

Communicating Local & Regional Strategies for Coastal Sustainability in Louisiana

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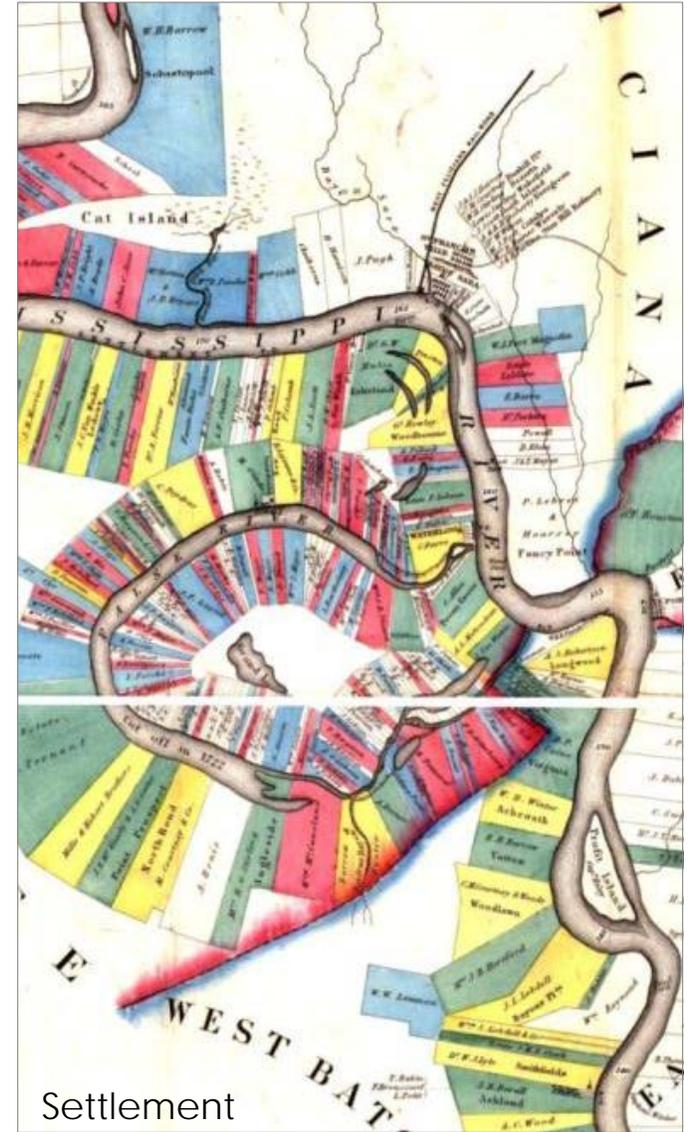
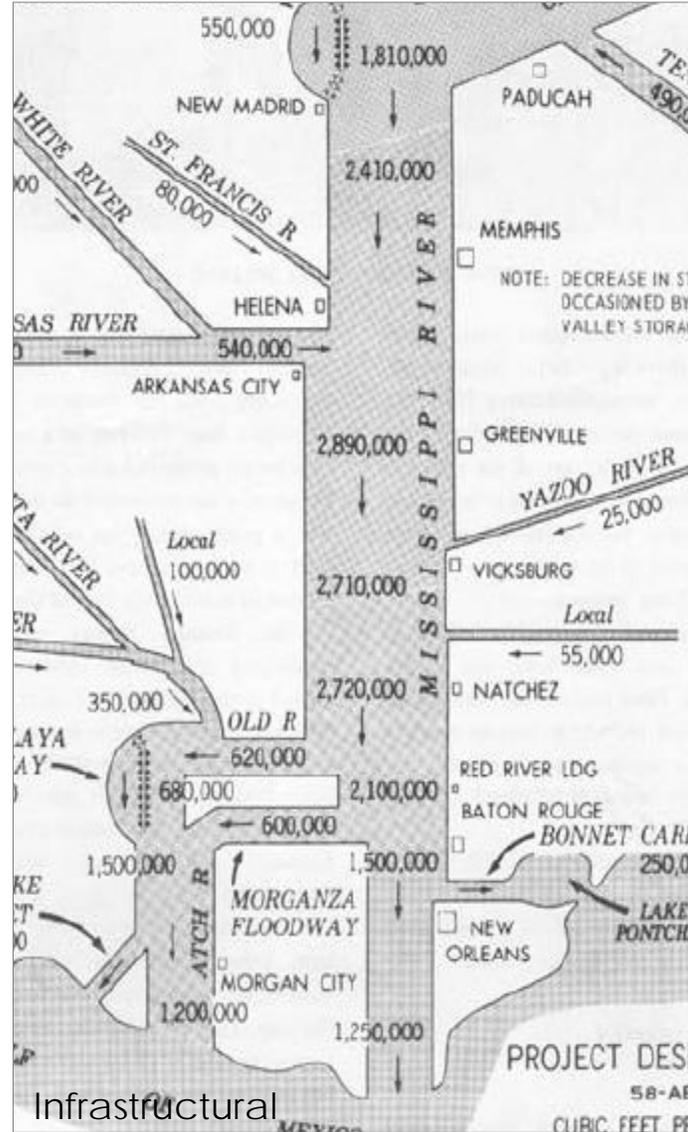
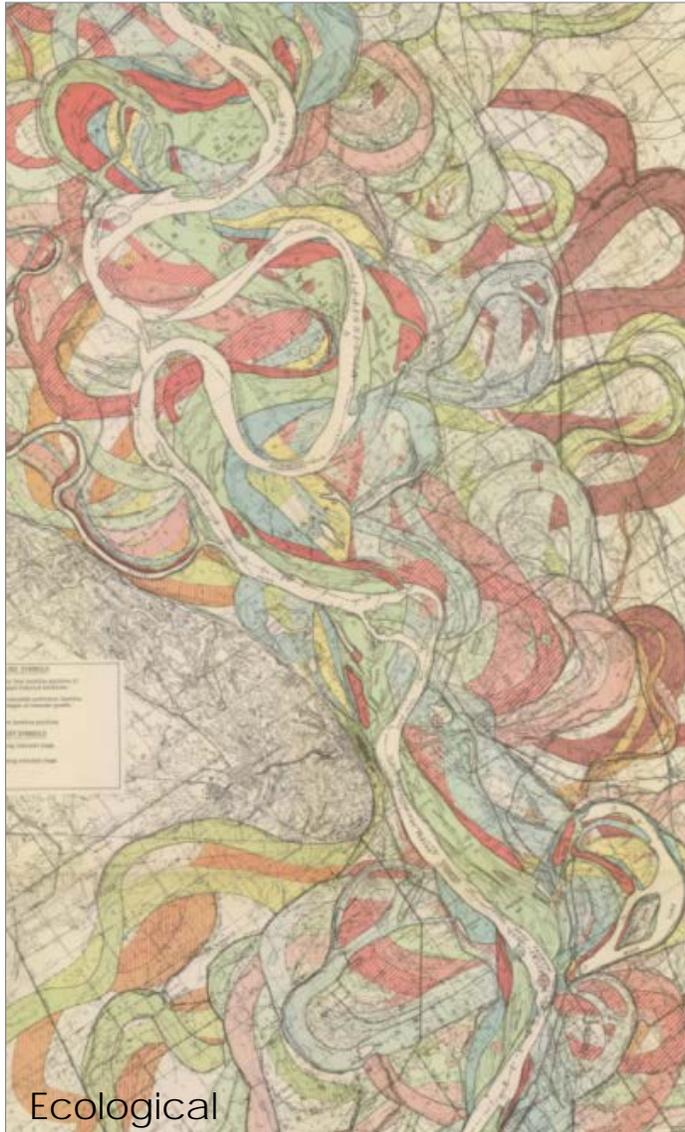


The LSU Coastal Sustainability Studio

The LSU Coastal Sustainability Studio brings together disciplines that frequently conduct research independently — namely visual designers, natural and social scientists, engineers, and planners — **to intensively study and build integrated design applications that respond to critical issues of coastal settlement, restoration, flood protection, and economic development.** The CSS builds university capacity and transdisciplinary teams that work to solve coastal problems through an integrated design and systems thinking approach.



Speaking a Common Language



How Does CSS Promote Community and Regional Resilience?

- Communication and visualization of science, engineering, and data
- Community Outreach and Capacity Building
- Visionary Design and Speculation



Visualizing the Delta Landscape

Coastal Protection and Restoration Authority Visualization and Communication Program

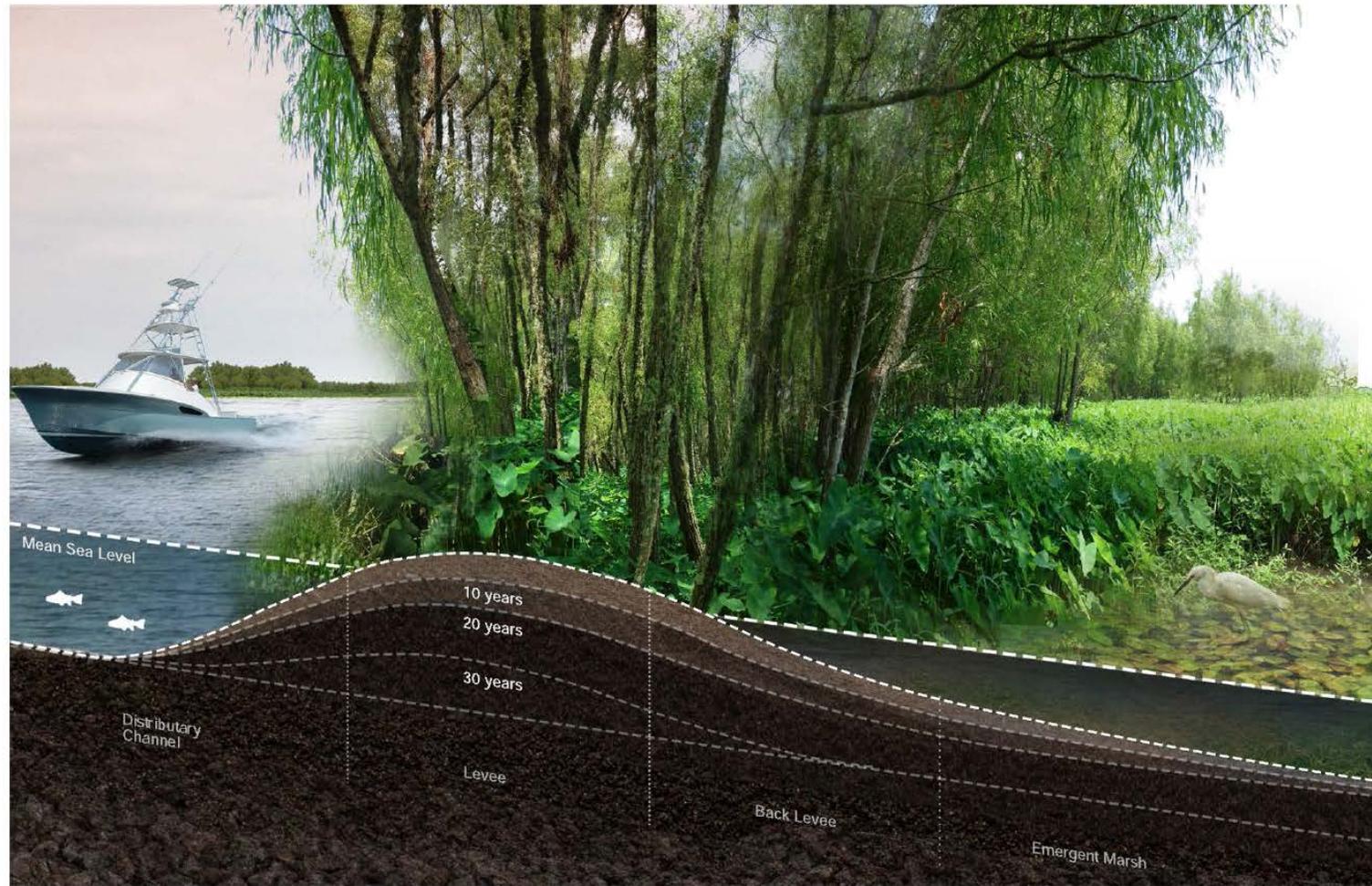
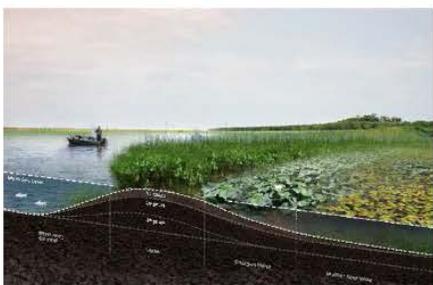
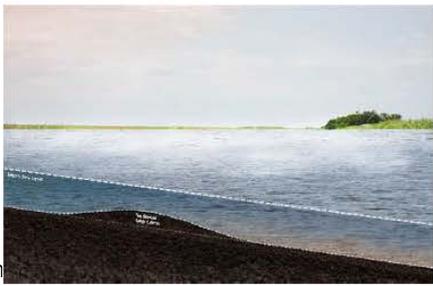
Sponsor
Coastal Protection and Restoration Authority

Project Team
Primary Investigators
Jeffrey Carney - Architecture
Shelby Doyle - Architecture
Jacob Mitchell - CSS Research Fellow
Matt Dunn - Interior Design
John White - Oceanography and Coastal Science
Leanna Heffner - CSS Research fellow
James Sullivan - Interior Design

Additional Investigators
Jori Erdman - Architecture
Elizabeth Mossop - Landscape Architecture
Robert Twilley - Sea Grant
Clint Willson - Civil Engineering

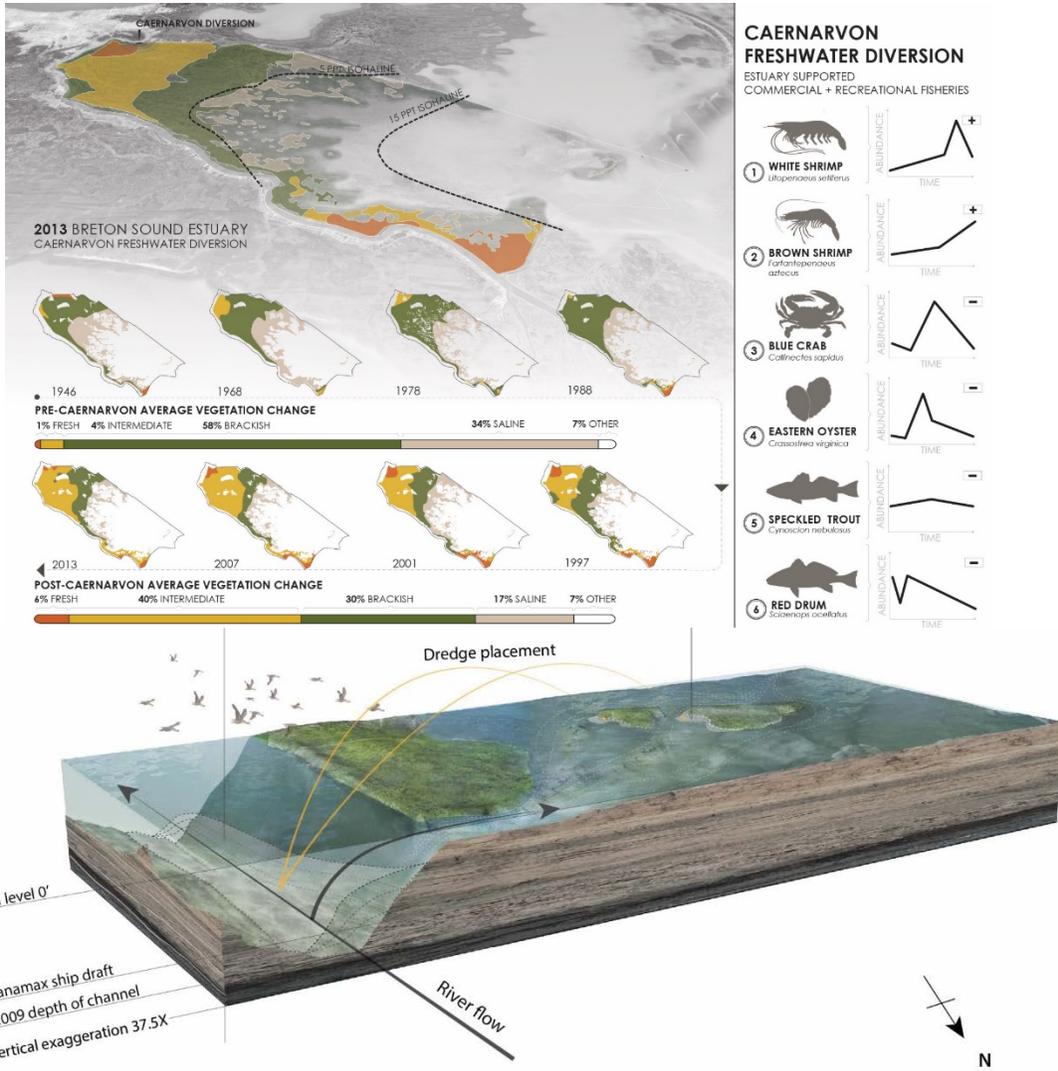
Research Fellows
Elliot Manuel - Architecture
Steven Armstrong - Architecture
Sarah Schramm - Landscape Architecture
Karen May - Graphic design
Brandon Gordon - Industrial Design

Graduate Students
Sheryl Fishel Xian Xu
Yifu Liu Anna
Shaw



Visualizing the Delta Landscape

Coastal Protection and Restoration Authority Visualization and Communication Program

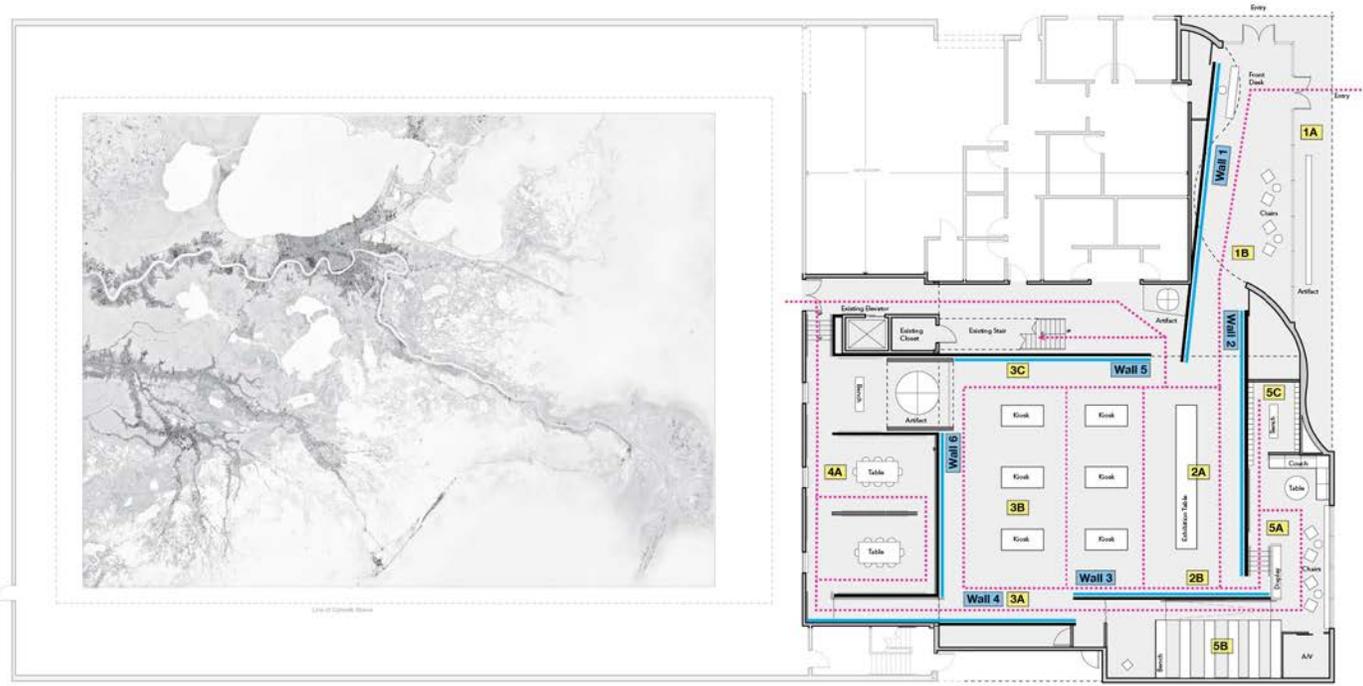


Visualizing the Delta Landscape

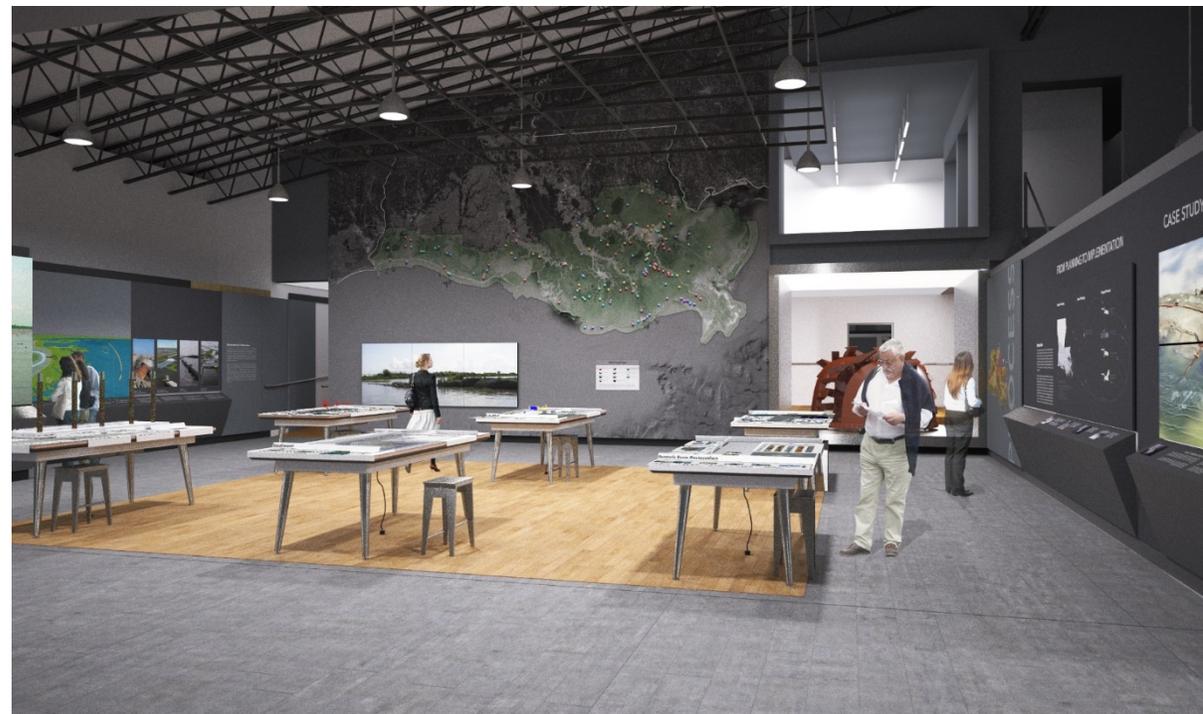
Coastal Protection and Restoration Authority Visualization and Communication Program
 Center for River Studies Exhibition Area



Content + Program Integration: First Floor Plan



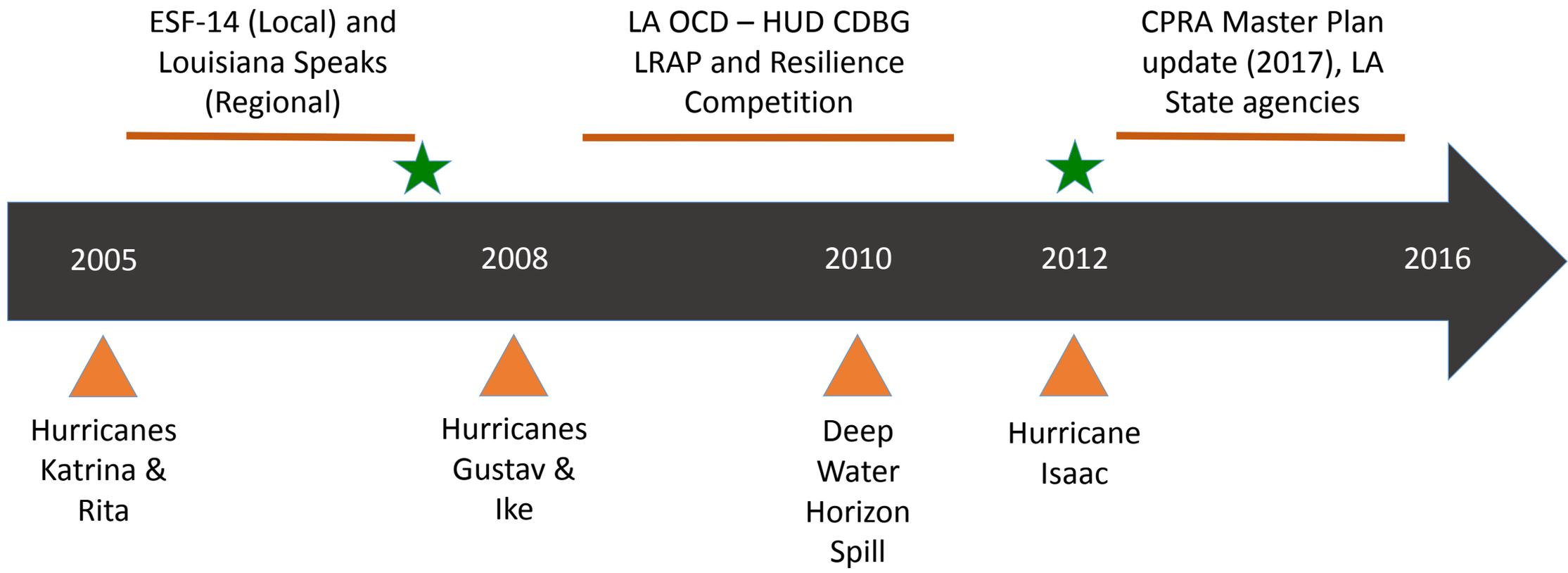
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| <p>Area Content</p> <p>Area 1 Introduction to the Model Exhibit
 1A) Building Threshold - Center for River Studies
 1B) Lobby - Shifting Foundation</p> <p>Area 2 Coast in Crisis
 2A) What's at Stake
 2B) Challenges</p> | <p>Area 3 Restoring Coastal Louisiana
 3A) Protection & Restoration Strategies
 3B) Coastal Science Kiosk Hall
 3C) Project Implementation Process</p> <p>Area 4 Coastal Research Gallery
 4A) Workspace & Poster Gallery</p> | <p>Area 5 Reading Alcove
 5A) Reading Room
 5B) Screening Room
 5C) Archive</p> | <p>Area 6 Gathering Space for Model Overview
 6A) Conference / Meeting Space 1
 6B) Conference / Meeting Space 2</p> <p>Area 7 Model Catwalk
 7A) Catwalk Entrance Display
 7B) Exploring the Model
 7C) Further Exploring the Model
 7D) Large Scale Image Wall</p> | <p>Wall Content</p> <p>Wall 1 Shifting Foundation
 Wall 2 Interrupted Delta
 Wall 3 Losing Ground
 Wall 4 Protection & Restoration Strategies
 Wall 5 Project Implementation Process
 Wall 6 CPRA Project Wall
 Wall 7 Mississippi River Delta Model</p> |
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Planning and Outreach

Louisiana Resiliency Assistance Program (LRAP)

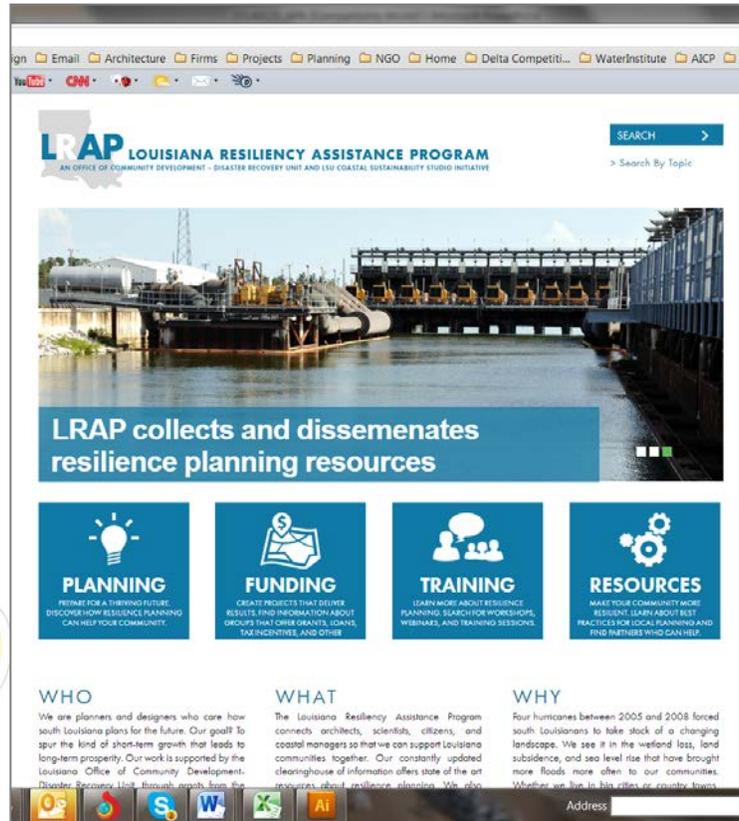
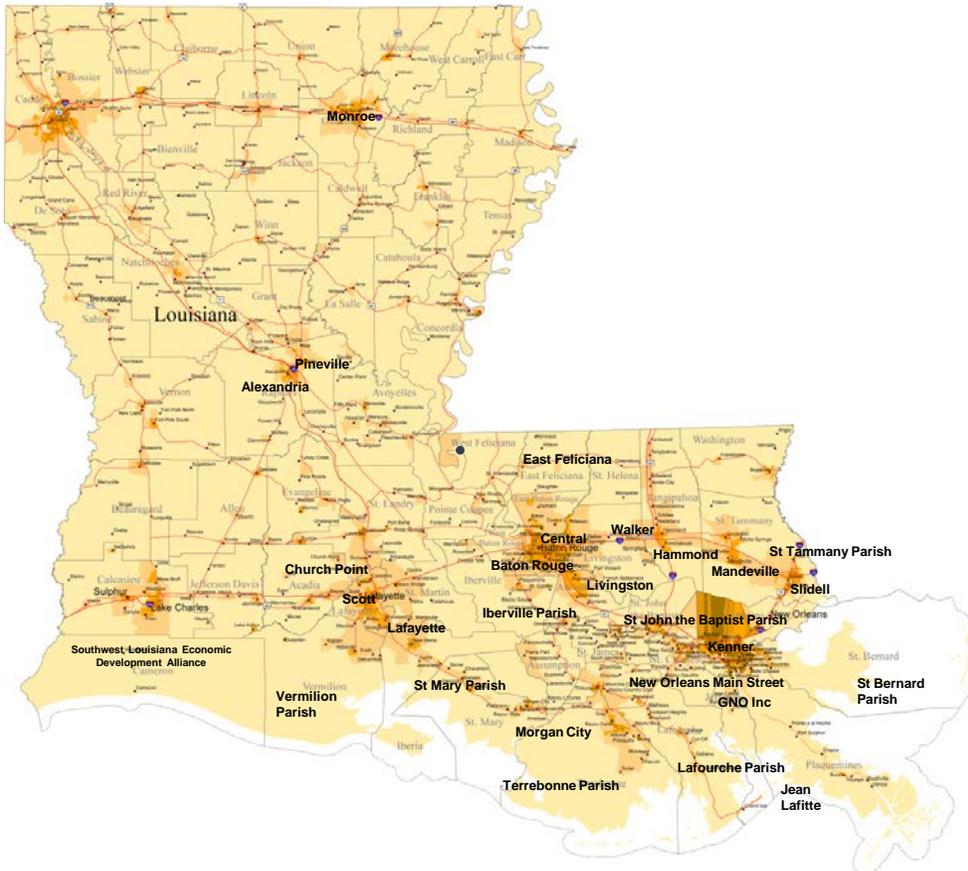
Contracted with Office of Community Development, Disaster Recovery Unit



Planning and Outreach

Louisiana Resiliency Assistance Program (LRAP)

Contracted with Office of Community Development, Disaster Recovery Unit



Planning and Outreach

Vulnerability and Resilience in Threatened Coastal Louisiana Communities

Project Team

Primary Investigators Mathew Lee - Sociology

Troy Blanchard - Sociology

Tim Slack - Sociology

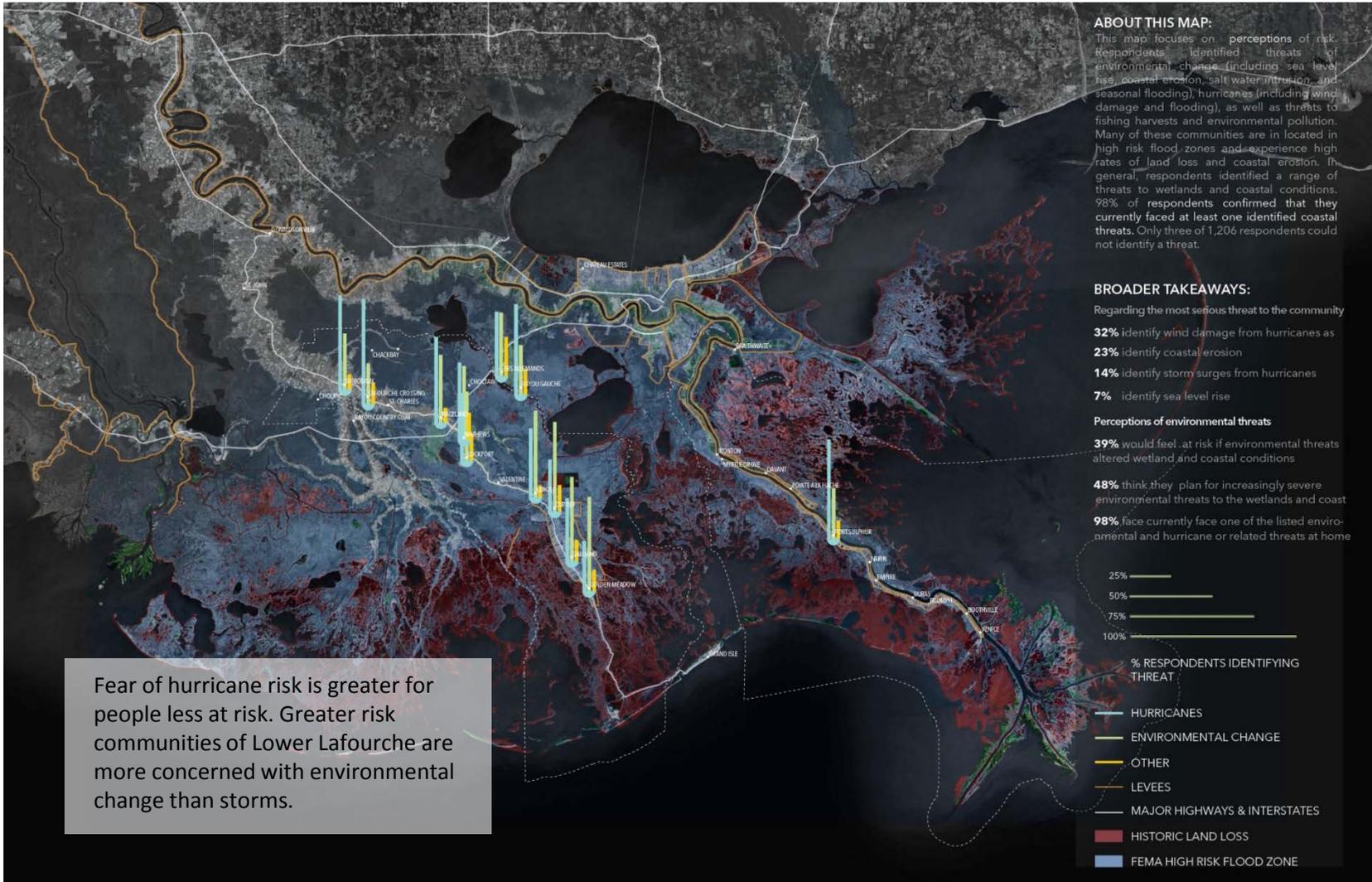
Jeff Carney - Architecture

Forbes Lipschitz - Landscape Architecture

Kirby Goidel - Public Policy Research Lab

Graduate Students Michael Cope - Sociology

Lydia Gikas - Landscape Architecture



Planning Research Summary

- Land use, hazard mitigation and coastal restoration processes are happening in separate arenas with little discussion between.
- Elected officials do not necessarily distinguish between structural and non-structural mitigation measures.
- Implementation is relegated to local governments but they have few tools, funds, or capacity to do so effectively.
- NFIP and Biggert-Waters are pushing local officials away from non-structural strategies that they would otherwise consider.



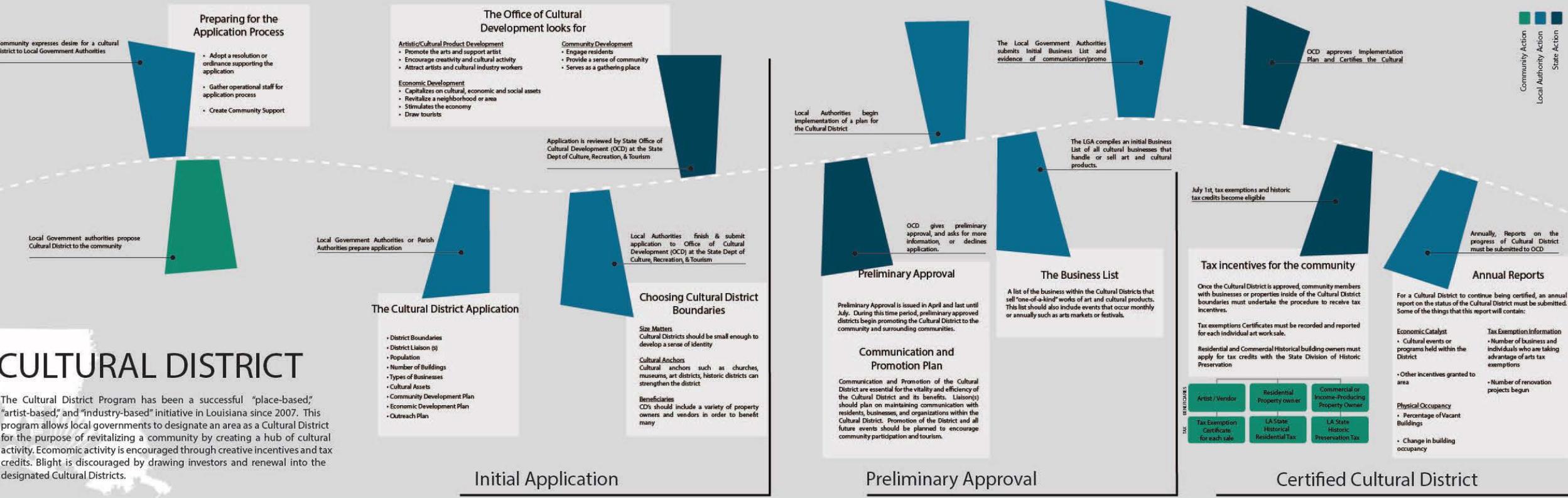
CSS Response

- Creation of visual decision support tools for use by planners, elected officials, and citizens within a Louisiana context – Building adaptation, policy, conservation, migration
- Louisiana Community Resilience Institute to engage elected officials and subject matter experts in discussions about resilience and sustainability within vulnerable communities.



Community Outreach and Capacity Building Planning and Outreach

Kresge Foundation Grant



CULTURAL DISTRICT

The Cultural District Program has been a successful "place-based," "artist-based," and "industry-based" initiative in Louisiana since 2007. This program allows local governments to designate an area as a Cultural District for the purpose of revitalizing a community by creating a hub of cultural activity. Economic activity is encouraged through creative incentives and tax credits. Blight is discouraged by drawing investors and renewal into the designated Cultural Districts.

Community Outreach and Capacity Building Planning and Outreach

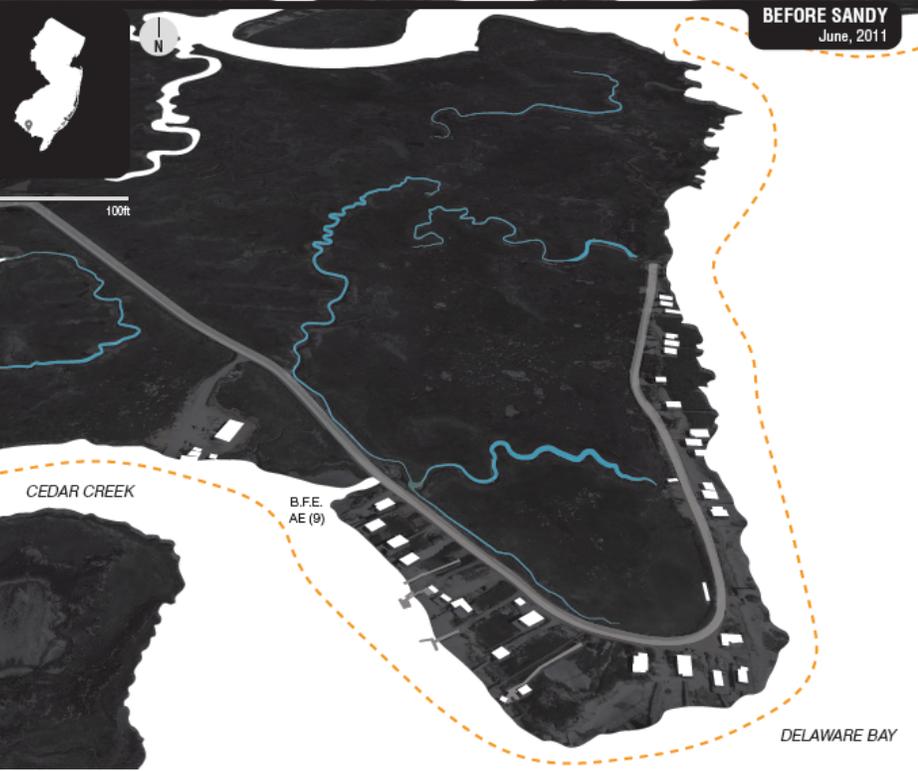
Kresge Foundation Grant

BAY POINT, NJ

Bay Point is a small village in Lawrence Township along the Delaware Bay. Prior to Hurricane Sandy, the village consisted of 44 properties, including 33 primary and secondary homes and a commercial marina. The community sits on a peninsula jutting into the bay, and shoreline erosion and flooding had been a problem for years.

October 2012, Sandy struck New Jersey, damaging or destroying 346,000 homes and causing severe flooding. Winds over 100-mph and 10-ft storm surge crossed Delaware Bay, directly impacting Bay Point. As a result, 33 homes were severely damaged, 11 of which were completely destroyed. The access road and marina were also severely damaged.

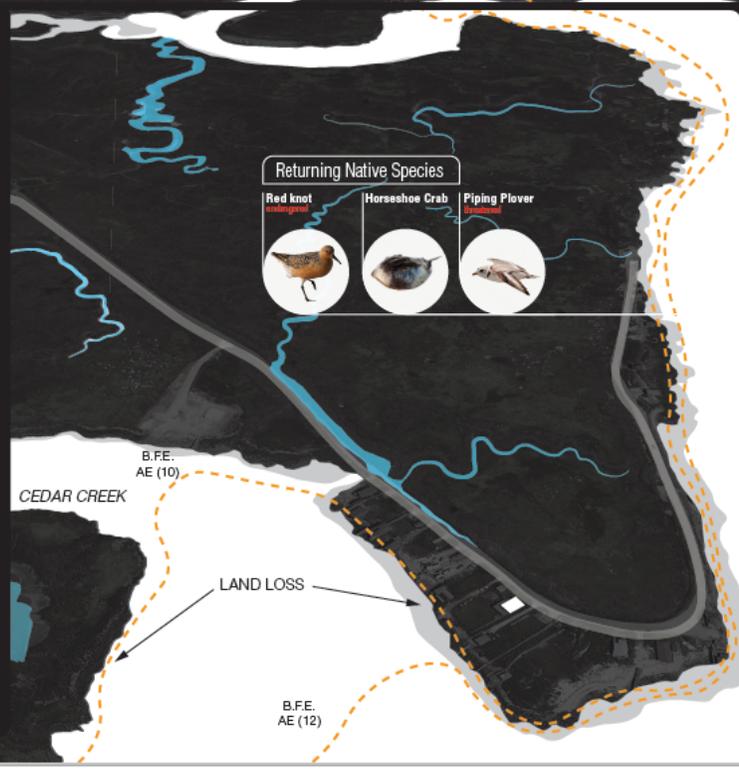
Through Blue Acres, the state offered to buy out the entire Village of Bay Point. Offers were based on pre-storm property appraisals, with a 10% bonus if all property owners accepted. To date, interest in the buy-out is nearly unanimous. All homes purchased through the program will be demolished and restoration undertaken to transfer the area back to a natural state for management by the NJ Division of Fish and Wildlife. Buyouts will reduce risk to the homeowners and help buffer inland communities by absorbing storm surge and heavy rainfall in future events.



NJ BLUE ACRES BUY OUT PROGRAM

After repeated storms caused coastal and inland flooding, the State of New Jersey recognized the need to acquire vulnerable properties. In 1995, the NJ Department of Environmental Protection established Blue Acres, a permanent floodplain mitigation program. Blue Acres is the arm of New Jersey's Green Acres land conservation program that purchases storm-damaged homes in flood-prone areas from willing sellers at pre-storm values, with the properties to be returned to open space.

Funded through a combination of federal, state and local dollars, the program established priority acquisition areas based on flood risk, and a protocol for purchasing homes from willing sellers. The program is completely voluntary; no homeowner is required to sell their property because of repetitive flooding. However, the state does incentivize buy outs of clusters or whole neighborhoods, with the land permanently preserved as open space, accessible to the public, for recreation or conservation. The goal of the Blue Acres Program is to dramatically reduce the risk of future catastrophic flood damage, and to help families move out of harm's way.



AFTER SANDY
June, 2015

BUYOUT COST
\$10.2M
Bay Point Project Received Grant Funds of \$10.2M from the State of New Jersey. Every project dollar is matched by Bay Point residents (\$8.6M).

FUNDING SOURCES
HUD • FEMA • NJ Blue Acres • USDA • LOCAL •

50 ACRES HABITAT RESTORED

- Returns native species and endangered migratory birds
- Enhanced fishing and estuarium
- Natural flood buffer
- Reduced Erosion

5 ACRES DECOMMISSIONED INFRASTRUCTURE

Louisiana Community Resilience Institute

- Leadership initiative focused on building resilience in Louisiana
- Urban design and planning focus in dynamic coastal communities
- Creation of tools to increase confidence in local elected officials
- Opportunity for local engagement with national experts



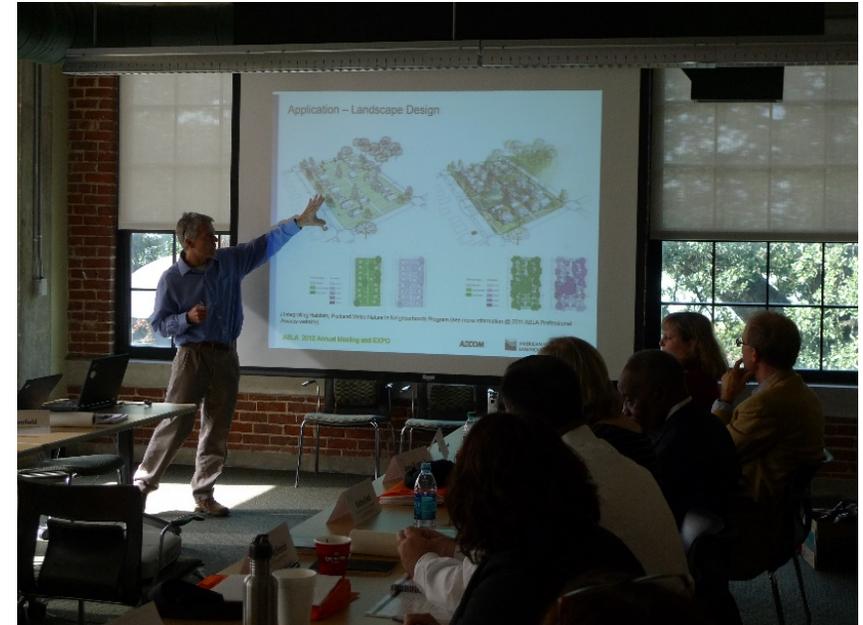
Louisiana Community Resilience Institute

- Participants from 6 Louisiana communities and 6 SMEs
- Parameters:
 - Mayors not term-limited or running for election
 - Communities over 5000
 - Coastal communities
- SMEs = Architecture/urban design, planning, hazard mitigation, coastal science, development, historic preservation
- Engaged faculty, interns and students with community staff to develop projects over a 2-3 month period



Louisiana Community Resilience Institute

- 3-day closed door session
- Each mayor presents his/her issue, and has a half day of discussion with SMEs and fellow mayors focusing solely on their identified problem
- Recommendations include design solutions, policy recommendations, funding/ownership options
- Includes educational presentations by each SME and networking opportunities for mayors, SMEs, and stakeholders (agency representatives, LSU faculty resources, etc.)



Value

- Creates a network of elected officials
- Helps put tools into the hands of elected officials and their staff that support resilience.
- Provides an opportunity for innovative or non-traditional responses to resilience and development issues.
- Infuses hazard mitigation and coastal restoration into the land use planning discussion
- Training the next generation of trans-disciplinary professionals



Challenges

- Scale
- Unpredictability of coastal restoration process and lack of direction on nonstructural based on 2012 Coastal Master Plan
- Local capacity
- LSU – need to relate this to a larger body of knowledge and expand to service learning and educational opportunities.



Next Steps

- This is the model for an annual Institute to build capacity of coastal communities
- Future efforts will be somewhat longer – 4-6 months, with more student interaction in the community and potential implementation component of recommendations
- Maintain and expand relationships with these and other Louisiana communities for research and outreach potential



Thank you
www.css.lsu.edu

