

Mapping Flood Risk and Planning Misalignment in Harris County, Texas

Temidayo Popoola, Kaifa Lu, Jesse Andrew, Ali Nejat
Texas Tech University





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Main Finding

Flood planning does not consistently align with **where flood risk is greatest**. FEMA flood maps and mitigation actions often miss high-risk areas, while local planning priorities align more broadly **with flood risk**.

Introduction

- Flood risk is changing with climate and urban development.^{1, 2}
- Planning must consider both **past flood impacts** and **emerging future risk**.

Research Question:

Are flood-planning actions aligned with areas where historical and future flood risk is greatest?

Results - Highlights

- FEMA flood maps:** 78.5% of high future-risk tracts were not fully captured.
- Mitigation:** Actions align more with places that flooded in the past than places facing future risk.
- Local planning:** Priorities show broader alignment, covering 76.1% of elevated-risk tracts.
- Overall:** 52% of tracts with multiple signs of high flood risk have gaps in at least two parts of flood planning.

Methods

