

Louisiana's Strategic Adaptations for Future Environments (LA SAFE): Applicability to Gulf Coastal States

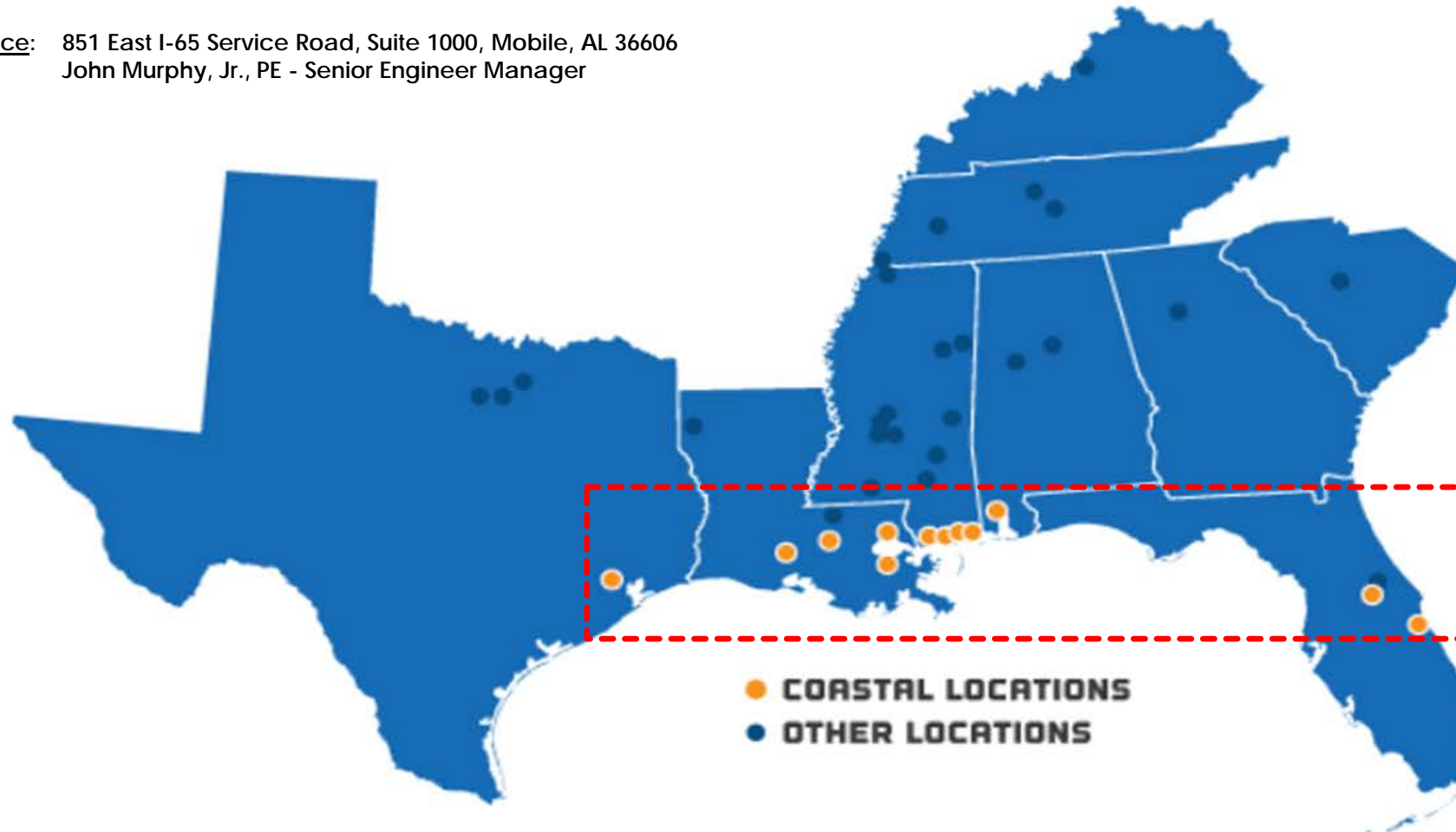
HUD Definition of Resilience

"the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions"

Steve Underwood - Coastal Program Manager



Local Office: 851 East I-65 Service Road, Suite 1000, Mobile, AL 36606
John Murphy, Jr., PE - Senior Engineer Manager



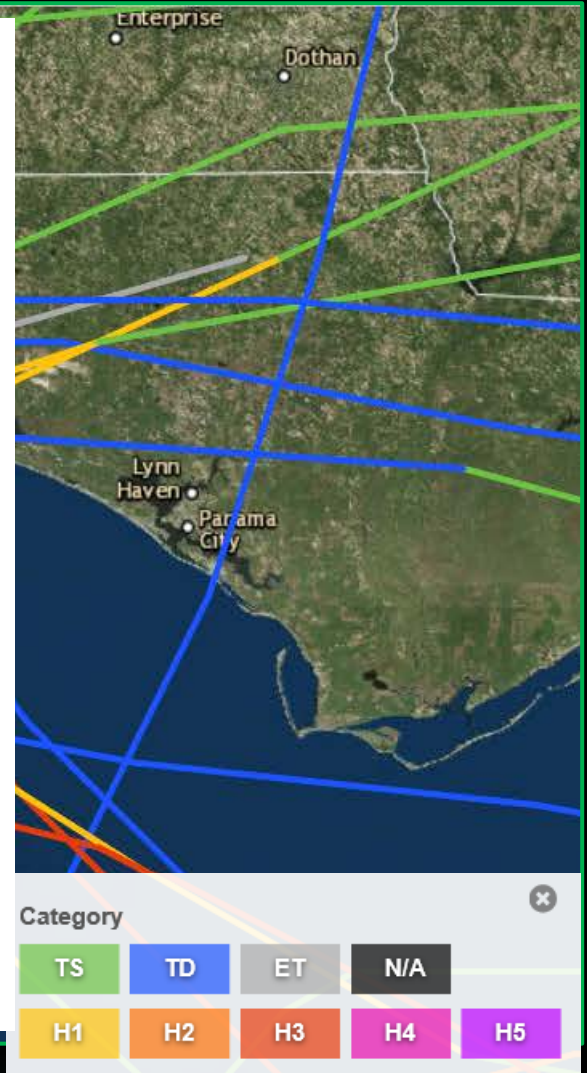
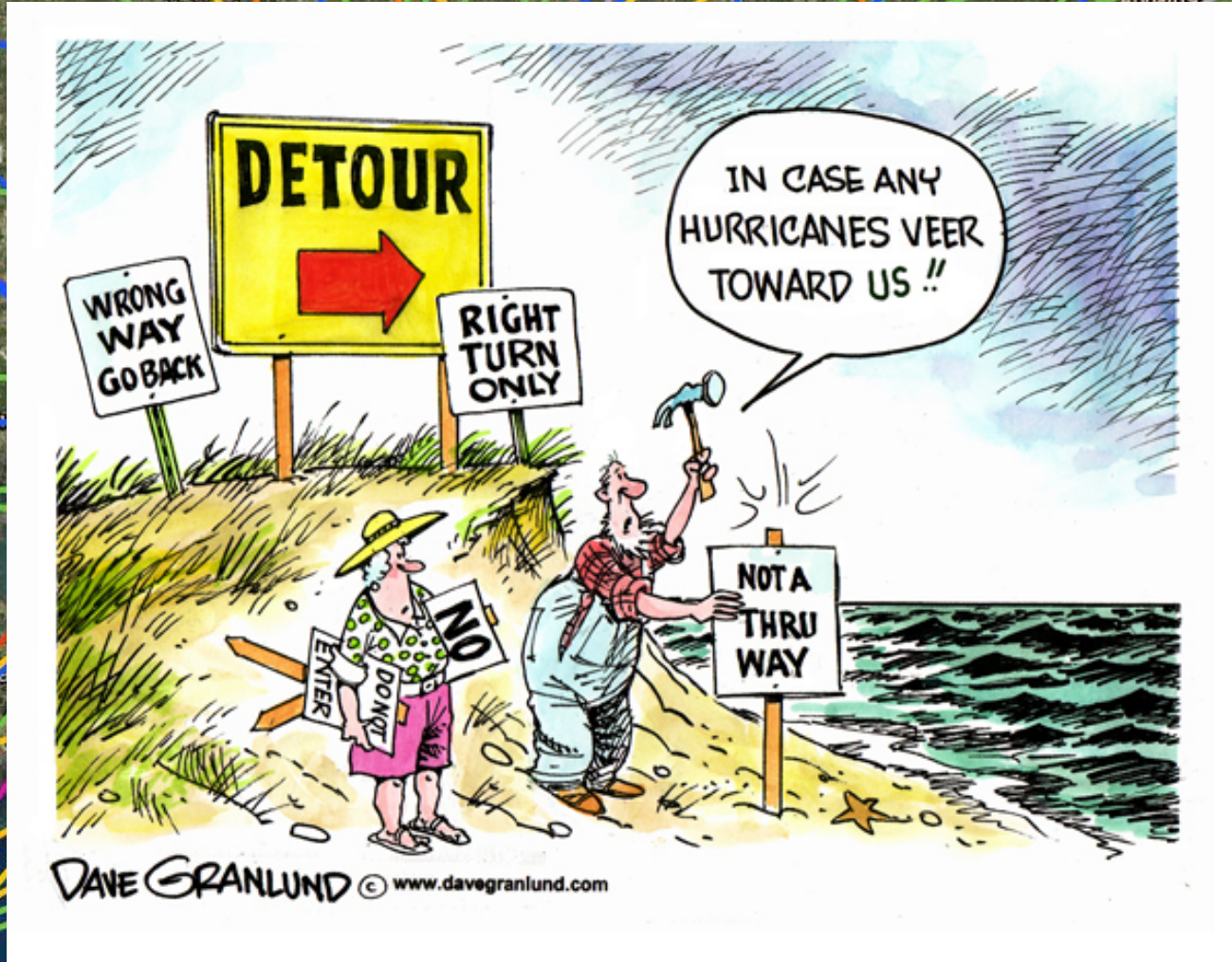
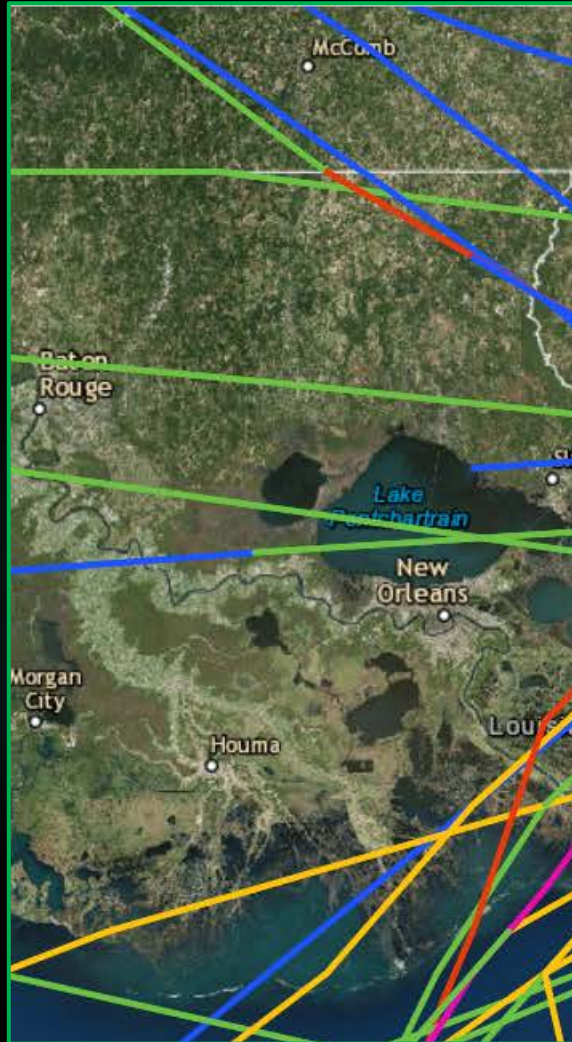
Our 12 strategically positioned coastal offices include: [Houston](#), TX; [Lafayette](#), [Baton Rouge](#), [Mandeville](#), and [New Orleans](#) in Louisiana; [Bay St. Louis](#), [Gulfport](#), [Biloxi](#), and [Pascagoula](#) in Mississippi; [Mobile](#), AL; and [Maitland](#) and [Melbourne](#) in Florida.

Tropical Depressions - Tropical Storms - Hurricanes

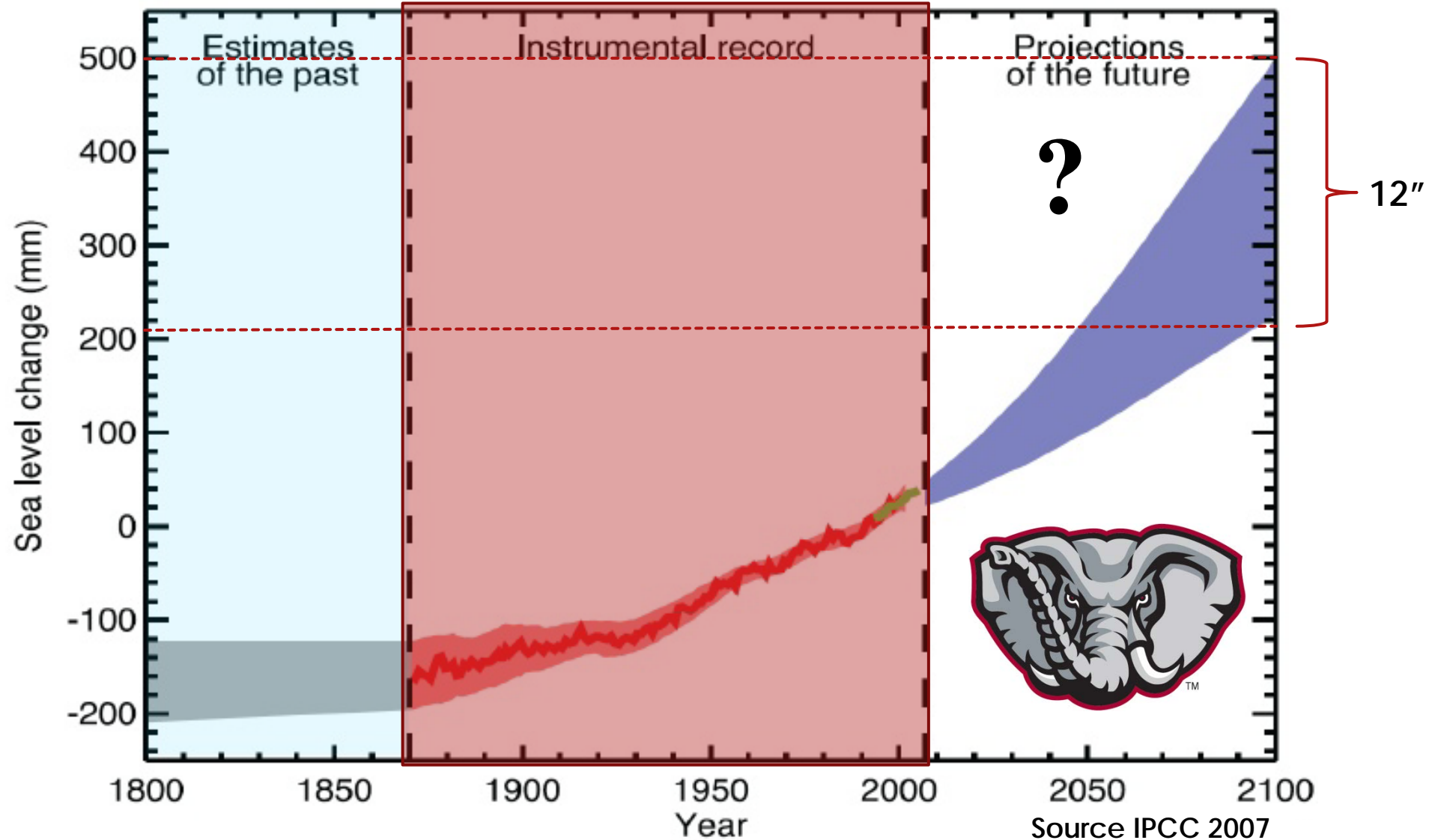


WINDS, WAVES and STORMS - Shaping our Coast

Hurricane and Tropical Storms within 50 miles of Dauphin Island Pass (1852-2010)



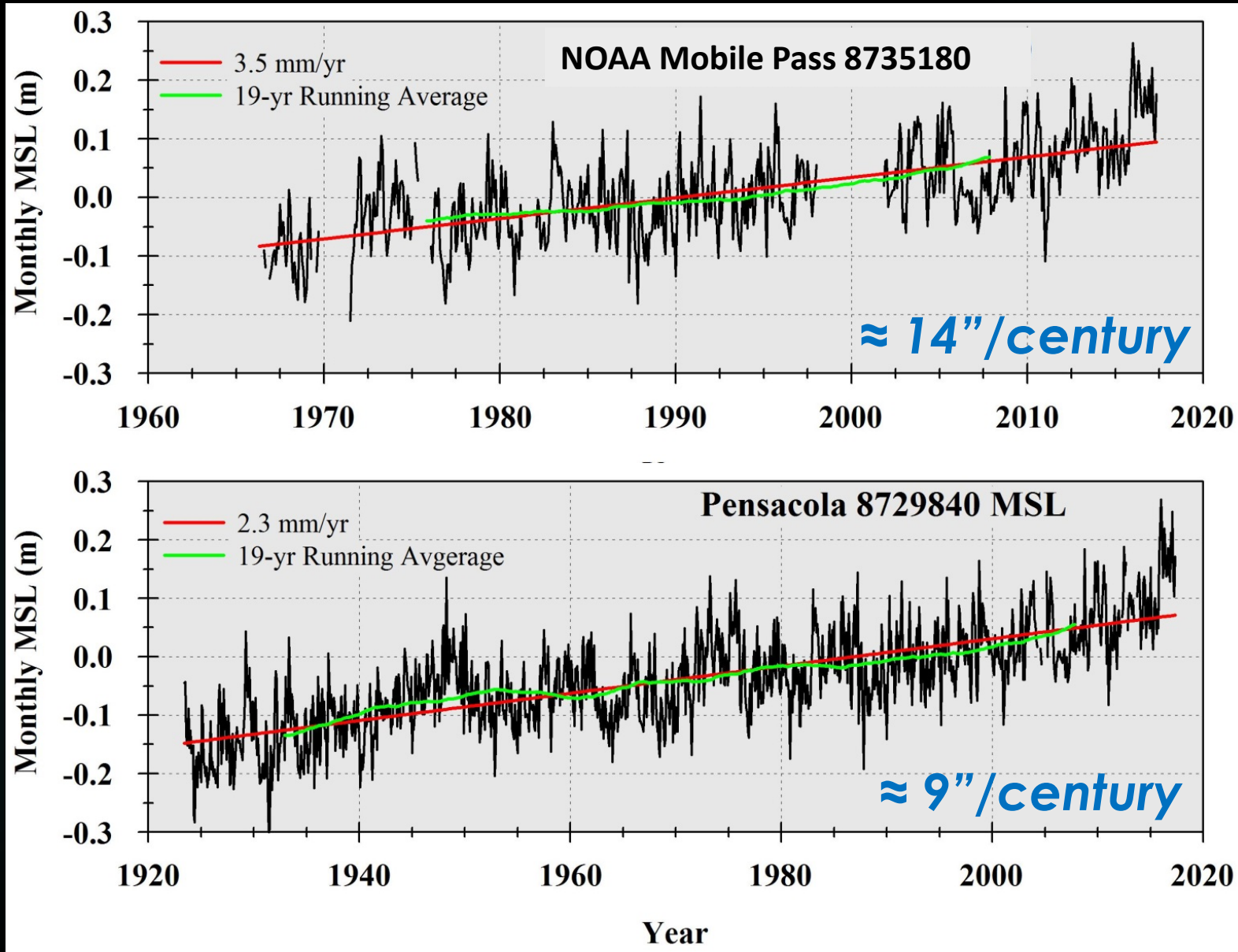
Trends in sea level rise



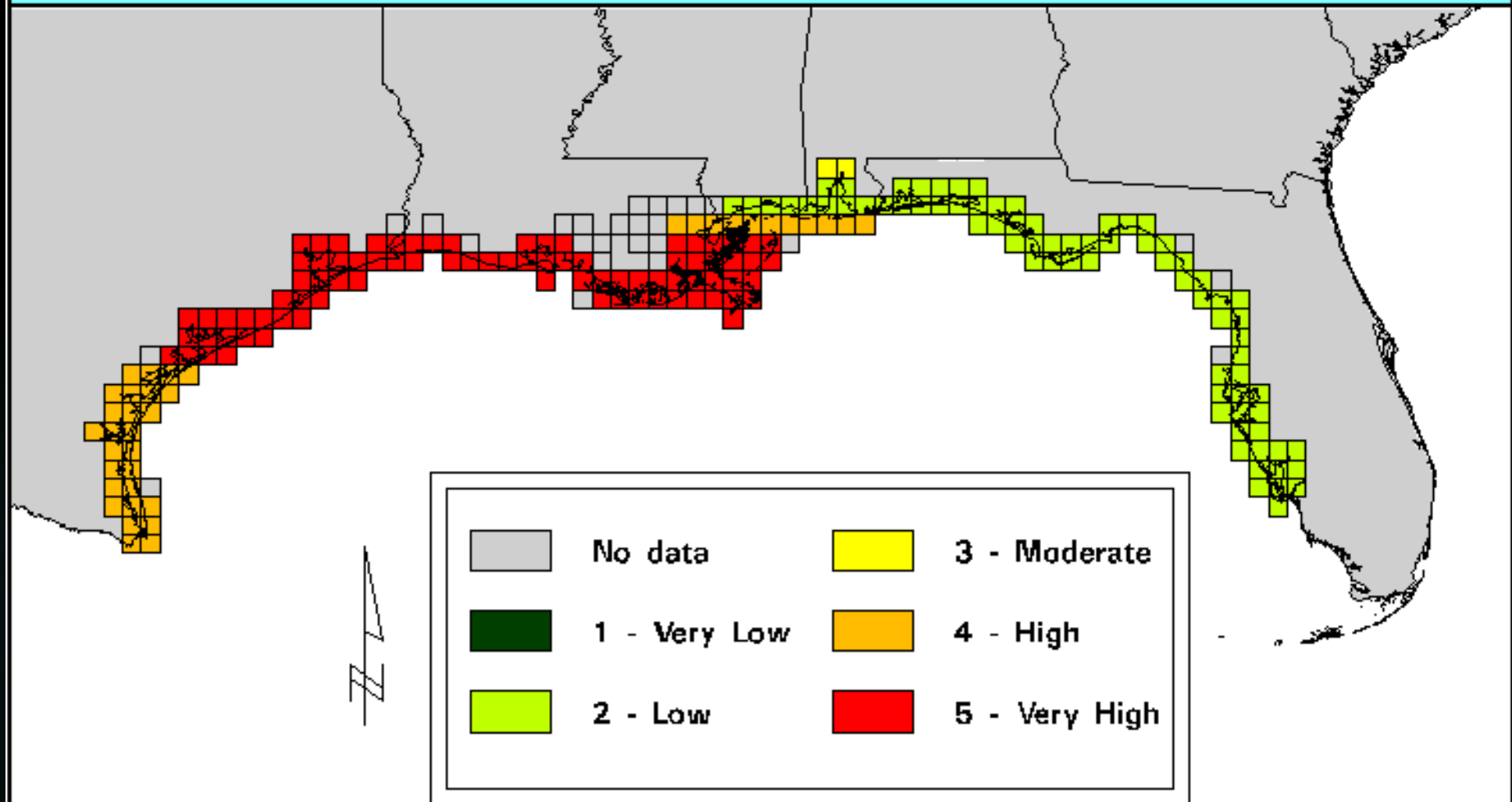
2) SLR Vulnerability

Sea-Level Rise Trends

Upward trending



LOCAL SUBSIDENCE RISK VALUE (LSR)



<http://rkdaniels.homestead.com/files/index.html>

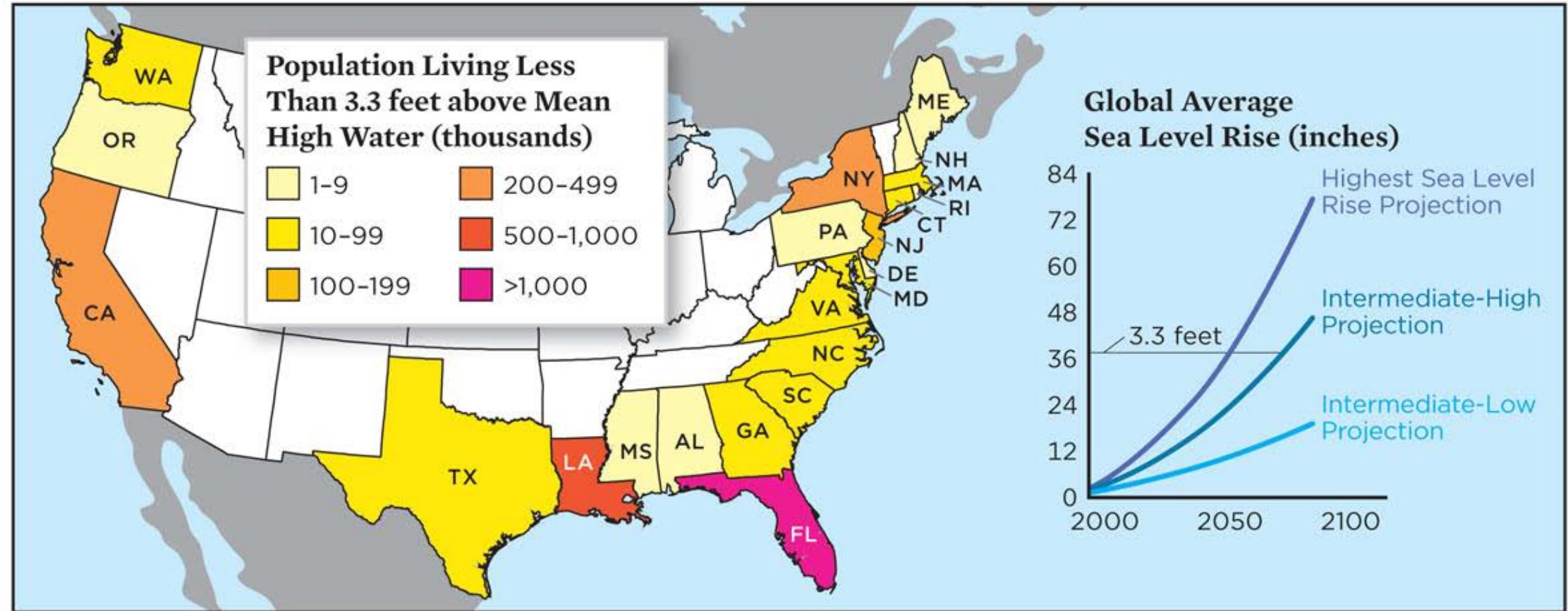
Local Sea Level (SLR + Subsidence)

Sets a Baseline for Storm Surge



4) Local Storm Surge Vulnerability

FIGURE 2. Coastal States at Risk from Global Sea Level Rise



More than 40% of the world's population and 60% of the world's largest cities are within 100 km (60 miles) of the coast ([Tibbetts, 2002](#)) and the proportion of the world's population living in the coastal zone is projected to further increase ([Nicholls et al., 2007](#)).

1,900

Square miles of land have been lost in the last 80 years

2,250

Square miles of additional land are at risk of being lost in the next 50 years

≈25-35 sq miles/yr

Fight, Flee or wait and see? Locals face hard Choices as Louisiana coast recedes

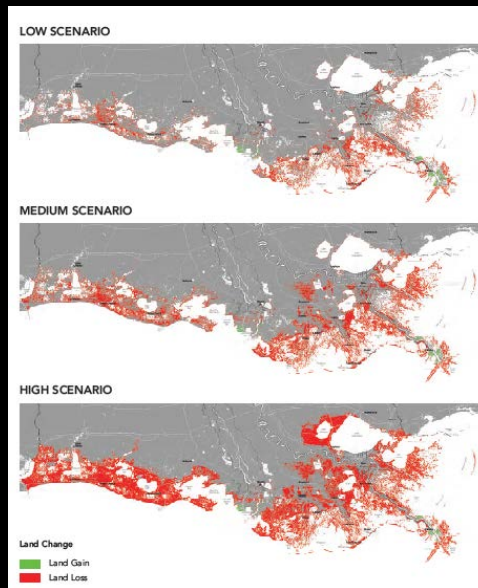


State of Louisiana
The Honorable John Bel Edwards, Governor



Louisiana's Comprehensive
Master Plan for a Sustainable Coast

committed to **our coast**



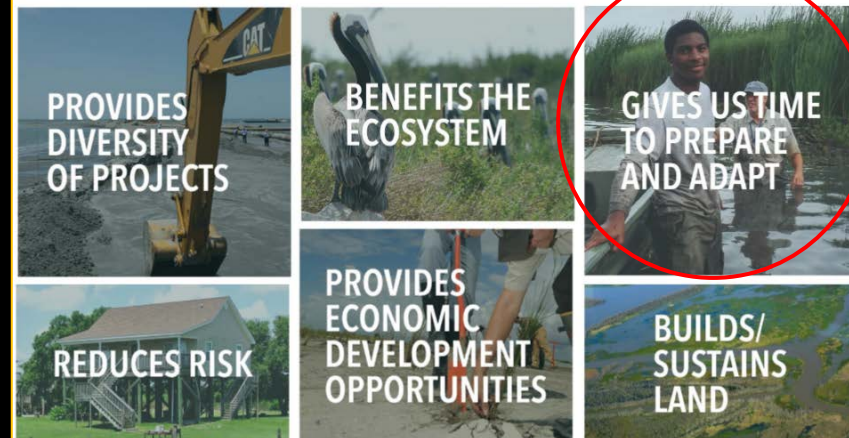
"We're not the scientists, but we see what's happening"



WHAT'S AT STAKE?



WHAT THE PLAN DELIVERS





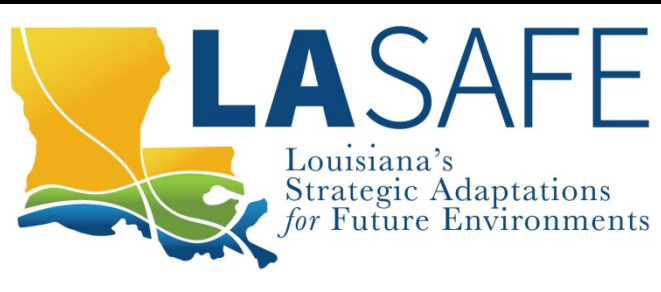
CHANGING WITH THE COAST

HELPING LOUISIANA RESIDENTS STRATEGICALLY ADAPT, PLAN,
AND EXPLORE OPTIONS IN THE FACE OF COASTAL EROSION

LEARN MORE

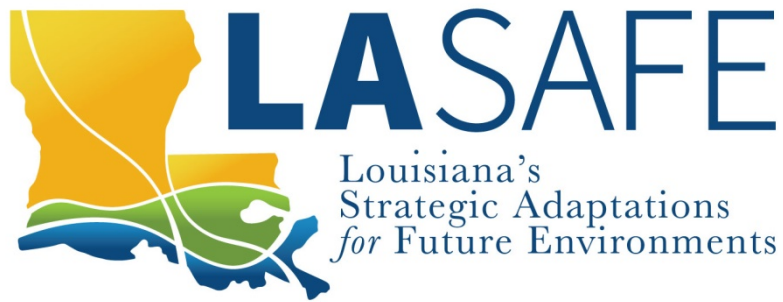
“Rethinking how we settle and develop our Coastal Zone Communities”

http://www.doa.la.gov/OCDDRU/NDRC/LASAFE_Report_Final.pdf



LA SAFE hinges on three core ideas:

- 1) If we depart from our most vulnerable geographies; therefore, we have no choice but to “resettle” communities we cannot fortify;
- 2) Fortify economic assets and maintain a community development footprint to service those assets, “retrofit” strategically-located vital communities so they may withstand future risk;
- 3) Maximize underdeveloped areas – in which minimal risk is projected – as a catalyst for thoughtful, high-quality community development in our high-ground territories, “reshape” these communities to fully maximize their highest and best uses.



The state received a \$92.6M award in conjunction with the HUD-funded National Disaster Resilience Competition (NDRC)



Mathew Sanders
Project Lead

Resilience program and policy administrator for the **State of Louisiana's Office of Community Development (OCD)**.



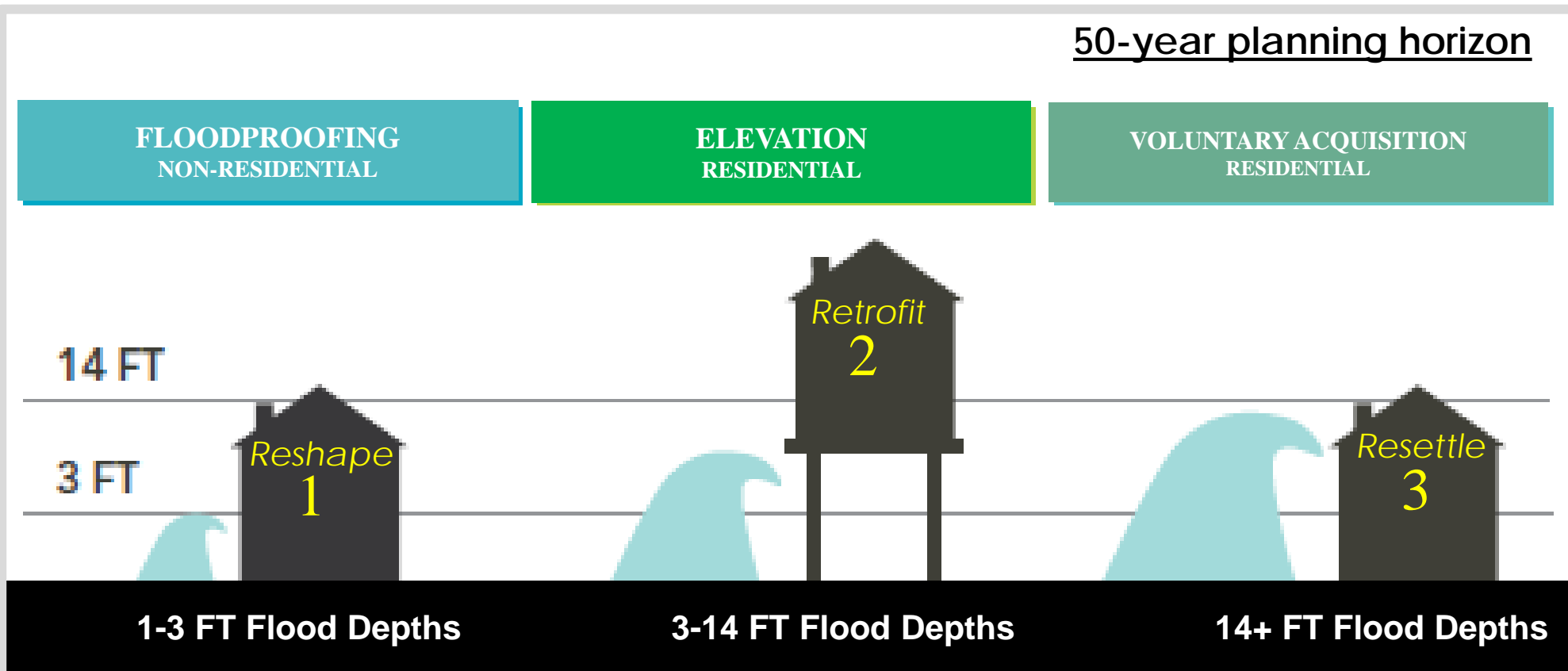
\$40M award to support its resilience policy framework, Louisiana's **S**trategic **A**daptations for **F**uture **E**nvironments (LA SAFE)

\$48.3M award to resettle the Isle de Jean Charles community in Terrebonne Parish

Native American Community
(Biloxi-Chitimacha-Choctaw)



Nonstructural Project Types and Associated Flood Depths



100 yr storm

A storm that has a 1 in 100 chance of occurring in any given year

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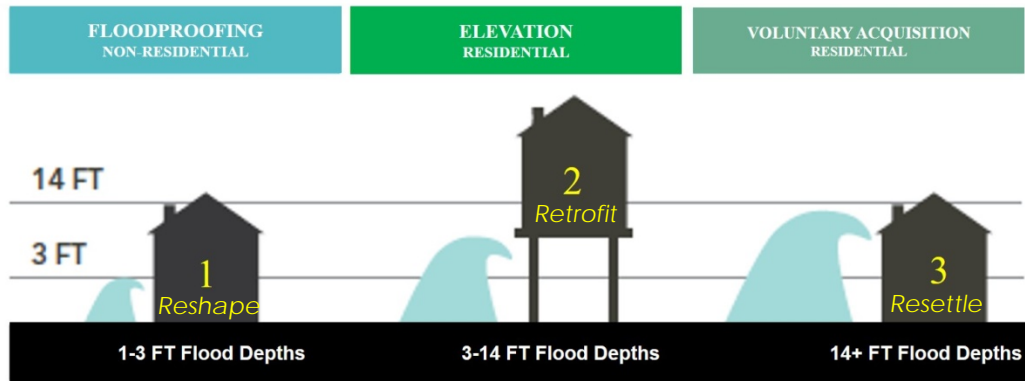
Louisiana's Comprehensive
Master Plan for a Sustainable Coast

committed to *our coast*



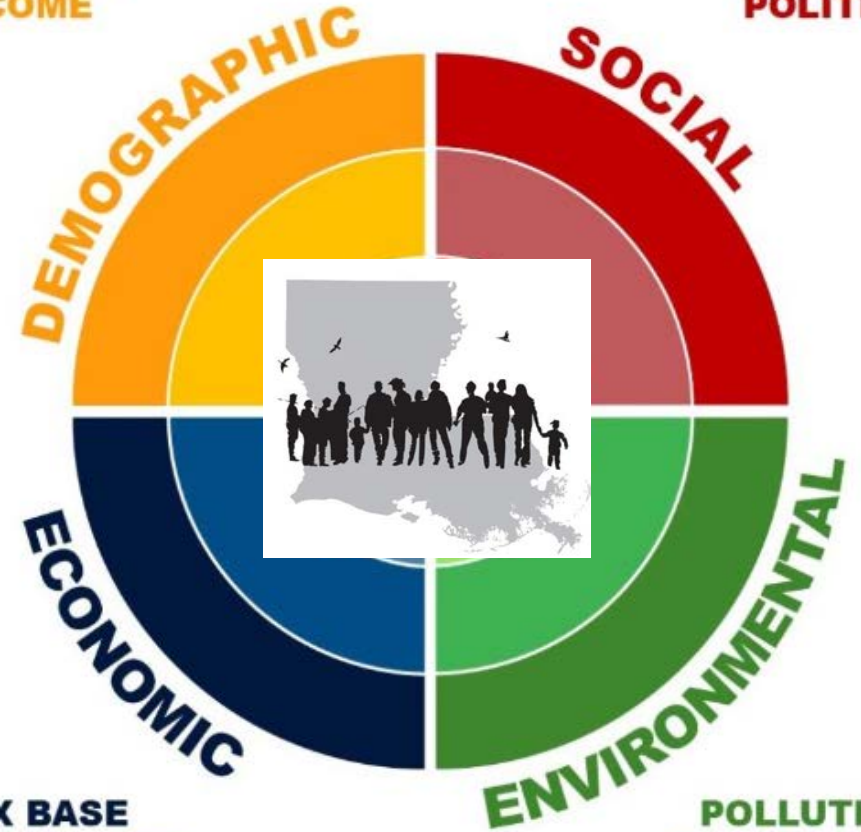
Holistic Approach

NonStructural Project Types and Associated Flood Depths



SOCIAL VULNERABILITY
POPULATION SHIFTS
AGE + DIVERSITY
HOUSING
INCOME

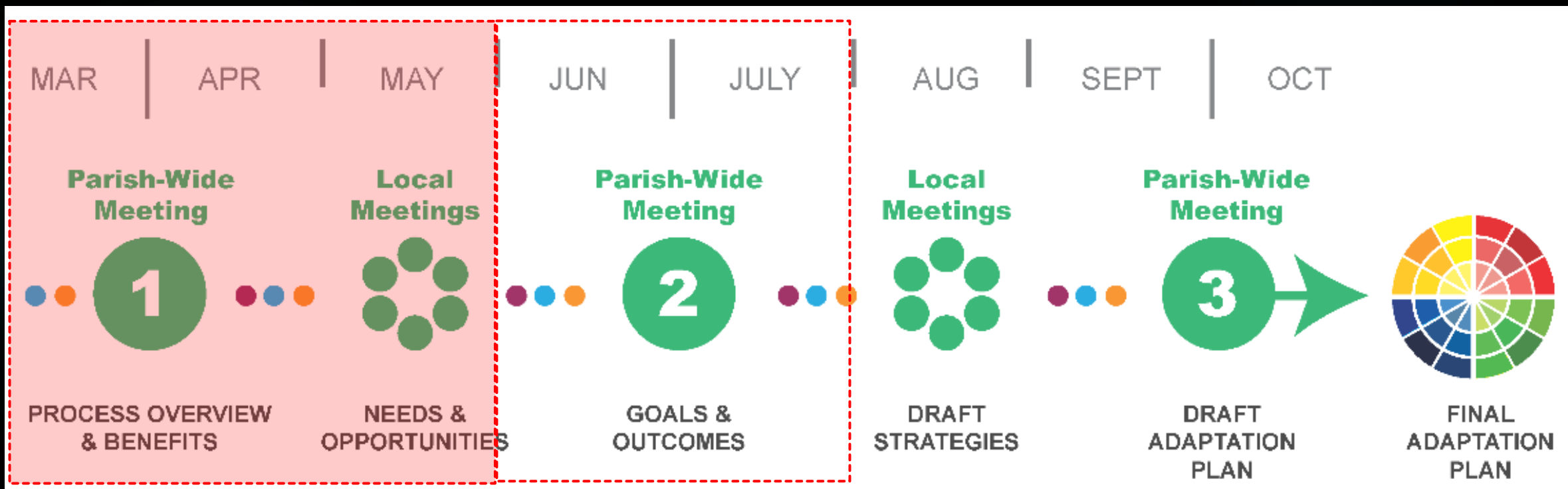
HEALTH + SAFETY
ORGANIZATIONS
EDUCATION
CULTURE
POLITICS

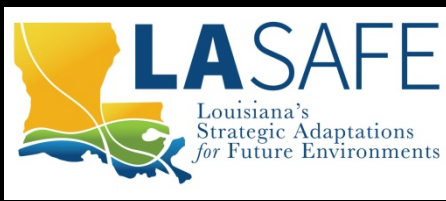


TAX BASE
REAL ESTATE
JOBS + INDUSTRY
FISHING + FARMING
COMMUTER PATTERNS

POLLUTION
SUBSIDENCE
LAND CHANGE
SEA LEVEL RISE
HABITATS + RISK

Progress towards Final Adaptation Plan (\approx 12 months)





Applicability to Gulf States:

- 1) LA SAFE – fills a resilience gap in the State's Master Plan efforts related to people and community culture,
 - is a proactive approach to address impacts of coastal vulnerabilities on coastal communities-in a systematic way (3 R's), and operates on a large scale;
- 2) Forward thinking (50 yrs), risk based design (100 yr storm),
 - Heavy emphasis on Demographics, Social, Economic, Environmental aspects,
 - Decisions about the future will be made by those communities based on current and future risks;
- 3) LA SAFE is an opportunity to pivot from long-term recovery efforts (post Katrina) - toward a more proactive resilient future,
 - can serve as a “lessoned learned laboratory” for the nation as a whole;
- 4) The development of a science driven State MASTER PLAN is essential for development of any Resilience Policy,
 - allows for planning future conditions under many environmental scenarios to project future risk; KEY element in this entire effort;
- 5) No adaptation approach lasts forever in the face of increasing stresses; each approach having a 'use-by' date. Must consider updating throughout the process.



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<http://www.neel-schaffer.com>



<http://lasafe.la.gov/>

http://www.doa.la.gov/OCDDRU/NDRC/LASAFE_Report_Final.pdf