

SOUTH CENTRAL COAST LOUISIANA INTEGRATED FEASIBILITY STUDY

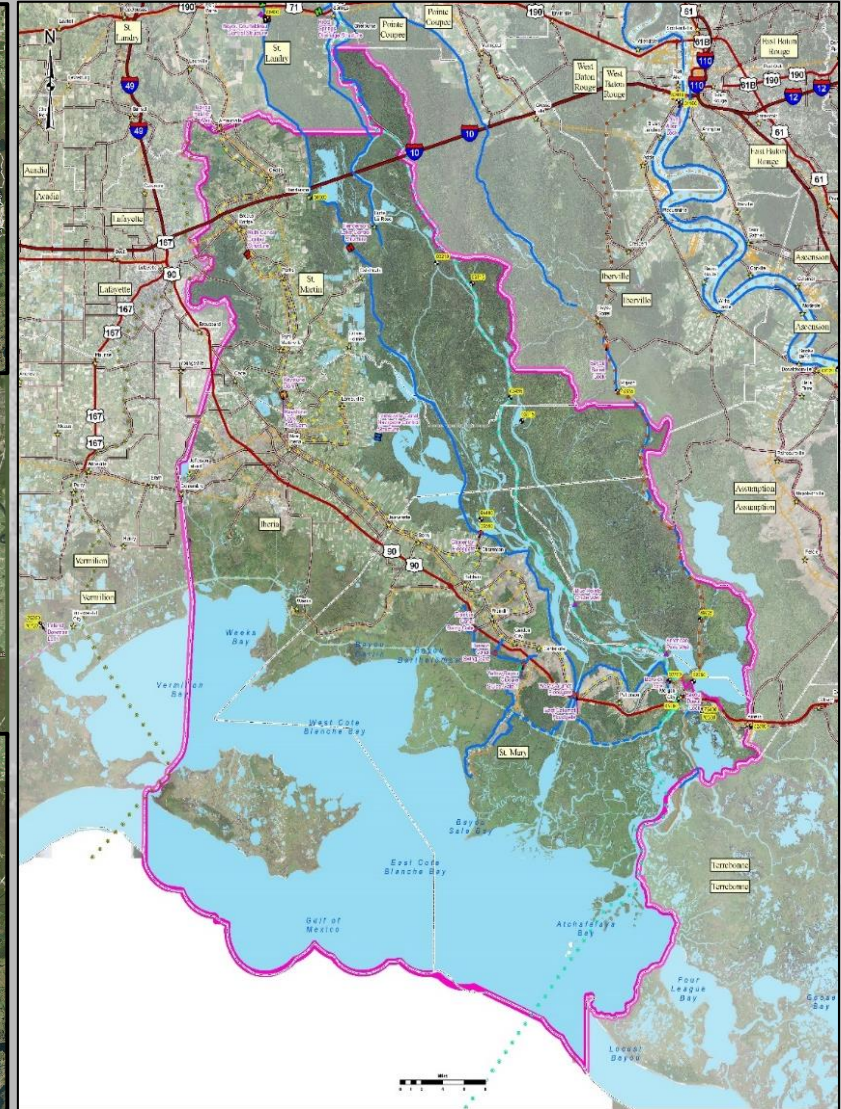
Public Meetings
December 2019



US Army Corps
of Engineers®



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MEETING AGENDA

1. Project Background
2. Alternatives Considered
3. Tentatively Selected Plan
4. Project Schedule
5. Public Comment Period
6. Questions

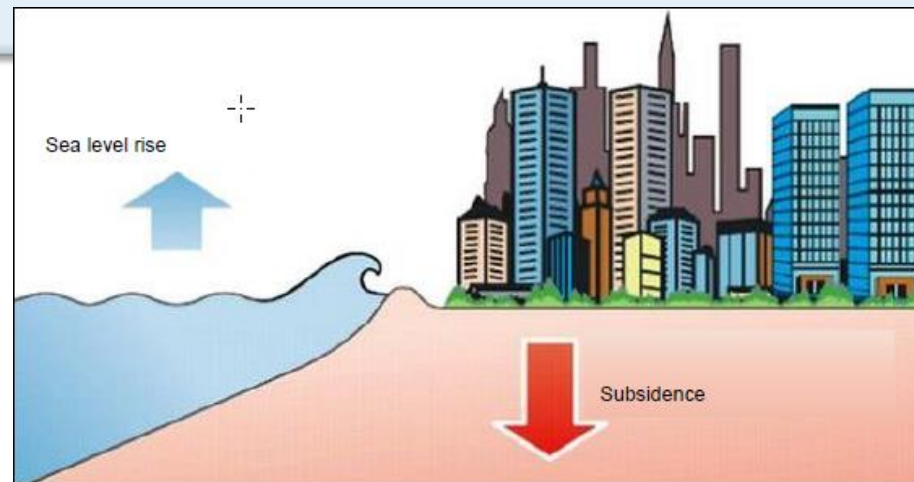




PROBLEM STATEMENT

St. Mary, St. Martin, and Iberia Parishes have high levels of risk and vulnerability to coastal storms, exacerbated by a combination of sea level rise and climate change over the study periods.

The study area's low elevation topography, proximity to the Gulf of Mexico, subsiding lands, and rising seas, are contributing factors causing **coastal flooding, shoreline erosion, and loss of wetland.**



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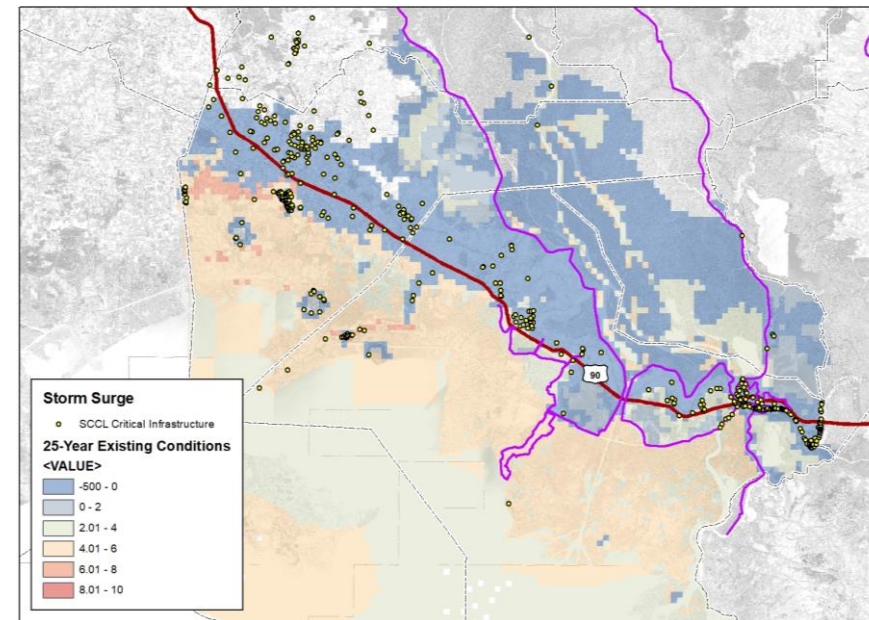
FEASIBILITY STUDY PURPOSE



Investigate potential structural and nonstructural solution sets to address flood risk



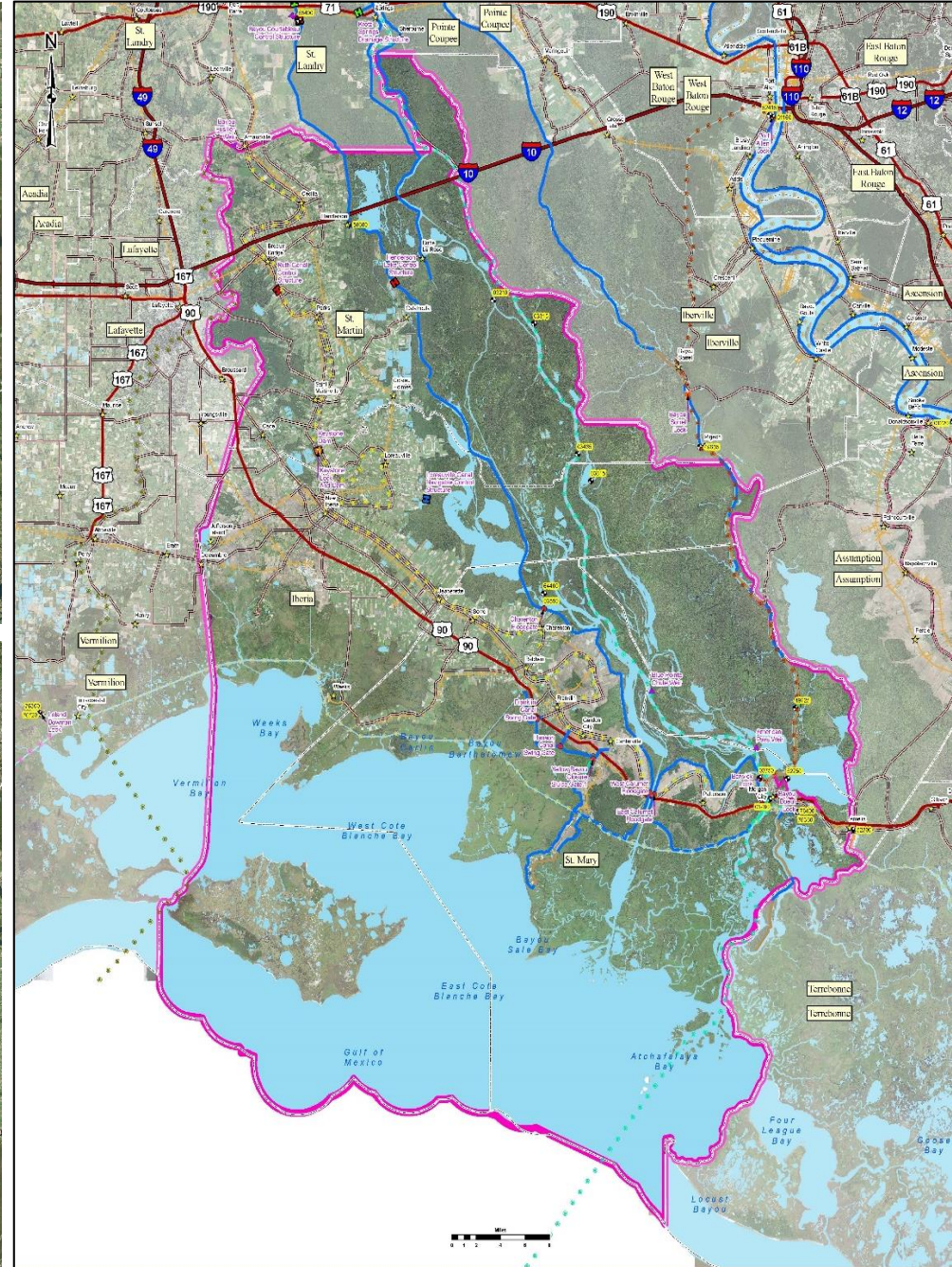
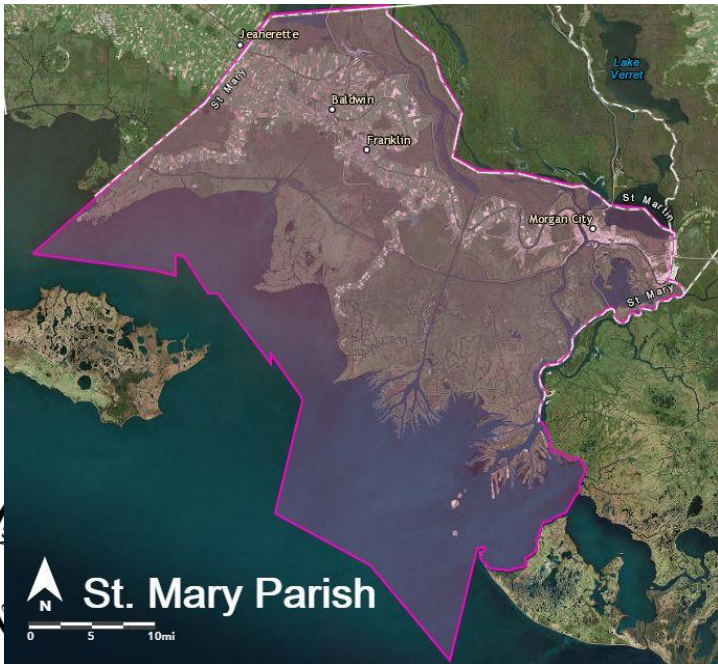
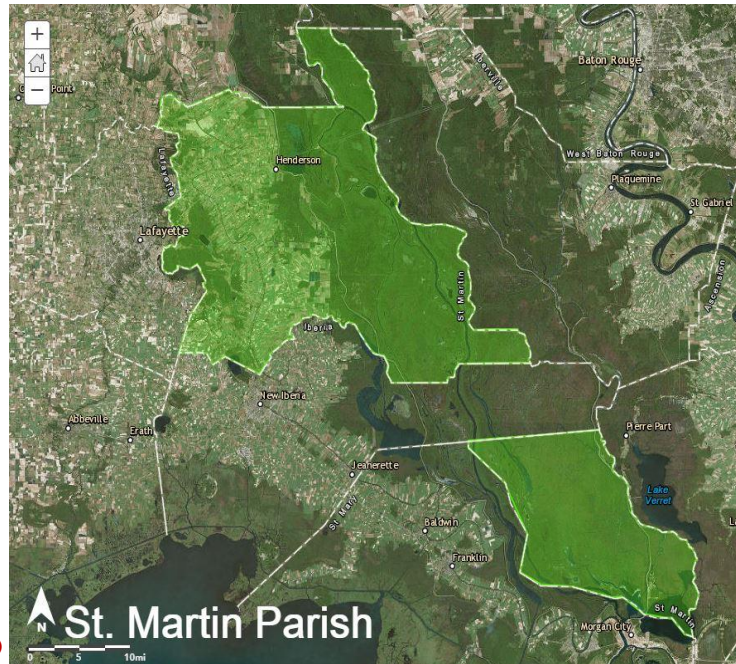
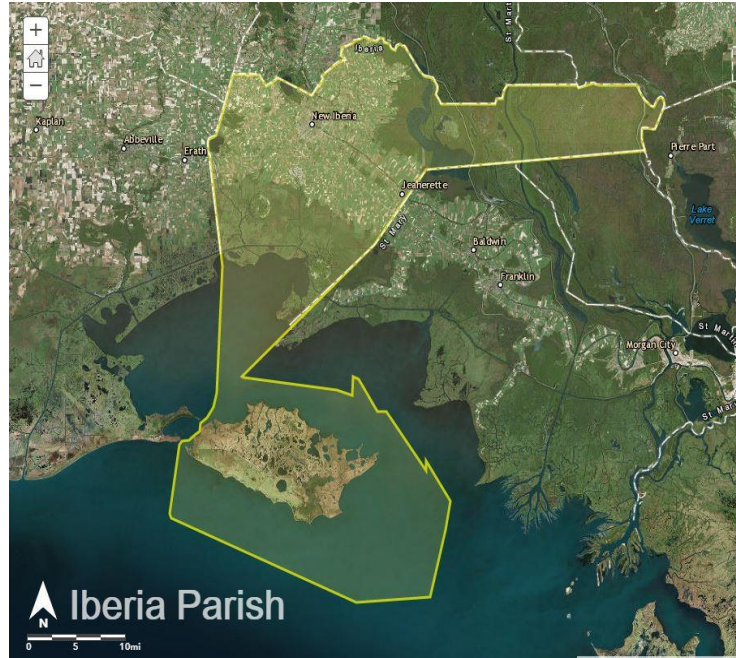
SCCL 25-Year Storm Surge (Existing Conditions)



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South Central Coast LA Study Area



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FEDERAL AUTHORIZATION

✓ H.R. Docket 2767, Southeast Coastal

Louisiana (Sept. 2016)

Survey the coast of Louisiana in Iberia, St. Martin, and St. Mary parishes to determine the feasibility of providing hurricane protection and storm damage reduction

✓ Bipartisan Budget Act of 2018 (Public Law 115-123) Division B, Subdivision 1, Title IV



Coastal Risk Management, Louisiana



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AGENCY PARTNERSHIP AND COORDINATION



Non-Federal Sponsor

- Louisiana Coastal Protection and Restoration Authority Board (CPRAB)

Permitting Agencies

- U.S. Fish and Wildlife
- LA Department of Wildlife and Fisheries
- LA Department of Natural Resources
- National Marine Fisheries Service

Tribal Coordination

- Reservation for the Chitimacha Tribe of Louisiana





SIGNIFICANT ASSETS AND RESOURCES



Energy Infrastructure
Regional Port
Seafood Industry
Carbon Black Plants
Cultural Sites
Wildlife Refuges
Agriculture





OPPORTUNITIES

Community Resilience

Reduce risk of damages
Improve ability to prepare, mitigate, and

Ecosystem Mitigation

Protect natural barriers

Recreation

Increase, where compatible

Public Safety

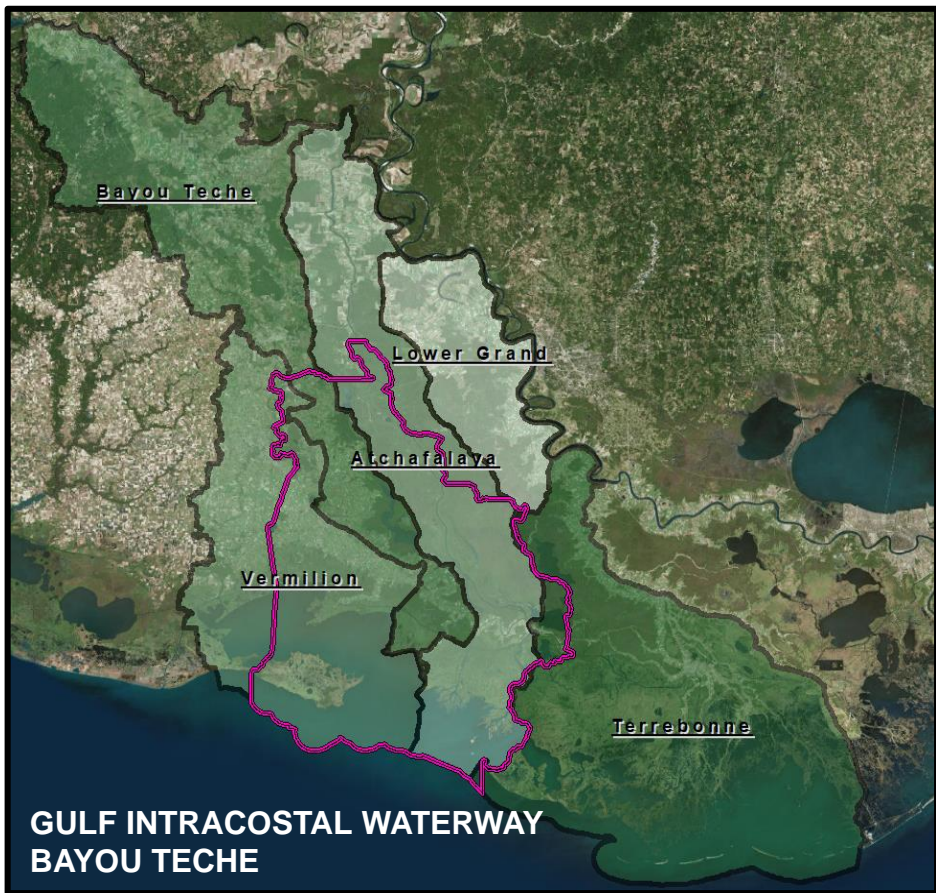
Incorporate future projections into evacuation plans
Reduce flooding in low areas of evacuation corridor (HWY 90)





HYDRAULIC SETTING

5 HYDROLOGIC BASINS



WEST ATCHAFALAYA FLOODWAY

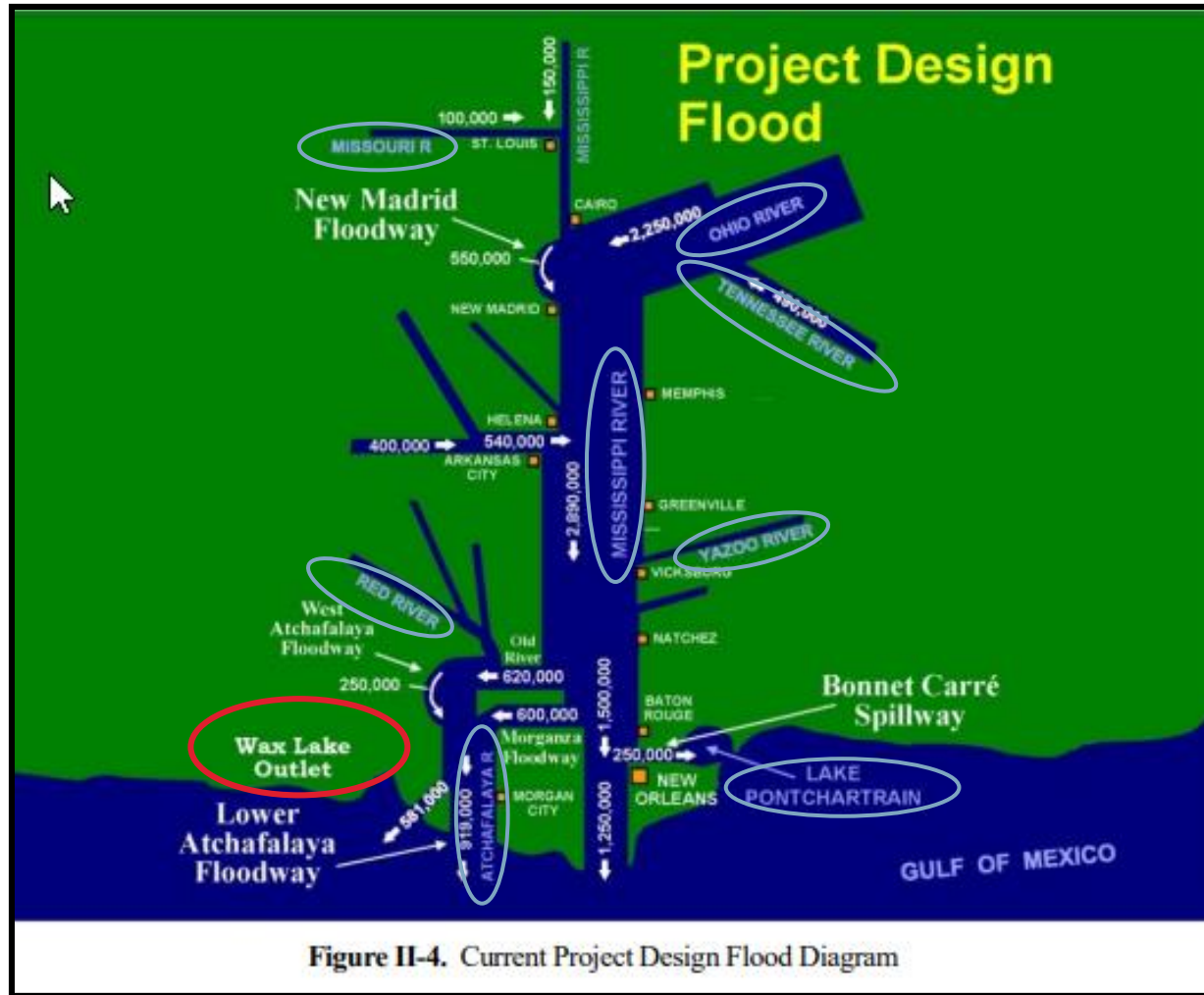


Figure II-4. Current Project Design Flood Diagram



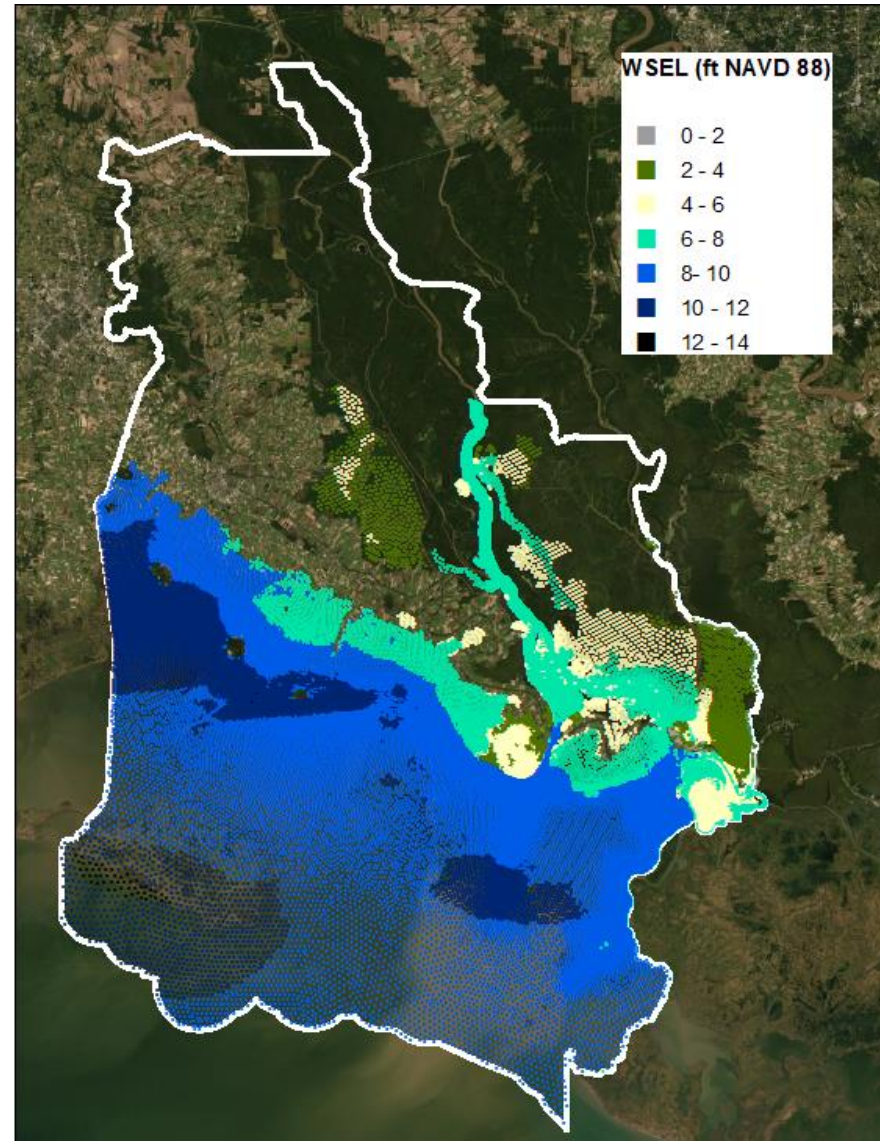


FUTURE WITHOUT PROJECT



Intermediate Sea Level Rise Scenario – 2075

Sea level rise projection was developed by averaging three gauges located in the study area



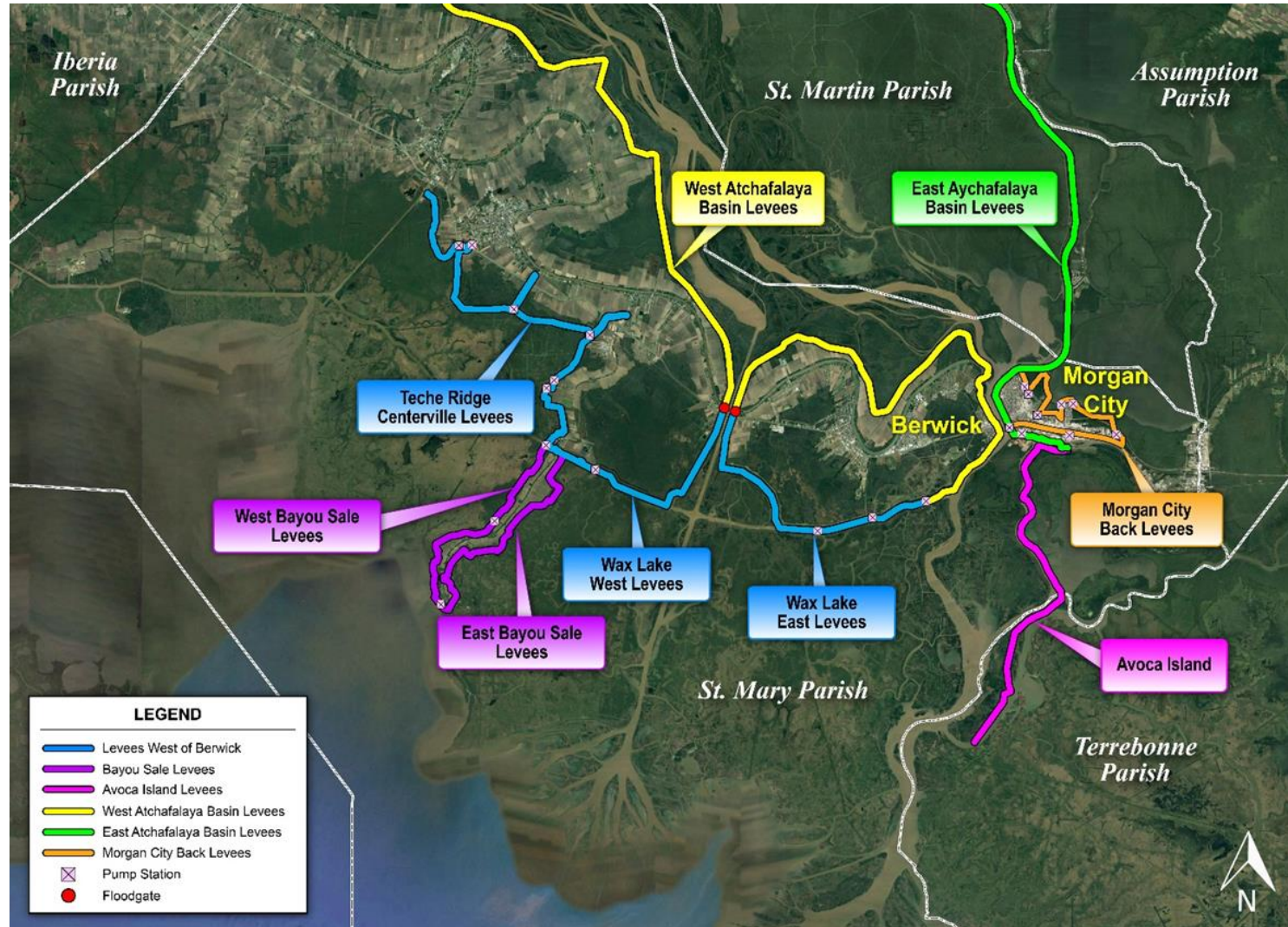
1% Storm Surge SWE with Existing Levee Design Elevations



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EXISTING CIVIL WORKS INFRASTRUCTURE



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OBJECTIVES

1

Increase sustainability and resiliency of communities to coastal flood events.

- Reduce risk to life safety from hurricanes and storm surge flooding.
- Reduce economic loss/damages, as a result of hurricanes and storm surge flooding to structures (i.e. residential, commercial, agricultural, and industrial) within the study area.
- Maintain availability of key evacuation route (Hwy 90) for residents within the study area and the greater New Orleans area





OBJECTIVES

2

Maintain and sustain the resiliency of natural ecosystem to reduce flood damages.

- Minimize degradation to vulnerable coastal habitat and wetland areas.

Above all, the goal is reducing the risk to the people, the culture and a way of life that is uniquely Louisiana



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STUDY CONSTRAINTS

Assumed:

Mississippi River and Tributary authorized design heights

Did not consider:

Ecosystem restoration due to restrictions in funding authorizations

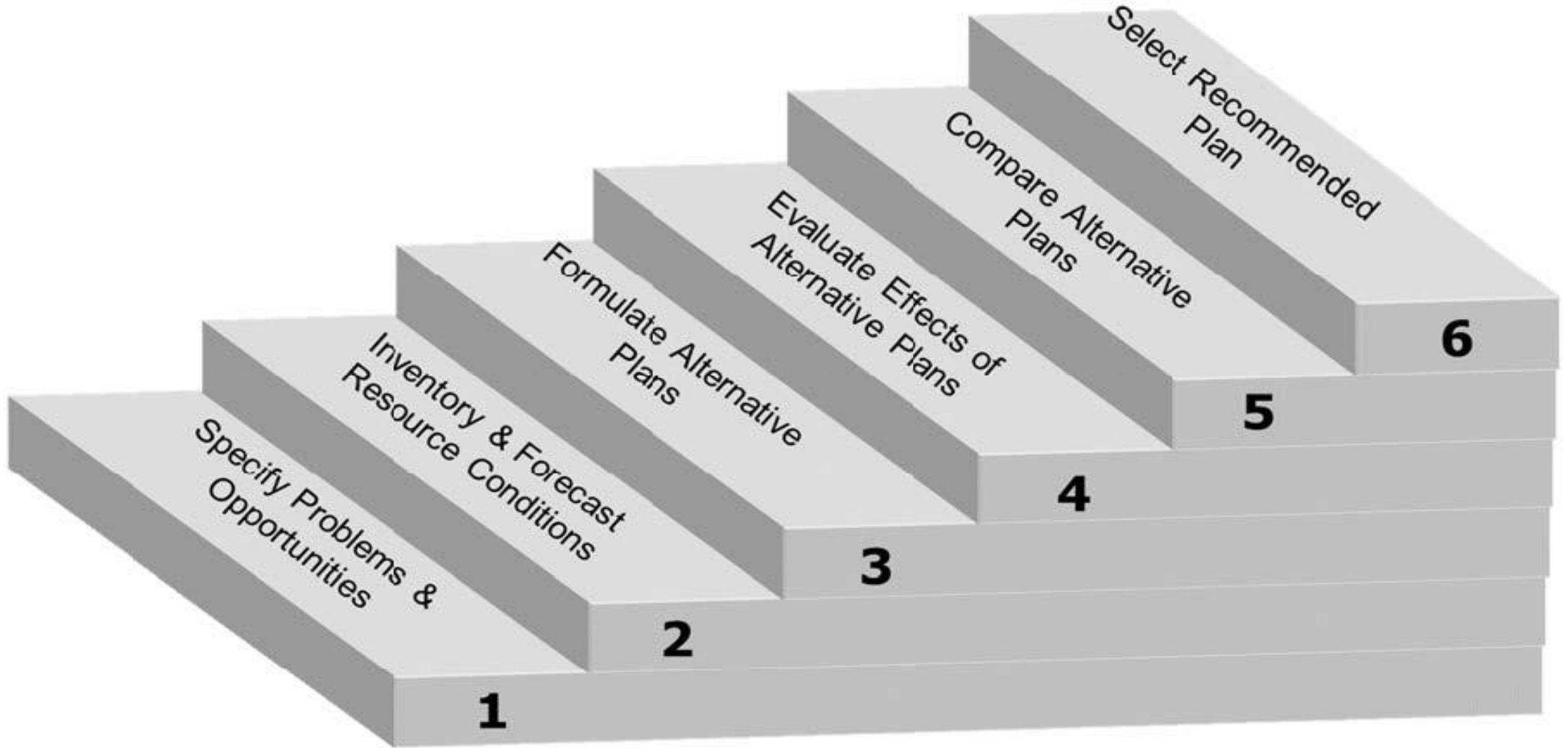
Avoidance of impacts to:

- Gulf Intracoastal Waterway
- Federally threatened and endangered species and critical habitats
- Essential fish habitat, especially in intertidal wetlands
- Cultural significant landmarks and areas

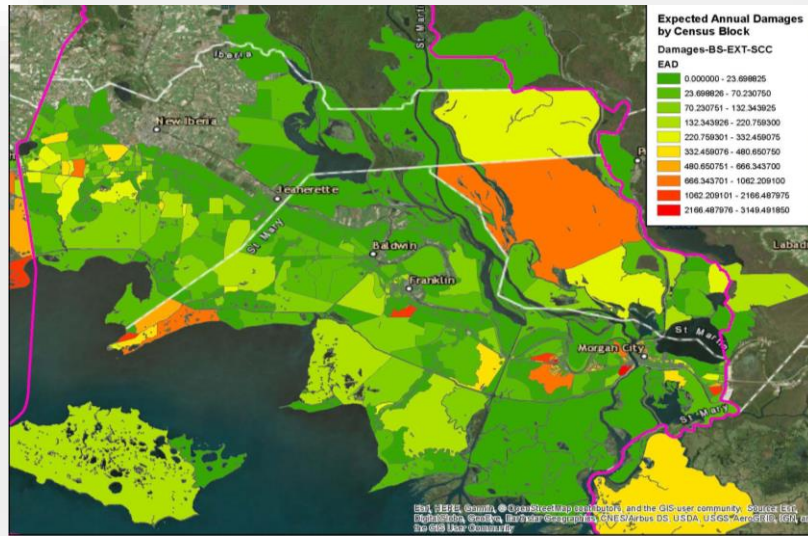




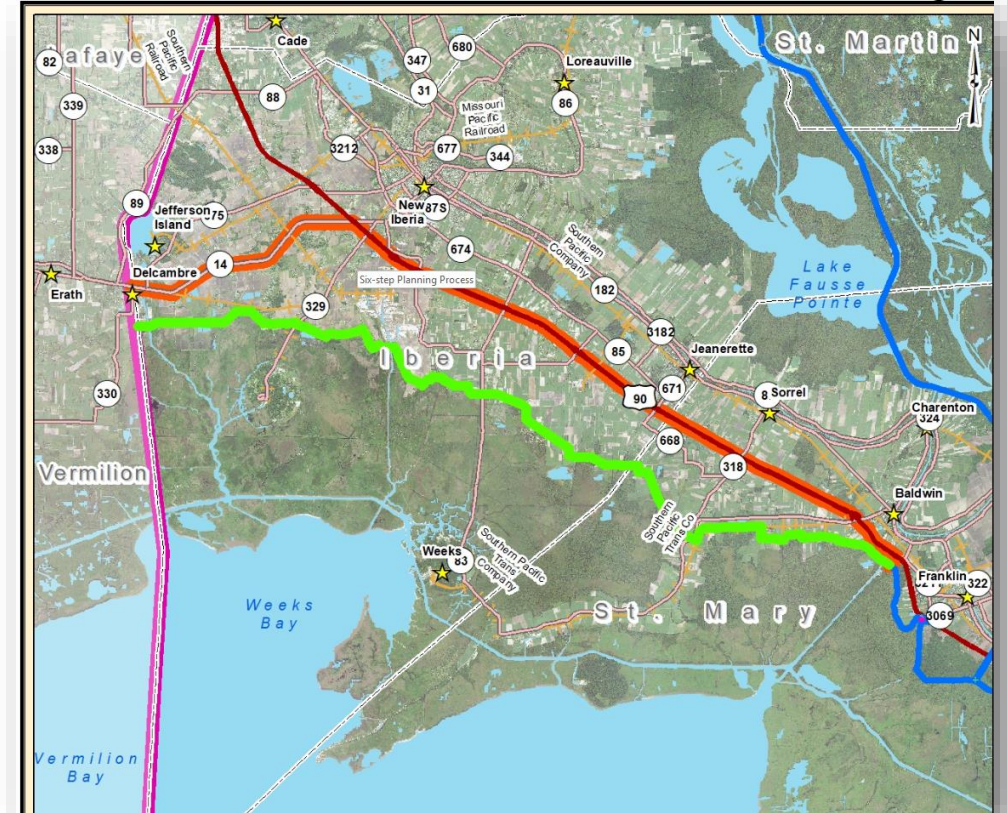
SIX-STEP PLANNING PROCESS



STRUCTURAL MEASURES



Economic Hot Spot Analysis



Comprehensive Levee Alignments



Construction of new Ring Levees

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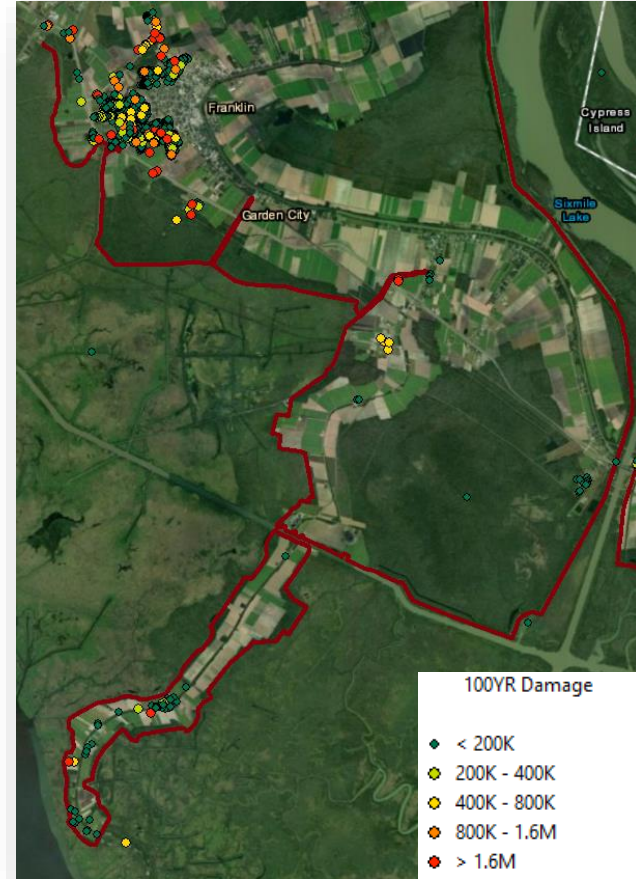




STRUCTURAL MEASURES CONTINUED



Raising levees surrounding Morgan City



Raising Levees West of Berwick



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ALTERNATIVE EVALUATION & COMPARISON



Alternative Comparison Criteria included:

- Reduction in Average Annual Damages
- Reduction in risk to life loss and flood risk based on flood frequency
- Preliminary costs
- Preliminary benefits to National Economic Development Account
- Wetland mitigation costs and bank availability





STRUCTURAL MEASURES- ECONOMIC EVALUATION

Structural Measures	Total Costs (in Mil \$)	Average Annual Benefits (in Mil \$)	Benefit/Cost Ratio	Net Benefits (in Mil \$)
Measure 1-3: Comprehensive Levee System	\$1,262,300,000	\$21,710,000	0.45	-\$26.19
Measure 6: Raising Levees West of Berwick	\$131.79	\$3.25	0.66	-\$1.80
Measure 8 vary: Construction of new Ring Levees 1+ 2	\$1,311.4	\$17.79	0.36	-\$37.58
Measure 8: Construction of new Ring Levees 2	\$738.20	\$11.75	0.42	-\$17.07
Measure 4a: Raising levees surrounding Morgan City	\$81.73	\$3.00	0.96	-\$0.15





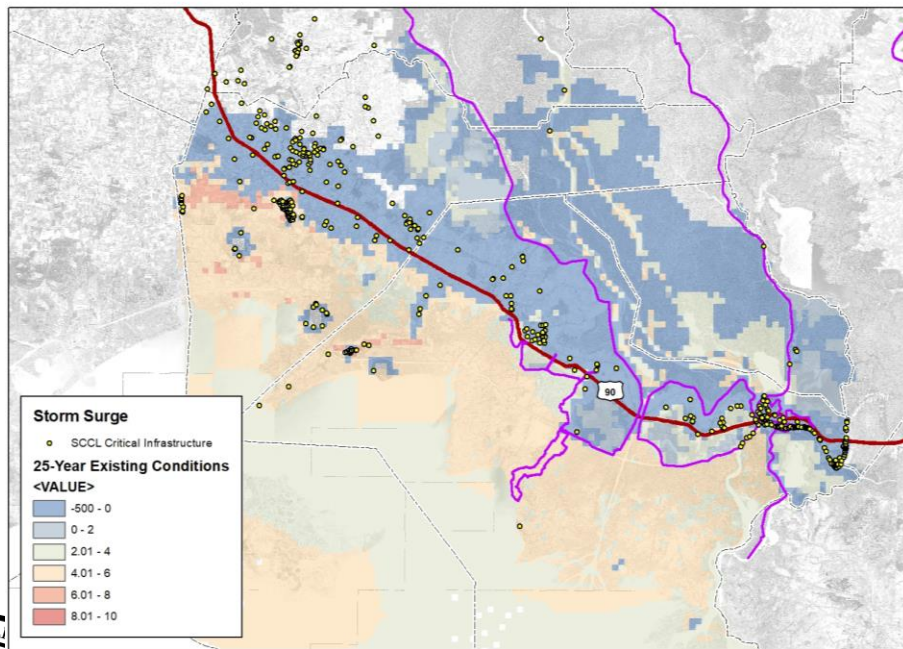
NONSTRUCTURAL MEASURES



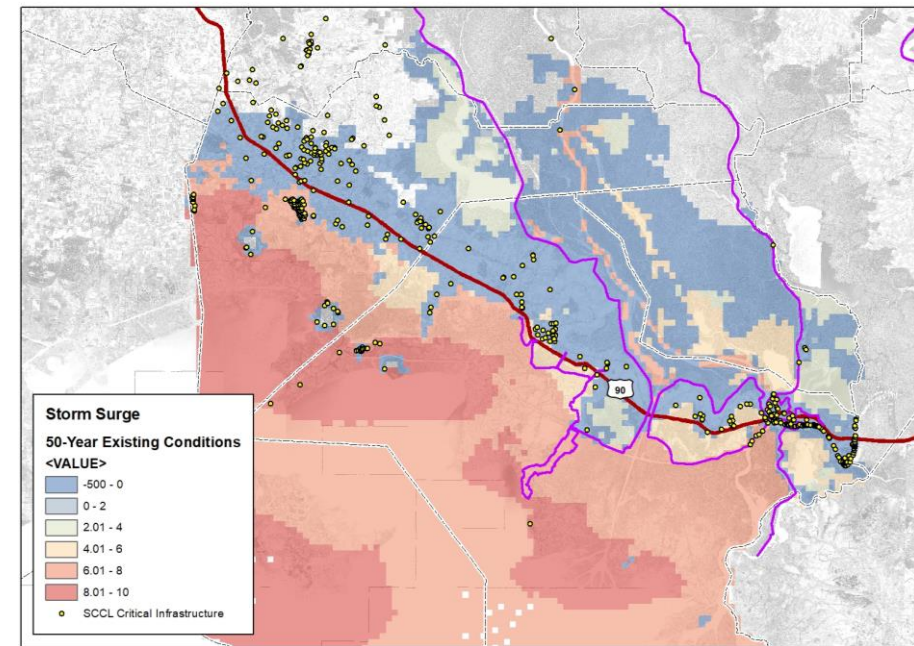
Floodproofing or elevation of 3,463 structures located within the 25 year Floodplain to 0.01 AEP future storm surge elevation.

Floodproofing or elevation of 5,035 structures located within the 50 year Floodplain to the 0.01 AEP future storm surge elevation.

SCCL 25-Year Storm Surge (Existing Conditions)



SCCL 50-Year Storm Surge (Existing Conditions)





NONSTRUCTURAL MEASURES- ECONOMIC EVALUATION



Nonstructural Measures	Total Costs (in Mil \$)	Average Annual Benefits (in Mil \$)	Benefit/Cost Ratio	Net Benefits (in Mil \$)
Measure 11 var. a: Nonstructural at 25 yr Floodplain (elevations and floodproofing)	\$1,421.10	\$74.83	1.42	\$22.19
Measure 11 var. b: Nonstructural at 50 yr Floodplain (elevations and floodproofing)	\$1,916.50	\$83.89	1.18	\$12.91
Measure 11 var. c: Nonstructural at 100 yr Floodplain (elevations and floodproofing)	\$3,160.79	\$94.05	0.80	(\$23.05)
Measure 16: Acquisitions and Relocations	\$3,009.80	\$103.24	0.93	(\$8.24)





NONSTRUCTURAL VS STRUCTURAL ALTERNATIVES

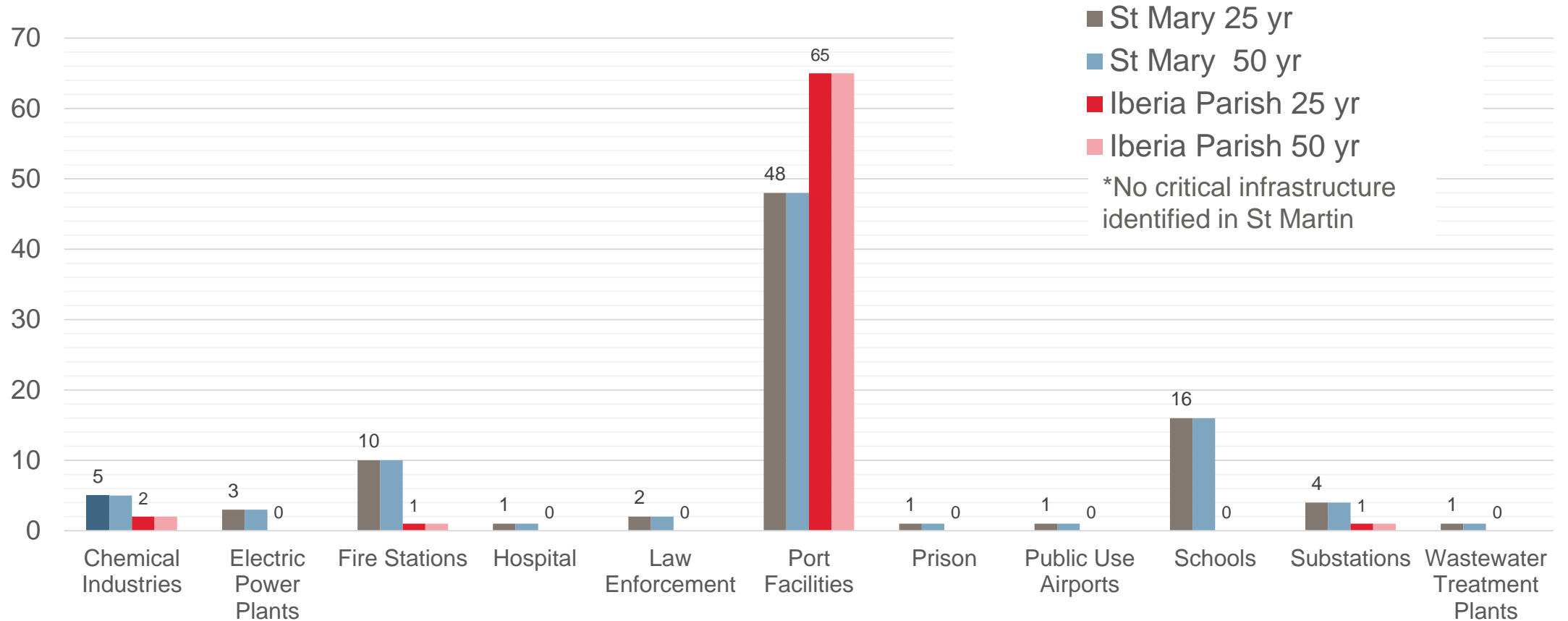
25YR Floodplain	
First Construction Cost	1,411,000,000
Cultural Cost	5,307,000
Interest During Construction	4,793,000
Total Cost	1,421,100,000
Average Annual Cost	53,936,000
Average Annual Benefits	74,830,000
Net Benefits	22,191,000
BCR	1.39

50YR Floodplain	
First Construction Cost	1,901,000,000
Cultural Cost	8,845,000
Interest During Construction	6,457,000
Total Cost	1,916,592,000
Average Annual Cost	72,731,000
Average Annual Benefits	83,892,000
Net Benefits	12,910,000
BCR	1.15





COMPARISON OF CRITICAL INFRASTRUCTURE IN NONSTRUCTURAL ALTERNATIVES

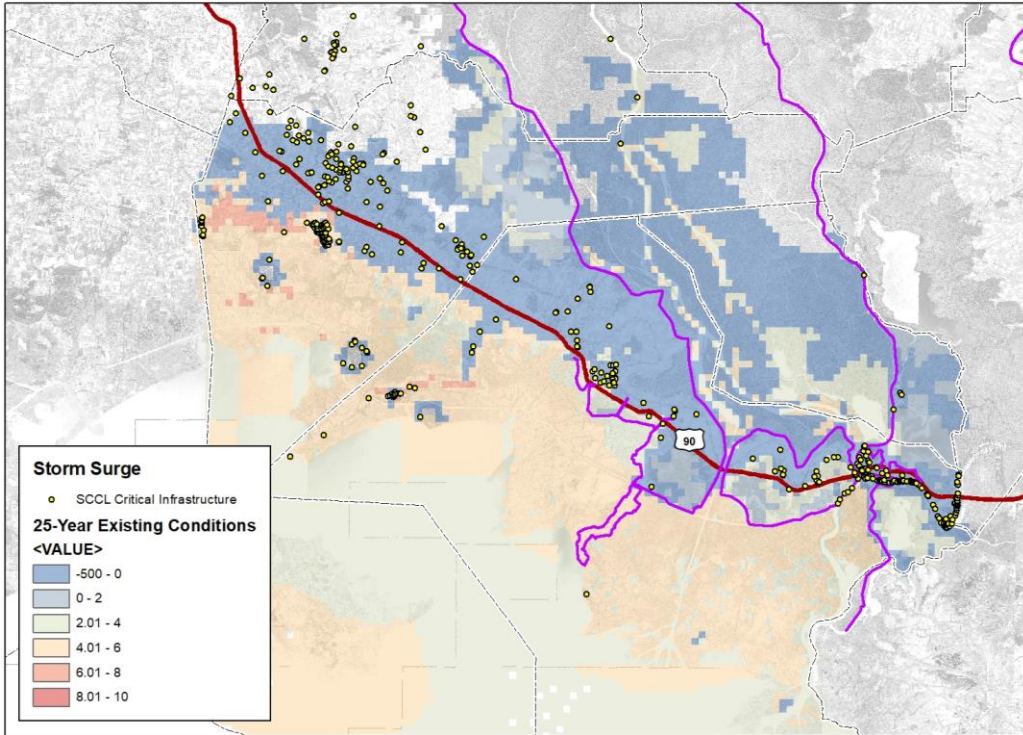




TENTATIVELY SELECTED PLAN



SCCL 25-Year Storm Surge (Existing Conditions)



Voluntary floodproofing or elevation of structures located within the 25 year Floodplain to 0.01 AEP future storm surge elevation

Total of 3,462 structures

- 597 commercial
- 71 public buildings
- 166 warehouse

Estimated Total Cost: \$1.42 Billion

Average Annual Net Benefits: \$20.89 Million



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Project Schedule

Nov 2018

Nov 2018

- Project Initiation
- Public and Agency Meetings

Dec 2018 → Oct 2019

Dec 2018-
Oct 2019

- Alternative Development
- Alternative Evaluation



We Are Here! Dec 2019

Dec 2019

- Draft Tentatively Selected Plan & Public Scoping

Sep 2020

Sept 2020

- Plan Selection and Transmittal to HQ

Sep 2021

Sept 2021

- Approval of Final Report Chief's Report





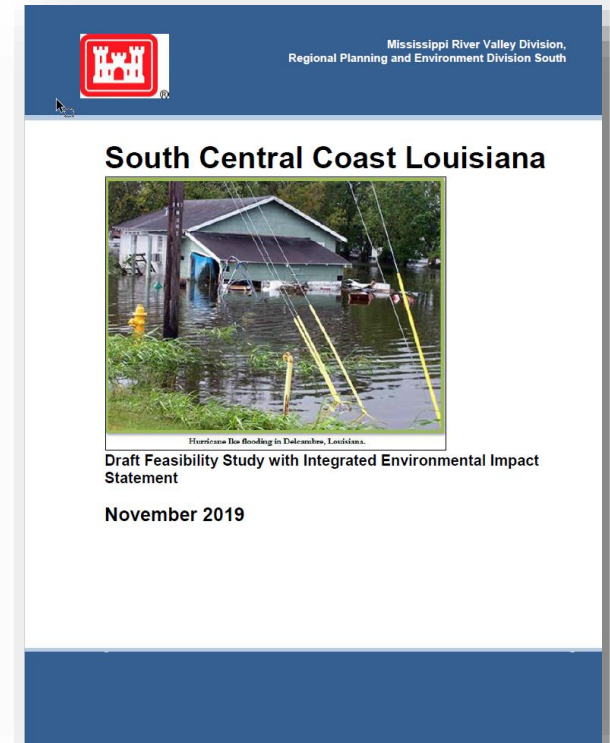
HOW TO COMMENT



Send your comments by January 6, 2020

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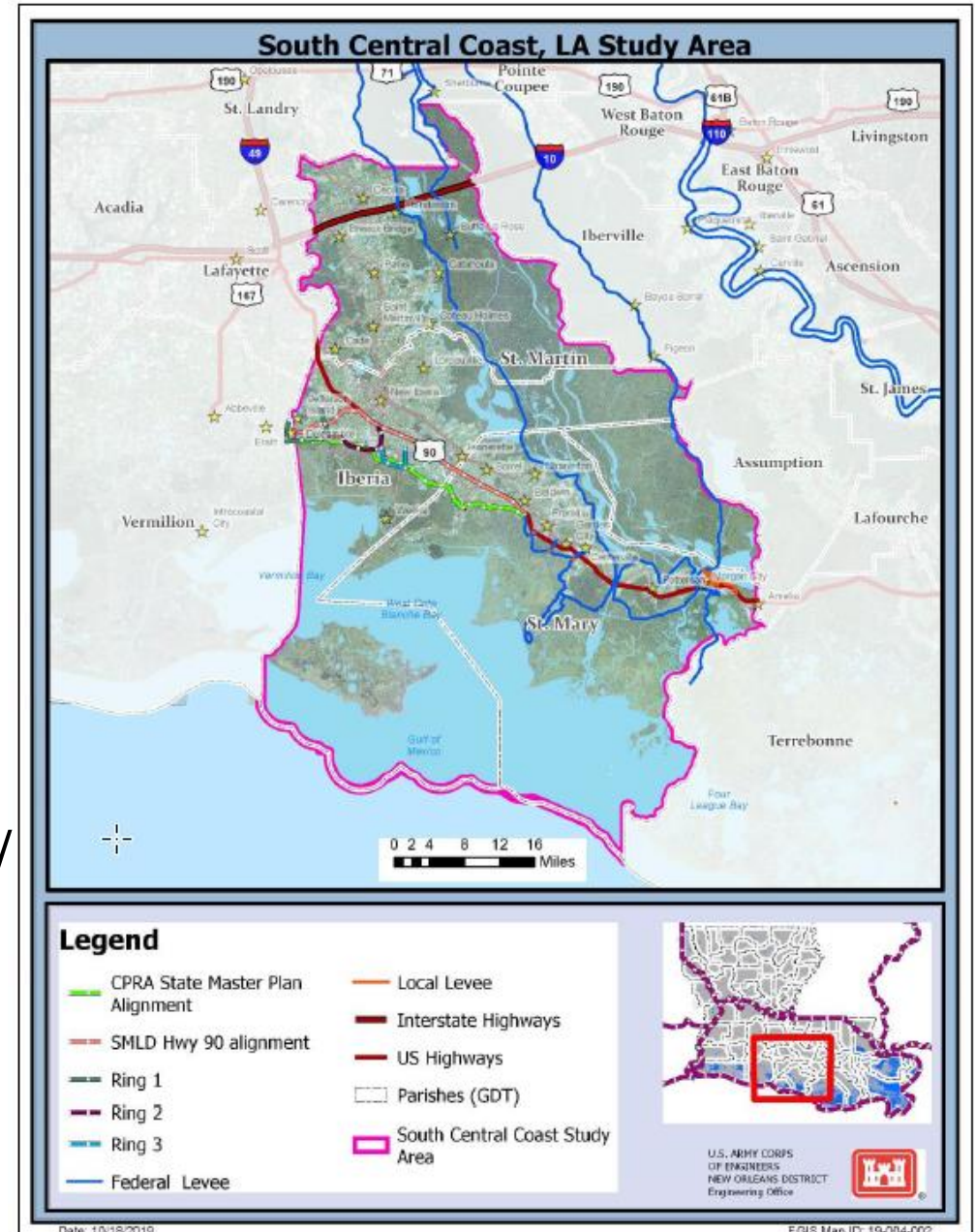


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Questions?

South Central Coastal Study Website:
www.mvn.usace.army.mil/South-Central-Coast/



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