PROJECT BRIEF: COASTAL TEXAS PROJECT

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Mega Projects Division

USACE-SWG

U.S. ARMY

US Army Corps of Engineers®
Galveston District

Stakeholder Partnering Forum
Environmental Justice and Justice40 Initiative
November 2024

COASTAL TX PROTECTION AND RESTORATION PROJECT

SWG Stakeholder Partnering Forum

Project Update & Regional Social Vulnerability

Dr. Kelly Burks-Copes, Chief of Program Support Branch
Mega Projects
US Army Corps of Engineers (Corps)
Galveston District

07 November 2024

"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

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PROJECT SUMMARY

https://coastaltexasproject.com/
CoastalTXStudy

Project Name: Coastal Texas Protection & Restoration Project

Authorization: WRDA 2022 (P.L. 117-263)

Appropriation: 2024 Workplan ($500K)

Budget: $34.4B (first cost) (65:35 Cost Share)

Non-Federal Sponsor: Texas General Land Office &
Gulf Coast Protection District

Schedule: Initiate PED: Oct 2023
Initiate Construction: Oct 2025

Multi-Purpose: Coastal Storm Risk Management and Ecosystem Restoration

Scope:
Construct ***multiple lines of defense*** *to provide f*lood damage reduction, ***hurricane*** and ***storm damage reduction***, and ***ecosystem restoration*** in the coastal areas of the State of Texas.

The comprehensive project will provide robust and redundant lines of ***protection***, ***conservation***, and ***restoration*** of wetlands, barrier islands, shorelines, and related lands and features that ***protect critical resources, habitat, and infrastructure*** from the impacts of coastal storms, hurricanes, erosion, and subsidence.

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THE THREATS

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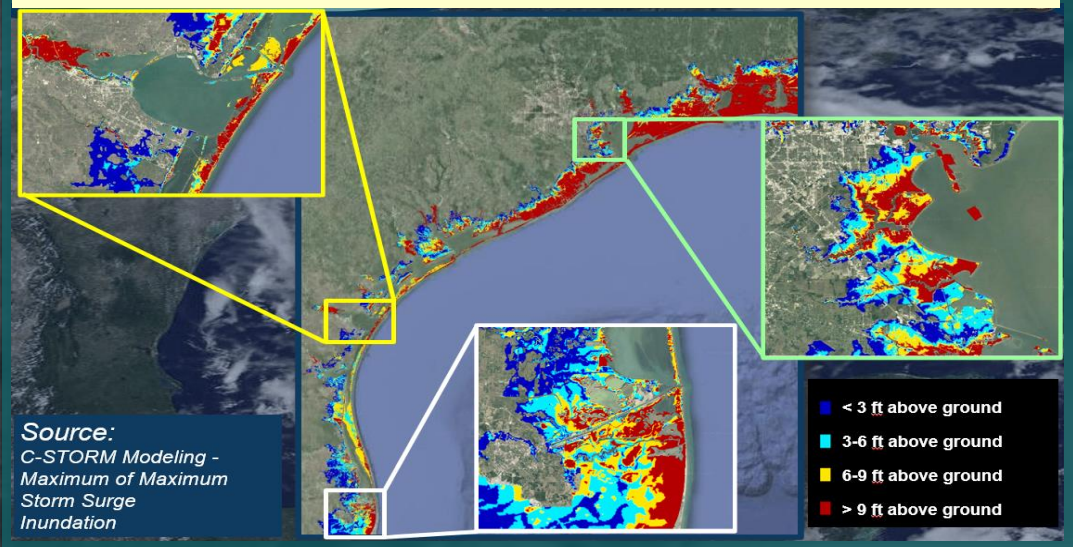
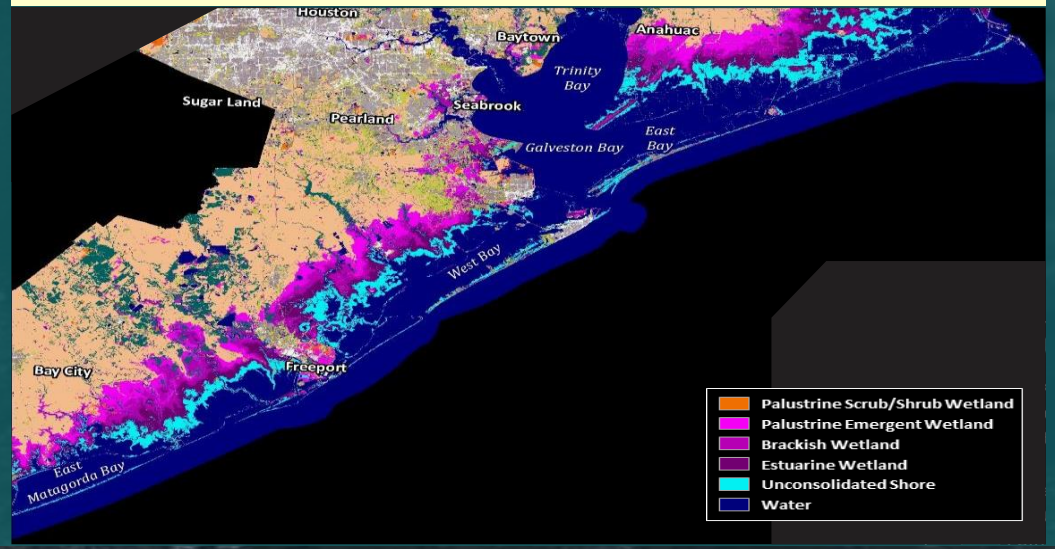
Coastal Storm Surge



Relative SLRC



Coastal Erosion

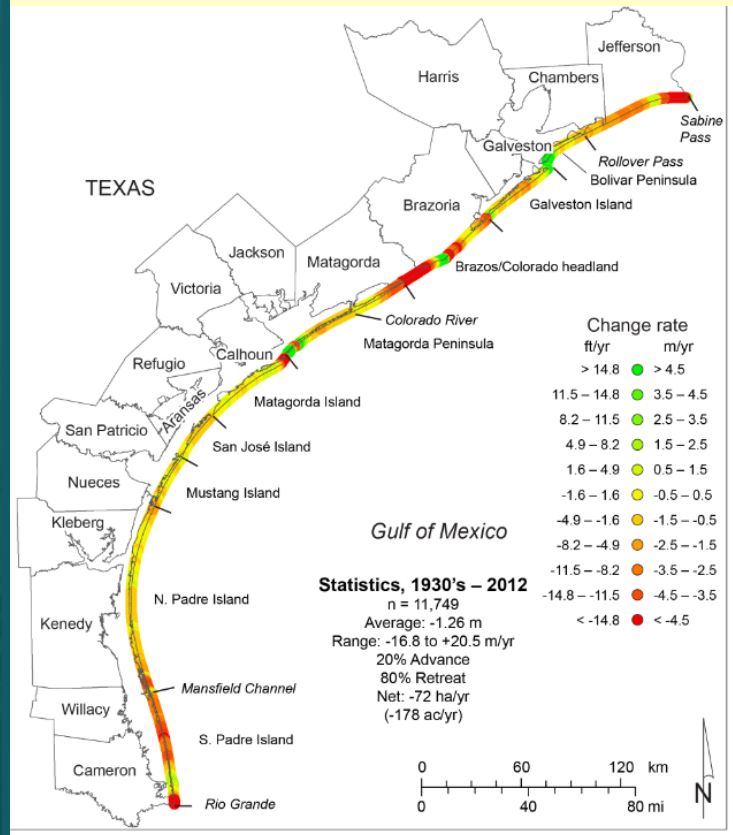


Figure 14. Net rates of long-term change for the Texas Gulf shoreline between Sabine Pass and the Rio Grande calculated from shoreline positions between the 1930's and 2012. Change rates at 11,749 measurement sites are available on the accompanying data CD in GIS-compatible format.

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THE PROJECT

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Updated: 18 April 2023

Project Summary

THE CHALLENGE is to develop a comprehensive project that provides multiple lines of defense against hurricanes while restoring fish and wildlife habitat system-wide to enhance overall coastal resilience. We are taking a systems approach when reviewing the region's larger system context, with a focus on Critical infrastructure that emphasizes greater flexibility. This Multiple Lines of Defense strategy uses natural and nature-based solutions in combination with traditional engineering solutions and builds upon existing & proposed projects to maintain the existing landscape in the face of sea level rise and coastal erosion.

Project Schedule

ACTIVITY		DATE-
FR	S&A Review Complete	02-31 Jul 21
	Chief's Report	16 Sep 21
PED	WRDA	2022
	PED	2022-2025
CON	Construction	2025+

COASTAL TEXAS COSTS & BENEFITS BY THE NUMBERS...

~ 2.31 Billion — EQUIVALENT ANNUAL BENEFITS

1.91 BCR — FOR THE COMBINED CSRM MEASURES

IN A 1% ANNUAL EXCEEDANCE PROBABILITY SURGE EVENT:

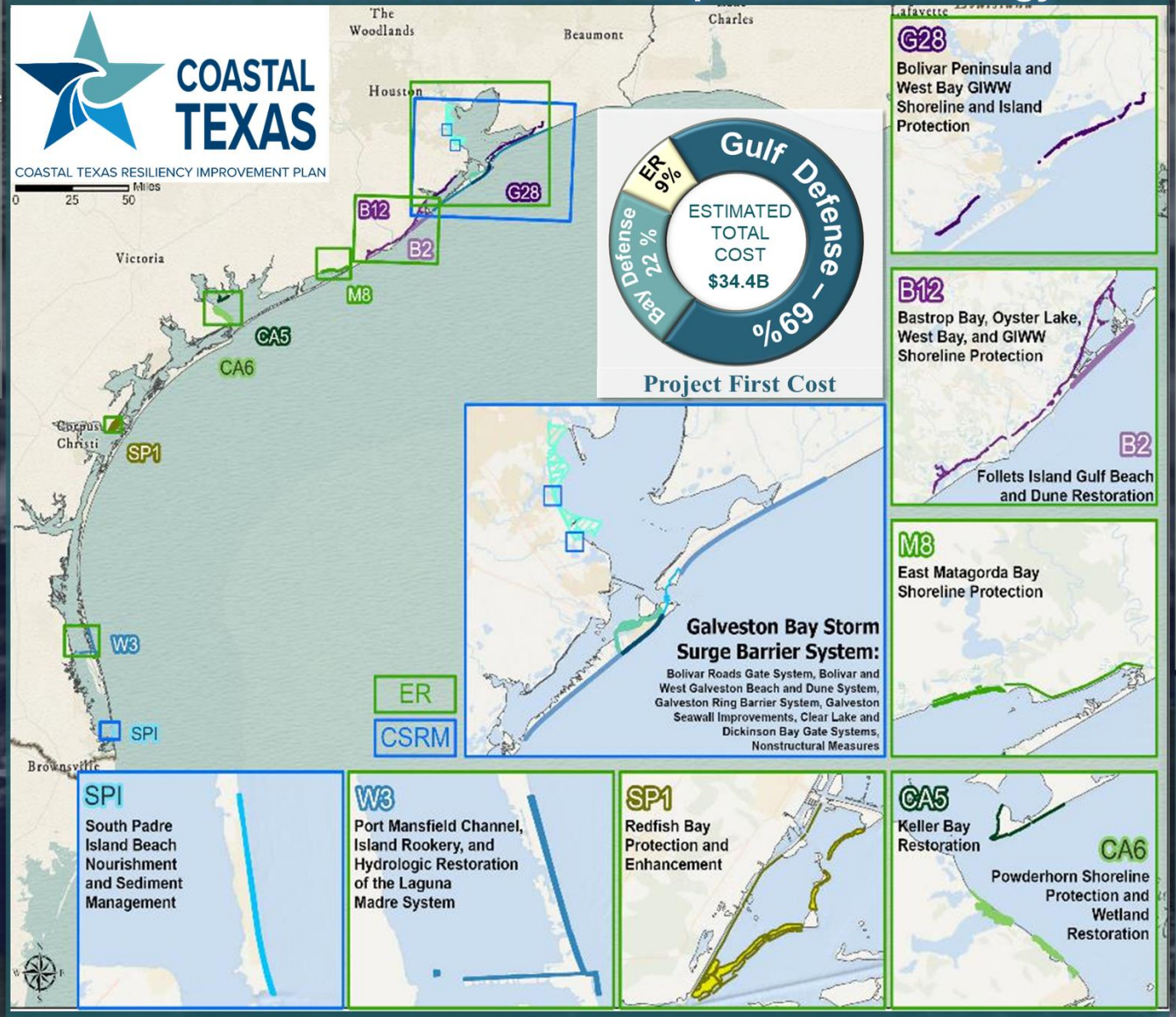
~77% — REDUCTION IN DAMAGED STRUCTURES

~64% — REDUCTION IN FLOODED CRITICAL INFRASTRUCTURE

6,610 — ACRES HABITAT IMPROVED

$34.4 Billion — TOTAL RECOMMENDED PLAN PROJECT COST (CSRM & ER)

Revised Coastal Resilience Comprehensive Strategy



Coastal Storm Risk Management

- 2 large & 4 small sector gates
- 15 vertical lift gates
- 16 shallow water environmental gates
- 1 mi combi-wall tie-in
- 3 mi levee tie-in
- 43 mi of gulf-side dune/beach barrier
- 21 mi of ring barrier
- 8 pumping stations
- 16+ drainage structures
- 4-ft high extension of the seawall
- 150+ gated closures (roads & rail)
- Non-structural measures anticipated
- 2 mi beach/dunes on South Padre
- 1,342 ac mitigation

Ecosystem Restoration (6,600+ ac)

- 114 mi of breakwaters
- 15.2 mi of bird rookeries
- 2,052 ac of marshes
- 12.32 mi of oyster reefs
- 19.5 mi of dunes/beaches

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COMPONENTS

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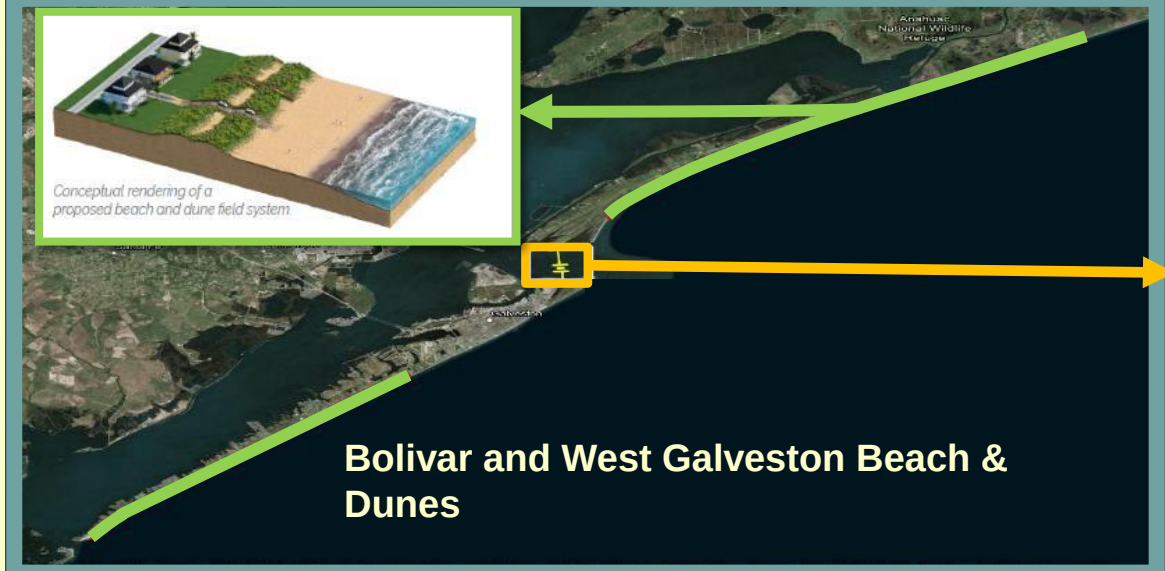
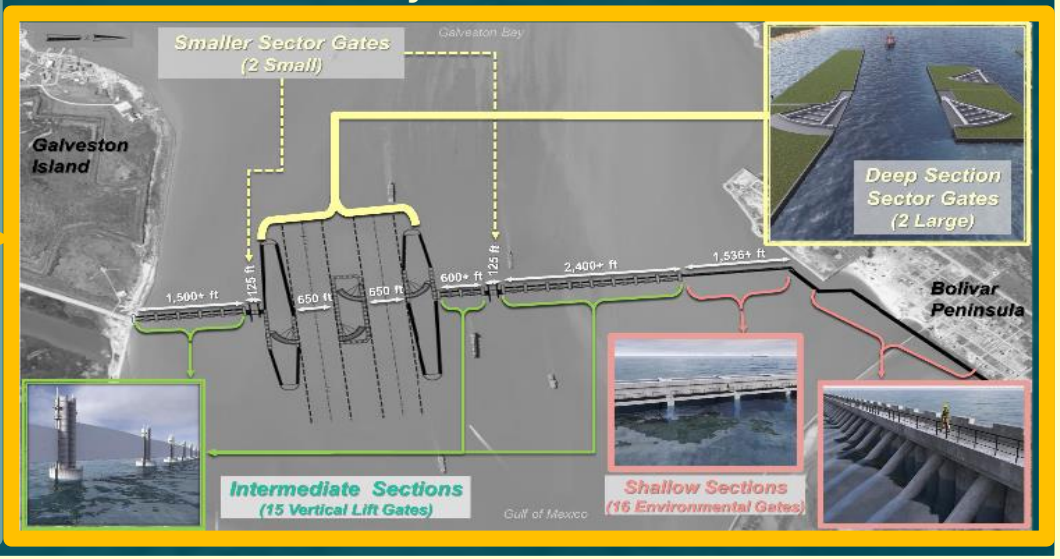
GCPD Gulf Coast Protection District

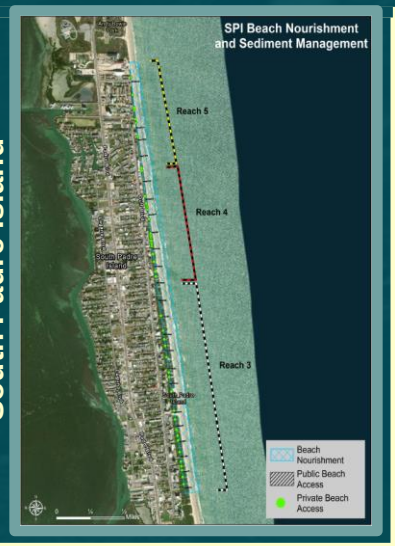
Gulf Defenses



Bolivar Roads Gate System



South Padre Island



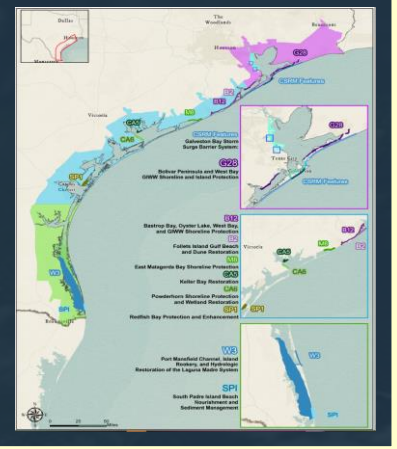
Bay Defenses

Galveston Ring Barrier

Clear Lake

Dickinson

Ecosystem Restoration



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PROJECT COSTS

IS IT WORTH IT?

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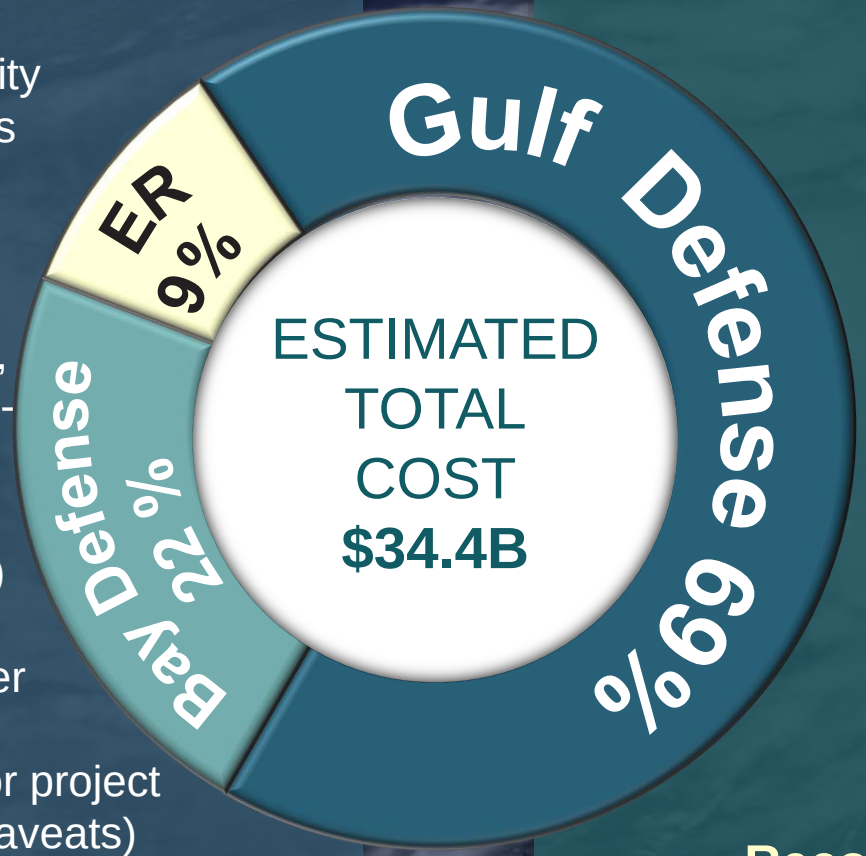
GCPD Gulf Coast Protection District

The NED/NER Plan must balance:

- ✓ Engineering soundness
- ✓ Environmental acceptability
- ✓ Economically justifications

- Unity: Benefits Equal Cost
- Benefits include quantitative, qualitative, monetized & non-monetized units
- Locally Preferred Plan (LPP) is a plan that is preferred by the non-Federal sponsor over the NED/NER plan, and is sometimes recommended for project authorization instead (with caveats)
- LPPs must be evaluated just as the Federal Plan (costs, impacts, benefits)



Project First Cost

Projected Costs

Gulf Defense: (Bolivar Roads Gate System + Bolivar/West Galveston Beach & Dune Systems + SPI + Mitigation)	**$23.6B**
Bay Defense: (Galveston Ring Barrier + Seawall Improvements + Clear Lake + Dickinson Bay + Non-Structural Improvements)	**$ 7.7B**
Ecosystem Restoration:	**$ 3.1B**
TOTAL:	***$34.4B***

Recovery Costs for Storms of the Past:

Hurricane Ike (2008):	**$38B**
Hurricane Harvey (2017):	**$125B**

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TIERED NEPA

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GCPD Gulf Coast Protection District

Features	Compliance Action Needed											
	ESA: BO	CAA: General	CWA: 404(b)(1)	CWA: WQC	FWCA: CAR	MMPA: ITA	MSFCMA: EFH	Prime Farmland	FAA	CBRA	NHPA	CZMA:
Bolivar Roads Gate System	☒	☒	☒	☒	☑	☒	☒	N/A	☑	N/A	PA	☒
Bolivar and West Galveston Beach and Dune System	☒	☒	☒	☒	☑	☑	☒	N/A	☑	☑	PA	☒
Galveston Seawall Improvements	☒	☒	☒	☒	☑	N/A	N/A	N/A	☑	N/A	PA	☒
Galveston Ring Barrier System	☒	☒	☒	☒	☑	☑	☒	N/A	☑	N/A	PA	☒
Clear Lake Surge Gate	☒	☒	☒	☒	☑	☒	☒	N/A	☑	N/A	PA	☒
Dickinson Surge Gate	☒	☑	☒	☒	☑	☒	☒	N/A	☑	N/A	PA	☒
Non-structural Measures	N/A	N/A	N/A	N/A	☑	N/A	N/A	N/A	N/A	N/A	PA	☒
South Padre Island Beach Nourishment	☒	☑	☑	☒	☑	☑	☑	N/A	☑	N/A	PA	☑
W-3: Port Mansfield Channel, Island Rookery and	☒	N/A	☑	☒	☑	☑	☑	N/A	☑	☑	PA	☑
B-2: Follets Island Gulf Beach and Dune Restoration	☒	☒	☒	☒	☑	☑	☑	N/A	☑	☑	PA	☑
G-28: Bolivar Peninsula and West Bay GIWW Shoreline	☑	☑	☑	☑	☑	☑	☑	N/A	☑	☑	PA	☑
B-12: West Bay and Brazoria GIWW Shoreline	☑	☑	☑	☑	☑	☑	☑	N/A	☑	☑	PA	☑
CA-5: Keller Bay Restoration	☑	N/A	☑	☑	☑	☑	☑	N/A	☑	☑	PA	☑
CA-6: Powderhorn Shoreline Protection and Wetland	☑	N/A	☑	☑	☑	☑	☑	N/A	☑	☑	PA	☑
M-8: East Matagorda Bay Shoreline Protection	☑	N/A	☑	☑	☑	☑	☑	N/A	☑	N/A	PA	☑
SP-1: Redfish Bay Protection and Enhancement	☑	N/A	☑	☑	☑	☑	☑	N/A	☑	N/A	PA	☑

☑ Fully Compliant, no further consultation anticipated during PED ☒ Compliance deferred to PED

☑ Assumed compliant with mitigation but need to reaffirm during PED

Tiered NEPA

- Supplemental documentation for:
  - Bolivar Roads Gate System
  - Galv/Bolivar Beach & Dunes
  - Galveston Ring Barrier
  - Clear Lake/Dickinson
- Continued Coordination/Formal Consultation
  - 2 ER Sites – Sand Sources
  - South Padre Island
- All Remaining ER Sites are ACTIONABLE

Strategic Communication

- Continued Stakeholder Engagements
- StoryMap Experiences
- Real-time Live-Cam Video
- Strategic Outreach

SCHEDULE

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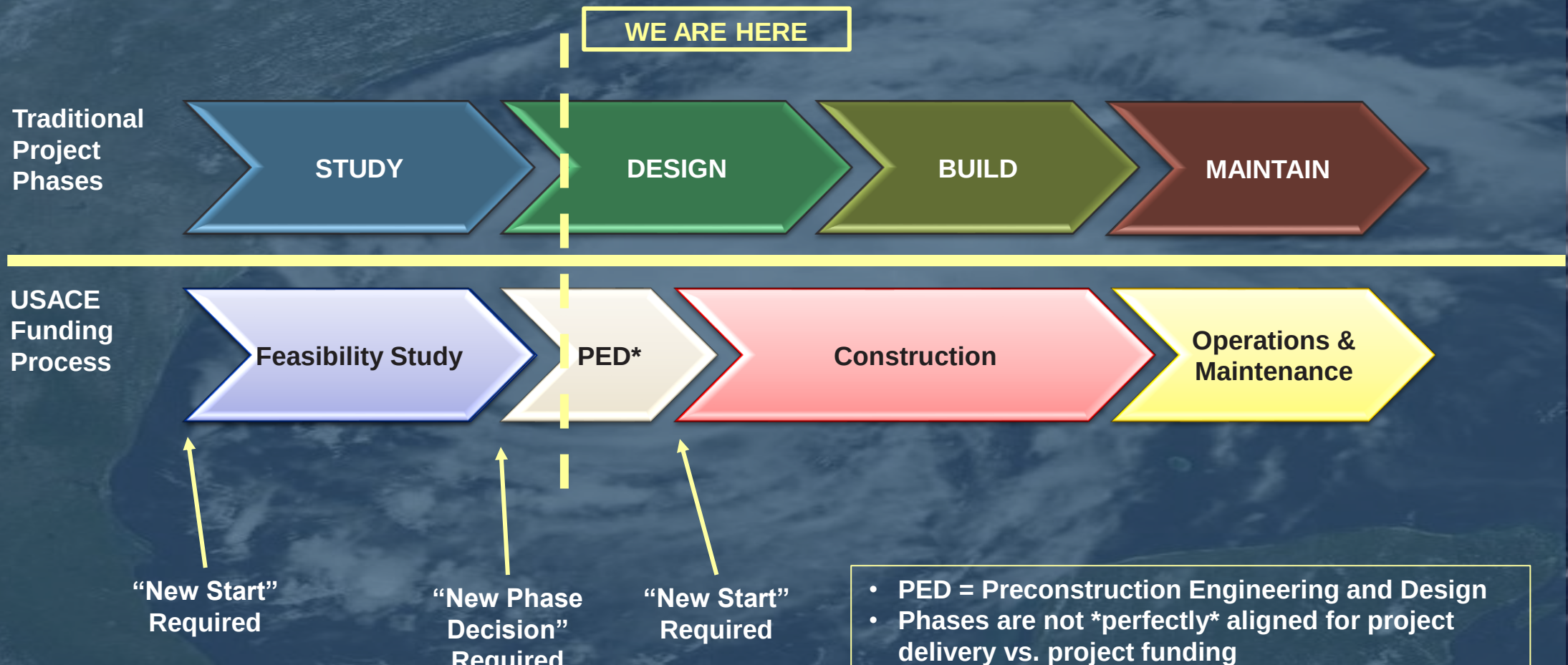

- PED = Preconstruction Engineering and Design
- Phases are not *perfectly* aligned for project delivery vs. project funding
- Design continues during the construction phase

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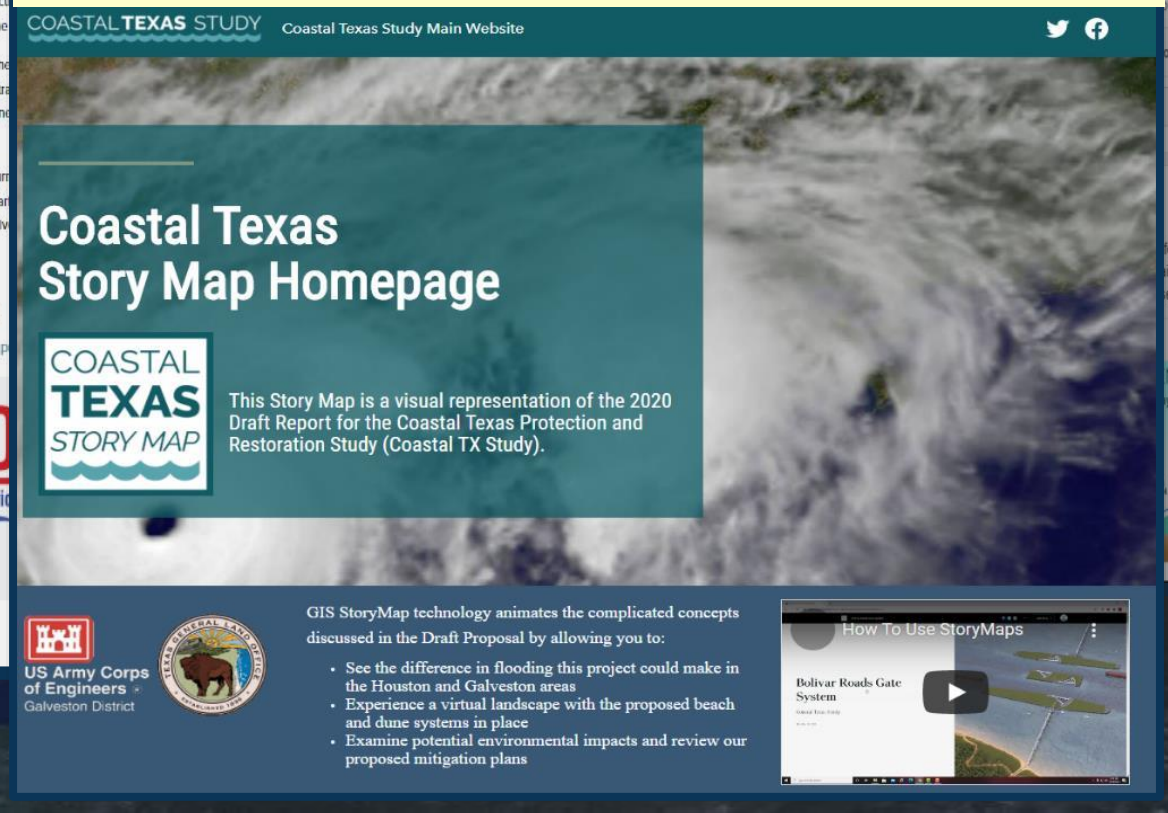
SOCIAL MEDIA

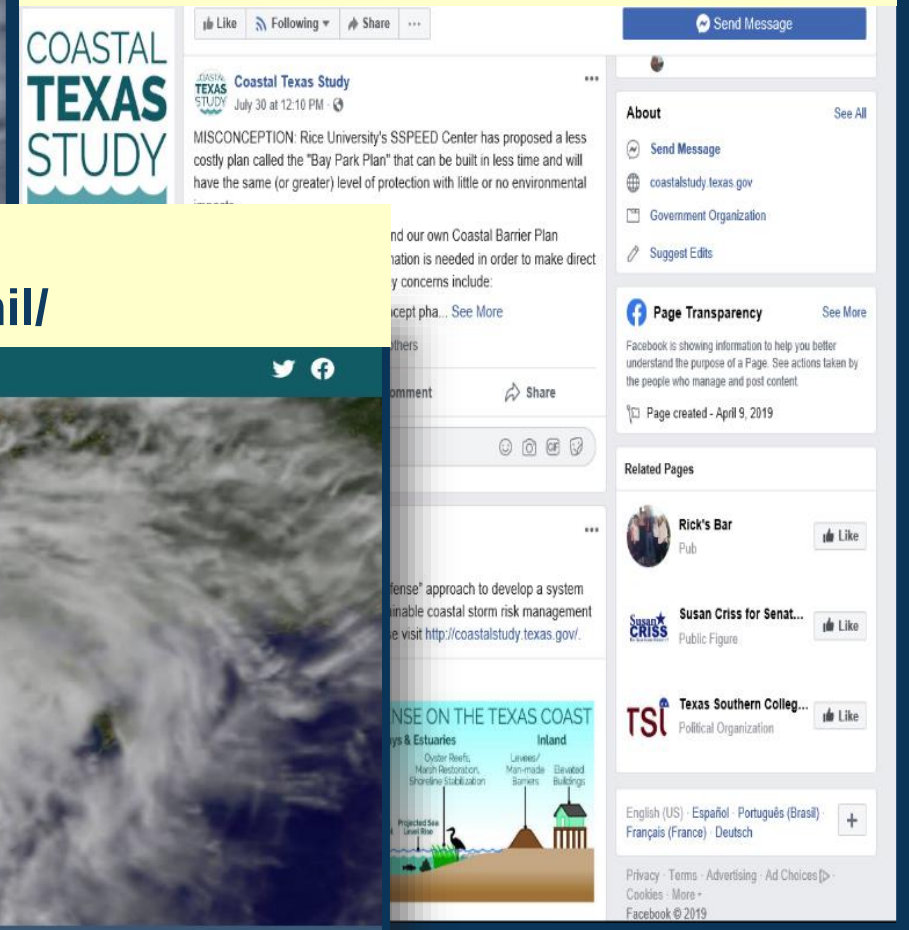
https://coastaltexasproject.com/
CoastalTXStudy

Web: http:CoastalStudy.Texas.gov

StoryMap: https://www.swg.usace.army.mil/



Facebook: CoastalTXStudy



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Social Vulnerability

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Centers for Disease Contol

Social Vulnerability:

Demographic and socioeconomic factors (e.g., poverty, lack of access to transportation, and crowded housing) **that adversely affect communities that encounter hazards** and other community-level stressors. These stressors can include natural or human-caused disasters (such as tornadoes or chemical spills) or disease outbreaks (such as COVID-19).

Key Parameters:

Socioeconomic status
Below the poverty line
Unemployed
Income Level
Education Level

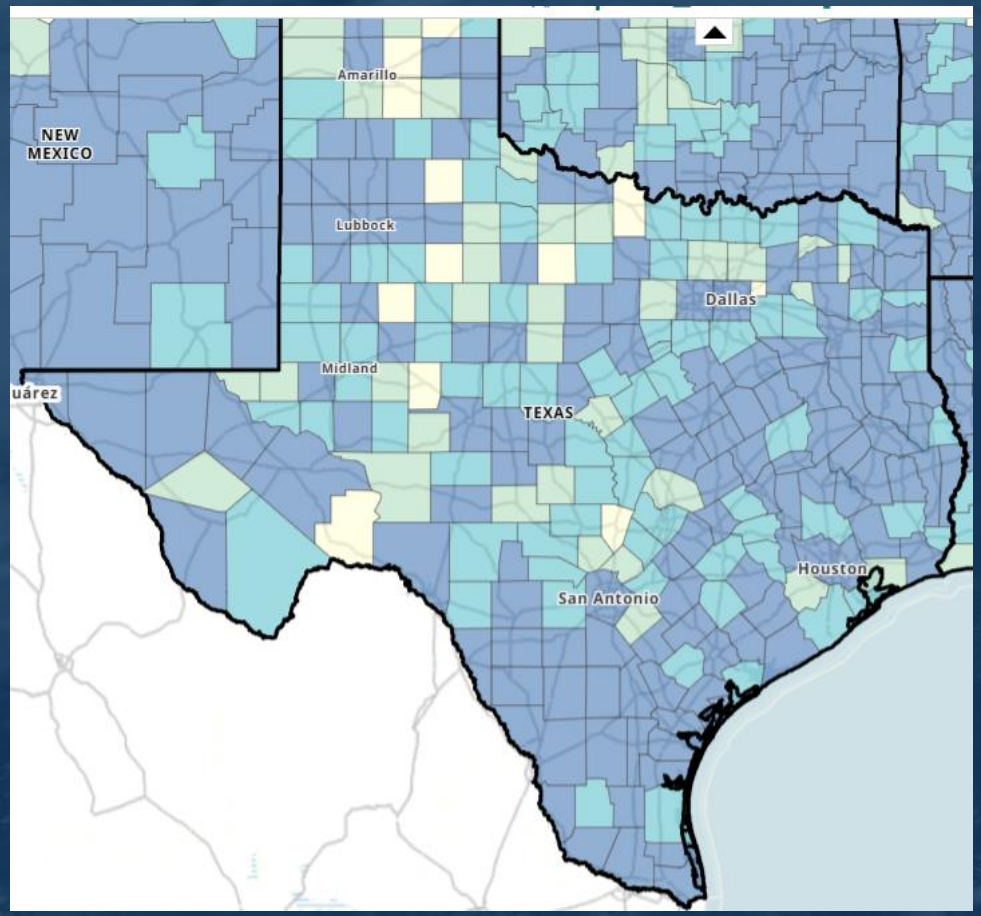
Household Composition & Disability
> 65 yrs old
<17 yrs old
> 5 with disabilities
Sing parent households

Minority Status & Primary Language Spoken

Housing Type & Transportation
Multi-unit & mobile homes
Crowding
No vehicles

CDC Social Vulnerability Index:

https://www.atsdr.cdc.gov/placeandhealth/svi/index.html



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CTX STORYMAP:

Social vulnerability Index (svi) sCORES

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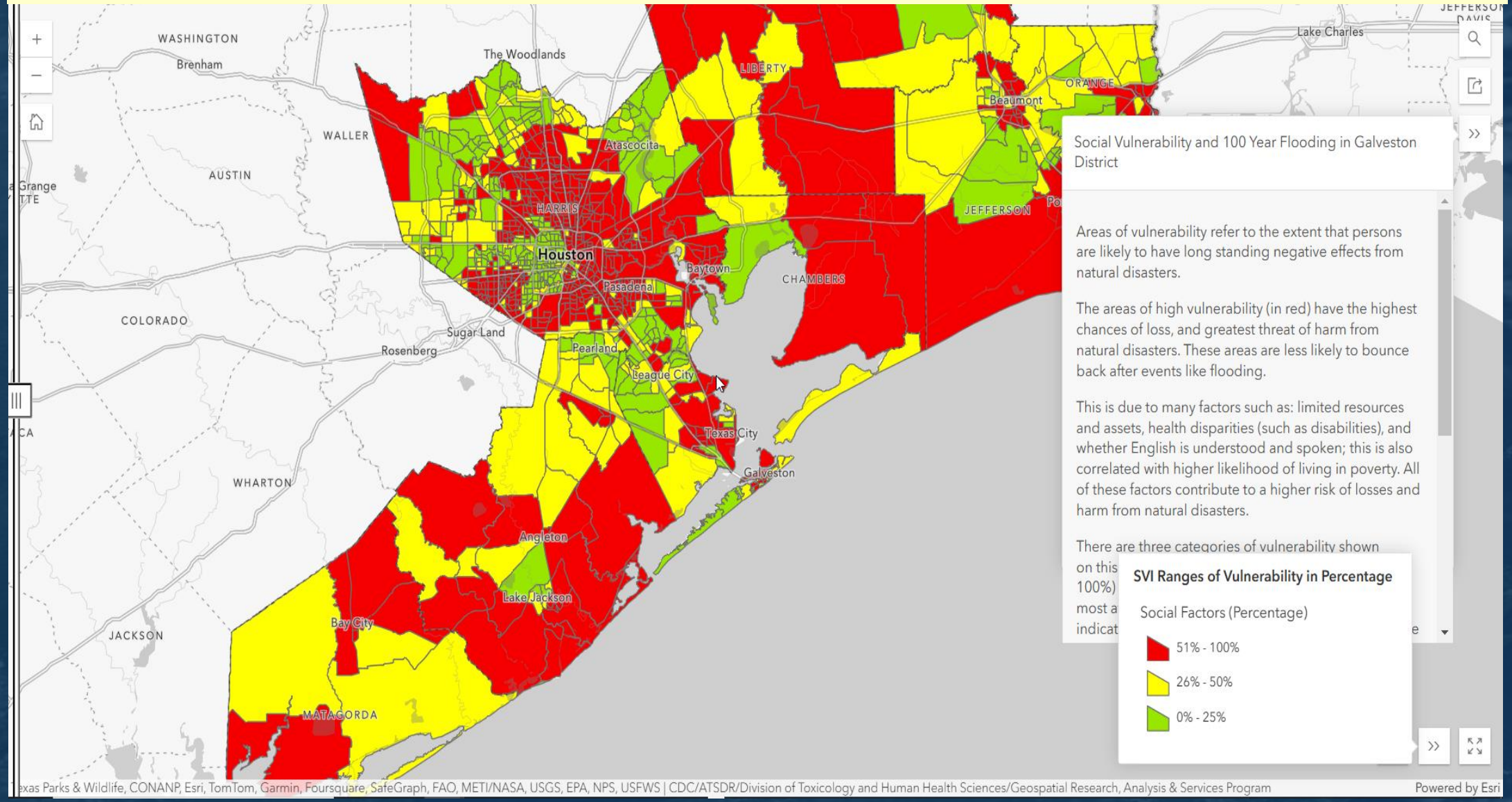
Source => CTX StoryMap: https://www.swg.usace.army.mil/



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CTX STORYMAP –

Project Benefits

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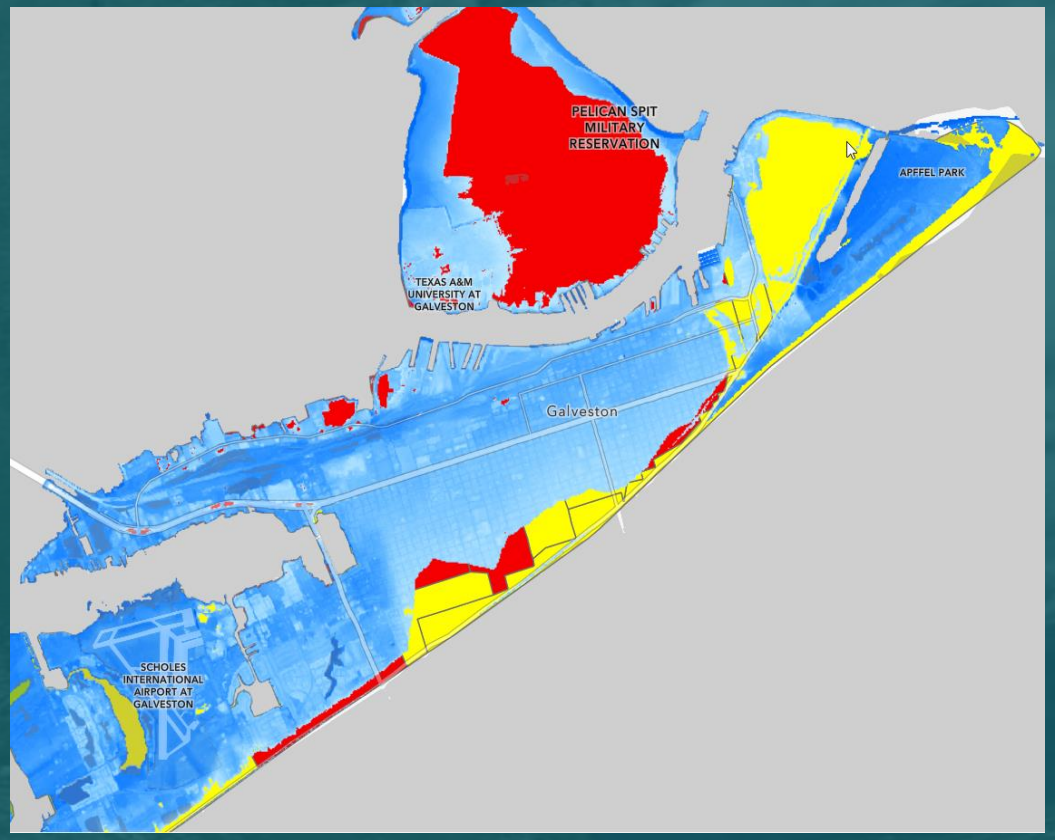
GCPD
Gulf Coast Protection District

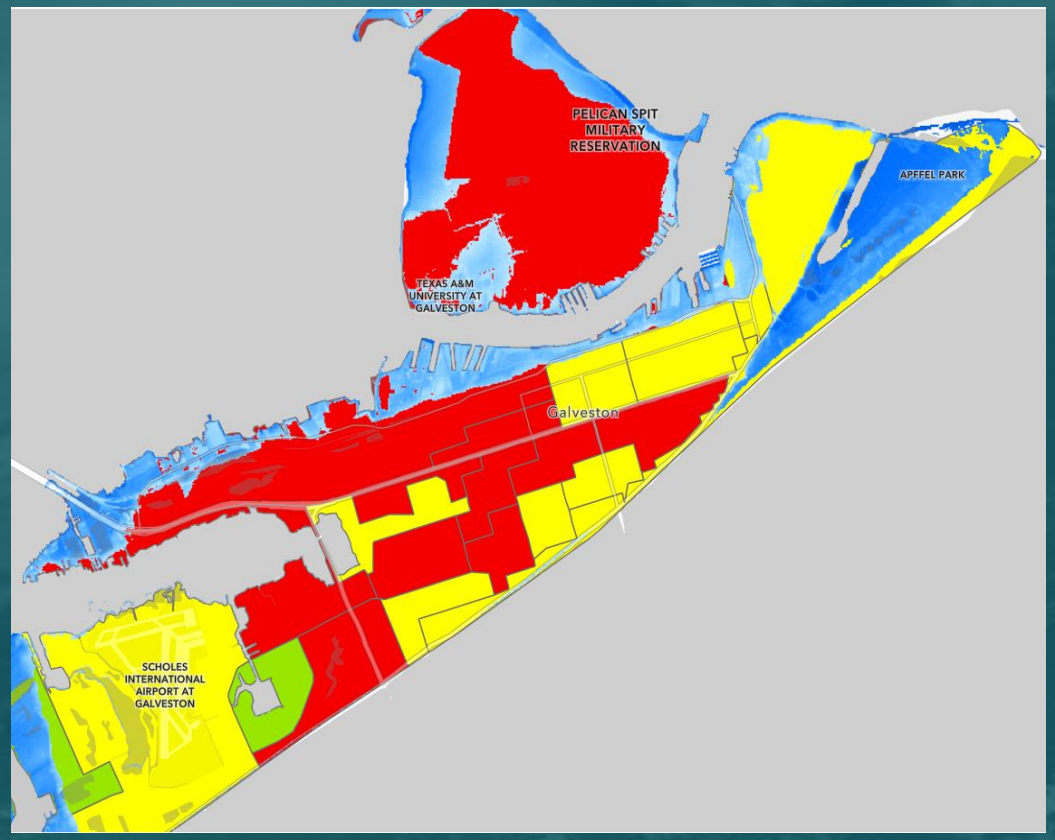
GaLVESTON, TX

100-YR Flood Event (1% AEP)

WITHOUT THE PROJECT



WITH THE PROJECT



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CTX STORYMAP –

Project Benefits

https://coastaltexasproject.com/
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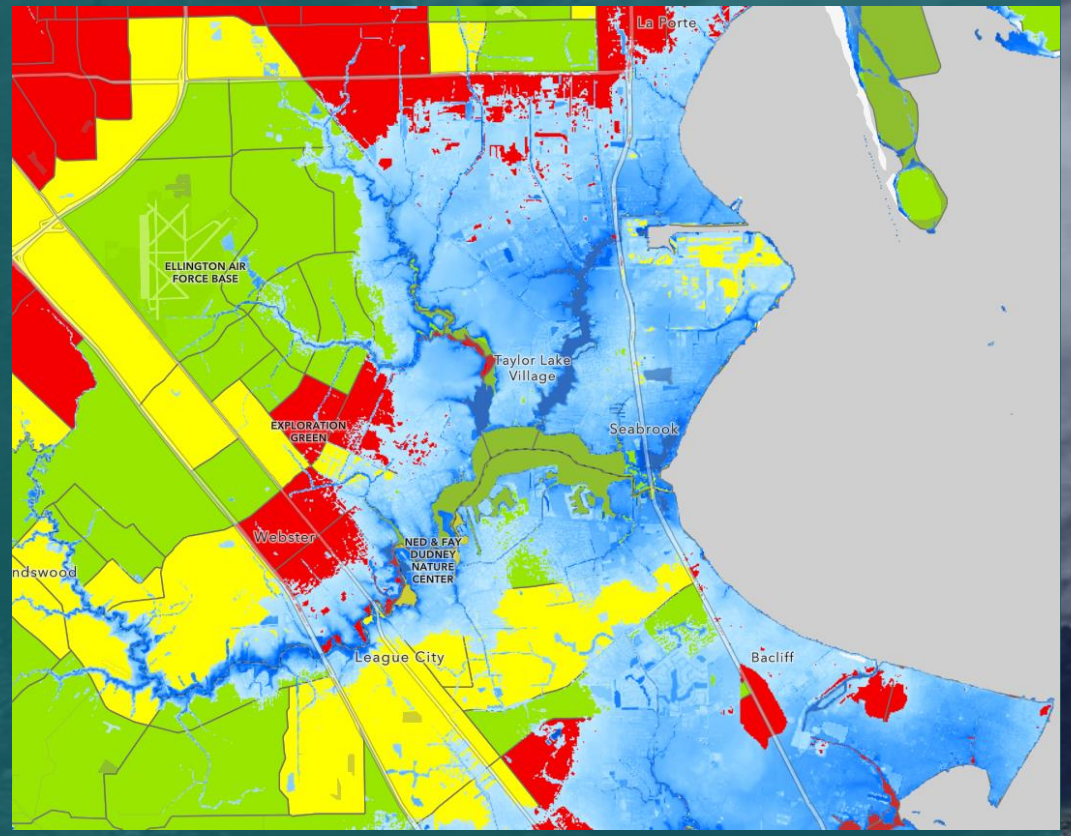
GCPD Gulf Coast Protection District

SEABROOK, TX (Clear Lake area)

100-YR Flood Event (1% AEP)

WITHOUT THE PROJECT



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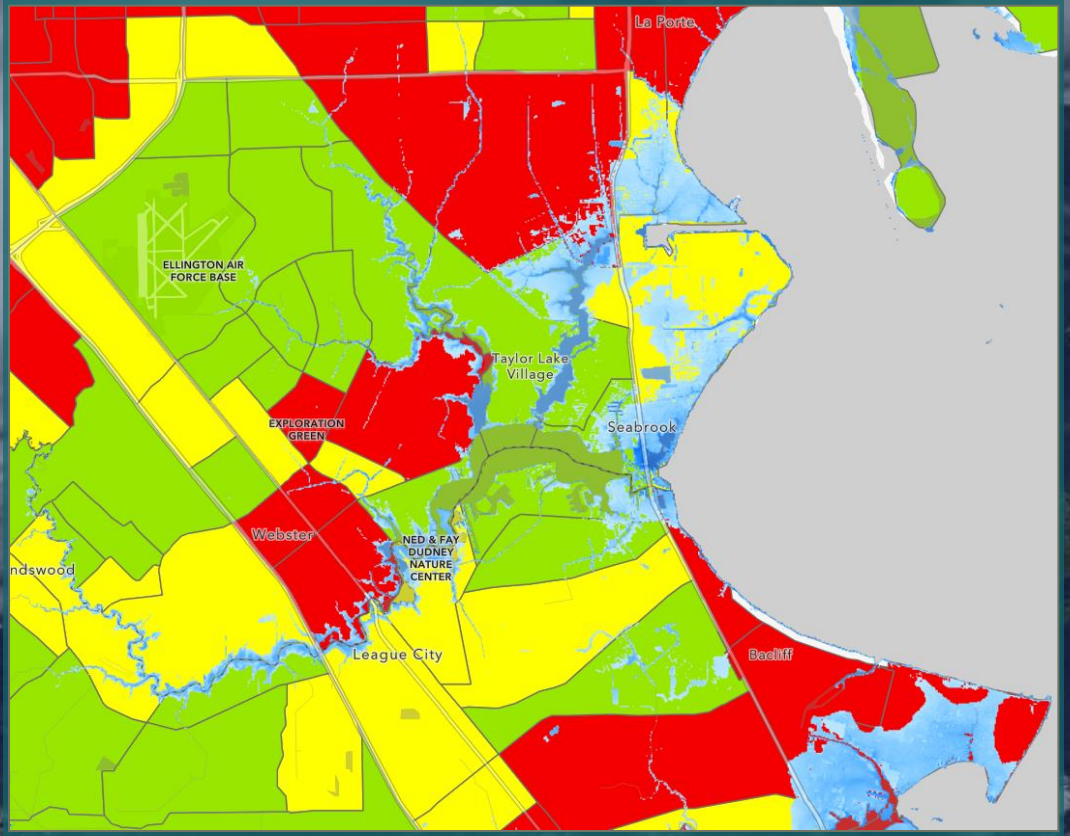

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CTX STORYMAP –
Project Benefits

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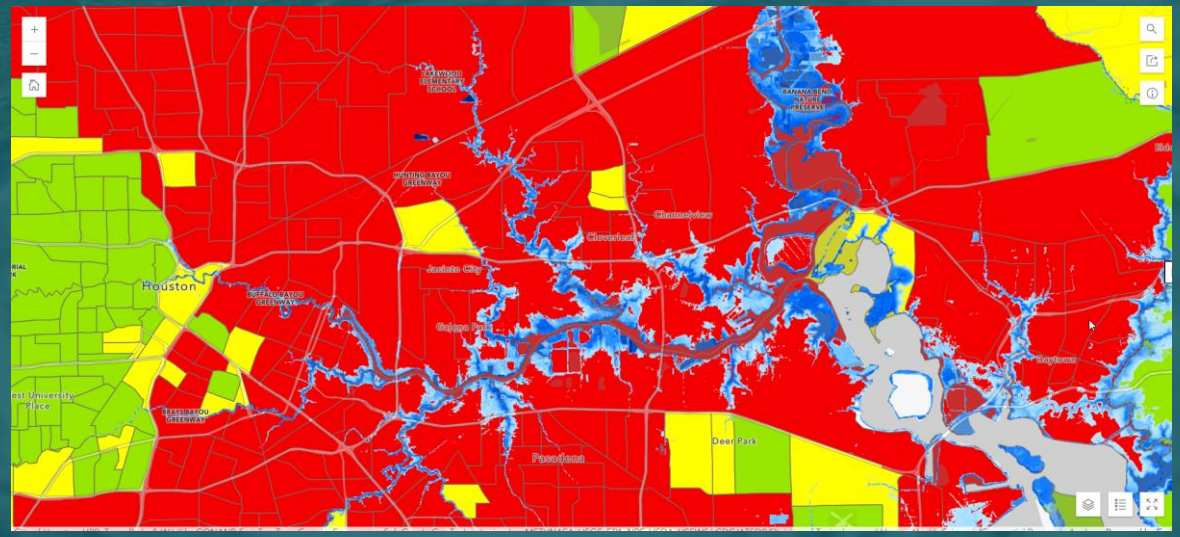
GCPD

houston, TX

100-YR Flood Event (1% AEP)

WITH THE PROJECT



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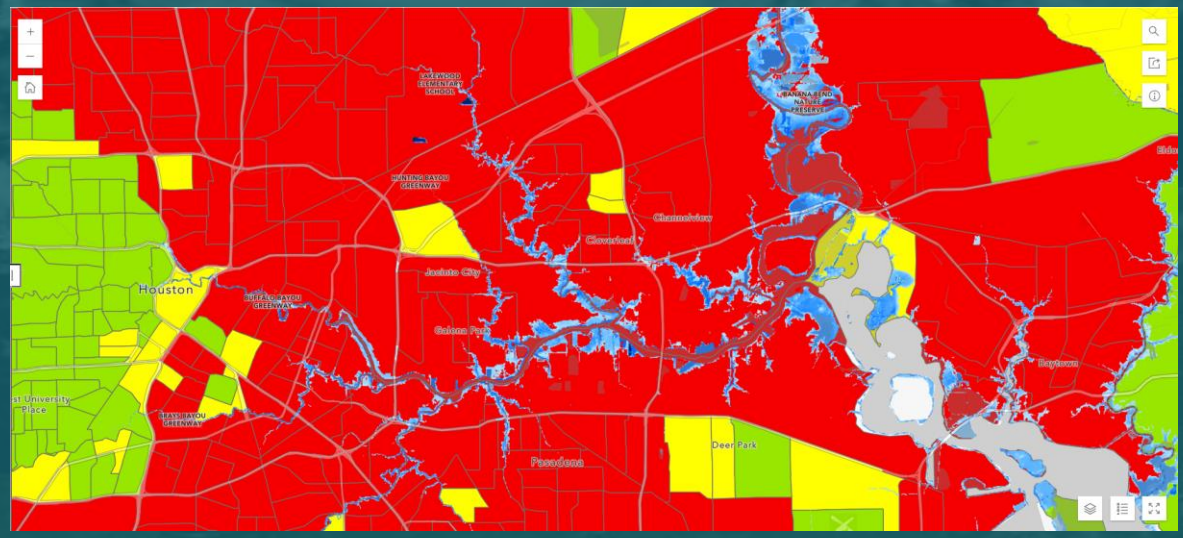

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CTX STORYMAP –

Project Benefits

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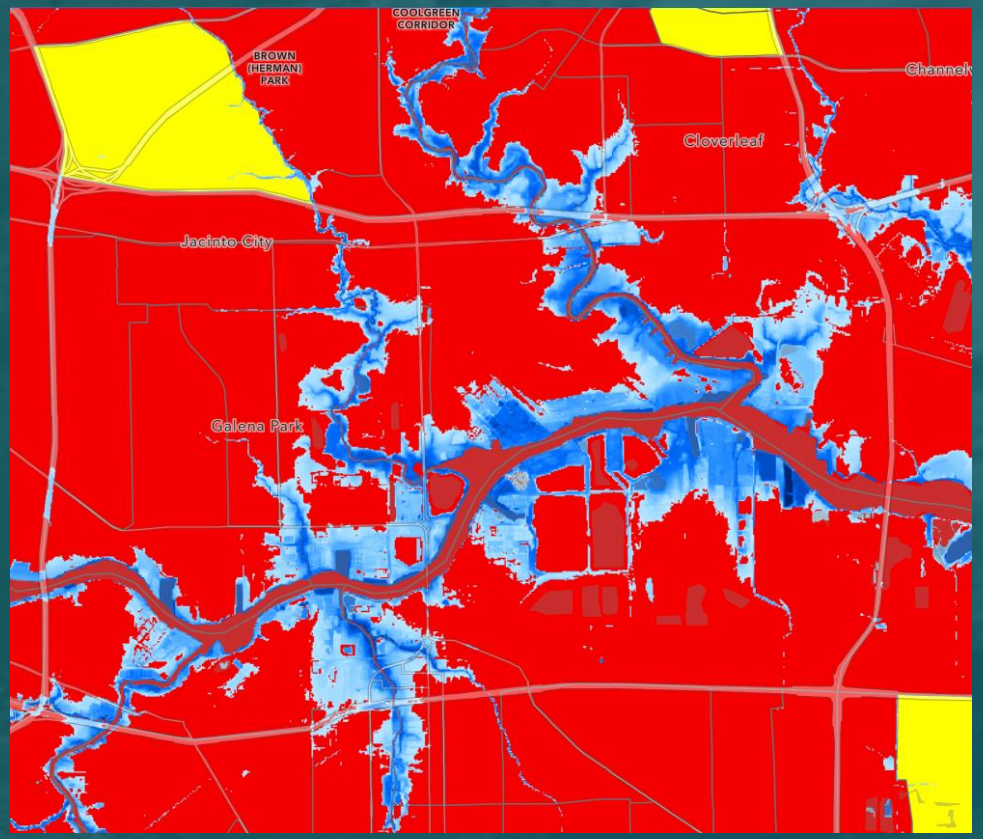
GCPD

HOUSTON, TX (Galena Park)

100-YR Flood Event (1% AEP)

WITHOUT THE PROJECT



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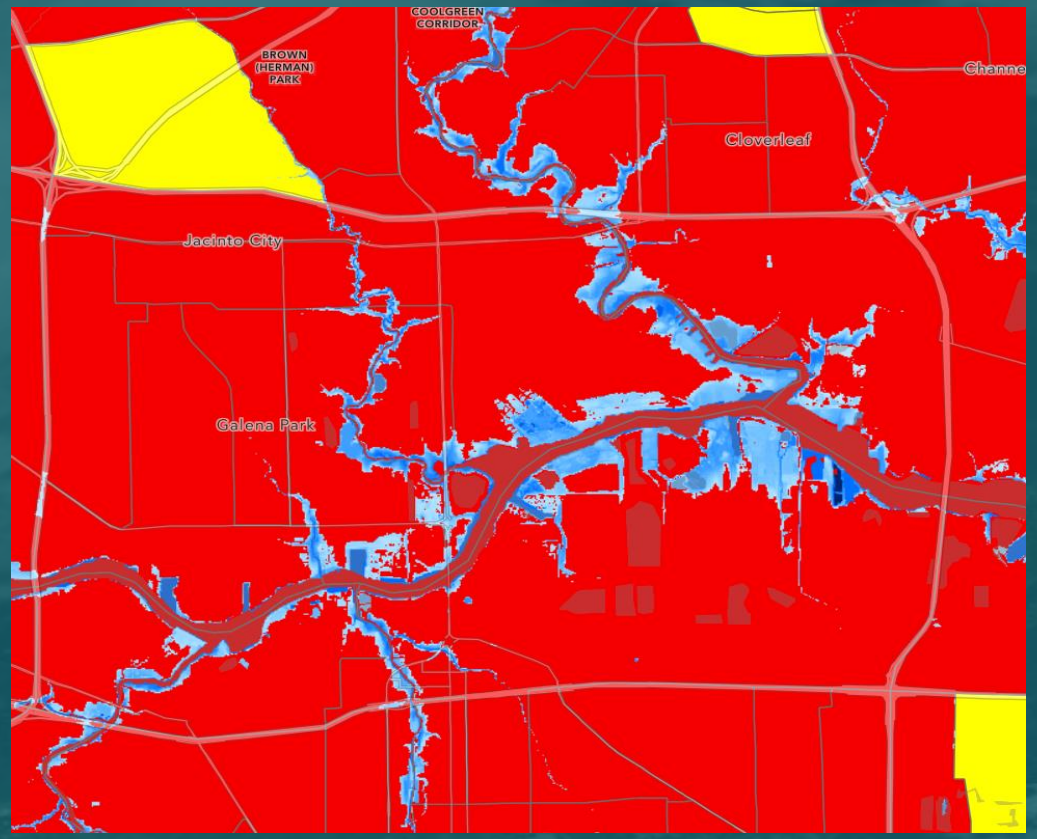

PUBLIC OUTREACH

https://coastaltexasproject.com/
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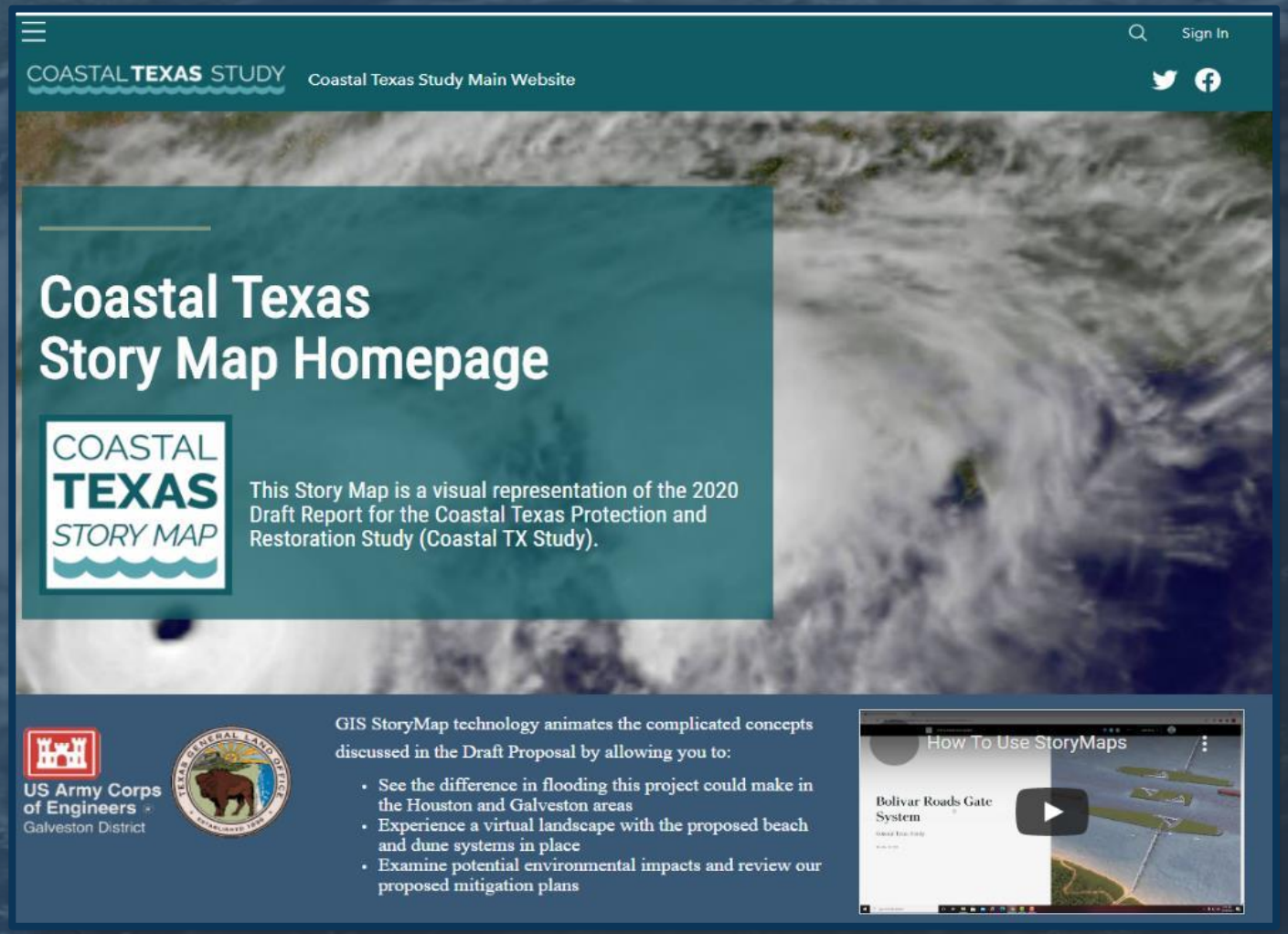
- Formal Comment Period (45 days)
- Formal Meetings (NEPA Required)
- Public Open Houses
- CWGs
- Social Media
- Tech Talks
- Newsletters
- Email lists
- Stakeholder Briefings



More opportunities to engage are on the project horizon . . . . remember Tiered NEPA!

https://coastal-texas-hub-usace-swg.hub.arcgis.com/