The Resilient Home Program

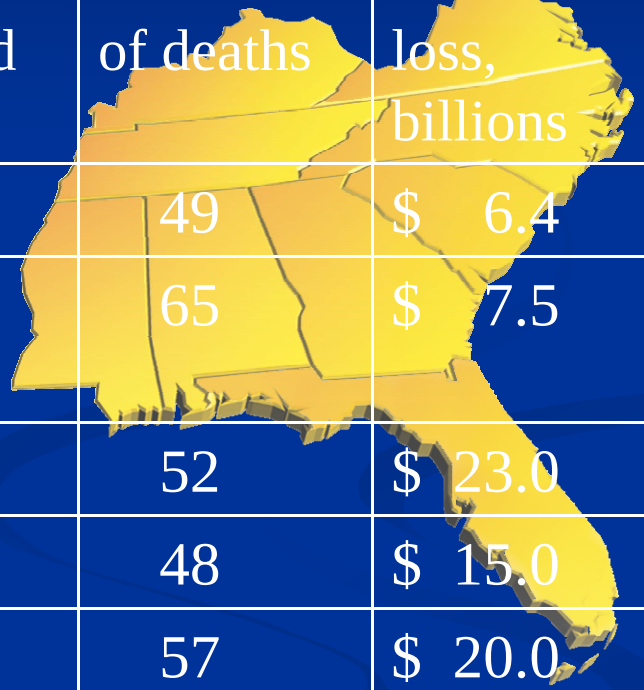
The Fourth Annual DHS University Network Summit

March 10, 2010

Presented by
Dr. David Tilotta
North Carolina State University
Raleigh, NC

The impact of natural disasters on housing in the United States

U.S. disasters	Housing units lost or damaged (major)	Number of deaths	Economic loss, billions
1989 Hurricane Hugo	36,000	49	$ 6.4
1989 Loma Prieta Earthquake	11,500	65	$ 7.5
1992 Hurricane Andrew	80,000	52	$ 23.0
1993 Midwest Floods	50,000	48	$ 15.0
1994 Northridge Earthquake	60,000	57	$ 20.0
1999 Hurricane Floyd	80,000	77	$ 6.0+
2005 Katrina	950,000	1,200	$ 75



The *Resilient Home Program:* A partnership with the Community and Regional Resilience Institute (CARRI)

Enabling community recovery following a natural disaster by dramatically speeding the return of the residents to their homes.

Program rationale

- Provide more effective tools, techniques, resources, and information—through applied research and development—to people who experience or respond to natural disasters.
- A partnership to serve as a clearinghouse for research and education efforts for the many organizations – government, academia, private and non-profit – working independently towards disaster relief.
- Assist with DHS Presidential Directive #5 "Management of Domestic Incidence."

Resilient Home Program Team

Team Members

ERDC Engineer Research and Development Center

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SRNL SAVANNAH RIVER NATIONAL LABORATORY

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Strengthening Homes and Safeguarding Families FLASH FEDERAL ALLIANCE FOR SAFE HOMES www.flash.org

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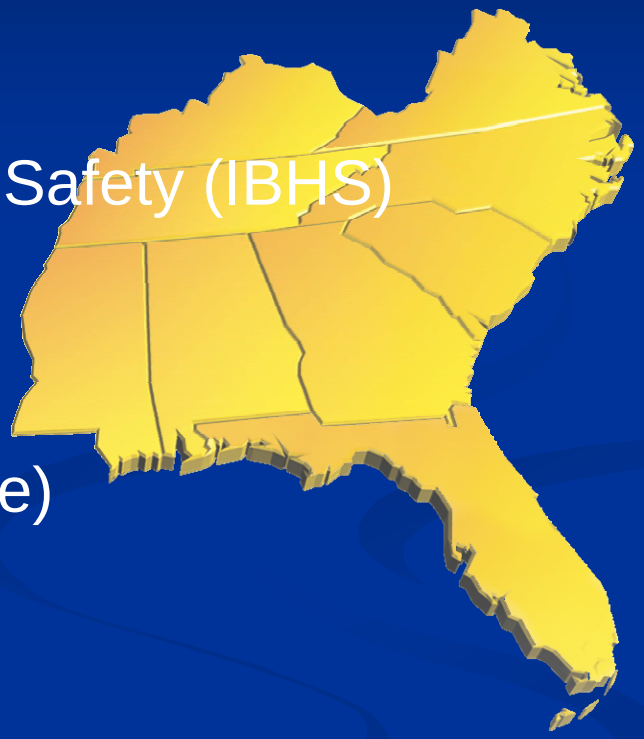
MISSISSIPPI STATE UNIVERSITY

FEMA

Additional partners

- Environmental Protection Agency
- FEMA Region 4
- Institute for Business and Homes Safety (IBHS)
- Extension Networks (EDEN)
- Builders, Storm Resistant Homes
- South Carolina Safe Home
- Renaissance Reinsurance (RenRe)
- Tuskegee University
- Others
  - Homeowners
  - Other Builders/Developers
  - Architects
  - Etc.



RHP gap analysis – understanding needs

- Completed in first year through a stakeholder survey and a state of the art study in current technology, practices, education etc.
- Hundreds of research and education needs identified
- Some results:
  - Mold proof materials
  - Resilient rebuilding (retrofitting)
  - Incentives for building resiliently
  - Education and outreach in all areas
- Independent verification and expansion of FEMA strategic priorities

Current RHP projects, overview

Dissemination of results

http://home.resilientus.org

Resilient retrofitting

Resilience rating system

Flood resistant materials

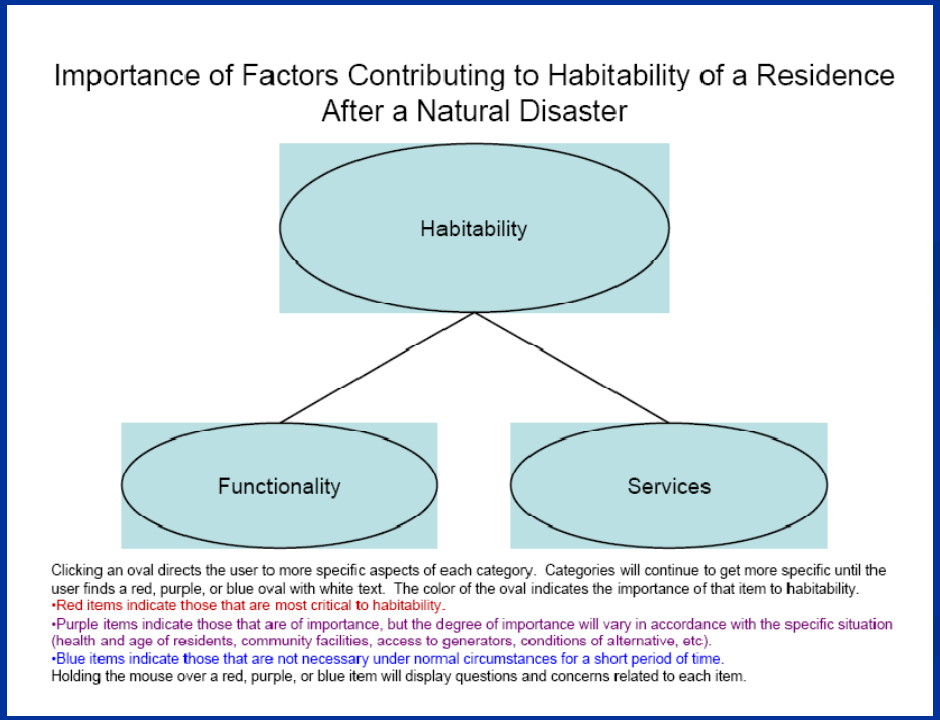
Education/ outreach

Rating system for natural disaster resilience of homes

- A rating system, tied directly to insurance perils and linked to incentives, for the higher performance of buildings during natural disasters

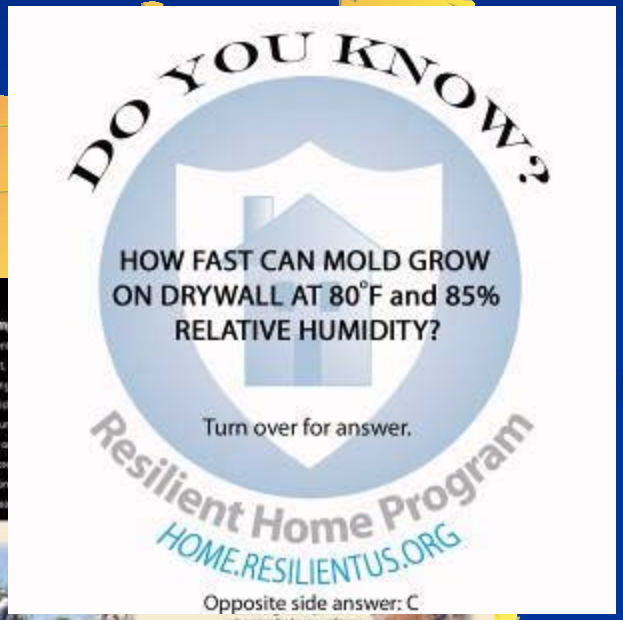
Resilient technology rating system

- A scoring system for assisting home-owners, manufacturer's, and others in prioritizing resilient technology that is available for retrofitting homes."



Education and outreach

- Educational materials and appropriate distribution methods for recognized gaps in stakeholder knowledge.
  - Videos
  - Social networking sites
  - Internet (e.g., webinars)
  - Printed formats



Development of standards for flood resistant materials

- In collaboration with FEMA and Dewberry Engineering, develop testing protocols for a universal rating system for flood resistant materials and assemblies.

RHP affiliated projects

- Tornado safe room campaign
  - FLASH, FEMA
- Gulf Coast Resilient Home Building Conference: Building Strong for the Future
  - In cooperation with the Home Builders Association of the Mississippi Coast
  - March 19-21, 2010, MS Coast Convention Center, Biloxi, MS

Contact information

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