MASTER PLAN DATA VIEWER
2017 COASTAL MASTER PLAN DATA VIEWER

Association of State Floodplain Managers Conference

May 1-5, 2017
PRESENTATION OVERVIEW

• INTRODUCTION TO COASTAL LOUISIANA
• CPRA & 2017 COASTAL MASTER PLAN
• MASTER PLAN DATA VIEWER
Coastal Louisiana faces one of the highest land loss rates in the world.
1,880 SQUARE MILES OF LAND HAVE BEEN LOST IN THE LAST 80 YEARS

UP TO 4,100 SQUARE MILES OF LAND ARE AT RISK OF BEING LOST IN THE NEXT 50 YEARS
PUTTING OUR HOMES, BUSINESSES, AND COMMUNITIES AT INCREASING RISK
IMPACTS ON LOCAL COMMUNITIES, STATE, AND NATION
NATIONAL SIGNIFICANCE

90% OF OFF-SHORE OIL AND GAS
20% OF OUR NATION’S WATERBORNE COMMERCE
26% of commercial fisheries in the continental US
LARGEST PORT COMPLEX IN THE WORLD
5 MILLION MIGRATORY WATERFOWL DEPEND ON LA HABITAT
RICH HISTORY AND UNIQUE CULTURE
Single state entity with authority to articulate a clear statement of priorities to achieve comprehensive coastal protection for Louisiana.

Mandate is to develop, implement, and enforce a comprehensive coastal protection and restoration Master Plan.
WHAT IS THE COASTAL MASTER PLAN?

- Required by law to be updated every five years
- Built on world class science and engineering
- Incorporates extensive public input and review
- Advances a comprehensive and integrated approach to protection and restoration
- Identifies investments that will pay off, not just for us, but for our children and grandchildren
COASTAL MASTER PLAN
OBJECTIVES
A FRAMEWORK TO MAKE DECISIONS

CHALLENGES
- Complex Coastal Environment
- 50-Year Planning Horizon
- Uncertain Future Scenarios
- Multiple Project Types
- Diverse Community Needs

NO OPTIMAL SOLUTIONS
- Risk Reduction (Structural or Nonstructural) vs. Restoration
- Near-Term Benefits vs. Long-Term Sustainability
- Different Stakeholder Preferences
WHAT’S DIFFERENT ABOUT THE 2017 COASTAL MASTER PLAN?

• Improved science and technical analysis
• New ideas and information
• Focus on flood risk reduction and resilience
• Emphasis on communities
• Expanded outreach and public engagement
• Earlier funding
DEVELOPING THE COASTAL MASTER PLAN

COASTAL PROJECTS
- Identify candidate projects

PREDICTIVE MODELS
- Model projects
- Model alternatives

PLANNING TOOL
- Compare projects & develop alternatives

OUTREACH & ENGAGEMENT
OVER $150 BILLION OF PROJECTS CONSIDERED

RESTORATION PROJECTS

135
RESTORATION

54
NONSTRUCTURAL
RISK REDUCTION

20
STRUCTURAL
PROTECTION
OVER $150 BILLION OF PROJECTS CONSIDERED
NONSTRUCTURAL RISK REDUCTION PROJECTS

135
RESTORATION

54
NONSTRUCTURAL
RISK REDUCTION

20
STRUCTURAL
PROTECTION

FLOODPROOFING
NON-RESIDENTIAL

ELEVATION
RESIDENTIAL

VOLUNTARY ACQUISITION
RESIDENTIAL

14 FT

3 FT
OVER $150 BILLION OF PROJECTS CONSIDERED
STRUCTURAL PROTECTION (LEVEES, FLOOD WALLS)
PROJECTS CONSIDERED
RISK REDUCTION & RESTORATION
ENVIRONMENTAL SCENARIOS

- Three environmental scenarios - Low, Medium, and High
- Reflect changes in six climate and landscape factors over the next 50 years
- Environmental scenarios affect:
  - Future Land Loss
  - Future Flood Risk
  - Future Economic Damages
IN ORDER TO COMPARE PROJECT PERFORMANCE, WE DEVELOPED A SUITE OF WORLD CLASS PREDICTIVE MODELS
PREDICTED LAND CHANGE
FUTURE WITHOUT ACTION | YEAR 50 | LOW SCENARIO
PREDICTED LAND CHANGE
FUTURE WITHOUT ACTION | YEAR 50 | MEDIUM SCENARIO
Future flood damages

10X Current day flood damages
LOUISIANA’S 2017 COASTAL MASTER PLAN

124 PROJECTS

FLOOD DAMAGES REDUCED BY $150B

802 SQUARE MILES OF LAND CREATED

PROJECT TYPES

Structural Protection  Nonstructural Risk Reduction  Ridges Restoration  Shoreline Protection  Barrier Island Restoration  Marsh Creation  Sediment Diversions  Hydrologic Restoration

Small scale hydrologic restoration and oyster reef/living shoreline projects are included programatically in the 2017 Coastal Master Plan. Consistency of individual projects will be determined on a case-by-case basis.
CPRA IS WORKING TO PROVIDE MORE INFORMATION ABOUT CURRENT RISK AND HOW IT WILL CHANGE IN THE FUTURE.
IT CAN BE HARD TO KNOW HOW OUR PAST EXPERIENCE WITH STORMS TRANSirates INTO FUTURE “FLOOD RISK.”
"IT WASN'T SUPPOSED TO BE THIS BAD… IF I HAD KNOWN IT WOULD'VE BEEN THIS BAD, I WOULD'VE STAYED WITH MY MOTHER IN MISSISSIPPI."

DAVID MANES, BRAITHWAITE (ISAAC, 2012)
“THIS WAS JUST A SMALL STORM, YET WE HAVE NEVER SEEN WATER LIKE THIS BEFORE. PLACES ARE FLOODING THAT HAVE NEVER FLOODED BEFORE.”

SHARON COULON, JEAN LAFITTE (ISAAC, 2012)
“WE’VE NEVER SEEN ANYTHING LIKE THIS, NOT EVEN KATRINA.”

PLAQUEMINES PARISH PRESIDENT BILLY NUNGESSER (ISĂAC, 2012)
UNDERSTANDING LEVELS OF RISK

Flood hazard areas identified on the Flood Insurance Rate Map are identified as a **Special Flood Hazard Area** (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1% chance of being equaled or exceeded in any given year.

- The 1% annual chance flood is also referred to as the base flood or **“100-year flood.”**

- Floods having a 2% chance of being equaled or exceeded in any given year are also known as **“50-year flood.”**

- Floods having a 0.2% chance of being equaled or exceeded in any given year are also known as **“500-year flood.”**
UNDERSTANDING LEVELS OF RISK OVER 30-YEAR MORTGAGE

- **45%** chance of storm flooding
  - **50-YEAR FLOOD**
- **26%** chance of storm flooding
  - **100-YEAR FLOOD**
- **6%** chance of storm flooding
  - **500-YEAR FLOOD**
Hurricane Katrina (2005) produced storm surge that rated as a 100-year flood event in Plaquemines, St. Bernard, and St. Tammany Parishes, while as a 50-year event in Orleans and Lafourche Parishes.

Hurricane Betsy (1965) was considered a 100-year flood event in Orleans and St Tammany Parishes, and a 50-year event in Plaquemines Parish.

Hurricane Rita (2005) produced storm surge that rated as a 100-year flood event in Terrebonne, St. Mary, Cameron, and Vermilion Parishes.

Hurricane Ike (2008) was rated as a 50-year flood event in Vermilion and Cameron Parishes.
What does the future look like? Will my home flood? Can our coast survive?

Learn more about how flood risk impacts communities today and in the future, as well as how to make your community safer and more resilient.

cims.coastal.louisiana.gov/masterplan/
MASTER PLAN DATA VIEWER

• Intended to connect coastal Louisiana residents with more information about **current** and **future** risk
• Connect homeowners with resources to take action
  • Designed as the *Flood Risk and Resilience Viewer* after 2012 Coastal Master Plan
  • Updated for the 2017 Coastal Master Plan
DEVELOPED WITH WORKGROUP INPUT

Community Partners:
Coalition to Restore Coastal Louisiana, Restore or Retreat, and Bayou Interfaith Shared Community Organizing

Practitioners & Educational Experts:
Governor’s Office of Homeland Security and Emergency Preparedness, LSU Ag Center, LSU Sea Grant, LSU Coastal Sustainability Studio, UNO CHART, The Data Center, SWLA Economic Development Alliance, Catholic Charities
DATA VIEWER INFORMATION

- **Land Change***
  - Year 0, 10, 20, 30, 40, 50
- **Coastal Vegetation Change***
  - Year 0, 10, 20, 30, 40, 50
- **Flood Risk and Economic Damage*** **
  - Year 0, 10, 25, 50
- **Social Vulnerability**
- **2017 Coastal Master Plan Projects**
  - Structural Protection
  - Nonstructural Risk Reduction
  - Restoration
- **Resources to Reduce Risk**

* Includes three environmental scenarios; with/without master plan
** Includes 50, 100, 500-year flood events
DATA VIEWER USE AND IMPACT

• **Floodplain Managers:** Compare to FEMA BFEs on DFIRMS

• **Louisiana’s Strategic Adaptations for Future Environments (LA SAFE)**: $39 million HUD NDRC grant to develop adaptation plan framework and implement resilience-enhancing development strategies in six parishes

• **Isle de Jean Charles Resettlement Project**: $48 million HUD NDRC grant for relocation planning for Native American community in Terrebonne Parish

• **Academic Students:** Data used in research and dissertation projects

• **Residents and Homeowners:** Received many positive responses at community meetings; attendees were interested to learn future flood risk at their home or business address

*HUD National Disaster Resilience Competition (2014)*
FEMA INDIVIDUAL AND COMMUNITY PREPAREDNESS (ICP) AWARDS

- 2015 FEMA Individual and Community Preparedness Award - Technological Innovation Category
  - Received Honorable Mention
- Each year, FEMA’s Individual and Community Preparedness Division recognizes the preparedness efforts of organizations around the country.
  - In 2015, there were 138 organizations that applied for recognition; there were 11 award winners and 37 honorable mentions.
DATA VIEWER DEMO

Connect to Viewer at: cims.coastal.louisiana.gov/masterplan/
MASTER PLAN DATA VIEWER

**STEP 1: TYPE IN ADDRESS**
MASTER PLAN DATA VIEWER

STEP 2: CLICK ON MY INFO!
MASTER PLAN DATA VIEWER

STEP 3: CHECK OUT FLOOD RISK
MASTER PLAN DATA VIEWER

**STEP 4:** CHECK OUT 2017 COASTAL MASTER PLAN PROJECTS
MASTER PLAN DATA VIEWER

**STEP 5: TAKE ACTION - 5 STEPS TO REDUCE FLOOD RISK**
MASTER PLAN DATA VIEWER

LAND CHANGE
MASTER PLAN DATA VIEWER

FLOOD RISK

Coastal Protection and Restoration Authority

Map showing flood risk zones in Louisiana, including areas near Lake Charles, Baton Rouge, and New Orleans. The map allows users to explore current and potential future flood depths under different scenarios and time periods.
MASTER PLAN DATA VIEWER

FLOOD RISK

Coastal Protection and Restoration Authority

Using the drop down boxes and time-slider below, explore current and potential future flood depths over the next 50 years. Select Environmental Scenario, Plan Implementation, Flood Event, and Time Slider to display flood depths for those conditions.
MASTER PLAN DATA VIEWER
COASTAL VEGETATION

Coastal Protection and Restoration Authority

Using the drop down box and time-slider below, explore how coastal vegetation could change over the next 50 years. Select Environmental Scenario, Plan Implementation, and Time Slider to display vegetation for those conditions.
MASTER PLAN DATA VIEWER
COASTAL VEGETATION
MASTER PLAN DATA VIEWER
NONSTRUCTURAL RISK REDUCTION
MASTER PLAN DATA VIEWER
NONSTRUCTURAL RISK REDUCTION
MASTER PLAN DATA VIEWER
STRUCTURAL PROTECTION

Coastal Protection and Restoration Authority

Greater New Orleans High Level
Structural Protection

2017 Coastal Master Plan Project:
Greater New Orleans High Level

Fact Sheet

Environmental Scenarios

<table>
<thead>
<tr>
<th>Initial Conditions</th>
<th>Estimated Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Without Project</td>
<td>Medium: $1.5</td>
</tr>
<tr>
<td></td>
<td>Medium: $3.1</td>
</tr>
</tbody>
</table>

* Chart above shows the potential economic damage from a 100-year storm at Initial Conditions and Year 50.
MASTER PLAN DATA VIEWER

RESTORATION

Coastal Protection and Restoration Authority

Map showing restoration projects in coastal areas, including details on project implementation and project cost.
MASTER PLAN DATA VIEWER

RESTORATION
HOW TO GET INVOLVED?

- Contact us at: masterplan@la.gov
- Sign up for emails at: coastal.la.gov
- Interact with the Master Plan Data Viewer at: cims.coastal.la.gov/master-plan
- Follow us on Facebook, Facebook Live, and Instagram

www.coastal.la.gov/our-plan
THANK YOU

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