







Wind loads were underestimated in >80% of homes in Florida

- In 86% of Florida census tracks, current models
 - Underestimate wind loads
 - Undervalue stronger construction
- Model results suggest that stronger construction could reduce Florida expected annual losses by \$4 billion per year (double the estimate of current models)



Analysis of the US East Coast suggests that ignoring texture underestimates value of stronger construction by > \$12B/year

- While Florida's is largest, all coastal states are exposed to wind hazard risk
 \$10 B in expected value from mitigation
- In several cases, texture reveals risks 2X of conventional models













Current codes and models do not sufficiently address the resilience of built environment

Windloads underestimated in Change the code setting • 25,000 communities to account for the impact (66% of buildings). of the local neighborhood . = 4.0 $C_d = 3.0$ Updating LCA/LCCA practice to account for $C_{d} = 2.0$ hazard-related burdens Engaging stakeholders to consider the impact of hazards in construction Conventional flood Urban Physics-aware flood Slide 12 Modeling (MIT Campus) Modeling (MIT Campus)













