A Decision Framework for Equitable Use of Federal Funds for Buyouts

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Mitigation Matters Report:

Motlagh & Hamideh (2025). Natural Hazards Center, CU Boulder.

Full Study:

Motlagh & Hamideh (2025). Sustainability, 17(3). DOI: 10.3390/su17030966

Research Question

How can local practitioners evaluate equity consequences of federal buyout projects?



Applying the Decision Framework

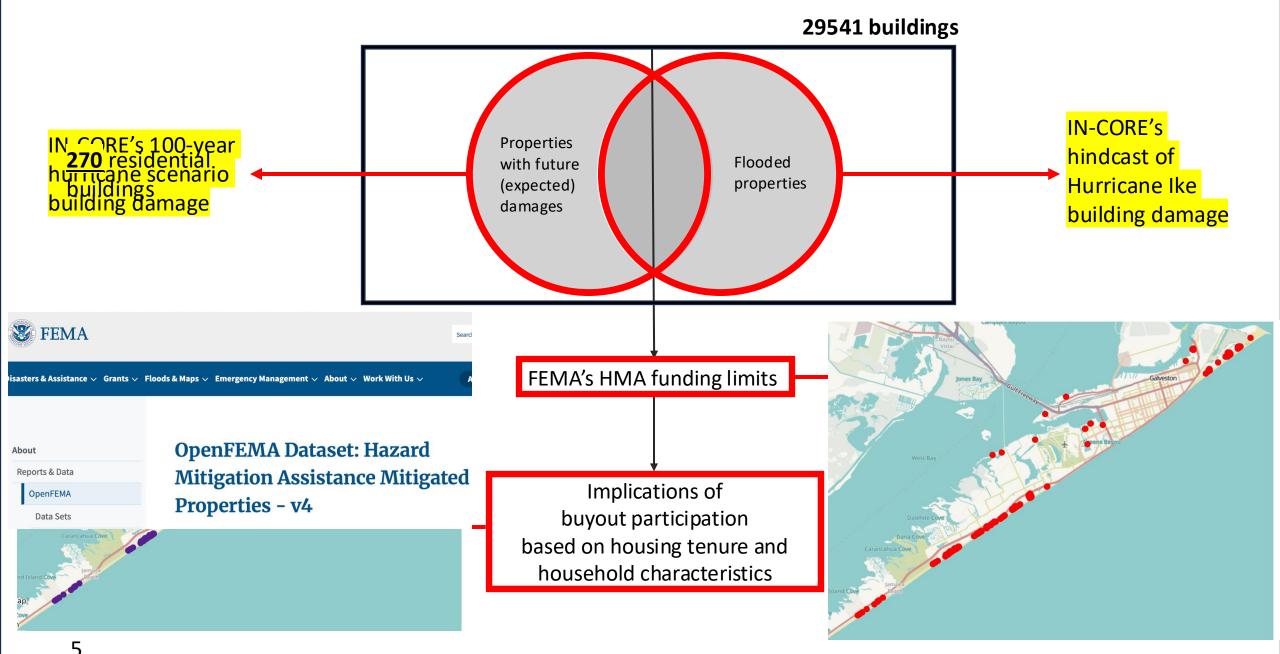
- Using the City of Galveston, TX (high exposure, past buyouts)
- And a decision-support tool called Interdependent Networked Community Resilience Modeling Environment (IN-CORE)

IN-CORE

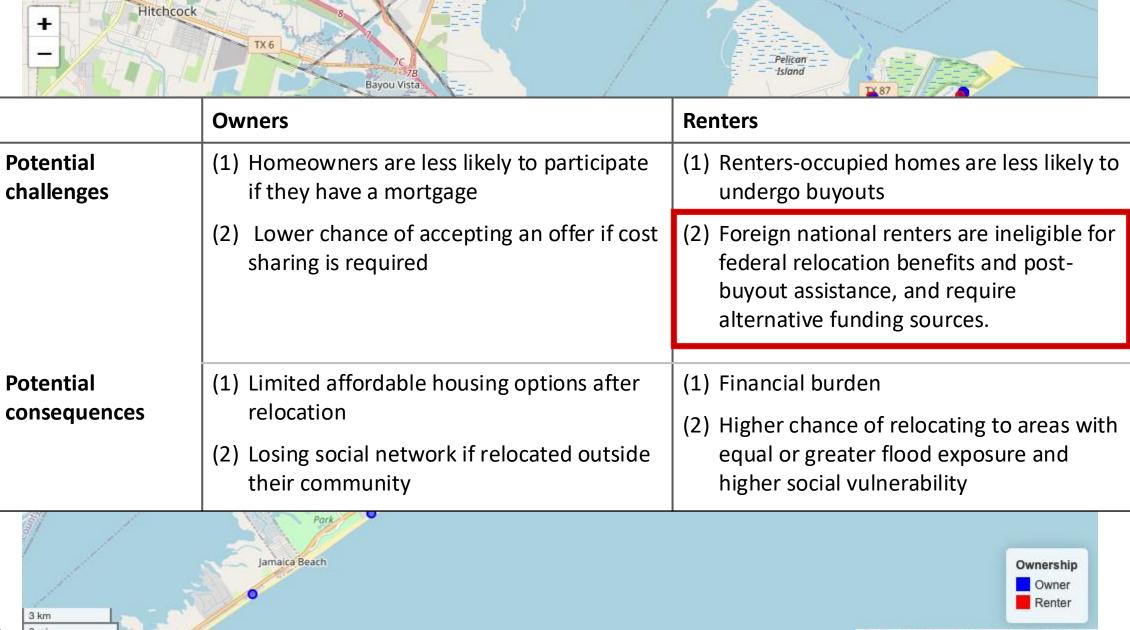
- Funded by the National Institute of Standards and Technology (NIST) supporting community resilience planning
- Models impact of natural hazard on community (social, economy, physical)
- Developed by 100 researchers from 14 universities
- Written in Python and is open source



Using IN-CORE and the City of Galveston as an example ...



Result: Candidate housing units by tenure status



■ Leaflet | Data by © OpenStreetMap, under OD

Sequenced Recommendations for Buyout Program Improvements

Before

1. Establish a full-time team to find and manage various funding sources for buyout programs, improving efficiency and accelerating the implementation process.



- 2. Ensure transparency and foster relationships with residents to build trust and make buyouts more favorable.
- 3. Adopt a proactive approach in identifying and engaging potential buyout program participants.
- 4. Consider funding for mental health support of household members who experienced flooding.
- 5. Explore strategies to enhance coverage and overall disaster preparedness of renters.
- 1. Share information and resources to increase homeowners' confidence in their ability to afford and undergo buyouts.
- 2. Consider creating a knowledge hub dedicated to sharing and learning innovative strategies for accelerating buyout program implementation.

During

- 3. Partner with community-based organizations and assign local relocation specialists to ensure supportive buyout process.
- 4. Provide sufficient financial incentives to alleviate the financial burdens of the buyout program and make it more favorable.

After

- 1. Facilitate continued support from relocation specialists post-buyout.
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- 2. Consider conducting longitudinal studies and feedback collection to assess and address challenges of relocation.
- 3. Exercise extra caution in the post buyout use of land.

Thank you!

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