
CIPR POLICY WORKSHOP: NATURAL DISASTER RESILIENCY

NAIC FALL NATIONAL MEETING – AUSTIN, TX DECEMBER 8, 2019





The National Research Council's 2012 report
Disaster Resilience: A National Imperative defined
resilience as:

***“the ability to prepare and plan for, absorb,
recover from, and more successfully adapt to
adverse events”***

PARADISE, CA – A NECESSARY STORY OF RESILIENCE

“The best way to increase availability and affordability of homeowners insurance is to decrease the risk of loss.” (CA DOI):

- Building Codes
- Fire resistant modifications
- Land use planning
- Communitywide Abatement
- Environmental Regulation
- Enhanced Infrastructure
- Wildfire Sensors

***Primarily activities
outside traditional
domain of DOI***

***But insurance can
importantly act as a
signal and/or
complement for many
of these activities***



OF COURSE WE WANT TO
HELP PREVENT PARADISE-LIKE
EVENTS FROM HAPPENING IN
THE FIRST PLACE TO MANY
OTHER SIMILAR COMMUNITIES

- *Not just a focus
on resilience in the
recovery, but prior
to the event*
- *Much of the
impact is avoidable*



EYE OF THE STORM

Report of the Governor's Commission to Rebuild Texas

Exhibit 5. Total Direct Losses Due to Hurricane Harvey by ZIP Code

Source: Federal Emergency Management Agency, U.S. Small Business Administration and Texas Windstorm Insurance Association

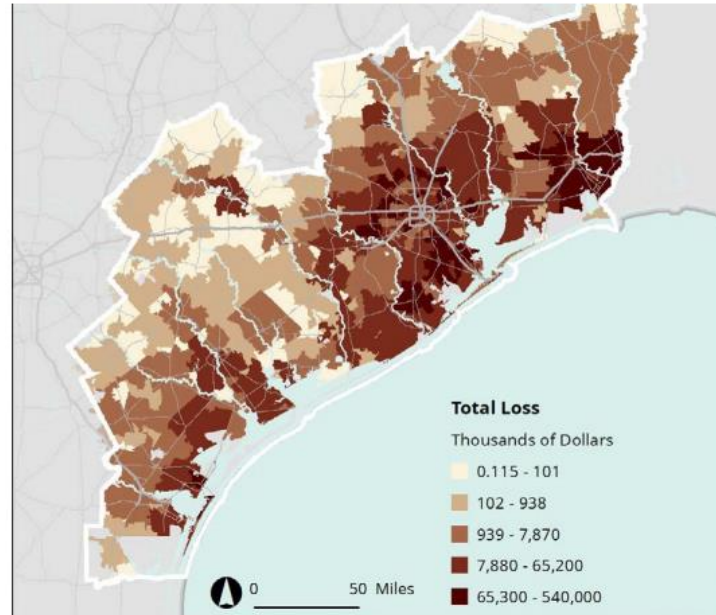
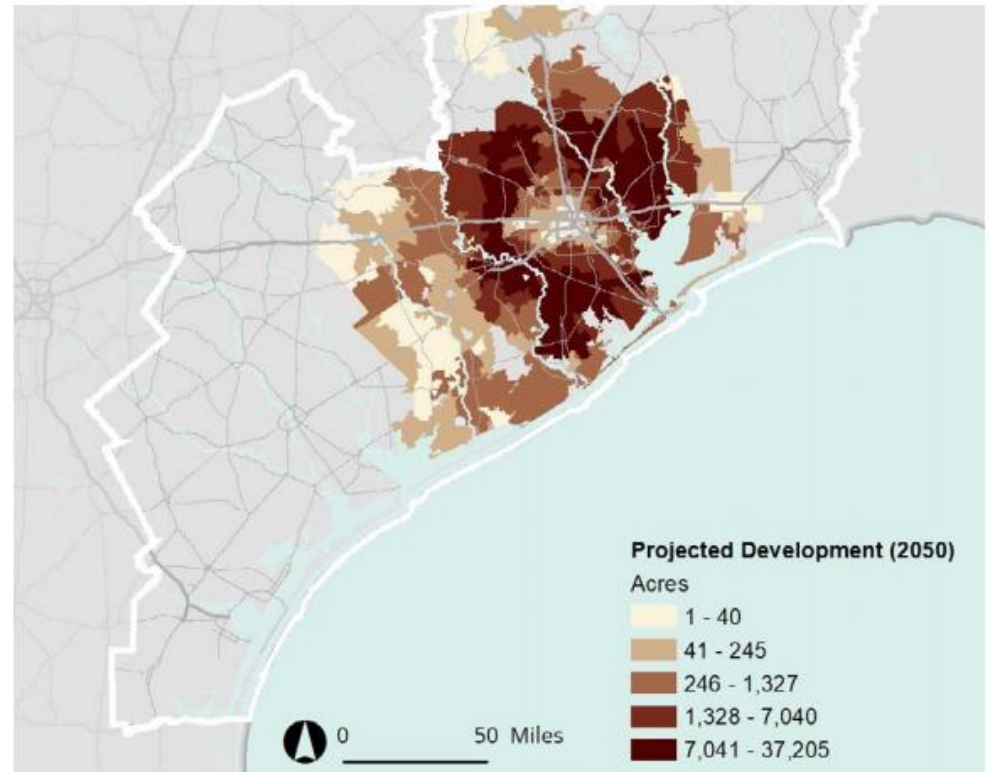


Exhibit 3. Projected Population Increases in the Harvey Disaster Declaration Area through 2050, by ZIP Code

Source: Unpublished analysis conducted by Texas A&M University at Galveston.



HURRICANE HARVEY – A NECESSARY STORY OF RESILIENCE IN TEXAS

“We must make the Texas Gulf Coast — and indeed the entire state — more resilient and better able to withstand future disaster”

<https://www.rebuildtexas.today/wp-content/uploads/sites/52/2018/12/12-11-18-EYE-OF-THE-STORM-digital.pdf>

STRATEGIES FOR BUILDING A MORE RESILIENT TEXAS

Exhibit 3. Basic Mitigation Strategies for Future Hurricanes

Source: Texas A&M University at Galveston and the Governor's Commission to Rebuild Texas

AVOID

- Elevate (fill or piers)
- Open space protection
- Buy-outs/land acquisition
- Relocation
- Buffers/setbacks
- Incentivize development
 - Transfer dev rights
 - Density bonuses
 - Tax incentives
- Spatially-targeted development

RESIST

- Reservoirs
- Dikes/barriers
- Hardening/channels
- Dams
- Construction of natural features
- Household flood-proofing

ACCOMMODATE

- Detention/retention
- Storm drainage
- Wetland protection/restoration
- Break-away walls

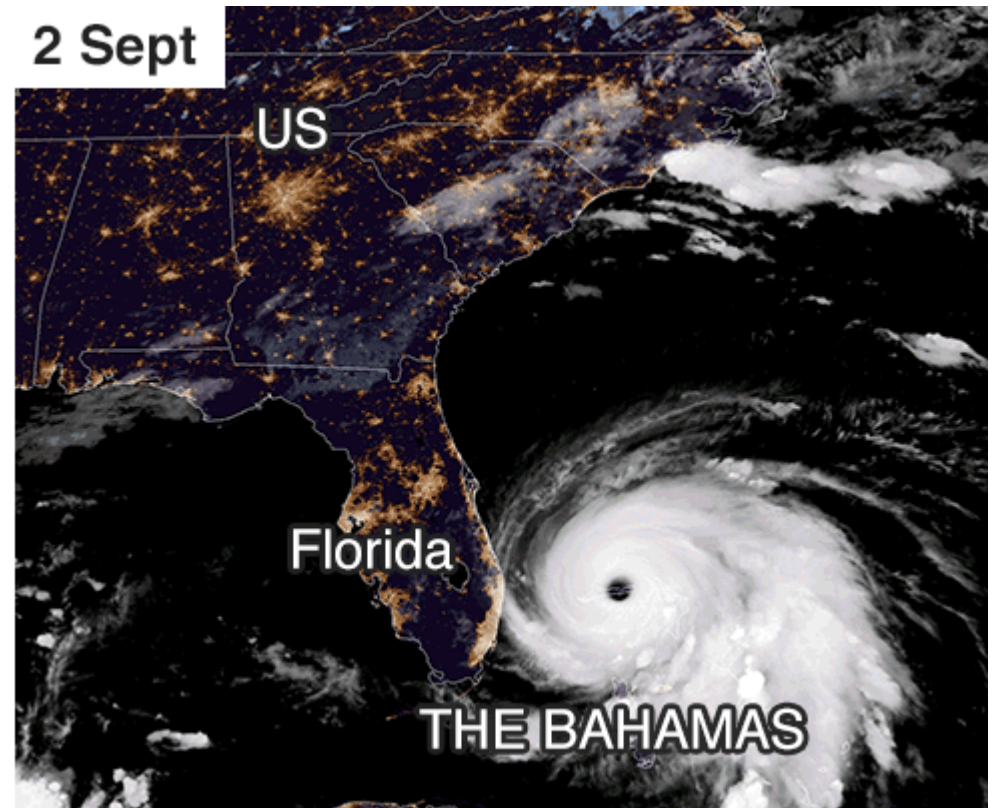
COMMUNICATE

- Disclosure
- Web tools/apps
- Street drain sweep program
- University Center for Flood Risk Reduction

“ALL COMMUNITIES IN FLORIDA FACE WEATHER RESILIENCY CHALLENGES, WHETHER COASTAL OR INLAND” ([HTTP://RESILIENCYFLORIDA.ORG/](http://resiliencyflorida.org/))

From 2016-2018, Florida experienced three consecutive Atlantic Hurricane Seasons with at least one hurricane making landfall during each season accounting for a combined total of more than \$17 billion in estimated insured losses.

(<https://www.flor.com/Office/HurricaneSeason/hurricanesourcepage.aspx>)



Dorian was the second-strongest Atlantic hurricane on record

(<https://www.bbc.com/news/world-latin-america-49553770>)

THREE APPLIED RESILIENCE RESEARCH EFFORTS

*Note: the research ideas
expressed in this session are
those of the researchers and
not endorsed by the NAIC.*



DR. SAM BRODY –
HURRICANE HARVEY &
FLOOD RISK
COMMUNICATION



DR. LARS POWELL –
HURRICANE HARVEY &
SMALL BUSINESS RISK
MANAGEMENT AND
RECOVERY



DR. WOUTER BOTZEN –
HURRICANE DORIAN &
HOUSEHOLD FLOOD
PREPAREDNESS DURING
THE EVENT

CIPR STATE WEB MAP



TEXAS



Disaster Risk Management

- **Before the Storm.** Consumer tips before a disaster strikes
- **Disasters: How to prepare and recover.** Disaster preparation and recovery tips
- **Storm Warnings.** Insurance tips for consumers for disaster preparedness



Flood

- **Flood Insurance.** Information on purchasing a flood insurance policy
- **Homeowners, Flood, and Windstorm Policies Comparison.** Information on the type of policy.



Hurricane & Wind

- **Windstorm Inspections.** Information for coastal homeowners on building codes and forms for contractors, engineers, and architects

CIPR DOI RESILIENCE INFORMATION HUB