



Louisiana's 2012 Comprehensive Master Plan for a Sustainable Coast



committed to **our coast**

Coastal Community Resilience Program

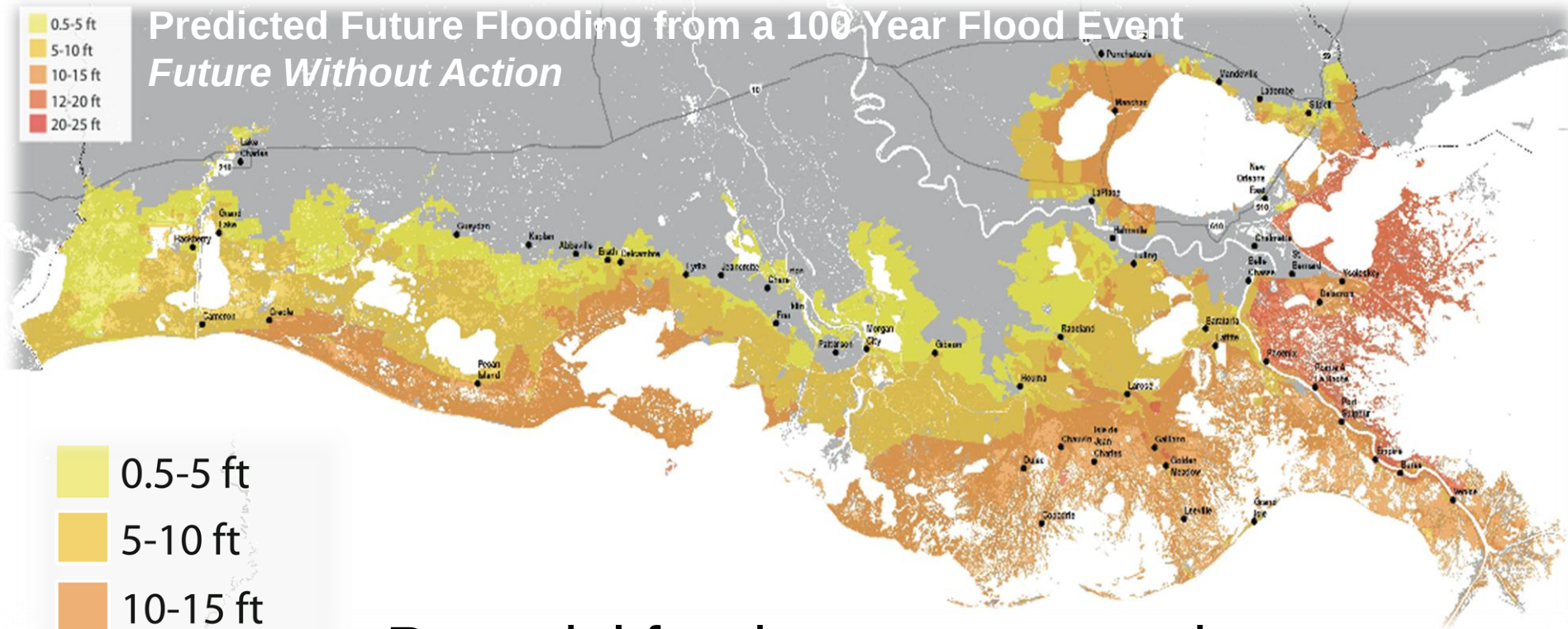
State of the Coast Conference
March 19, 2014



Presentation Topics

- 2012 Coastal Master Plan Recommendations
- Goals and objectives of program
- Discuss new partnerships and initiatives:
 - Georgetown grant
 - CSS grant collaboration
 - RAND model updates
 - CPRA Resilience Website
 - Shell Outreach grant
 - CPRA Online Data Viewer
- Next Steps for 2017 Coastal Master Plan

Our Communities and Livelihoods at Risk

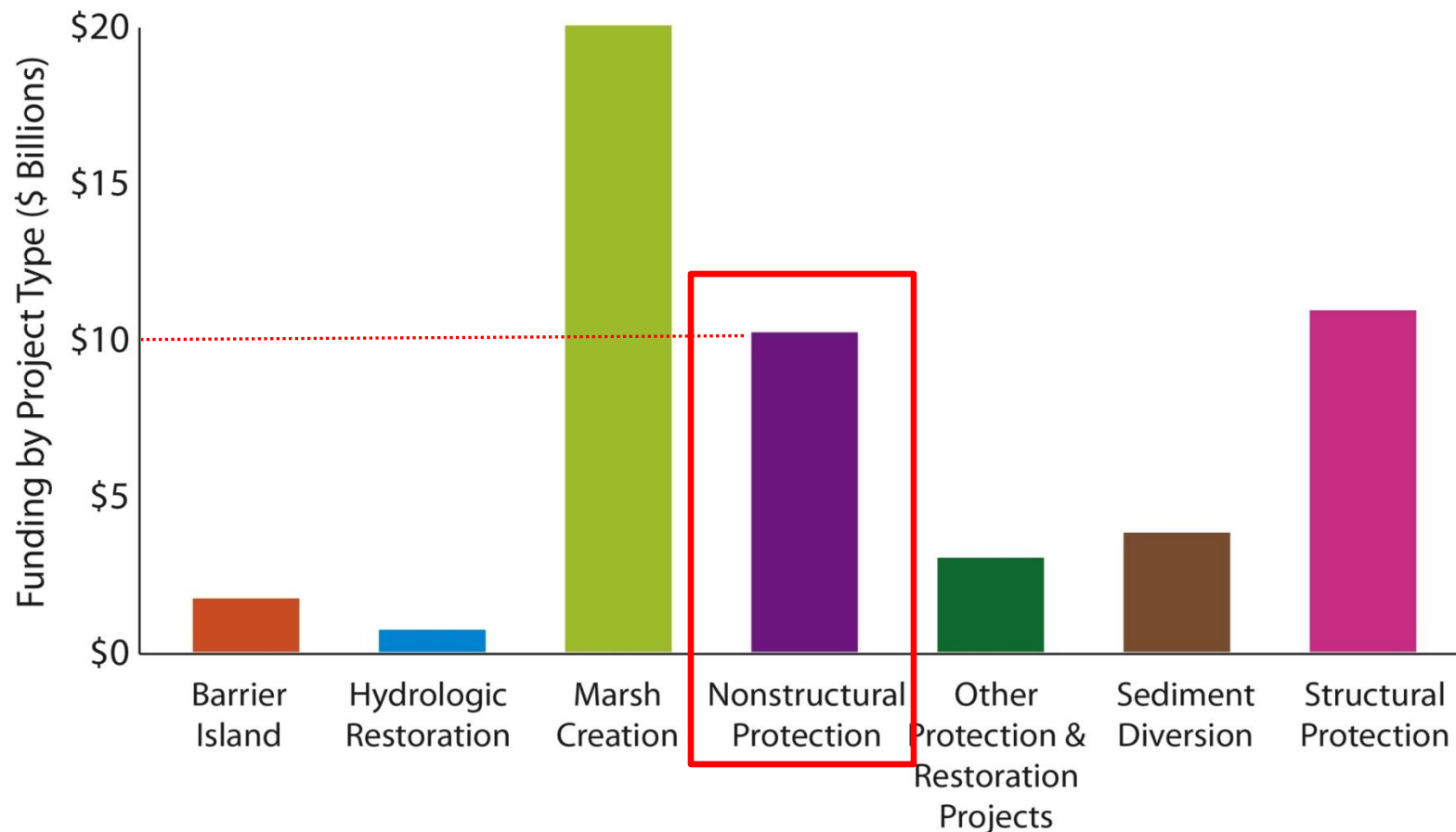


Potential for damages to reach
\$23.4 billion annually

Increasing threats to lives, jobs,
communities and the economy

What the Master Plan Delivers

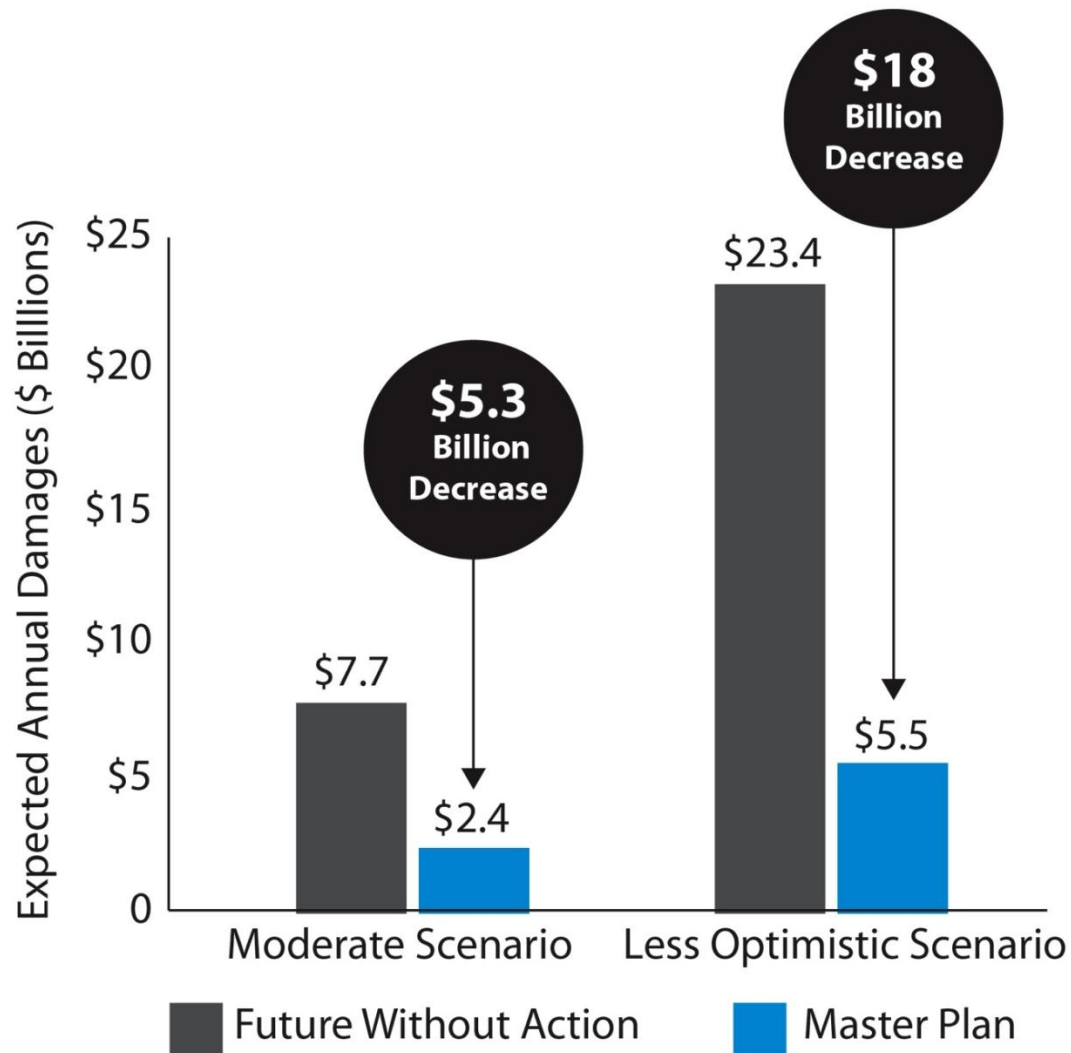
Distribution of Funding by Project Type
(Approximately \$50 Billion)



The plan includes a wide variety of project types distributed throughout the coast. We are using every tool in the toolbox to protect and restore south Louisiana.

What the Master Plan Delivers

Potential Expected Annual Damages from Flooding at Year 50



Overview of Nonstructural Measures

Nonstructural **physical** measures:

- Elevation of structures
- Floodproofing of structures (localized levees, flood resistance membranes, watertight closures, etc.)
- Voluntary acquisitions or buyouts

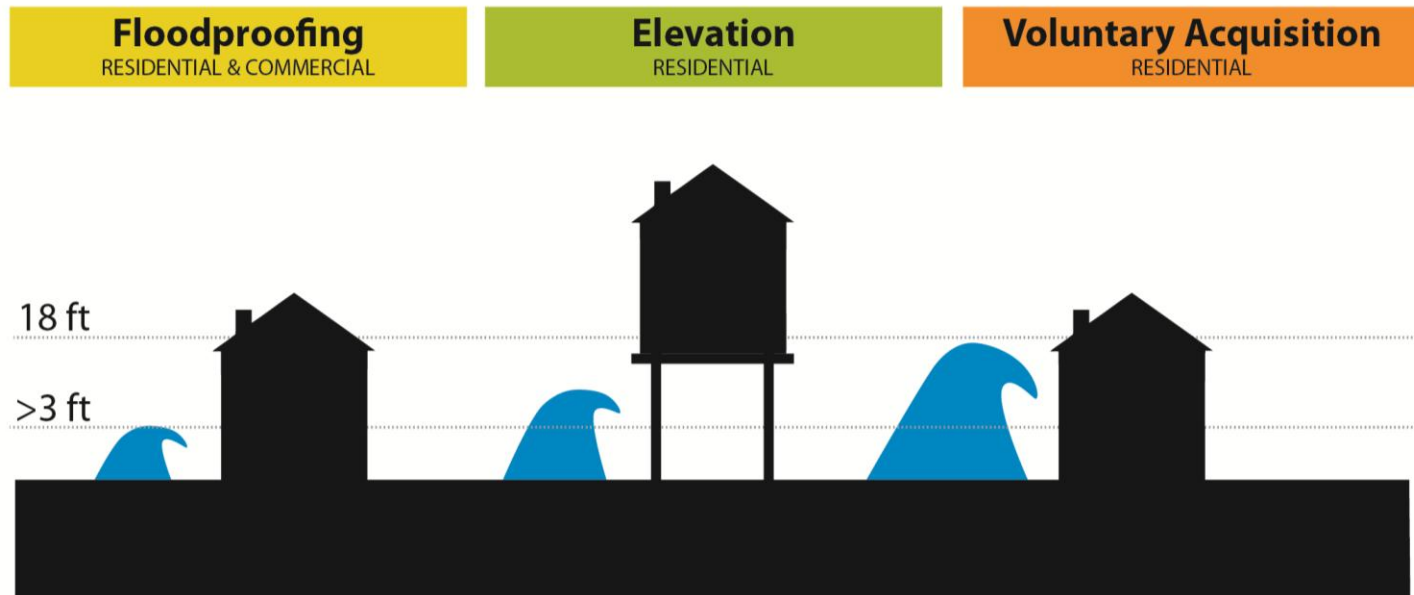
Nonstructural **programmatic** measures:

- Hazard mitigation and recovery planning
- Public education and outreach
- Ordinances and building codes
- Policy and regulation changes
- Land use planning & floodplain management



Nonstructural Protection Projects

- ❖ Residential & Non-residential Floodproofing (**0 – 3ft**)
- ❖ Residential Elevation (**3 – 18ft**)
 - BFE+1ft or BFE+4ft
- ❖ Residential Voluntary Acquisition (**> 18ft**)





Coastal Community Resilience Program

Coastal Community Resilience Program Goals and Objectives

- To improve upon the recommendations in the 2012 Master Plan by providing a specific, coordinated strategy for implementing nonstructural projects in communities
- To coordinate resources and expand citizens access to information and tools that can help guide decisions on coastal community resiliency measures

Program Framework

- 1) Develop Data & Tools:** Develop integrated databases on flood risk, vulnerability, and socio-economic trends to determine the most effective resilience measures.
- 2) Provide Information:** Increase public awareness of current and future flood risks due to climate change and provide clear mapping and visualization tools for coastal communities.
- 3) Provide Options:** Maximize choices of flood risk reduction measures and clearly communicate options to individuals and communities.
- 4) Create Platforms for Collaboration & Action:** Create networks of coastal stakeholders and diverse community participants to partner in program development and implement solutions.

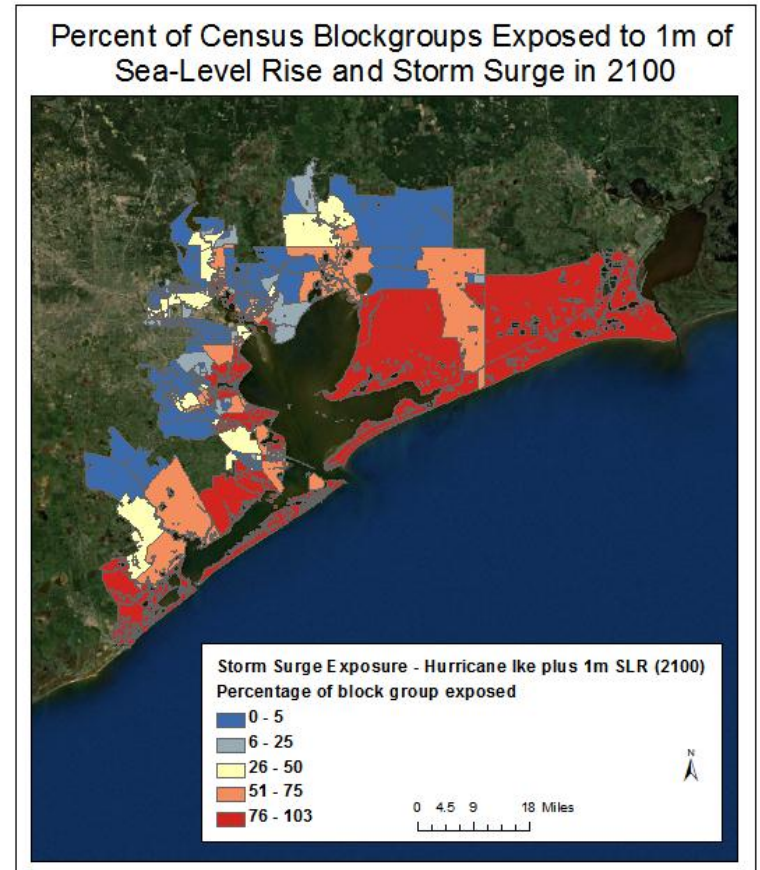
1) Develop Data & Tools: Develop integrated databases on flood risk, vulnerability, and socio-economic trends to determine the most effective resilience measures.

- Utilize data from the CLARA risk modeling and expand to include higher resolution spatial analysis
- Determine areas of high risk, social vulnerability and repetitive loss
- Evaluate different levels of freeboard and acquisition heights



2) **Provide Information:** Increase public awareness of current and future flood risks due to climate change and provide clear mapping and visualization tools for coastal communities.

- Understand past successes, failures and current and future efforts in the coastal area
- Develop clear, concise flood maps and risk communication tools
- Determine the best type of risk communication and education methods to reach the public



3) Provide Options: Maximize choices of flood risk reduction measures and clearly communicate options to individuals and communities so they can make decisions for themselves.

- Determine appropriate methods for prioritizing projects in areas of high risk
- Provide communities and parishes with effective options for the use and dispersal of funds



4) Create Platforms for Collaboration & Action: Build networks of coastal stakeholders and community participants to partner in program development and implement solutions.

- Develop **CPRA Subcommittee** and **Advisory Group** to enhance coordination of agencies/efforts
- **Include members from:**
 - Coastal Parish Officials
 - Federal & State Agencies
 - Community Leaders
 - Non-Profits
 - Academia, Researchers
 - Levee Boards
 - Economic Development Organizations
 - Planners, Floodplain Managers, Architects, Engineers



Partnerships & Projects

Georgetown Climate Center



- **Local & State Authority:** review authority of local and state government entities to implement measures identified in the plan
- **Recommendations:** determine how CPRA can collaborate with other state agencies, parish governments, and municipal officials; determine any state law barriers and the needed legislative reforms to eliminate or reduce those barriers

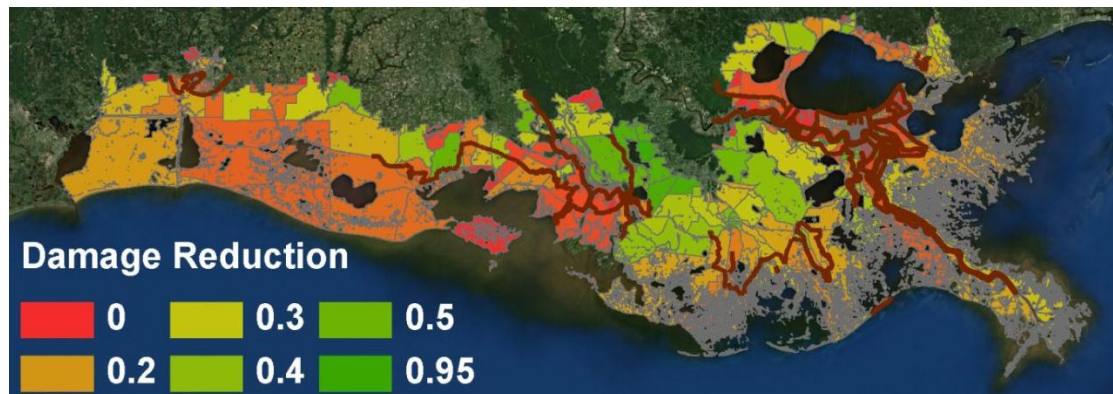
LSU Coastal Sustainability Studio

- **Research & Tool Development:** provide information for planners and policymakers to integrate hazard mitigation, environmental concerns, and climate change impacts in local planning and development efforts
- **Policy Makers' Forum-** will bring together local decision-makers to integrate resilience projects into local planning and development priorities, based on the Mayors' Institute for City Design.



Projects: RAND Model Updates

- Revise the CLARA model based on 2010 census blocks with new flood depth data, damage estimates, and maps based on high resolution grid points.
- Determine the proposed distribution of residential and commercial mitigation measures.
- Incorporate updated data on critical infrastructure and assets.
- Create an additional economic/population growth scenario that incorporates how coastal communities have been changing and will likely change into the future.



Projects: Website

Update the CPRA website to include more information on flood risk data, best practices, funding and education resources

- Resources for homeowners, businesses, planners
- Details on project types
- Fact sheets
- Partners and Working Groups
- Examples on elevation, flood proofing and relocation

www.coastal.la.gov/project/coastal-community-resiliency-program

Coastal Community Resilience Program

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Overview

Resilience
Approach

Nonstructural
Projects

Documents

Resilience
Working Groups

Resources



Issue Addressed

Coastal Louisiana faces one of the highest land loss rates in the world, which puts our homes, businesses, communities, and national energy and transportation infrastructure at risk. If this trend continues, the economic, social, and environmental impacts will be severe.

Our problem is complex, and it cannot be solved simply by building more levees. That's why the CPRA is responding to the crisis by developing a comprehensive resilience program to support communities' ability to reduce flood risk and strengthen our ability to adapt in the face of an uncertain future.

Project Goals

To protect communities from coastal flooding, we must take a "multiple lines of defense approach." Thus the 2012 Coastal Master Plan recommends a comprehensive nonstructural program as part of our strategy to reduce the flood risk for Louisiana citizens. Nonstructural projects include raising a building's elevation, flood proofing structures, and voluntary acquisition or relocation.

The Coastal Community Resilience (CCR) program focuses on implementing nonstructural projects, increasing flood risk awareness, and supporting state-level policies that promote greater resilience across the coast. These policy measures are particularly important to promote wise development in Louisiana's coastal zone and to protect homes and businesses today and the years ahead.

Projects: Risk & Resilience Outreach

Shell Grant

- Funding for development of an Online Data Viewer to show communities' current/future flood risk and resilience options.
- Tasks include:
 - Form workgroup of residents, local officials, community leaders, nonstructural professionals, and education/ outreach experts to co-design a nonstructural mitigation and community resilience educational program.
 - Develop a data visualization/viewer tool.
 - Conduct outreach events in New Orleans, Houma, lower Plaquemines, Port Fourchon, and Lake Charles.

Will help CPRA gather community feedback on the data viewer & further program development for the 2017 Master Plan.

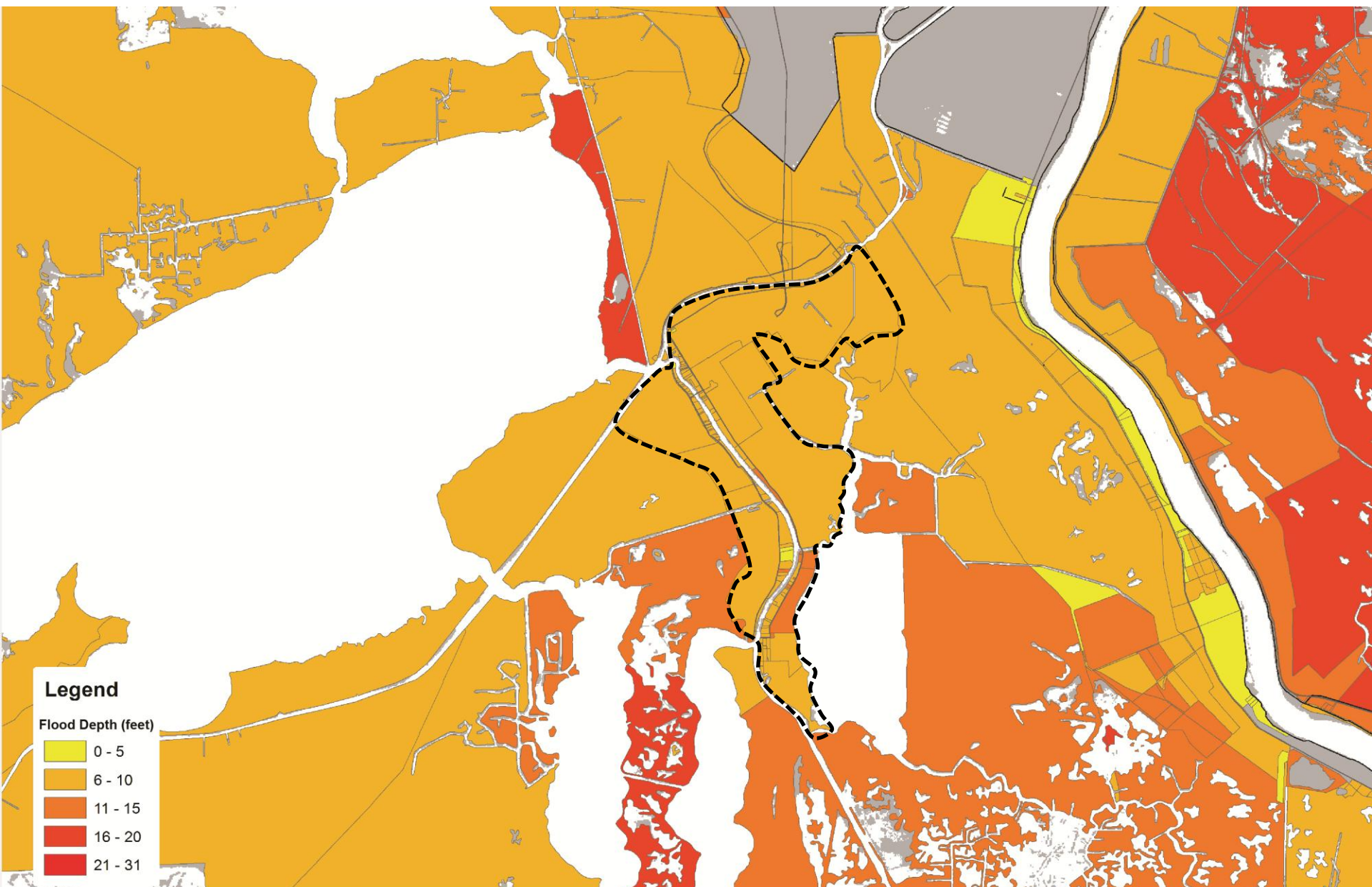
Projects: Online Data Viewer

Create an online data viewer to share information on risk, vulnerability, socio-economics, and proposed projects.

- **Main objectives:** identifying at-risk populations (for example- low income, minority, and elderly), critical areas for nonstructural project implementation, cost-effective projects, and severe repetitive loss properties.
- **Geographic scale:** regional, parish level, community or individual municipality, census tract and block group level; use google earth or Bing map platform.
- **Timeframe:** show current conditions and long-term changes in flooding and damages (year 25 & year 50).

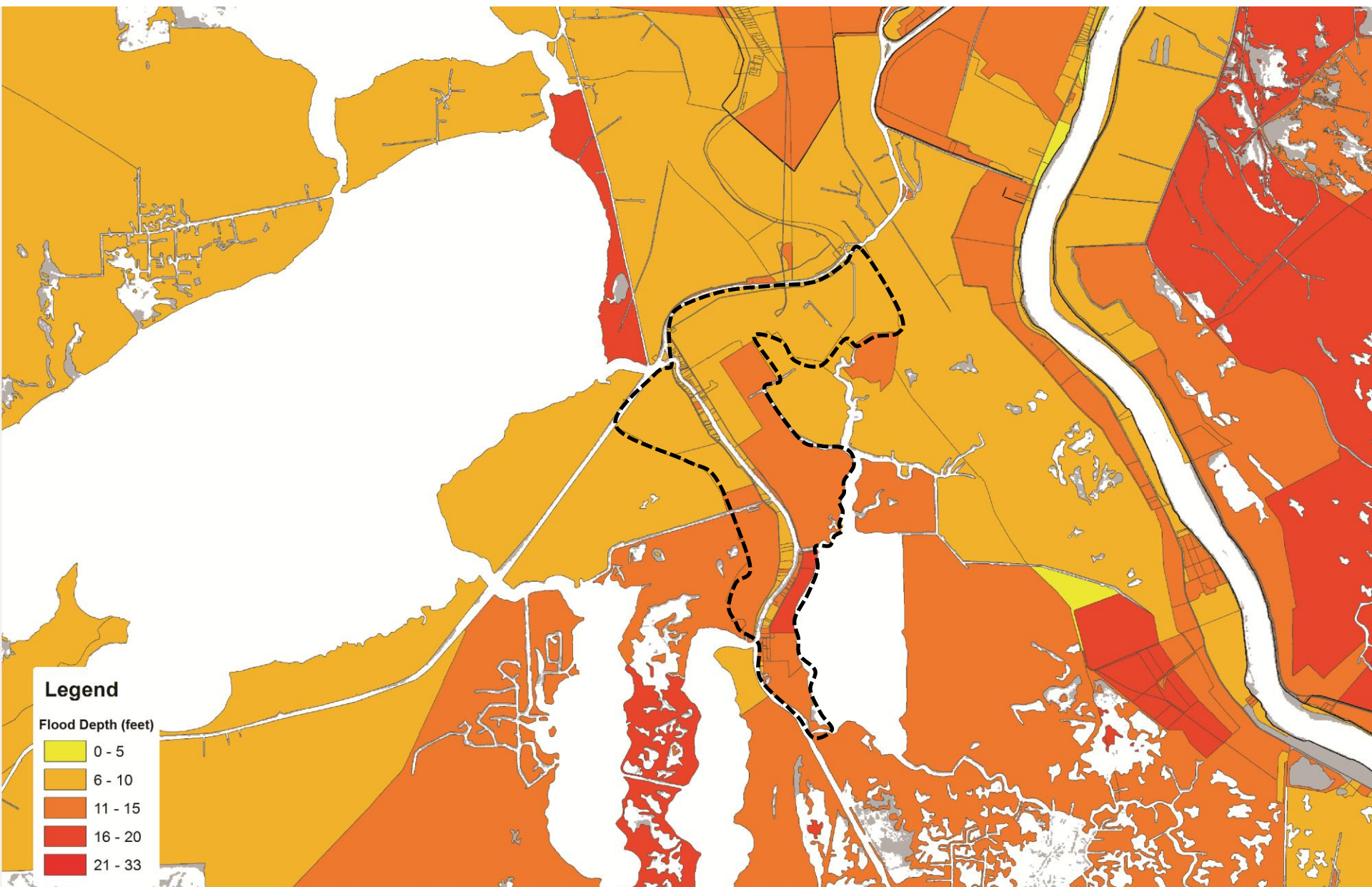
Jean Lafitte- Average Flood Depths 2061

(Moderate Environmental Conditions/ With No Action/ 100-Year Flood Event)



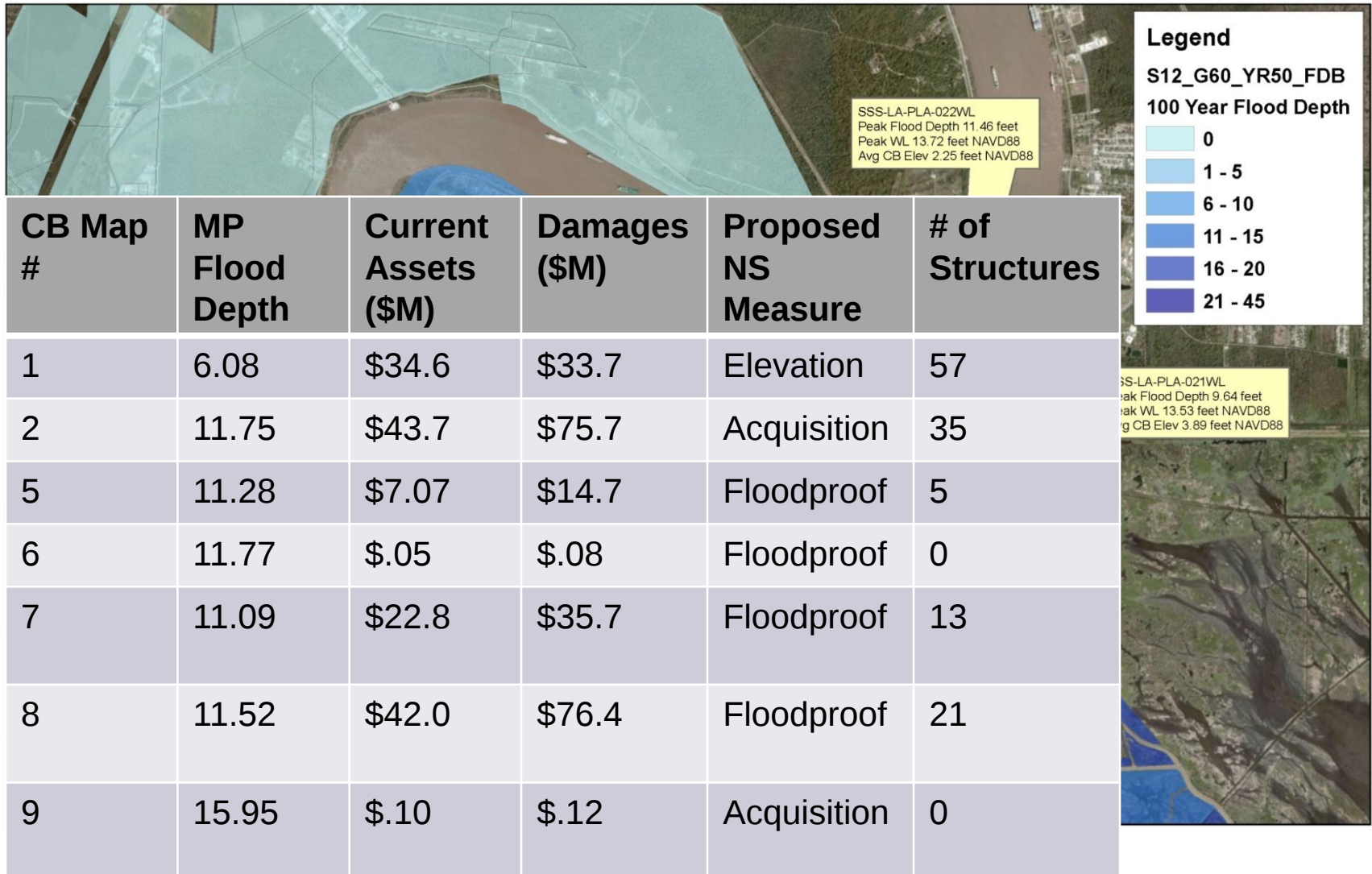
Jean Lafitte- Average Flood Depths 2061

(Less Optimistic Conditions/ With No Action/ 100-Year Flood Event)



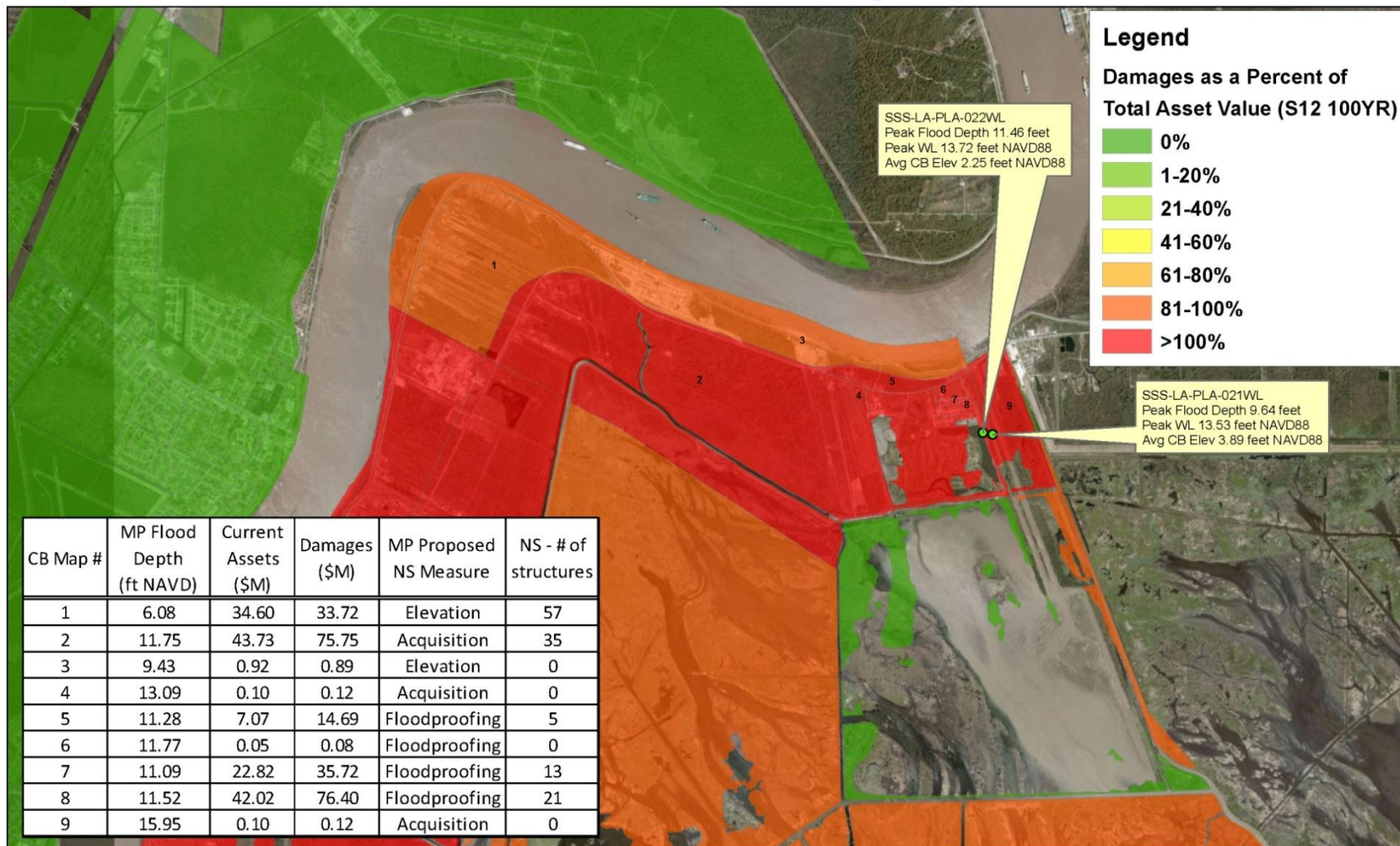
Data Example - Flood Depths

Braithwaite Area 100 Year Flood Event Damage/Risk Model Results



Data Example – Assets Damaged

Braithwaite Area 100 Year Flood Event Damage/Risk Model Results



Types of information that could be displayed

1. Current and future flood depths
2. FEMA flood insurance maps
3. Evacuation routes
4. Past disaster declaration areas
5. Critical infrastructure, schools, etc. at risk
6. Areas of poverty and social vulnerability
7. Areas with severe repetitive loss properties
8. Land loss
9. Sea level rise impacts
10. Master plan projects

Current Status of Nonstructural Programs

- **Multiple Agencies**



- Coastal protection and restoration (CPRA)
- Floodplain management (DOTD)
- Emergency response and mitigation planning (GOHSEP)
 - FEMA Pre-Disaster Mitigation
 - FEMA Hazard Mitigation Grant Program
- Hazard recovery (OCD)
 - State Community Development Block Grant
- Education, outreach, grants and response (FEMA)
- Implementation of elevation measures (Parishes)

Criteria for Federal Mitigation Programs

Eligibility Criteria:

- Home ownership at the time of disaster event
- Current home ownership/clear title
- Household income at or below 80% AMFI
- Demonstrated ability to provide balance in funding to completely elevate property
- Properties must be NFIP insured at the time of the event.
- Flood insurance must be maintained for the life of the structure.
- At least four NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or
- At least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.
- At least two of the referenced claims must have occurred within any ten-year period
- Substantial damage letter from the Parish
- Proof of loss showing flood damage greater than 50% of the building value

DRAFT Nonstructural Evaluation Criteria

To improve upon the project selection method used in the 2012 Master Plan, CPRA will assess multiple types of criteria to select and prioritize nonstructural projects for the 2017 Coastal Master Plan.

- **Depth of flooding**
- **Damage Dollars**
- **Cost effectiveness of project/measure**
- **Percent or number of properties classified as severe repetitive loss**
- **Percent of parish (by area and population) in 100 year floodplain and in V-zones**
- **Percent of parish (by area and population) without structural protection**
- **Percent of residential structures elevated above the 100 year floodplain**
- **Percent of commercial structures floodproofed**
- **Per capita income**
- **Housing density**
- **Percent of minority population**
- **Percent of the population that is older than 65 years**
- **Average number of people per household**
- **Percent of the labor force that is female**
- **Percent of urban population**

Previous 2012 MP Data
Parish/FEMA data
Socio-economic data

Formation of Resilience Technical Advisory Committee

- A three to four member group of national experts is being convened to provide working-level guidance and recommendations to the CPRA team.
- Members will have expertise in areas of socio-economics, social capital, social vulnerability, and hazard mitigation/disaster planning.

TAC will provide input on how best to:

- Integrate socio-economic, resiliency and vulnerability decision criteria into the 2017 Coastal Master Plan
- Offer insight on programmatic and policy measures recommended
- Provide guidance on mitigation planning and implementation of resilience measures

Resilience Program Timeline (2013-2016)

Goals and Data Needs (2013 – 2014)

- Determine key components of the program and its goals
- Update 2012 data and gather additional data and resources

Data Viewer/Online Tool Development (2014)

- Gather and evaluate vulnerability and risk/damage assessment data
- Gather feedback on the development of an online tool and data viewer
- Develop outreach and engagement methods, key messages, and coast wide strategy

Decision Making Metrics & Project Prioritization (Mid 2014 – Mid 2015)

- Create a resilience decision criteria for the 2017 Master Plan analysis
- Identify procedures for distributing funding and prioritizing projects

Community Specific Resiliency Measures & Recommendations (2015 – 2016)

- Outline community specific needs and solutions
- Recommend appropriate adaptation and mitigation methods for specific communities



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www.coastal.la.gov



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