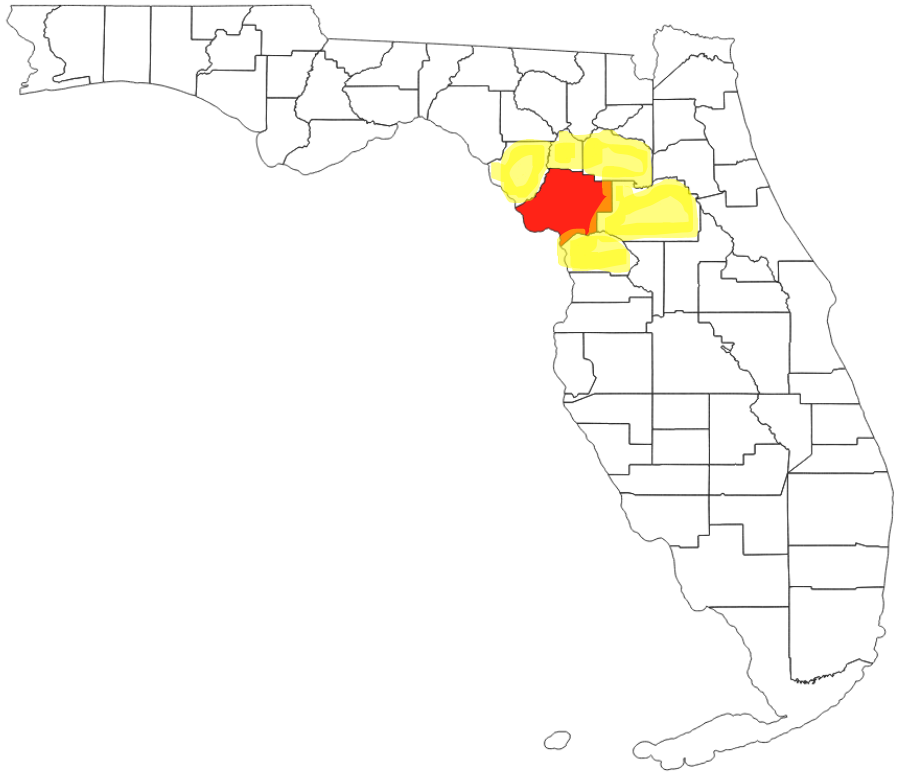

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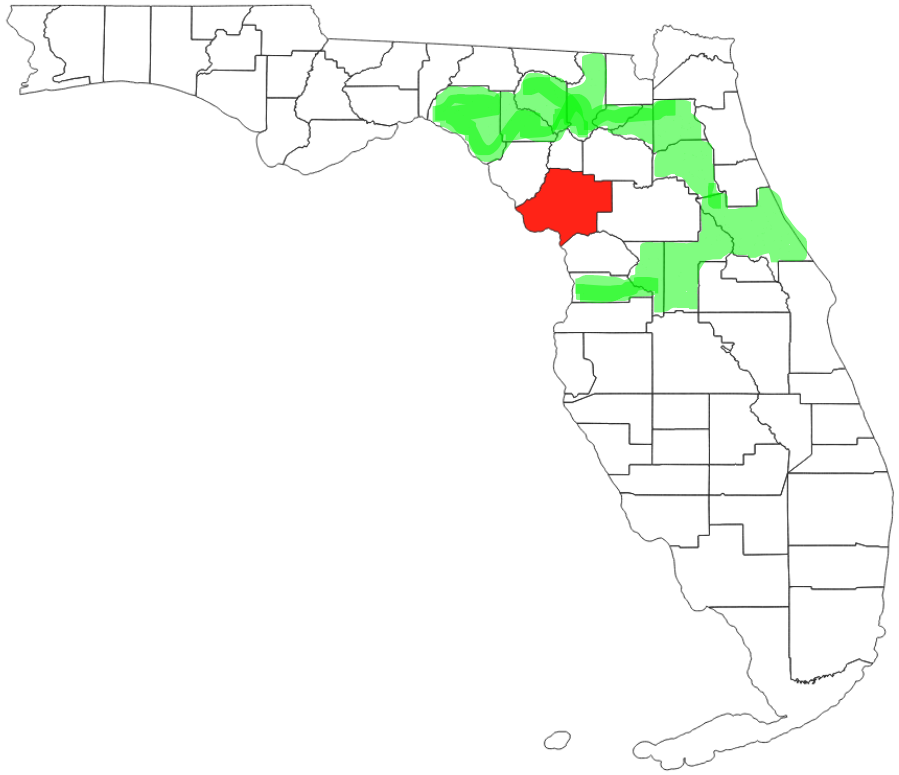

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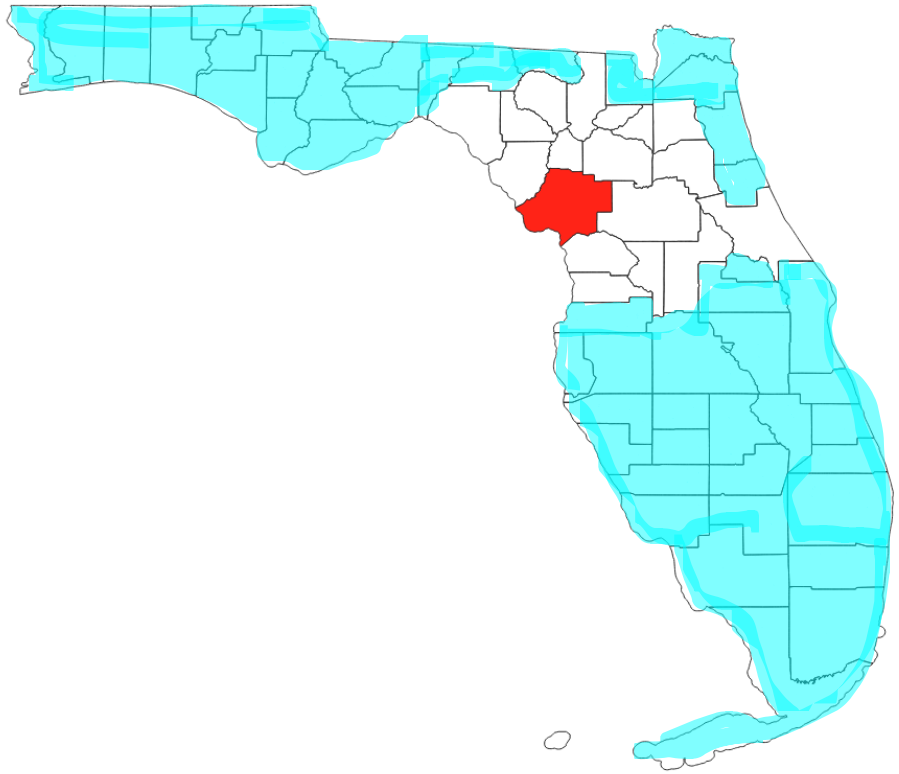

Comment #3 Type of Flood Events

- 2218 flood events between 2006-2019 in 360 counties:
  - Heterogeneity by flood severity and frequency
  - Heterogeneity by FEMA individual assistance/disaster mitigation grants/infrastructure investments
  - Media/news sentiment vs Physical improvements in amenities/infrastructure
  - House price and # of firm exits/entries may be bad controls (replace Table 2 with Appendix A4)

Comment #4 Alternative channels may affect housing prices and rents

- 5.3% decrease in housing prices post-flood
  - Alternative channels: Physical damage from flood, Future flood risk
- 7.4% increase in housing rent post-flood
  - Alternative channels: Flood destroys available housing stock for rent, post-disaster investments on infrastructure
- Use micro-level data to partially disentangle the channels (dynamic DID)
  - Short/Long-term effects on houses directly affected by floods
  - Short/Long-term effects on houses adjacent to damaged areas and with high flood risks
  - Short/Long-term effects on houses adjacent to damaged areas and with low flood risks

Other Minor Comments - Empirical Specification

1) Stacked Difference-in-differences

1. For each flood event j, create a subsample by compiling all observations from the treated and (clean) control groups within the sample window, assign a cohort ID j for each subsample
2. Stack all J subsamples from J flood events to generate a final sample
3. Run Stacked DID:

$$Y_{i,t} = \sout{\beta_1 Treat_{i,j,t}} + \sout{\beta_2 Post_{i,j,t}} + \beta_3 Treat_{i,j,t} \times Post_{i,j,t} + X'_{i,t}\lambda + \sout{\omega_t}\omega_{i,j} + \sout{\theta_t} + \sout{\mu_{s,t}}\mu_{s,j,t} + \sout{\rho_j} + \epsilon_{i,j,t}$$

Other Minor Comments

2) Discussion on longer-term effect seems abstract
   - Examine long-term effects based on a longer window
   - +5, +10 etc.

3) Confounders by other types of disasters (wildfire)
   - Remove areas that frequently experience other types of disasters

4) Migration is a method of adapting to climate change
   - How migration can help the government save money by reducing the need for providing insurance and assistance for post-disaster recovery?

Overall

- A paper that focuses on a very timely topic
- Very well-structured and well-written
- Has great potential!