



2017 COASTAL MASTER PLAN

**BUILDING ON OUR COMMITMENT TO
PROTECT AND RESTORE OUR COAST**

Louisiana Coastal Program Meeting



RESPONDING TO THE CRISIS: LOUISIANA'S COASTAL PROGRAM SINCE 2007

\$18

billion

for protection
and restoration
projects in
20 parishes

95

million

cubic yards
of dredged
sediment

26,000

acres

of land was
benefited

256

miles

of levees
were
improved

45

miles

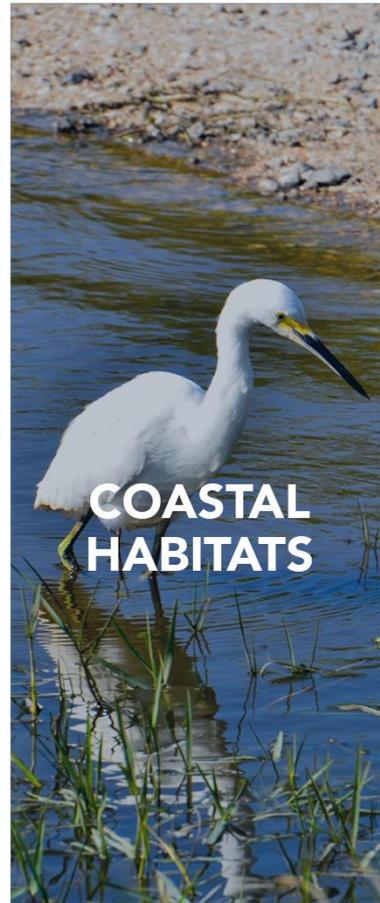
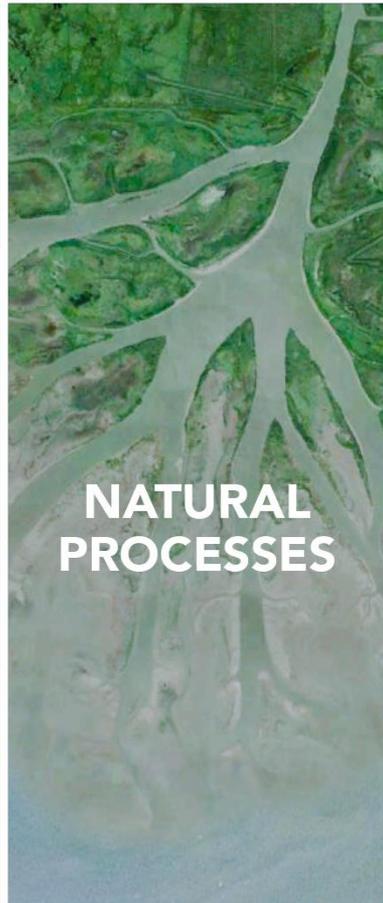
of barrier
islands and
berms were
constructed

2012 COASTAL MASTER PLAN

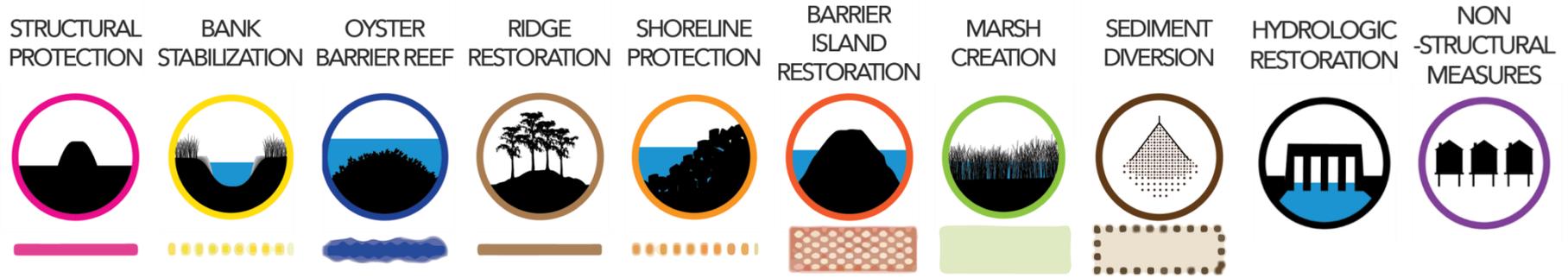
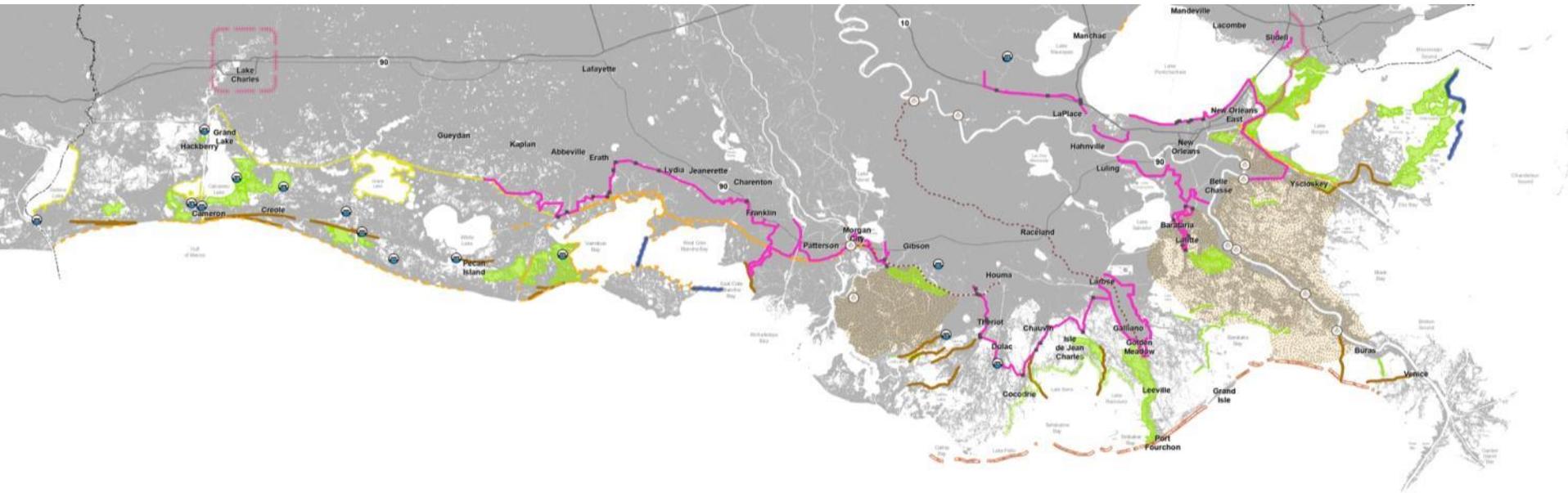
- Built on world class science and engineering
- Evaluated hundreds of existing project concepts
- Incorporated extensive public input and review
- Resource constrained
 - Funding, water, sediment
- Identified investments that will pay off, not just for us, but for our children and grandchildren



OBJECTIVES OF THE COASTAL MASTER PLAN

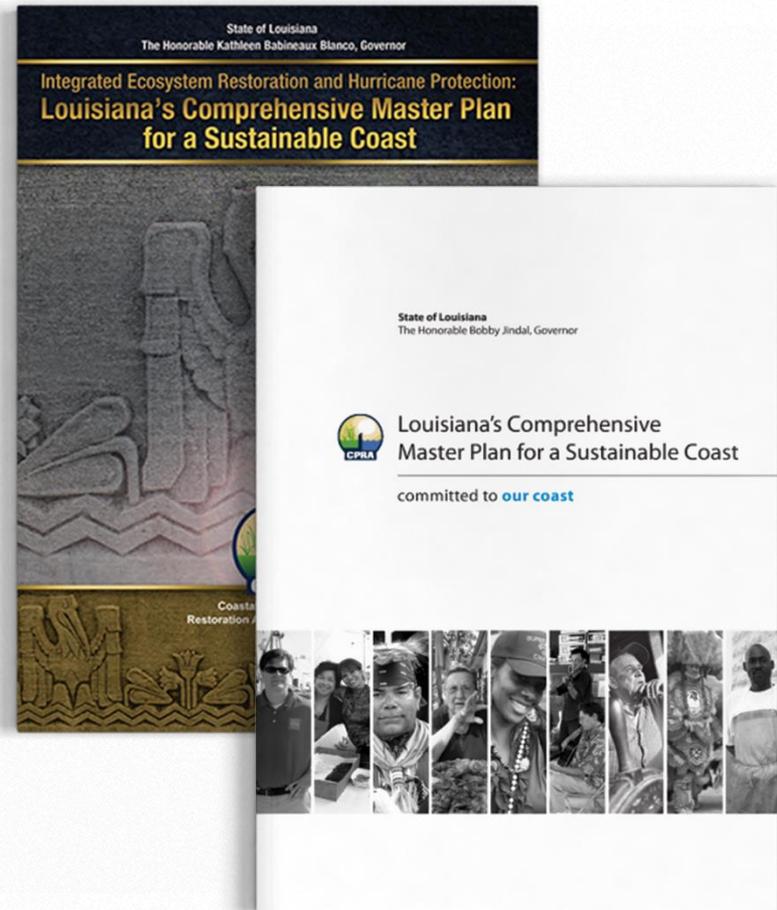


LOUISIANA'S 2012 COMPREHENSIVE MASTER PLAN FOR A SUSTAINABLE COAST



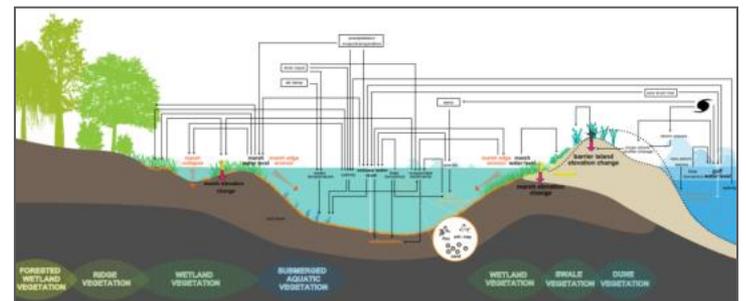
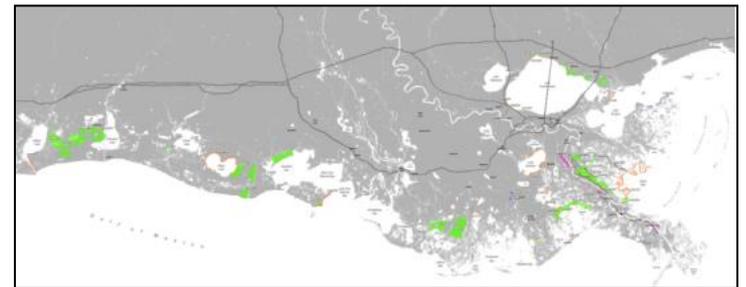
SO WHY ANOTHER PLAN?

- It's required by law to be updated every five years
- Allows the state to respond to changes on the ground and public input as well as innovations in science, engineering, and policy
- Advances a comprehensive and integrated approach to protecting and restoring the communities of Coastal Louisiana



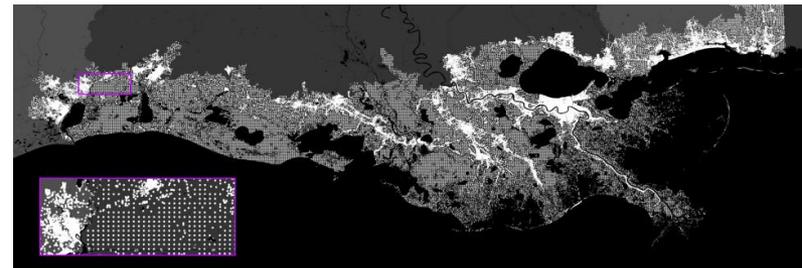
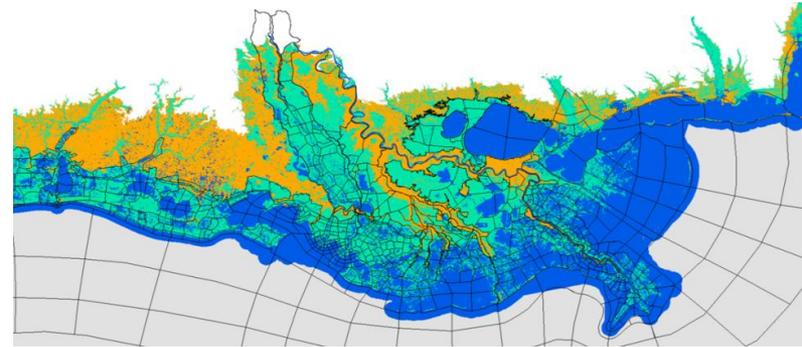
WHAT WILL BE DIFFERENT ABOUT THE 2017 COASTAL MASTER PLAN?

- Improved science and technical analysis
- Incorporating new ideas and information
- Focus on flood risk reduction and resilience
- Emphasis on communities



IMPROVED SCIENCE AND TECHNICAL ANALYSIS

- Major Improvements
 - Integrated Compartment Model
 - Spatial resolution/extent
 - Incorporation of additional landscape and ecosystem processes
 - Enhanced fish/shellfish modeling
- Primary Model Components
 - Landscape
 - Ecosystem
 - Risk reduction



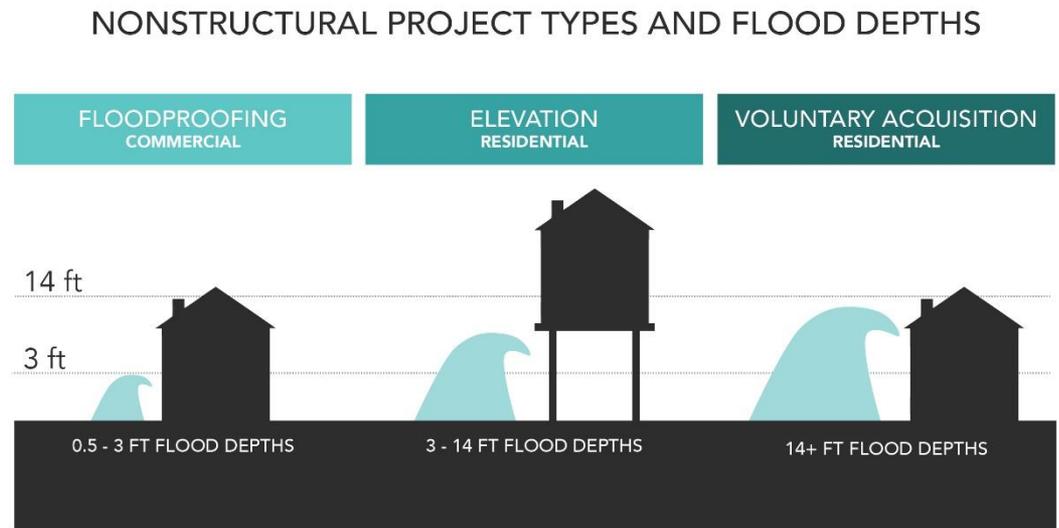
INCORPORATING NEW IDEAS AND INFORMATION

- 2012 Coastal Master Plan considered projects that were previously proposed and included in prior planning efforts
- In order to capture new project ideas, CPRA created the New Project Development Program
- The Program encouraged individuals and organizations to submit new projects for consideration
 - 150 projects submitted
- Projects that met required criteria are being evaluated for the 2017 Coastal Master Plan



FOCUS ON FLOOD RISK REDUCTION AND RESILIENCE

- CPRA is developing a framework to implement both nonstructural projects and programmatic measures to provide a comprehensive approach to flood risk reduction for homes, businesses, and community assets.
- Program Framework
 1. Develop Data and Tools
 2. Provide Information
 3. Provide Options
 4. Create Platforms for Collaboration and Action



EMPHASIS ON COMMUNITIES

- Reviewing long-term shifts in population
- Understanding the impacts of coastal land loss and flood risk on communities and resources
- Developing metrics to understand social vulnerability, flood protection of historic properties, and how best to support and maintain our traditional fishing, agricultural, and oil and gas communities



PLANNING TEAM



- Karim Belhadjali
- Bren Haase
- Mandy Green
- Melanie Saucier
- Ashley Cobb
- Andrea Galinski
- Zach Rosen

SUPPORTED BY:



THE WATER INSTITUTE
OF THE GULF™



EMERGENT
METHOD

TECHNICAL TEAM

COLLABORATIVE TEAM OF OVER 70 EXPERTS



THE WATER INSTITUTE
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Experience | Innovation | Results



A FRAMEWORK TO MAKE DECISIONS

THE ANALYTICAL CHALLENGE

- 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

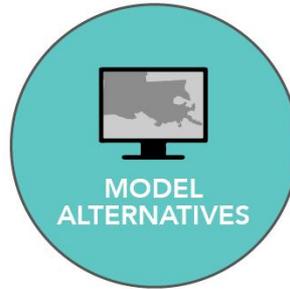
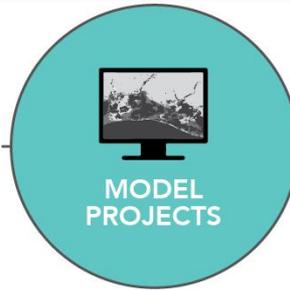


DEVELOPING THE COASTAL MASTER PLAN

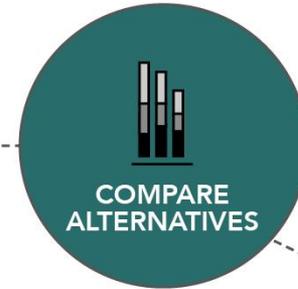
COASTAL PROJECTS



PREDICTIVE MODELS



PLANNING TOOL



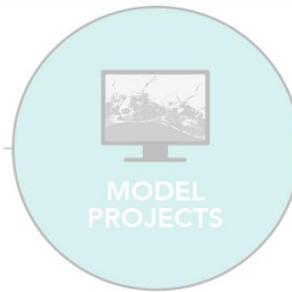
O U T R E A C H & E N G A G E M E N T

DEVELOPING THE COASTAL MASTER PLAN

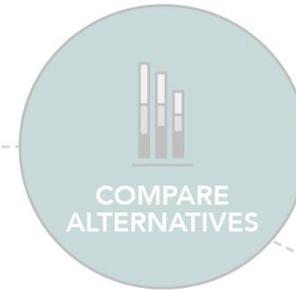
COASTAL PROJECTS



PREDICTIVE MODELS



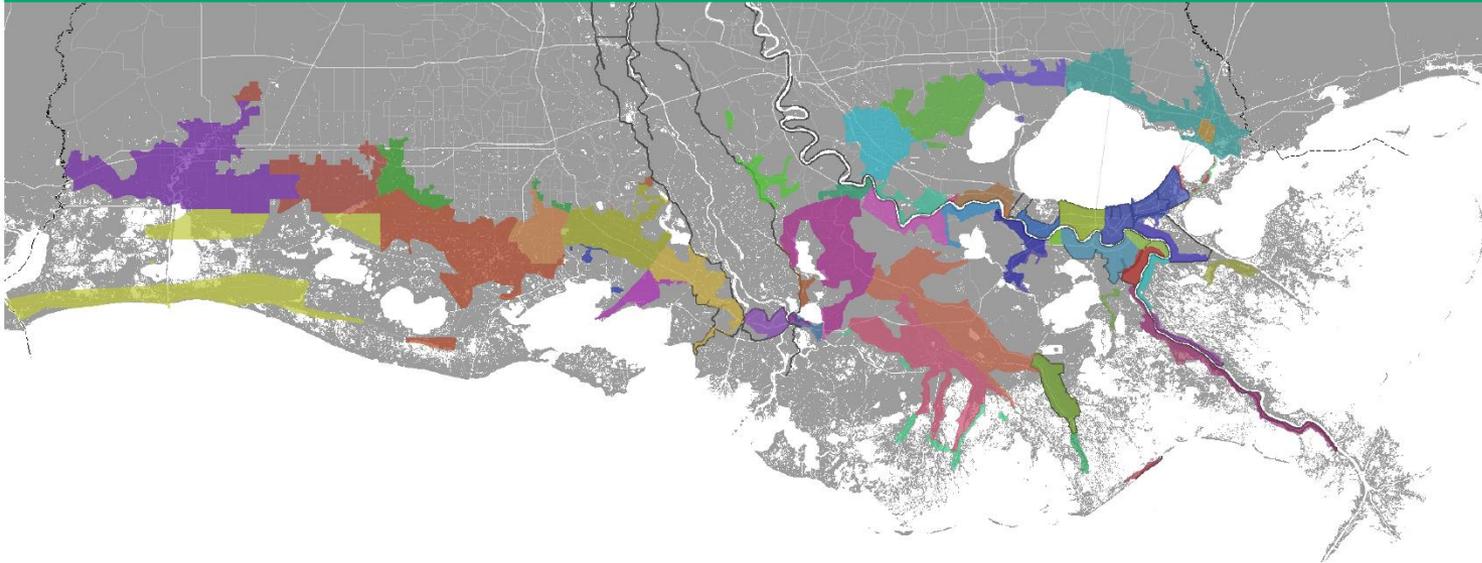
PLANNING TOOL



O U T R E A C H & E N G A G E M E N T

PLANNING FRAMEWORK

COASTAL PROJECTS



133
RESTORATION

54
NONSTRUCTURAL
PROTECTION

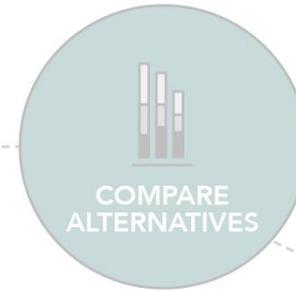
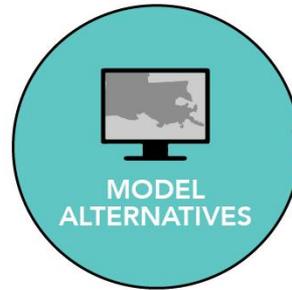
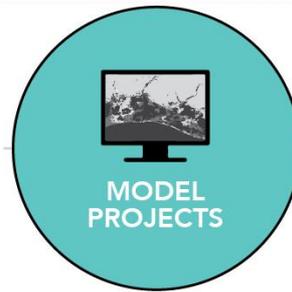
20
STRUCTURAL
PROTECTION

DEVELOPING THE COASTAL MASTER PLAN

COASTAL PROJECTS

PREDICTIVE MODELS

PLANNING TOOL



O U T R E A C H & E N G A G E M E N T

PLANNING FRAMEWORK

PREDICTIVE MODELS

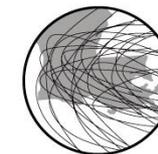
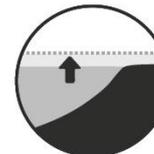
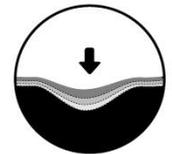
INTEGRATED COMPARTMENT MODEL



SURGE/WAVES AND RISK ASSESSMENT MODEL

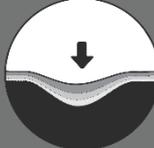


ENVIRONMENTAL AND RISK SCENARIOS



OUTREACH & ENGAGEMENT

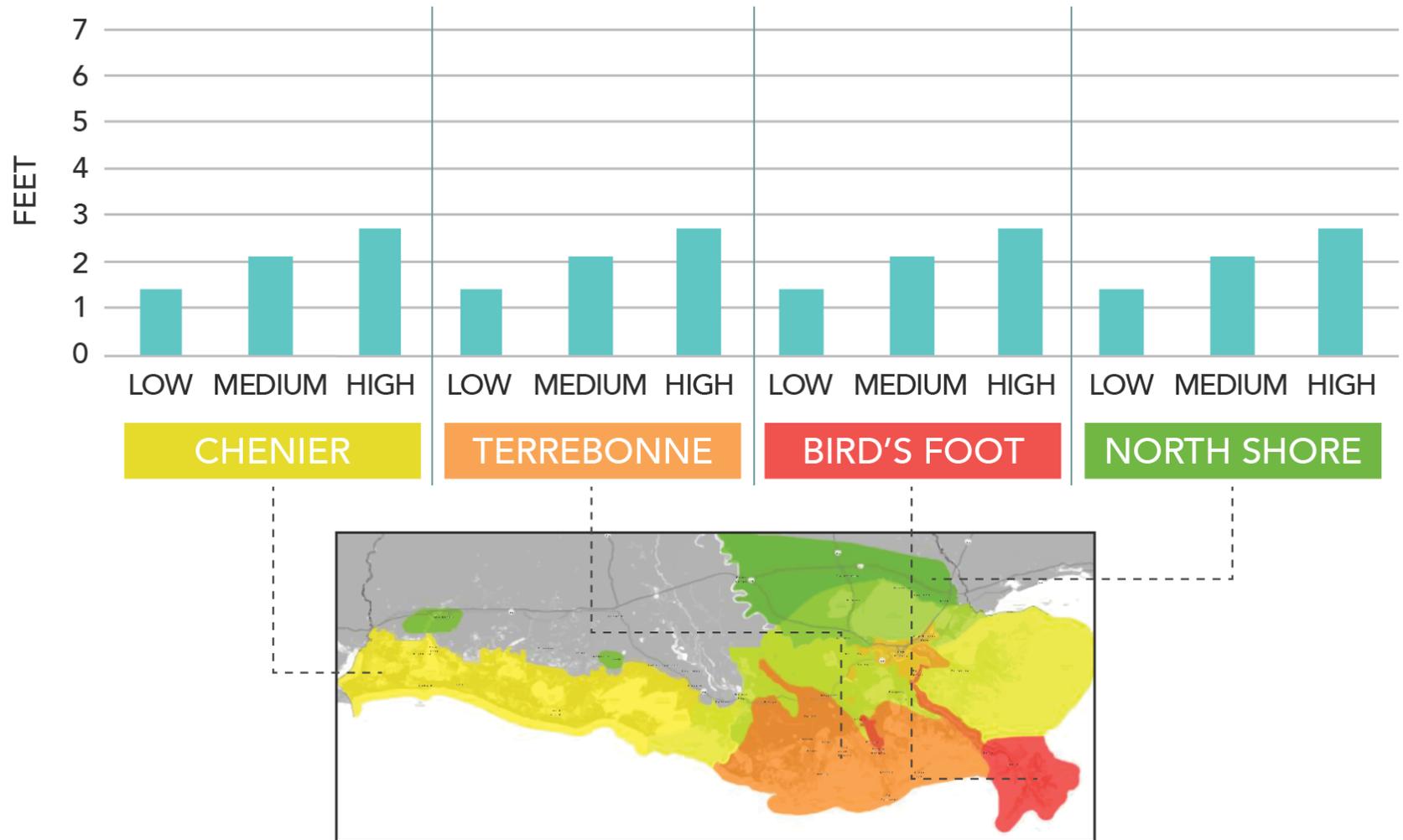
ENVIRONMENTAL SCENARIOS

SCENARIO	 PRECIP	 ET	 SEA LEVEL RISE	 SUBSIDENCE	 STORM FREQUENCY	 AVG. STORM INTENSITY
2017 COASTAL MASTER PLAN						
LOW	>HISTORICAL	<HISTORICAL	1.41'	20% OF RANGE	-28%	+10.0%
MEDIUM	>HISTORICAL	HISTORICAL	2.07'	20% OF RANGE	-14%	+12.5%
HIGH	HISTORICAL	HISTORICAL	2.72'	50% OF RANGE	0%	+15.0%
COMPARED TO 2012 COASTAL MASTER PLAN						
MODERATE	>HISTORICAL	HISTORICAL	0.89'	20% OF RANGE	0%	+10.0%
LESS OPTIMISTIC	HISTORICAL	>HISTORICAL	1.48'	50% OF RANGE	+2.5%	+20.0%

(FEET/50 YEARS)

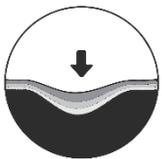
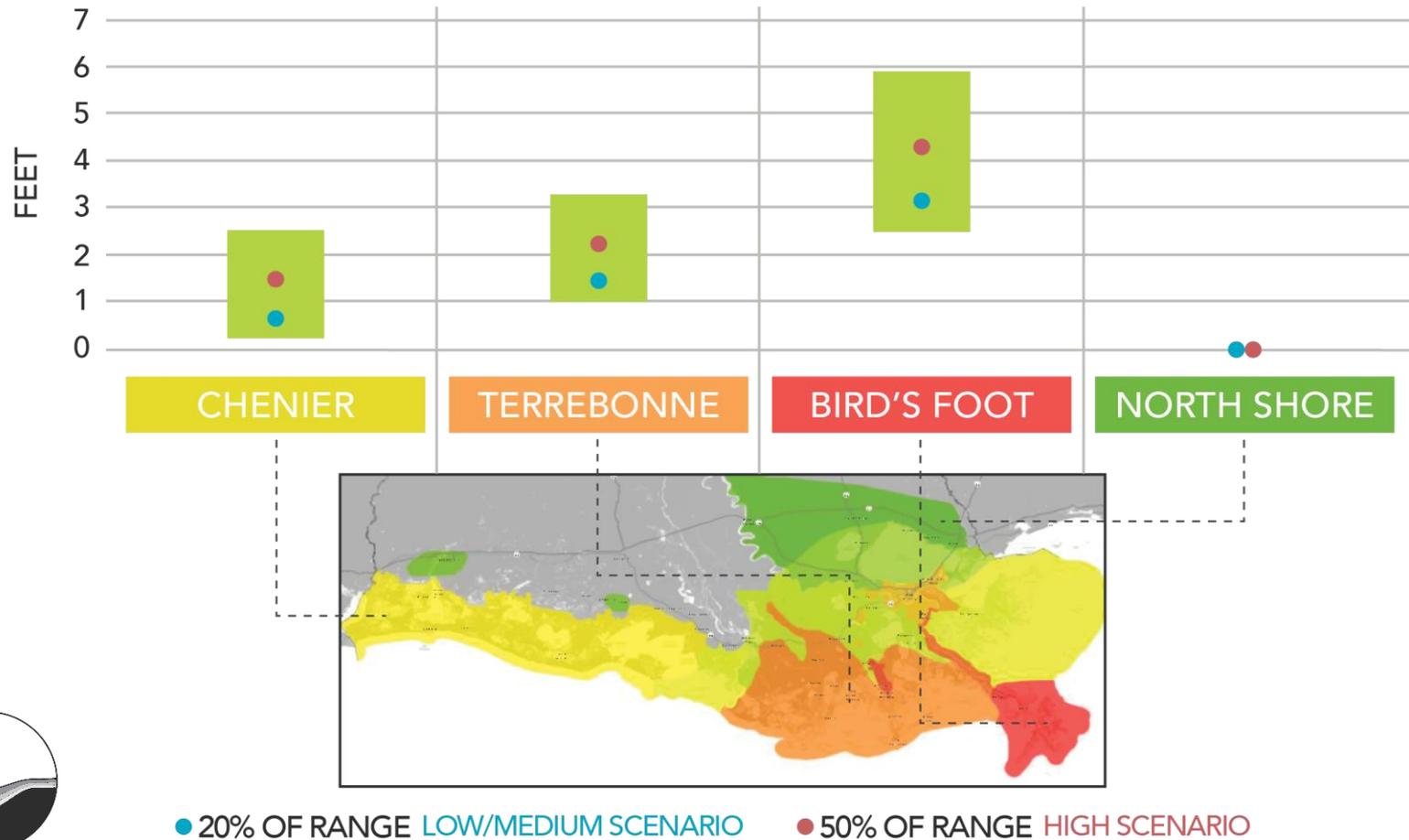
RELATIVE SEA LEVEL RISE OVER 50 YEARS

SEA LEVEL RISE



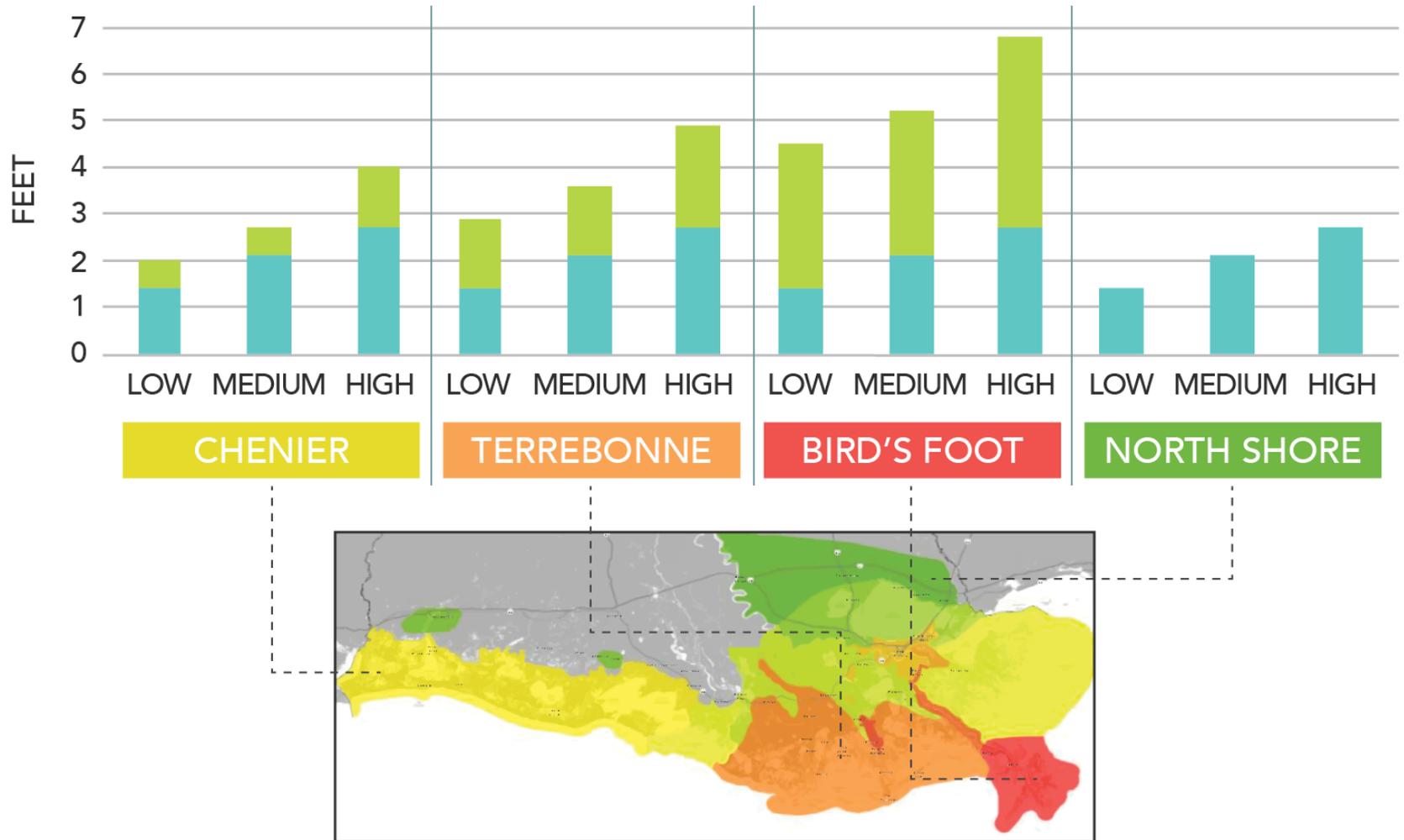
SUBSIDENCE RANGES OVER 50 YEARS

MASTER PLAN ENVIRONMENTAL SCENARIOS

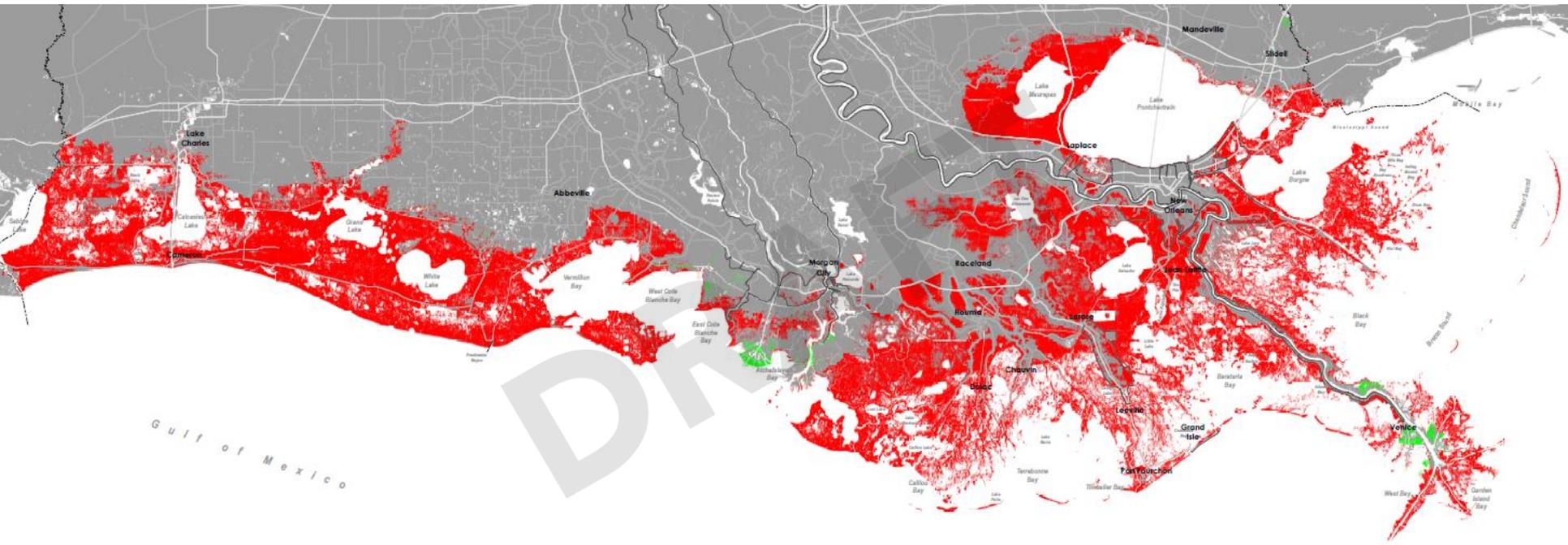


RELATIVE SEA LEVEL RISE OVER 50 YEARS

SEA LEVEL RISE + SUBSIDENCE

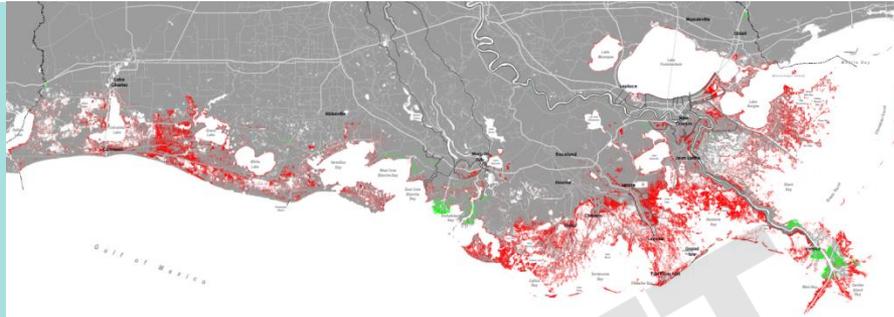


PREDICTED LAND CHANGE FUTURE WITHOUT ACTION YEAR 50, HIGH SCENARIO

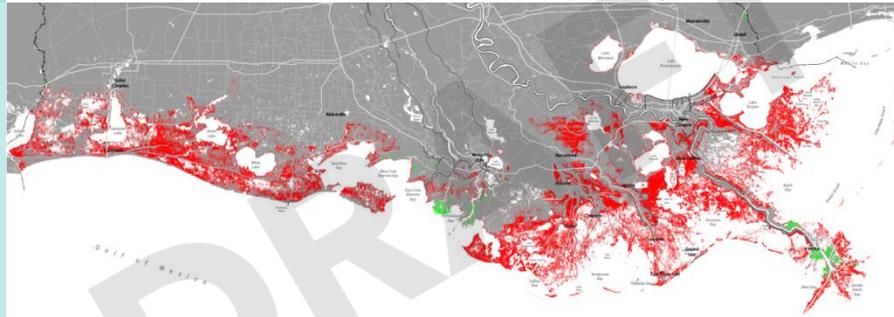


PREDICTED LAND CHANGE FUTURE WITHOUT ACTION YEAR 50

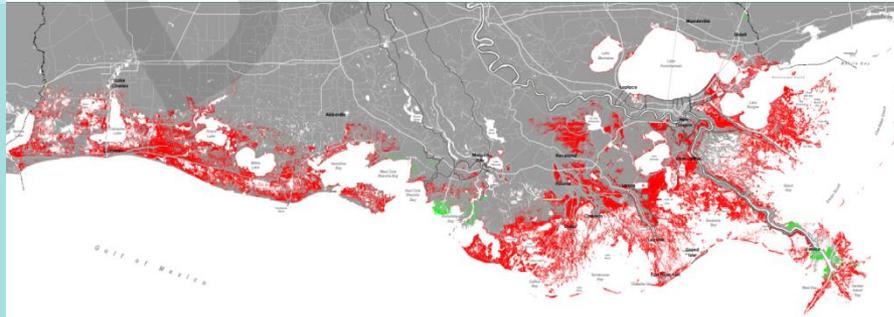
LOW



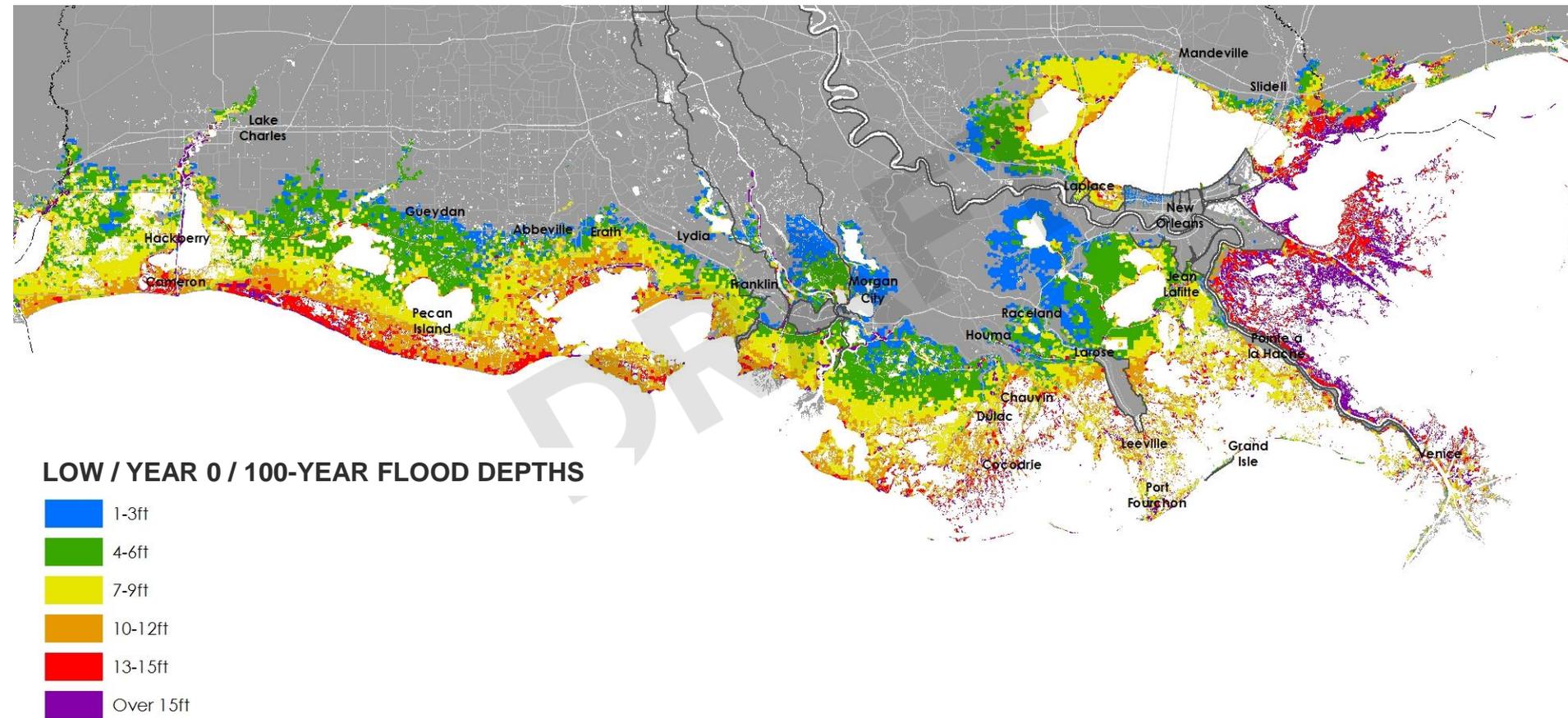
MEDIUM



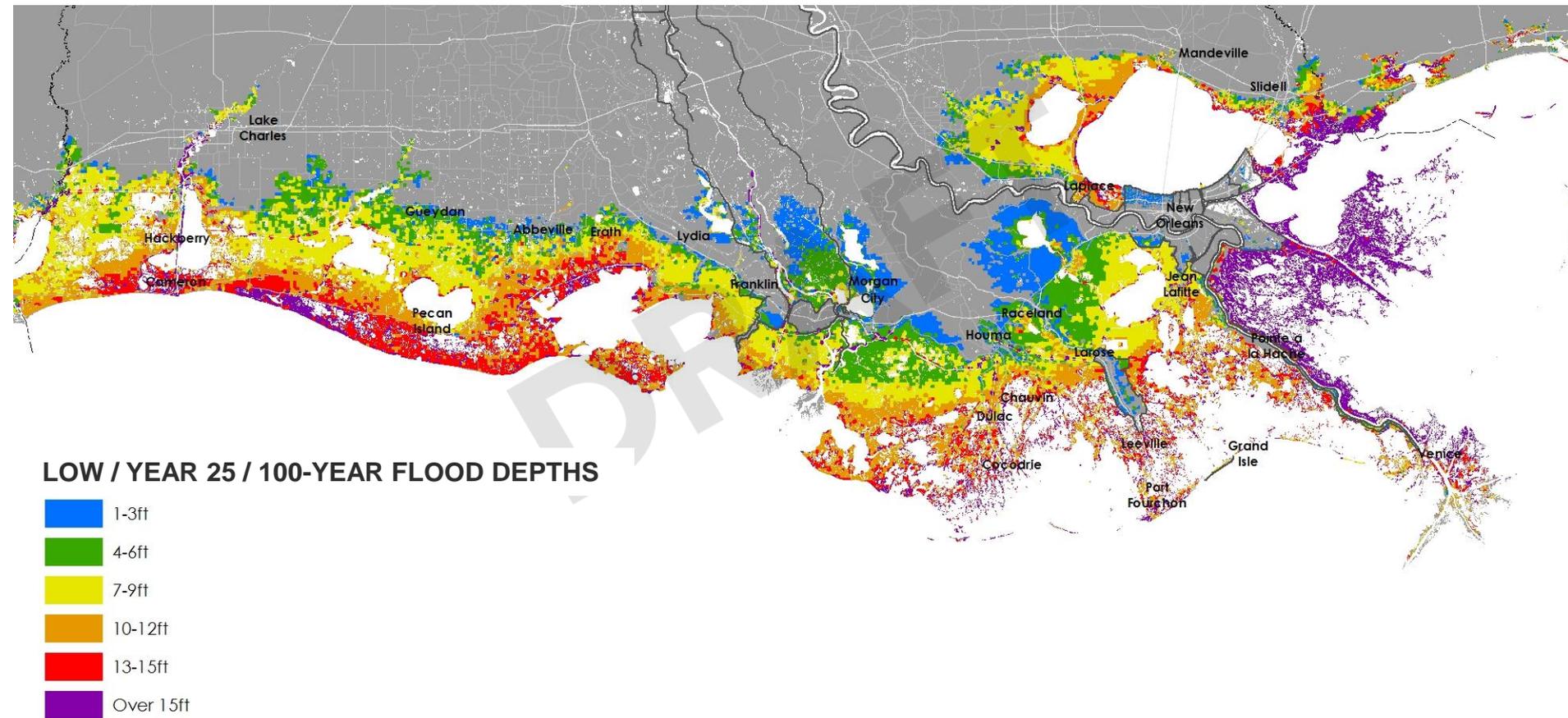
HIGH



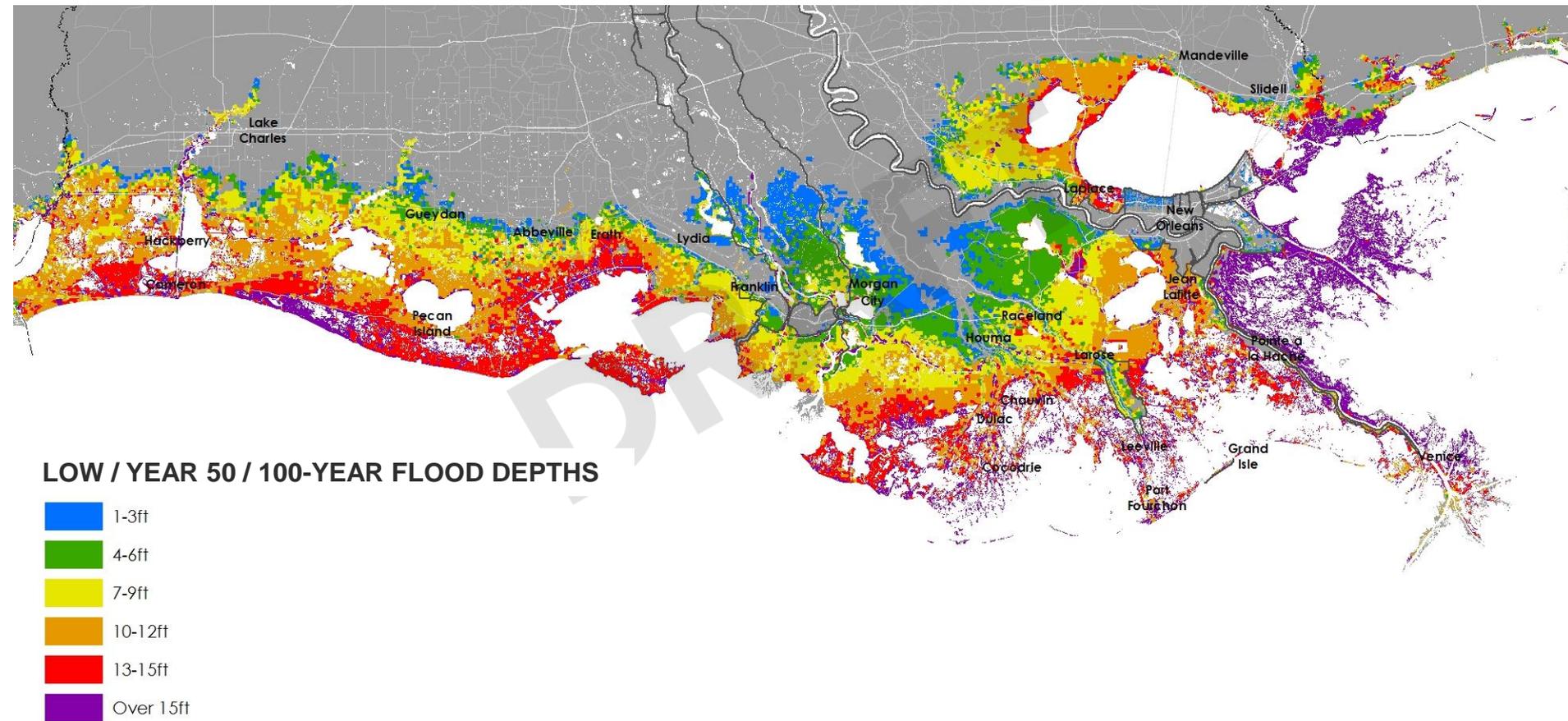
PREDICTED FLOOD DEPTHS FUTURE WITHOUT ACTION INITIAL CONDITIONS, 100-YEAR EVENT



PREDICTED FLOOD DEPTHS FUTURE WITHOUT ACTION YEAR 25, LOW SCENARIO, 100-YEAR EVENT



PREDICTED FLOOD DEPTHS FUTURE WITHOUT ACTION YEAR 50, LOW SCENARIO, 100-YEAR EVENT

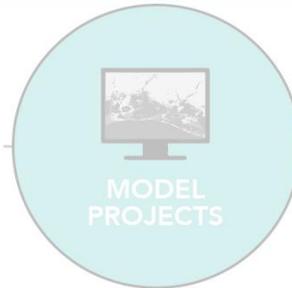


DEVELOPING THE COASTAL MASTER PLAN

COASTAL PROJECTS



PREDICTIVE MODELS



PLANNING TOOL



O U T R E A C H & E N G A G E M E N T

PLANNING FRAMEWORK

PLANNING TOOL

DECISION DRIVERS



REDUCING
FLOOD RISK

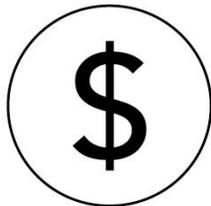


BUILDING
LAND

CONSTRAINTS



SEDIMENT



FUNDING

METRICS

COMMUNITY METRICS



AGRICULTURAL
COMMUNITIES



FLOOD
PROTECTION
OF STRATEGIC
ASSETS



OIL & GAS
COMMUNITIES



SOCIAL
VULNERABILITY



FLOOD
PROTECTION
OF HISTORIC
PROPERTIES



NAVIGATION



TRADITIONAL
FISHING
COMMUNITIES

ENVIRONMENTAL METRICS



ALLIGATOR



FRESHWATER
FISHERIES



OYSTERS



SUSTAINABILITY
OF LAND



BLUE CRAB



NITROGEN UPTAKE



SALTWATER
FISHERIES



USE OF NATURAL
PROCESSES



BROWN PELICAN



OPERATION &
MAINTENANCE
COSTS



SHRIMP



WATERFOWL



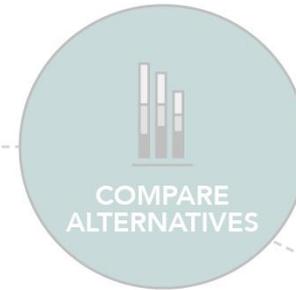
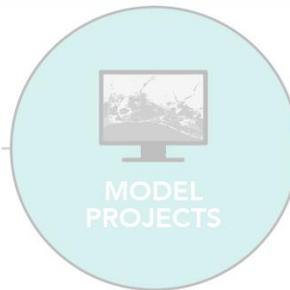
CRAWFISH

DEVELOPING THE COASTAL MASTER PLAN

COASTAL PROJECTS

PREDICTIVE MODELS

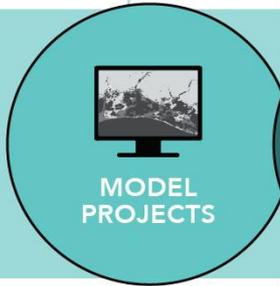
PLANNING TOOL



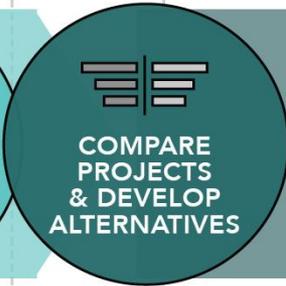
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TIMELINE

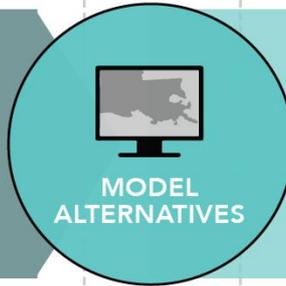
MAR '16



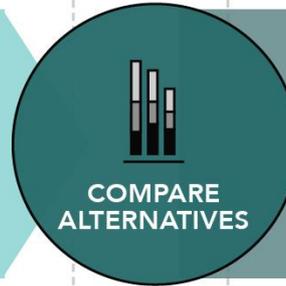
MAY '16



JUL '16



SEP '16



NOV '16

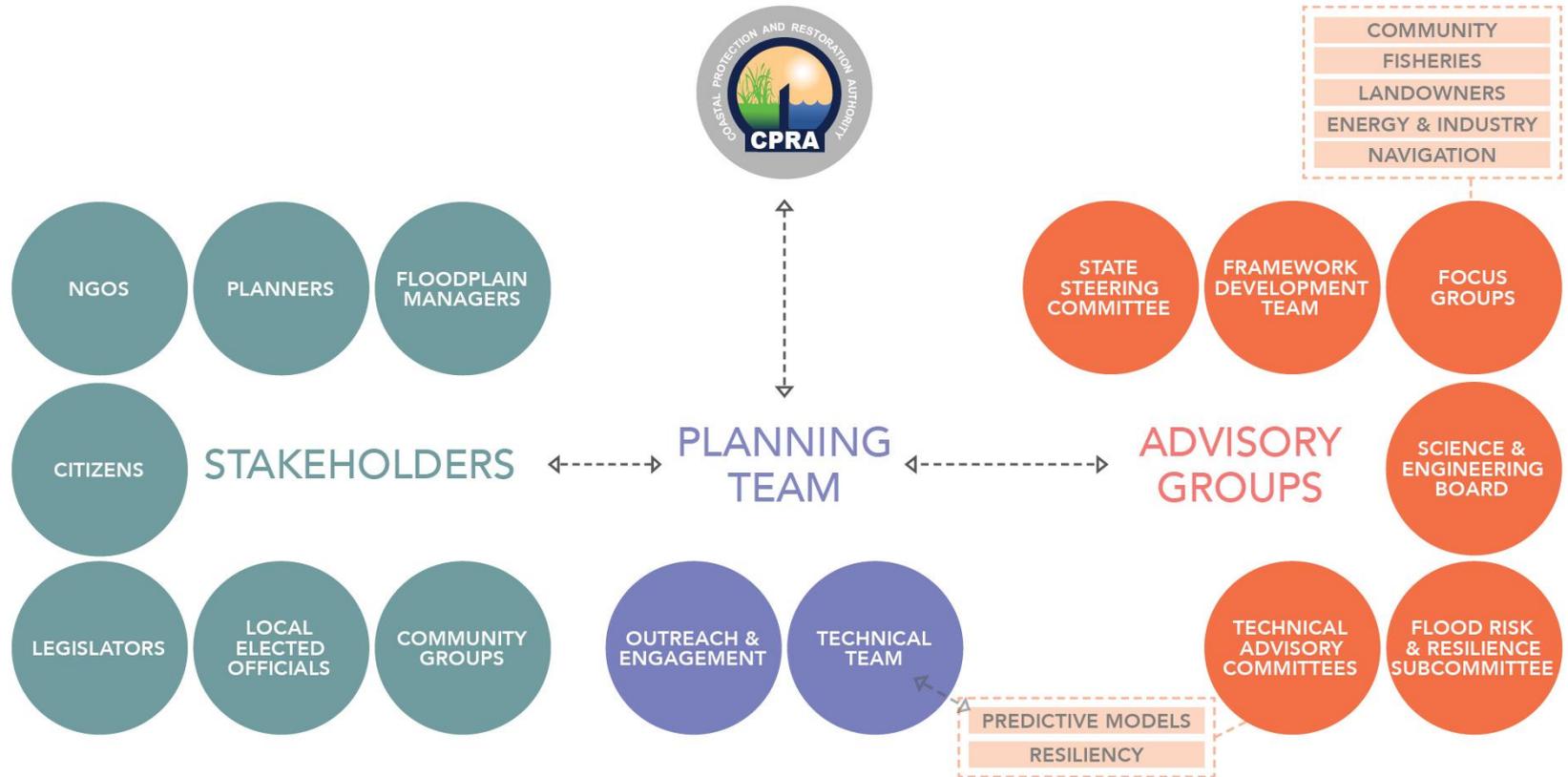


JAN '17

- JAN '17 DRAFT PLAN RELEASED
- JAN '17 DRAFT PLAN PUBLIC HEARINGS
- APR '17 FINAL PLAN SUBMITTED TO LEGISLATURE

OUTREACH & ENGAGEMENT

OUTREACH & ENGAGEMENT



O U T R E A C H & E N G A G E M E N T

FRAMEWORK DEVELOPMENT TEAM



FOCUS GROUPS

- Key industries or stakeholder groups that are impacted by land loss and large scale protection and restoration efforts
- Focus Groups:
 - Community
 - Energy and Industry
 - Fisheries
 - Landowners
 - Navigation



SCIENCE AND ENGINEERING BOARD

NAME	ORGANIZATION	EXPERTISE
Carl Friedrichs	VIMS, William & Mary	Coastal Geoscience
Dan Childers	Arizona State University	Wetlands
Ed Houde	University of Maryland	Fisheries
Jen Irish	Virginia Tech	Risk
Len Shabman	Resources for the Future	Economics
Margaret Davidson		Natural Resource/Economic Policies
Marius Sokolewicz	Royal Haskoning	Coastal Modeling
Michael Orbach	Duke University	Socio-Economics
Sandra Knight	WaterWonks, LLC	Water Resources
William Fulton	Rice University	Urban Planning

TECHNICAL ADVISORY COMMITTEES

PREDICTIVE MODELS

- John Callaway, University of San Francisco
- Scott Hagen, Louisiana State University
- Courtney Harris, Virginia Institute of Marine Sciences
- Wim Kimmerer, San Francisco State University
- Mike Waldon, US Fish and Wildlife Services (retired)

RESILIENCY

- Daniel Aldrich, Northeastern University
- Diane Austin, University of Arizona
- Gavin Smith, University of North Carolina
- Dan Zarrilli, City of New York, Mayor's Office of Recovery & Resiliency

STATE STEERING COMMITTEE

- Many state departments and agencies representing a broad range of interests and mandates are currently involved in varying degrees
- Provides an opportunity for continued updates and input into the development of Louisiana's 2017 Coastal Master Plan
- Creates shared ownership across all relevant and interested state departments/agencies

Administration
Agriculture and Forestry
Attorney General
Children and Family Services
Civil Service
Community Development
Culture Recreation and Tourism
Economic Development
Education
Environmental Quality
Health and Hospitals
Homeland Security and Emergency Preparedness
Insurance
Louisiana Housing Corporation
Louisiana Law Institute
Natural Resources
Public Safety and Corrections
Public Service Commission
Revenue
Secretary of State
Transportation and Development
Treasury
Veterans Affairs
Wildlife and Fisheries
Workforce Commission

CITIZEN ENGAGEMENT

EARLY FALL 2016

- Host 4 community meetings across coastal Louisiana
 - Partner with local organizations when possible
- Focus on receiving feedback on draft lists of potential projects at the basin scale
- Use information from project modeling and alternative formulation to inform facilitated discussions
- Use feedback to inform development of the draft plan



PARISH ENGAGEMENT

- Roundtable format in multiple locations
- Targeted attendees
 - Parish Presidents
 - Chief Administrative Officers
 - Floodplain Managers
 - Coastal Zone Managers
 - Public Works Directors
 - Levee Districts
- Proposed Schedule:
 - Round 1: May 25 and 26, 2016
 - Round 2: October 2016
 - Round 3: January 2017

Ascension
Assumption
Calcasieu
Cameron
Iberia
Iberville
Jefferson
Lafayette
Lafourche
Livingston
Orleans
Plaquemines
St. Bernard
St. Charles
St. James
St. John the Baptist
St. Martin
St. Mary
St. Tammany
Terrebonne
Tangipahoa
Vermillion

HOW TO GET INVOLVED?

- Visit our website:
coastal.la.gov
- Request a presentation or meeting:
masterplan@la.gov
- Attend public and community meetings





WHAT'S NEXT?

- Finalize project modeling and compare project results to develop draft alternatives
- Extensive stakeholder engagement to inform development of the draft plan
- Upcoming presentations to CPRA Board
 - Modeling Results
 - Preliminary Development of Draft Plan



QUESTIONS?

 coastal.la.gov





THANK YOU

Karim Belhadjali | karim.belhadjali@la.gov