Making Homes More Resilient and Affordable

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CPRA Board Meeting
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LaHouse
Research & Education Center

LaHouse Resource Center is an LSU AgCenter demonstration house exhibiting solutions for resilient, sustainable, and healthy homes and communities

Our Methods

Research

Extension

Training

LaHouse FY 25 Impact

15,000
Youth reached

19,884
Adults reached

1,053
LaHouse Visitors

10 new extension publications for homeowners

12 youth lessons for teachers aligned with Louisiana Science Standards

$7 Million
External investment in Louisiana resilience since 2022

92%
of adult participants could correctly identify the benefits of elevating a home.

9/10
participants learned the benefits of FORTIFIED homes.

98%
of youth participants could correctly identify ways to protect a home from natural disasters.

+300,000 reached through mass media

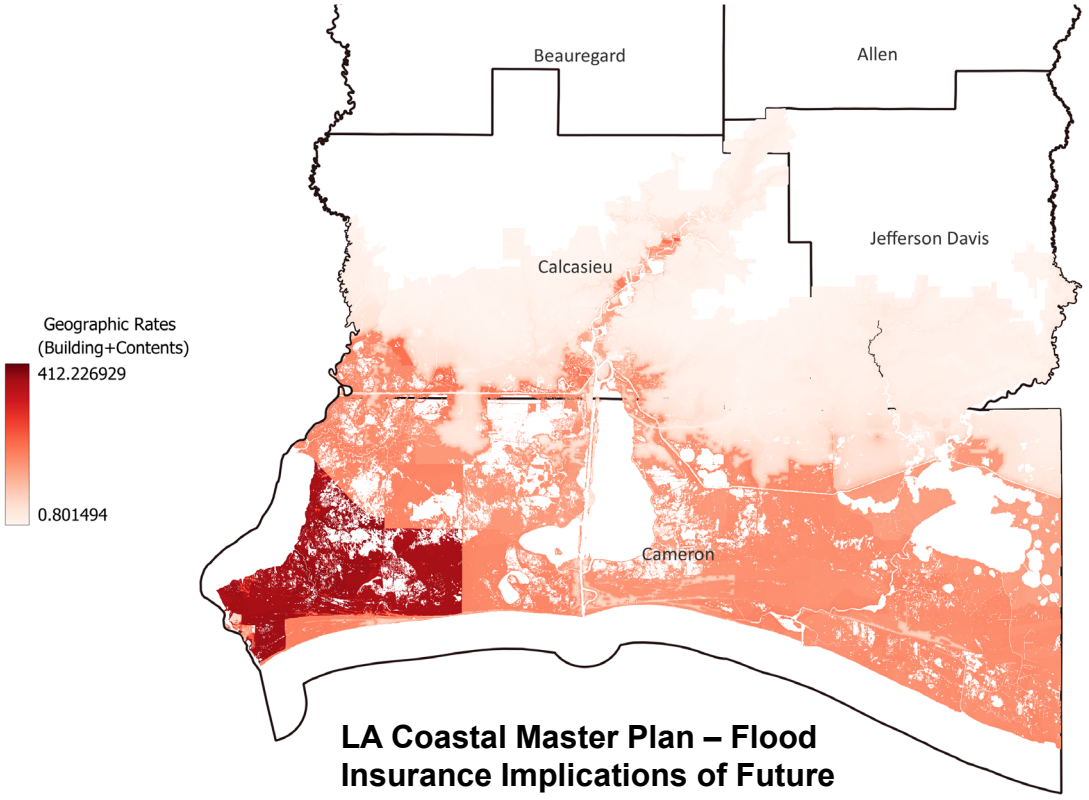
Outline

- Coastal Master Plan Flood Insurance Projections for MP23 Data
- Advancing Wind Resilience through Building Codes COE Project

Coastal Insurance Implications

Geographic Rating Factors

- NFIP premium rating now considers geographic, building, policy factors.
- Certain locations will always have higher insurance rates because of geography.
- Communities and homeowners can lower premiums through resilience measures – but which ones?
- Findings highlight strategies to improve affordability and strengthen resilience.



LA Coastal Master Plan – Flood Insurance Implications of Future Scenarios and Projects

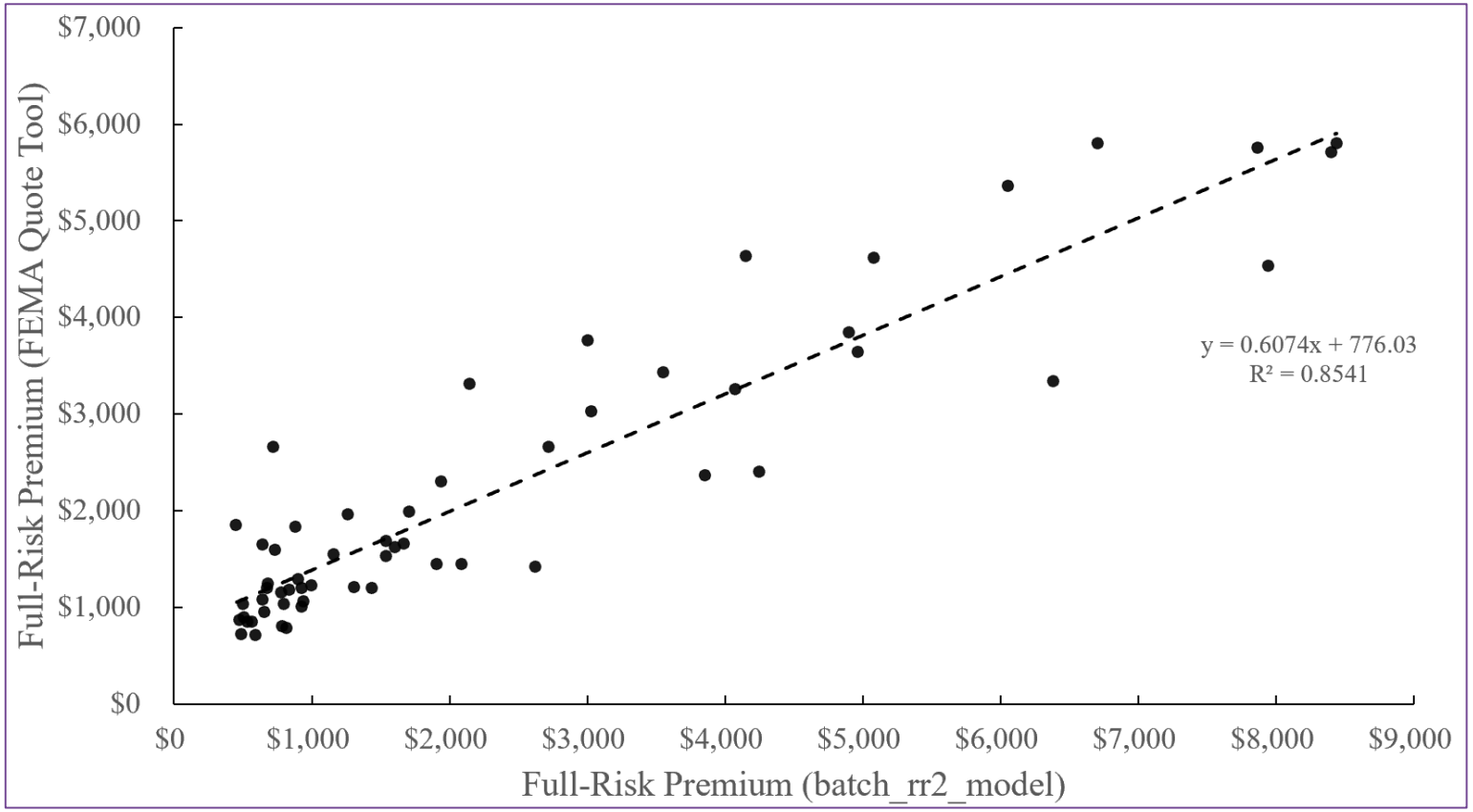
This material is based upon work supported by the LA Coastal Protection and Restoration Authority under Agreement Number 440027082, Task Order 4. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of CPRA.

Validation

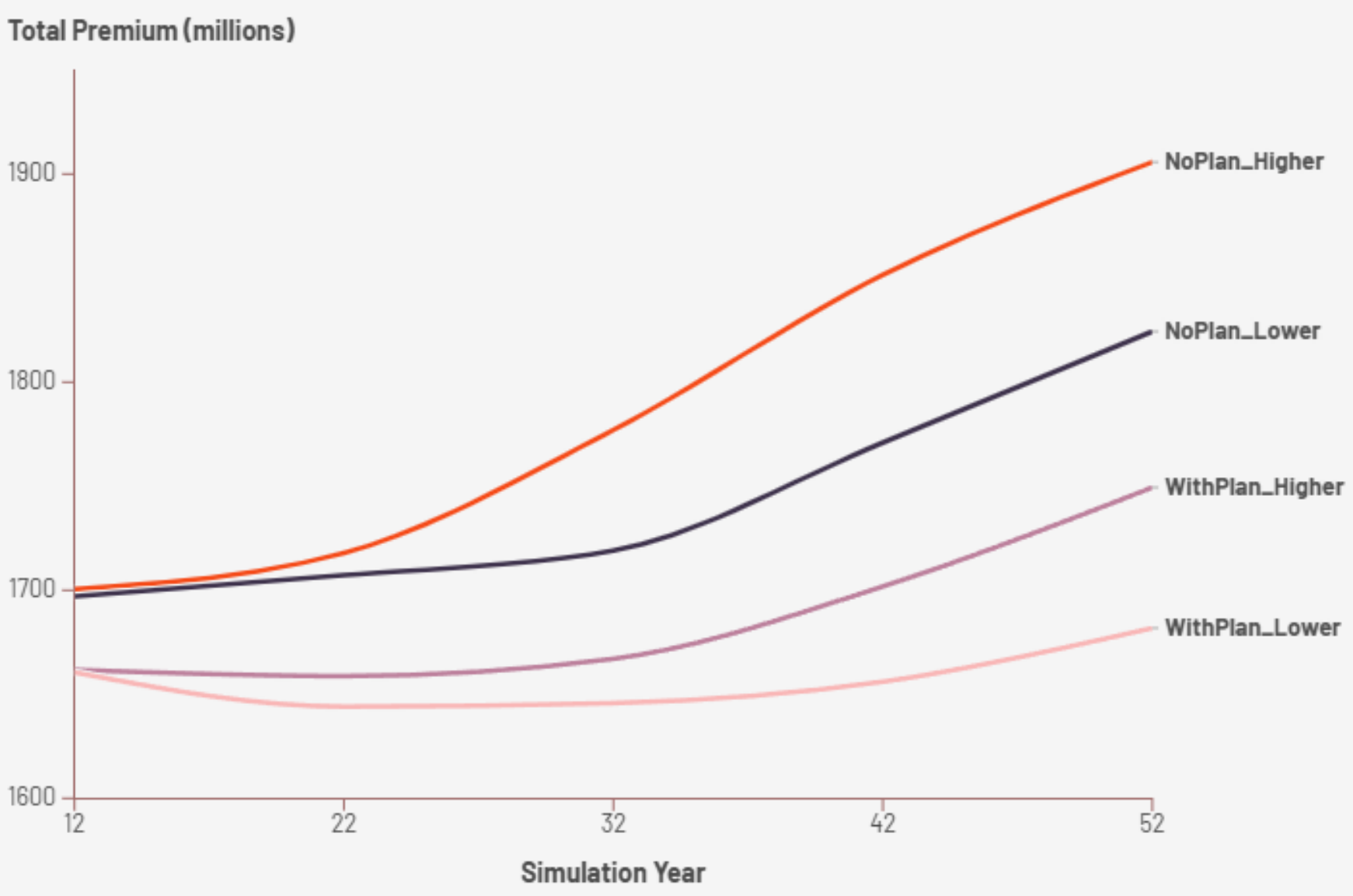
We conducted a paired sample t-test to determine whether the observed difference in means is statistically significant. The test metrics are as follows:

- **t-statistic: 1.11**
- Degrees of freedom: 58
- **p-value (two-tailed): 0.27**
- 95% confidence level (critical t-value): ±2.00

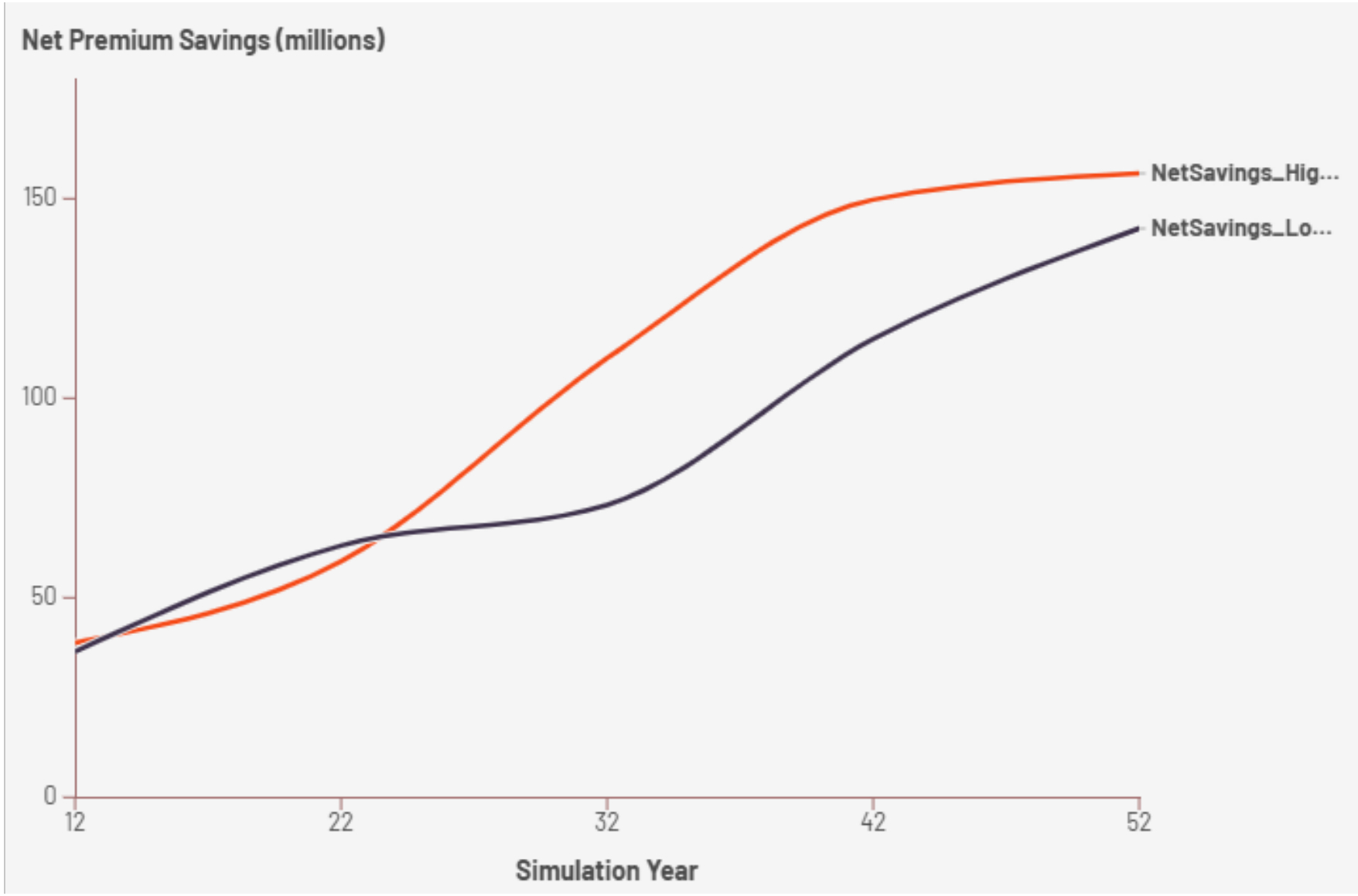
Since the p-value exceeds the conventional significance threshold ($p > 0.05$), we fail to reject the null hypothesis. This suggests that the difference in mean premiums between the two methods is not statistically significant, indicating good agreement between the Batch_RR2 model and the FEMA tool under the same input assumptions.



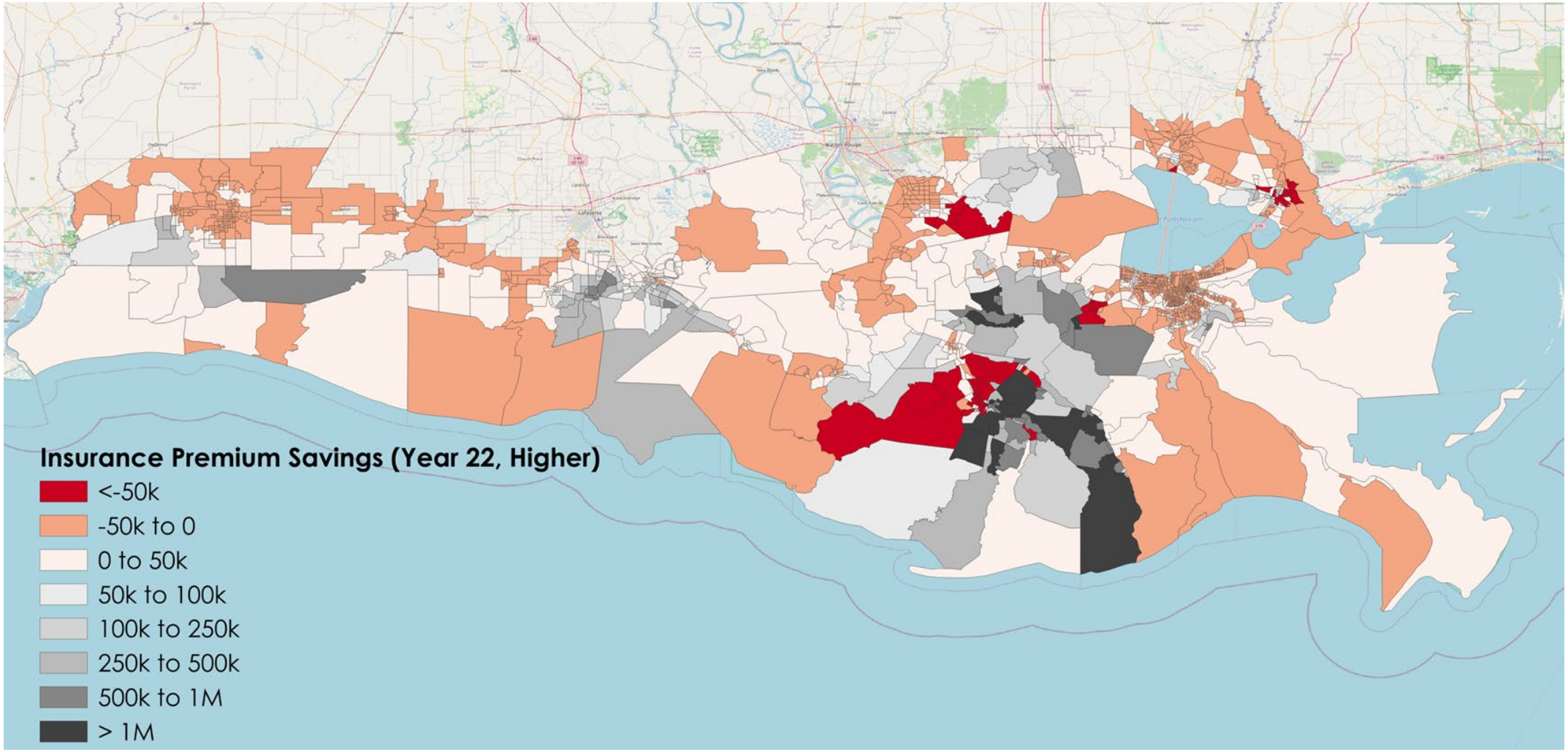
CPRA 2029 Coastal Master Plan Flood Insurance Implication: Estimated Total Insurance Premiums



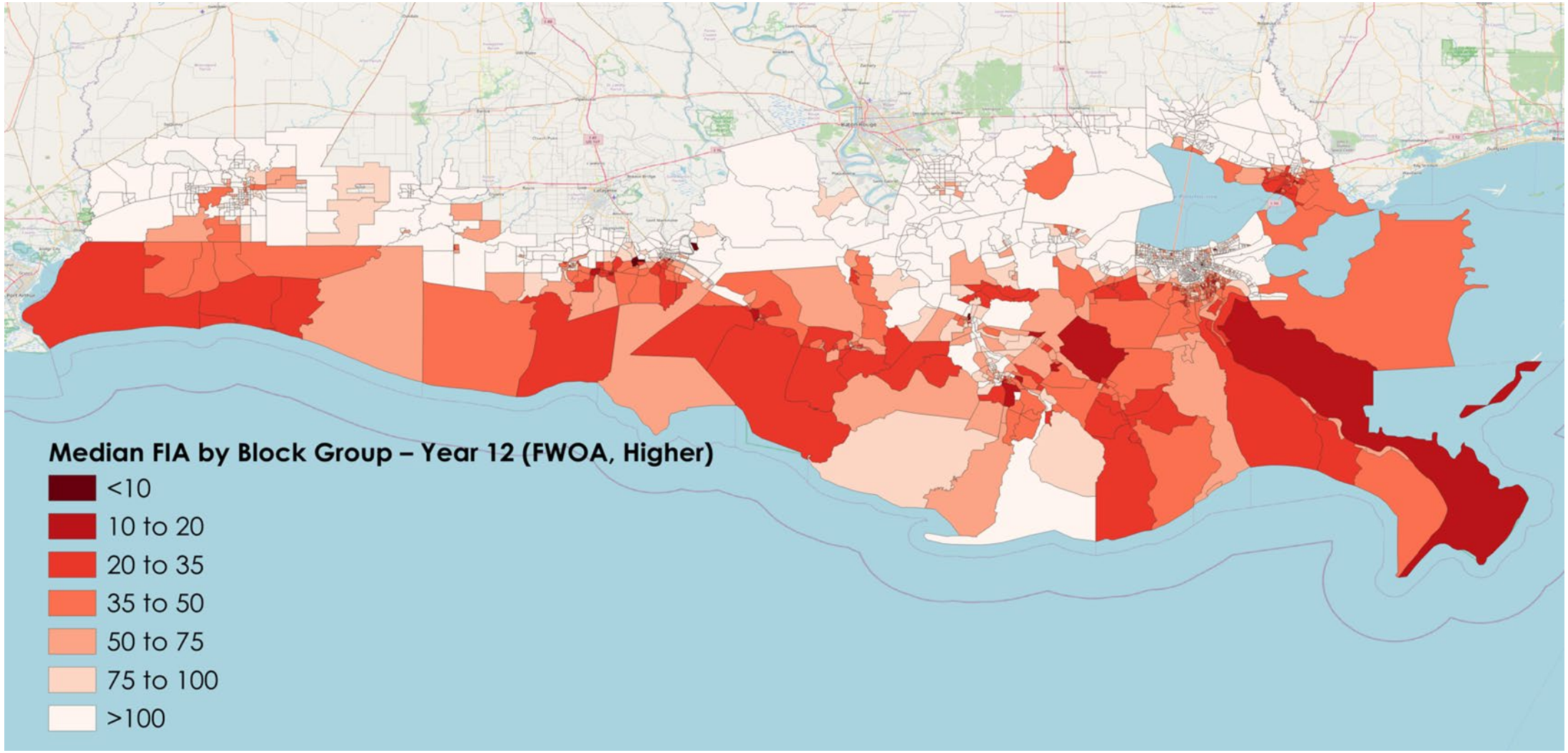
CPRA 2029 Coastal Master Plan Flood Insurance Implication: Insurance Premium Savings



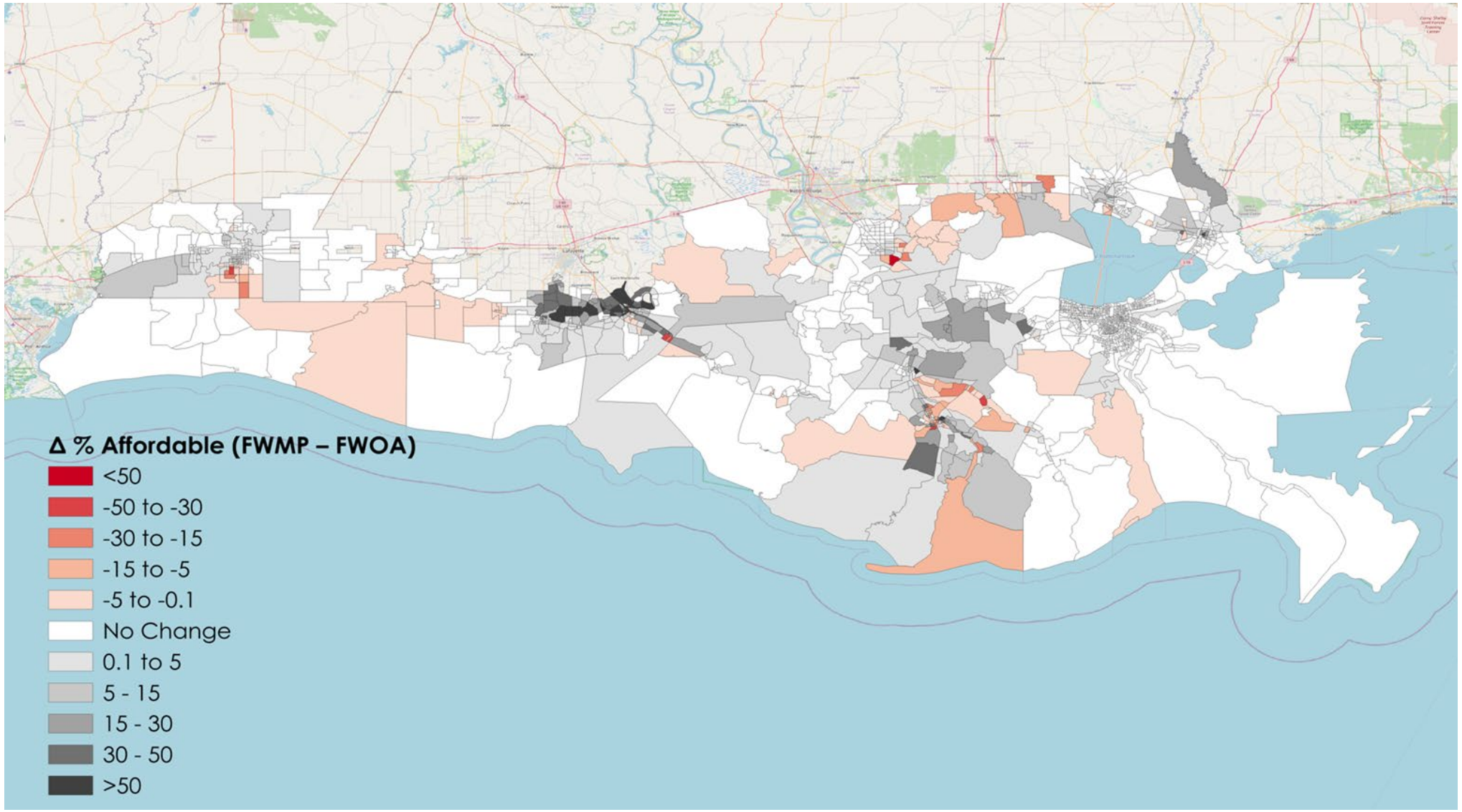
CPRA 2029 Coastal Master Plan Flood Insurance Implication: Insurance Premium Savings at Block-group Level



CPRA 2029 Coastal Master Plan Flood Insurance Implication: Median Flood Insurance Affordability (FIA) by Block Group



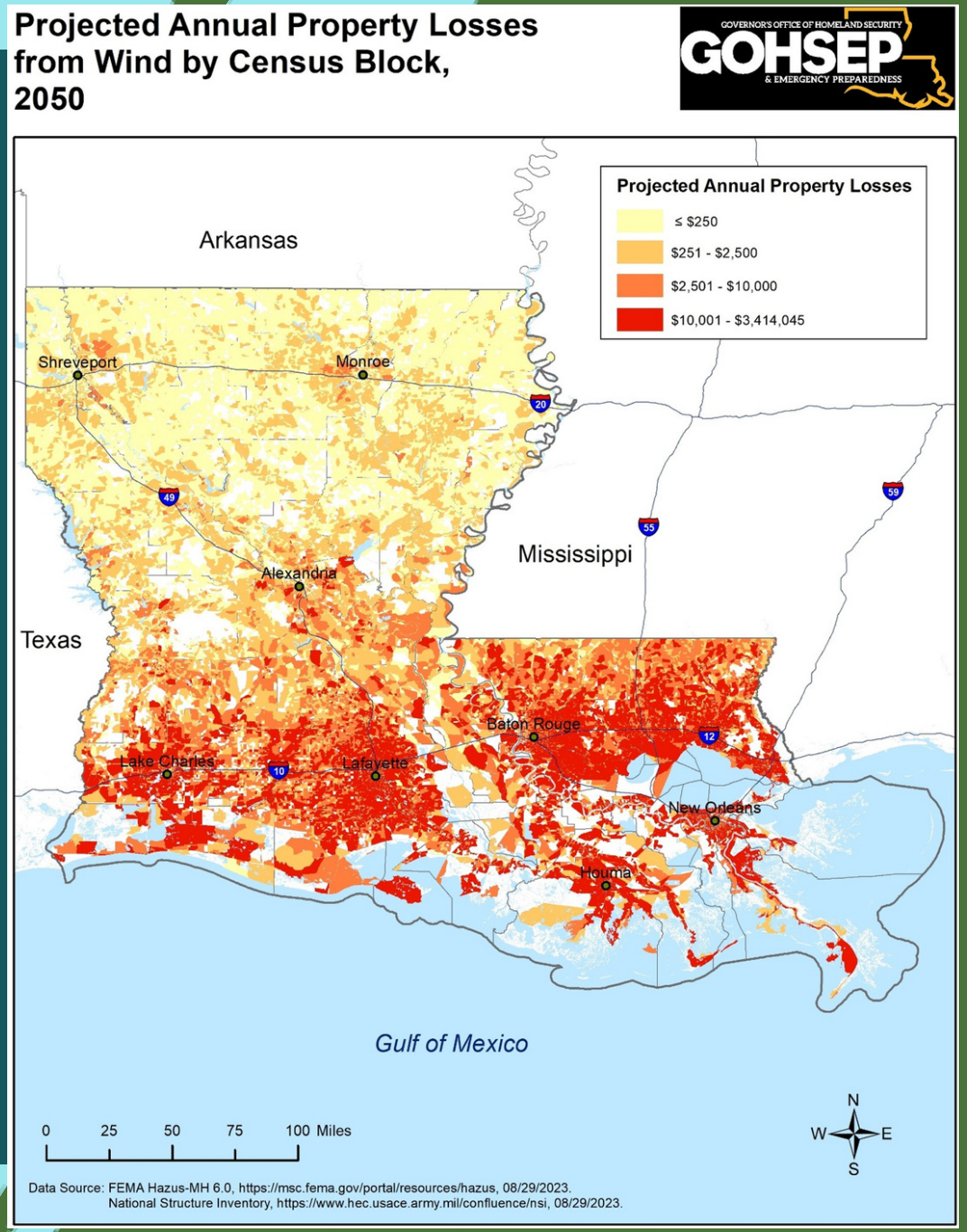
Net Improvement in FIA Due to MP23 Restoration and Risk Reduction Project Implementation



Projected Annual Property Losses from Wind by Census Block, 2025

$1.2 billion annually

$560 single family home annual loss



The Dual Threat: Financial Devastation and Environmental Injustice

Over 50% of high-risk areas are disadvantaged communities.

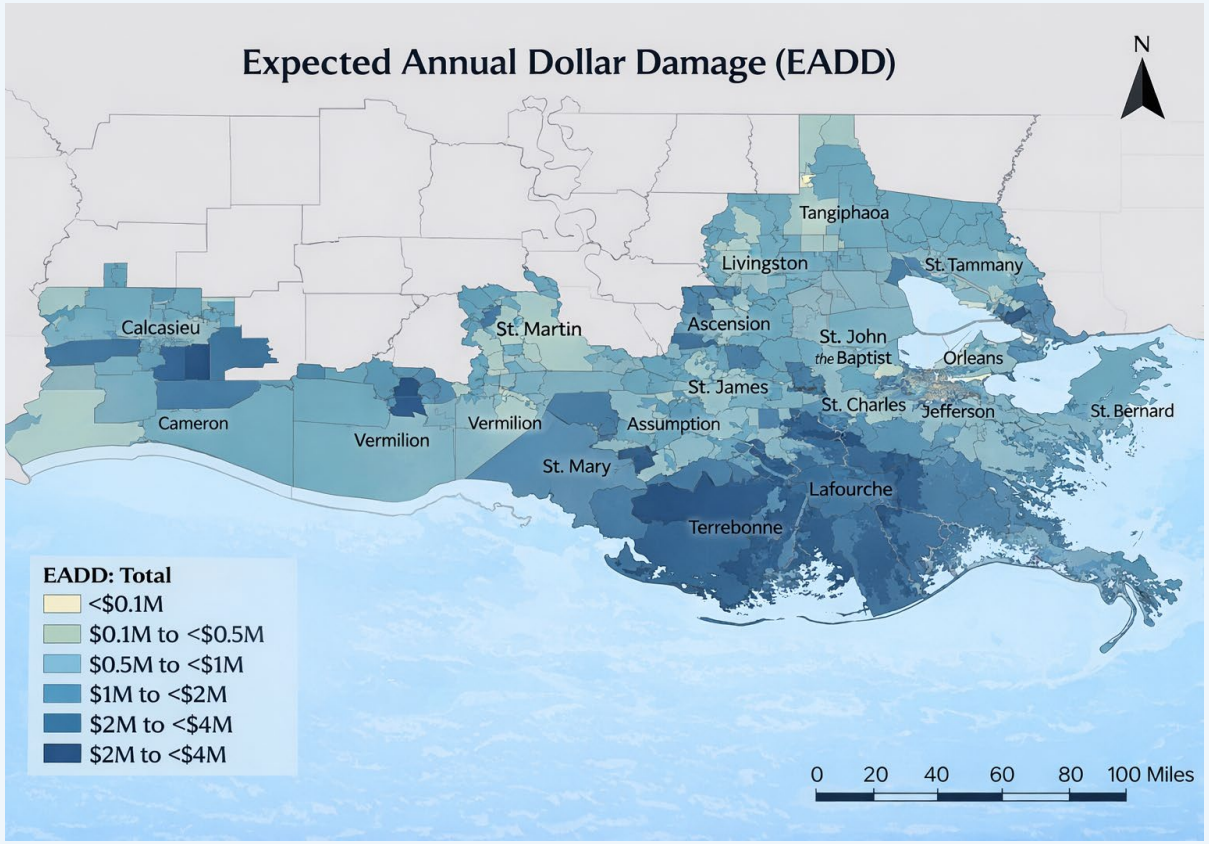
Wind risks remain **chronically underrepresented** in **resilience and environmental justice research.**

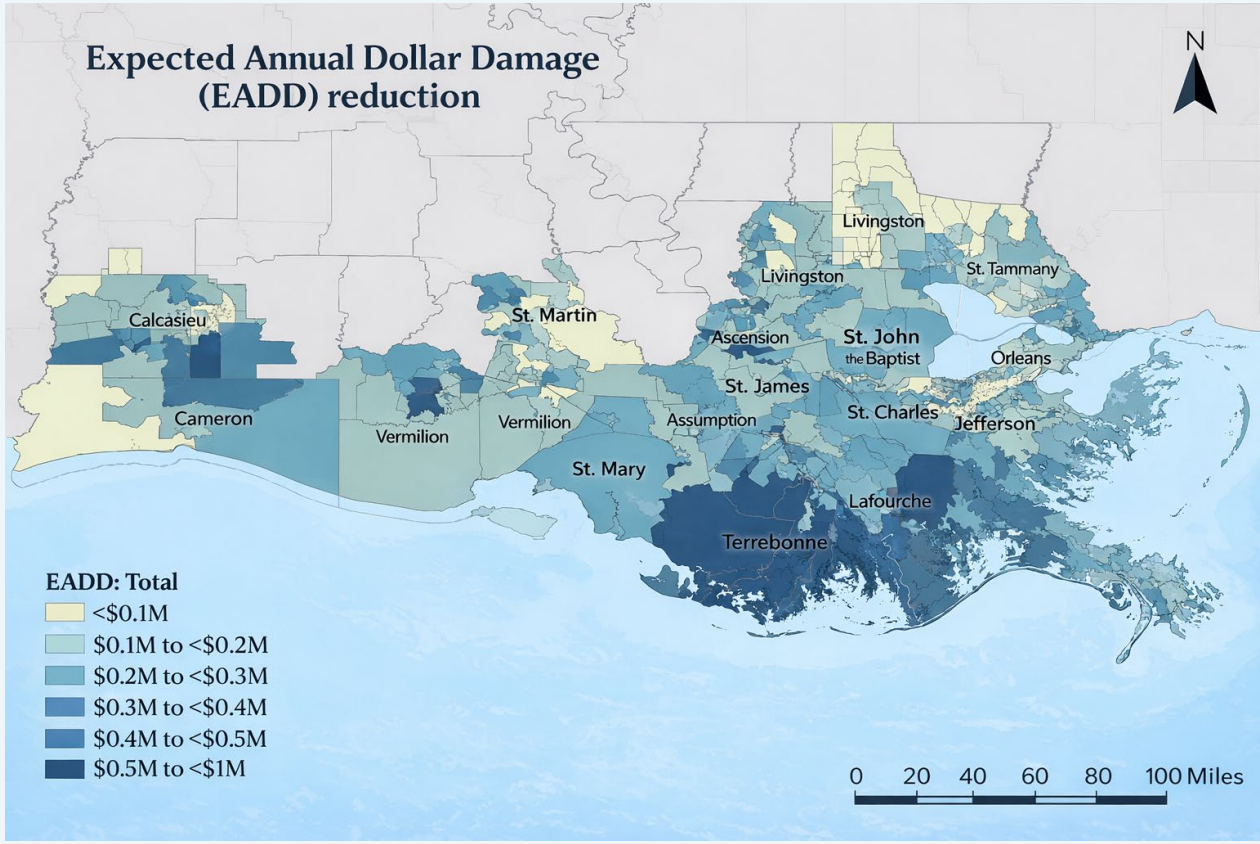
Core Research Questions:

1) How does economic impact vary among socio-economic groups?

2) How effectively do improved building codes reduce this risk?

IMPACT OF ENHANCED BUILDING CODE ADOPTION ON WIND DAMAGE REDUCTION ACROSS COASTAL LOUISIANA



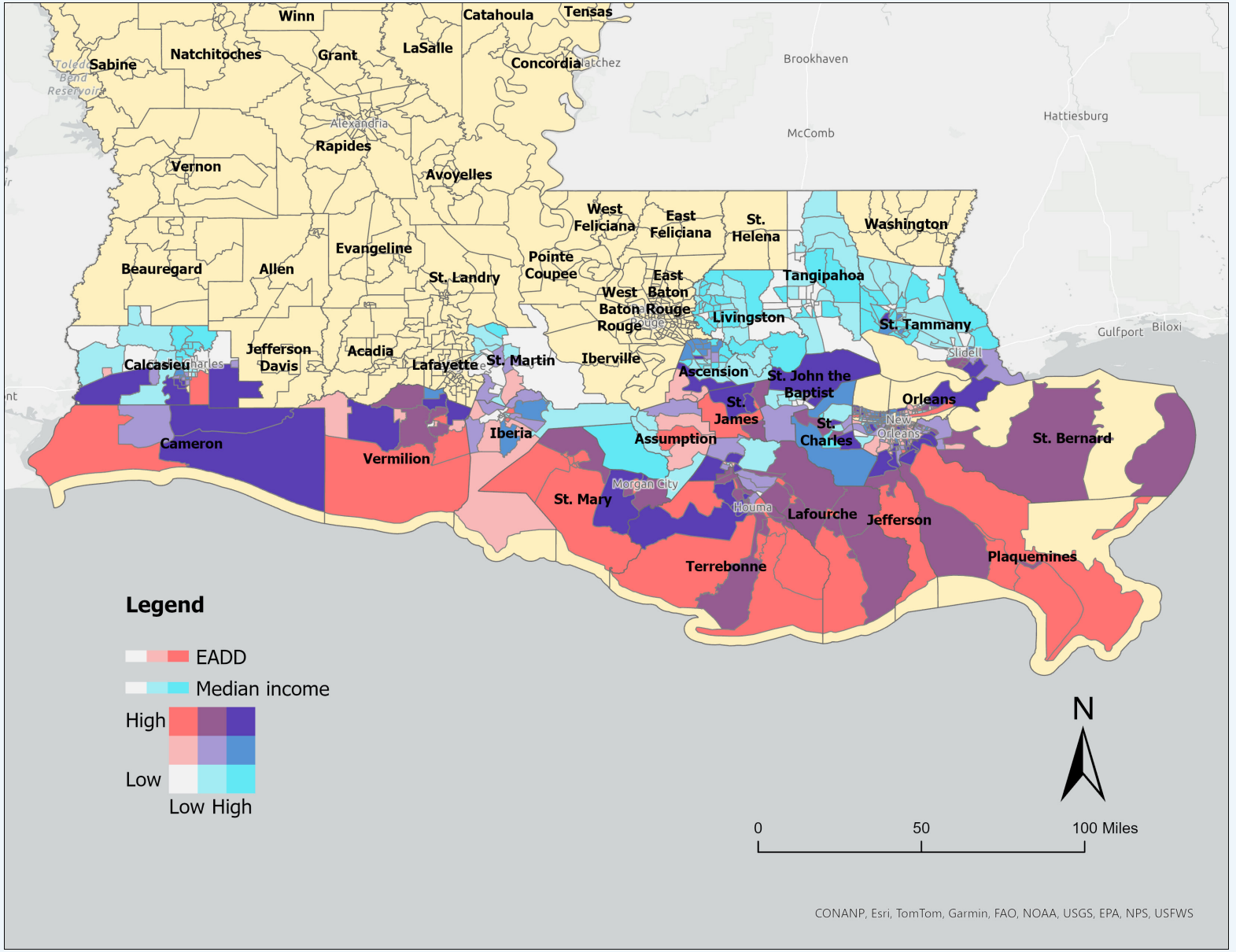


- **Enhanced Roof Deck Attachment- adoption 30% to 100%**
- **Secondary Water Resistance- adoption 0% to 100%**
- **Window and Door Protection- adoption 5% to 100%**
- **Roof-to-Wall Connections- adoption 77% to 100%**

Achieves up to **78%** reduction in expected annual dollar damage (EADD)

SOCIO-SPATIAL PATTERNS OF WIND RISK AND INCOME (EADD VS. INCOME)

- Bivariate map of EADD and median income
- Census tracts characterized by both ***high EADD and moderate to high median income*** are primarily concentrated along Louisiana's coastal parishes
- A small number of inland tracts particularly also exhibit this combination.
- Most inland census tracts in areas display either ***moderate to high income with low EADD, or low income with low EADD***



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