Flood Studies: Empowering Decision Makers in Texas with Information They Want
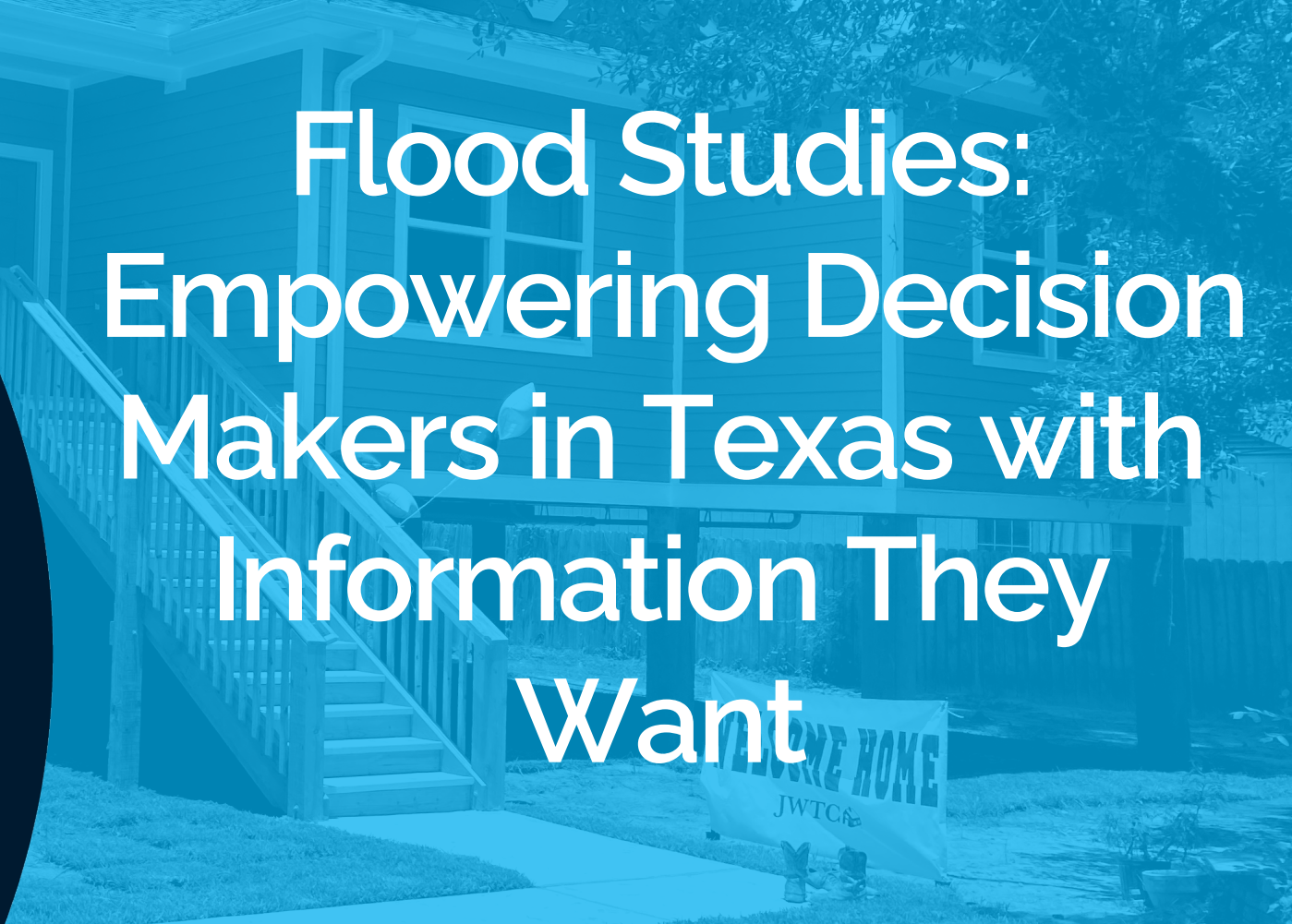
TEXAS GENERAL LAND OFFICE

community development & revitalization

TX General Land Office – Community Development & Revitalization

The Texas General Land Office is administering more than $14.3 billion in disaster recovery and mitigation funding in response to 8 different disasters. The GLO's historic efforts are helping rebuild homes, communities, and lives.

Disaster Event → Congressional Appropriation → HUD Allocation → HUD Award → First Expenditure → Activity Completion

2015 Floods

- Disaster dates: May 4 – June 23, 2015

- 20+ inches of rainfall

- 8 million acre-feet of water flowed into the state's reservoirs

- Additional rainfall/flooding October 22 – October 31, 2015

- 116 Counties impacted by both floods

- LRGV-impacted counties: Cameron, Hidalgo, Starr, Willacy

FEMA Disasters 4223 & 4245
Severe Storms, Tornados, Straight-Line Winds and Flooding

4223 Incident: May 4 to June 23, 2015
4223 Declaration: May 29, 2015

4245 Incident: Oct 22 to Oct 31, 2015
4245 Declaration: Nov 25, 2015

Most Impacted Counties
Council of Government
4223 & 4245 Disaster Impacted Counties
4223 Disaster Impacted Counties
4245 Disaster Impacted Counties
County

Data Source: Federal Emergency Management Agency
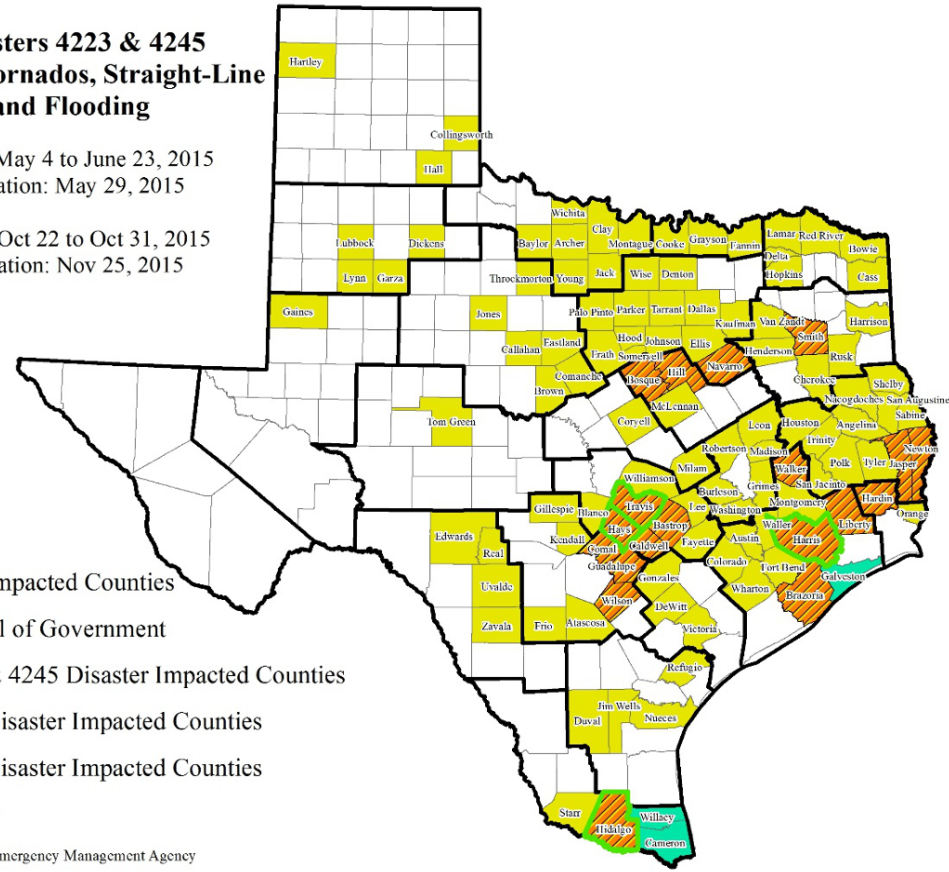
2016 Floods

BY THE NUMBERS

- Disaster dates: May 26 – mid-June 2016

- Third catastrophic storm event

- LRGV-impacted counties: Hidalgo

- 2015/2016 Events – Over $2 billion in unmet long-term recovery need

FEMA Disasters 4266, 4269, 4272
Severe Storms, Tornados, Straight-Line Winds and Flooding

DR-4266 Incident: March 07 to March 29, 2016
Declaration: March 19, 2016

DR-4269 Incident: April 17 to April 30, 2016
Declaration: April 25, 2016

DR-4272 Incident: May 22 to June 24, 2016
Declaration: June 11, 2016

- DR-4266 (March 19, 2016)
- DR-4269 (April 25, 2016)
- DR-4272 (June 11, 2016)
- HUD Most Impacted County
- Council of Government
- County

Data Source: Disaster Impacted Counties - Federal Emergency Management Agency (September 8, 2016)
Most Impacted Counties - U.S. Department of Housing and Urban Development (January 18, 2017)
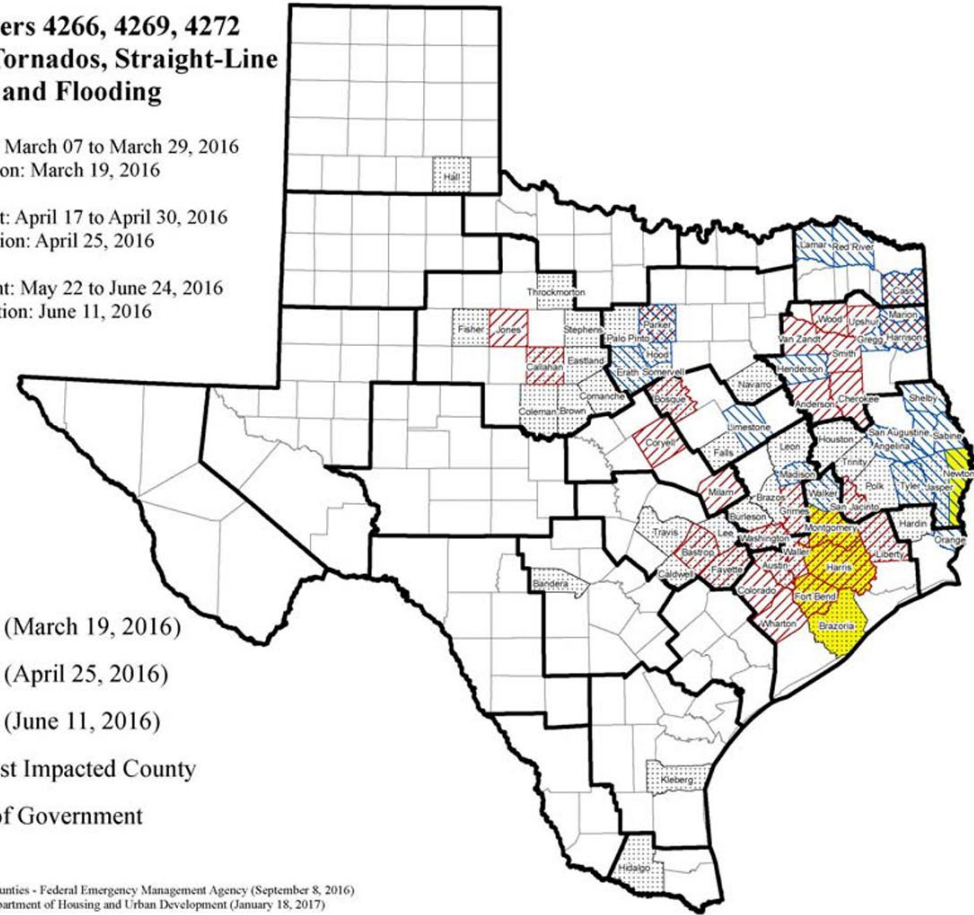
Mitigation (CDBG-MIT) Overview

"Increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship by lessening the impact of future disasters."
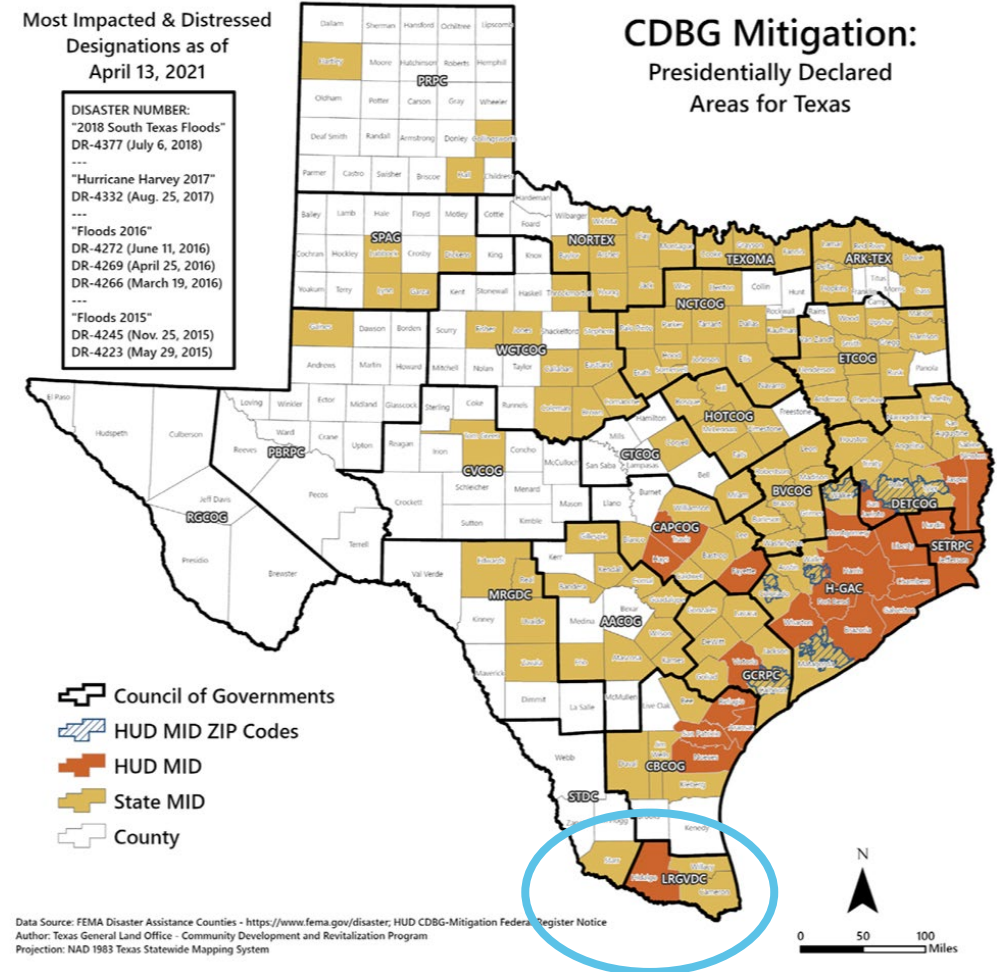
Mitigation (CDBG-MIT)

Regional and State Planning:

Provides funding for regional and statewide planning studies and tools that work to reduce risks and impacts of future disasters. The GLO will oversee these funds in partnership with local, state, and federal entities.

Planning Mission

Mission Statement:

GLO-CDR Planning team designs and oversees planning studies to collect, analyze, and communicate disaster-related data to assist decision-makers to better protecting Texans from future disasters.

GLO-CDR Planning team empowers decision-makers with the information they want.

Our planning studies focus on:

- Gathering or generating the data wanted to make informed decisions
- Building tools and platforms to interact with the information
- Making recommendations for actionable and sustainable future steps

Texas Culture – Local Control

The GLO is building the capacity and tools to consolidate data and fill the information gaps that will allow Texans to work together at all levels (Federal/State/Regional/Local/Individual).

"Men often oppose a thing merely because they have had no agency in planning it, or because it may have been planned by those whom they dislike."

– Alexander Hamilton

Usefulness ➡ **Teamwork** ➡ **Trust** ➡ **Unity & Prosperity**

"Trust is the only currency with any value." – Unknown

What Information do Texans Want?

Post-Harvey Survey Results:

1. Funding Opportunities
   - Generating ideas for projects is not a problem, finding funds for projects is a major problem

2. Accurate and Reliable Risk Information
   - Especially updated flood maps

3. Effective Mitigation Strategies
   - Especially multi-jurisdictional and regional level partnerships and projects
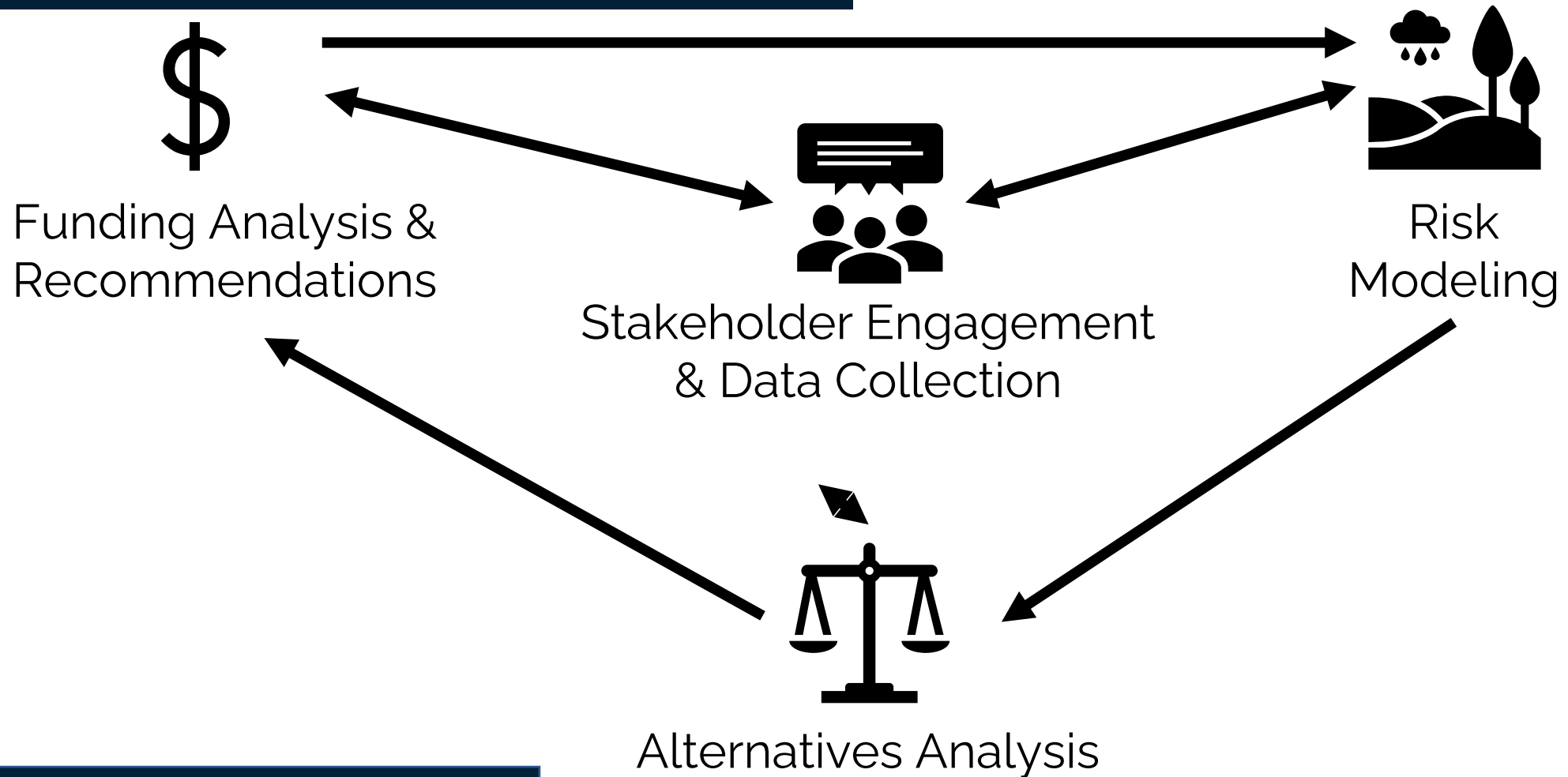
GLO-CDR Planning Team

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TEXAS GENERAL LAND OFFICE   COMMUNITY DEVELOPMENT AND REVITALIZATION

GLO-Intergovernmental Relations (IGR)

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Deputy Director | Intergovernmental Relations

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Elijah Casas – LRGV Point of Contact

Community Outreach Coordinator

512-657-9673
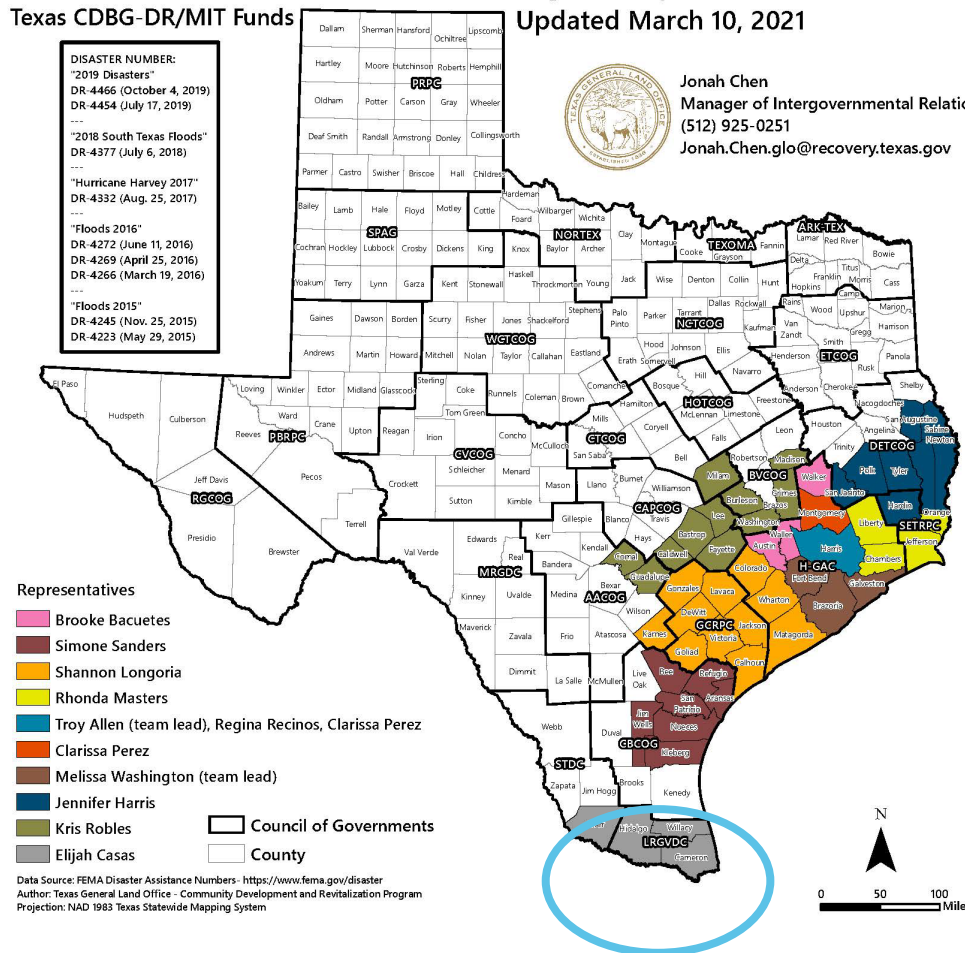
Elijah.Casas.glo@recovery.texas.gov

Federal/Presidential Declaration Numbers for Texas CDBG-DR/MIT Funds

DISASTER NUMBER:
"2019 Disasters"
DR-4466 (October 4, 2019)
DR-4454 (July 17, 2019)

"2018 South Texas Floods"
DR-4377 (July 6, 2018)

"Hurricane Harvey 2017"
DR-4332 (Aug. 25, 2017)

"Floods 2016"
DR-4272 (June 11, 2016)
DR-4269 (April 25, 2016)
DR-4266 (March 19, 2016)

"Floods 2015"
DR-4245 (Nov. 25, 2015)
DR-4223 (May 29, 2015)

GLO-CDR: Intergovernmental Relations Regional Representatives
Updated March 10, 2021

Jonah Chen
Manager of Intergovernmental Relations
(512) 925-0251
Jonah.Chen.glo@recovery.texas.gov

Representatives
- Brooke Bacuetes
- Simone Sanders
- Shannon Longoria
- Rhonda Masters
- Troy Allen (team lead), Regina Recinos, Clarissa Perez
- Clarissa Perez
- Melissa Washington (team lead)
- Jennifer Harris
- Kris Robles
- Elijah Casas
- Council of Governments
- County

Data Source: FEMA Disaster Assistance Numbers - https://www.fema.gov/disaster
Author: Texas General Land Office - Community Development and Revitalization Program
Projection: NAD 1983 Texas Statewide Mapping System

LRGV Region Study Team

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HALFF®

Pathfinder
Public Affairs

CASGROUP
CITY AND SEA GROUP LLC

LANGFORD
COMMUNITY MANAGEMENT SERVICES

R. Gutierrez
Engineering
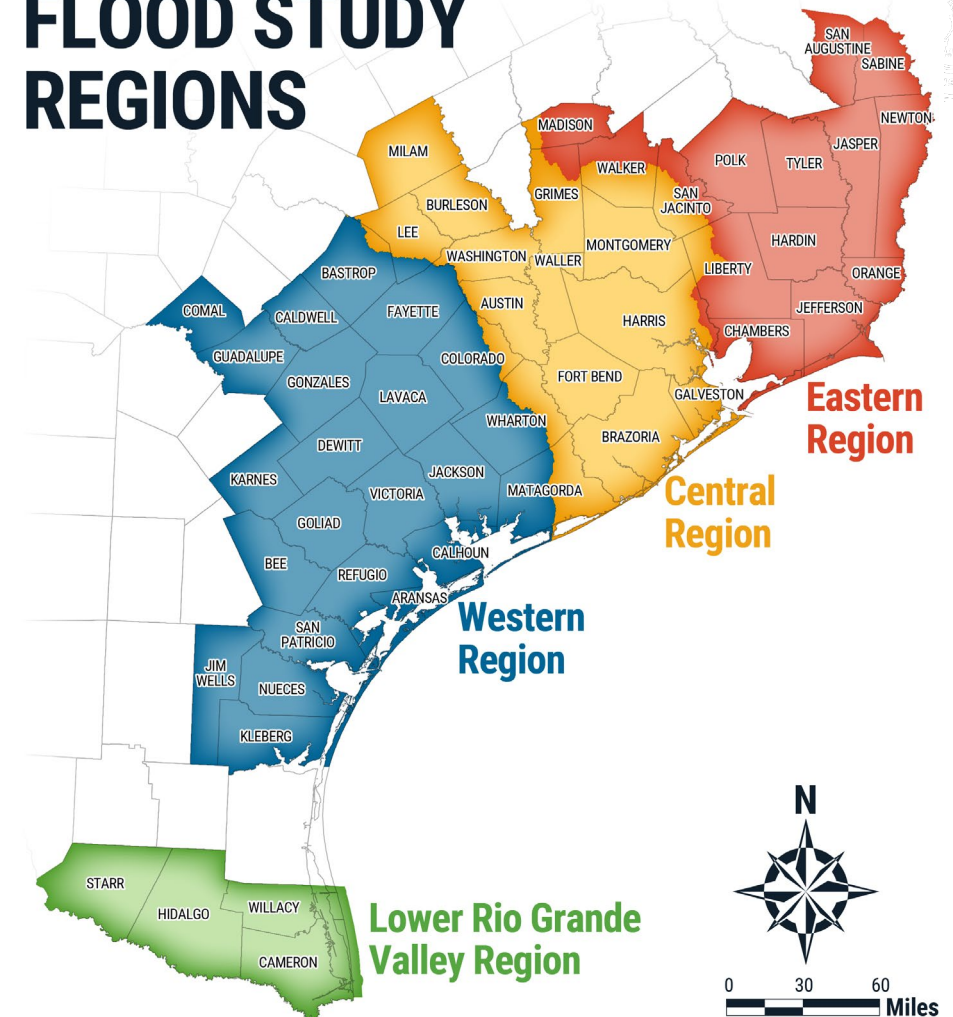Corporation

TEXAS GENERAL LAND OFFICE

COMMUNITY DEVELOPMENT AND REVITALIZATION

TXGLO

Regional Flood Study - Goals

- Accurately model and evaluate flood risks within the study area

- Assist communities in developing cost-effective flood mitigation strategies

- Determine potential funding sources for mitigation projects
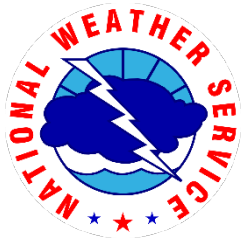

FLOOD STUDY REGIONS

Delivery Partners

LRGV Regional Flood Study

Budget: $10M (2015 Floods/MIT)

Five-phase study budget and timeline estimates:
1) Data Collection & Stake Holder Engagement Plan
   - 6 Months **DONE**
2) Data Collection & Stake Holder Engagement
   - 18 Months **CURRENT**
3) Flood Model Development
   - 12 Months
4) Alternatives Analysis and Cost-Benefit Analysis
   - 6 Months
5) Recommendations and Pursuit of Additional Mitigation Funds
   - 6 Months

End date: March 2025 (contract expires)

Timeline

	FALL 2020	WINTER 2020	SPRING 2021	SUMMER 2021	FALL 2021	WINTER 2021	SPRING 2022	SUMMER 2022	FALL 2022	WINTER 2022	SPRING 2023	SUMMER 2023	FALL 2023	WINTER 2023	SPRING 2024	SUMMER 2024

STAKEHOLDER ENGAGEMENT

DATA COLLECTION

RISK ANALYSIS

ALTERNATIVES ANALYSIS

FUNDING & TECHNICAL ASSISTANCE

JANUARY 2022
- Technical Memo Submission (50%)

AUGUST 2022
- Draft RFP due to TWDB

JANUARY 2023
- Final RFP due to TWDB

JULY 2023
- Amended RFP due to TWDB

SEPTEMBER 2024
- Texas Flood Plan due to Legislature

REGIONAL FLOOD PLANNING GROUPS

Texas Water Development Board

TEXAS GENERAL LAND OFFICE

COMMUNITY DEVELOPMENT AND REVITALIZATION

TXGLO

LRGV Region Update

Data Collection:

4
Counties

46
Municipalities

5
Drainage Systems

8
Flood Studies

11
Natural Environment Datasets

4
Natural Hazard Datasets

13
Built Environment Datasets

RIVER BASIN FLOOD STUDY
LRGV REGION

LRGV Region Collected Data

Legend
★ Critical Facility
⬤ Roadway Stream Crossing
▲ Registered Dam
▢ Counties

Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS
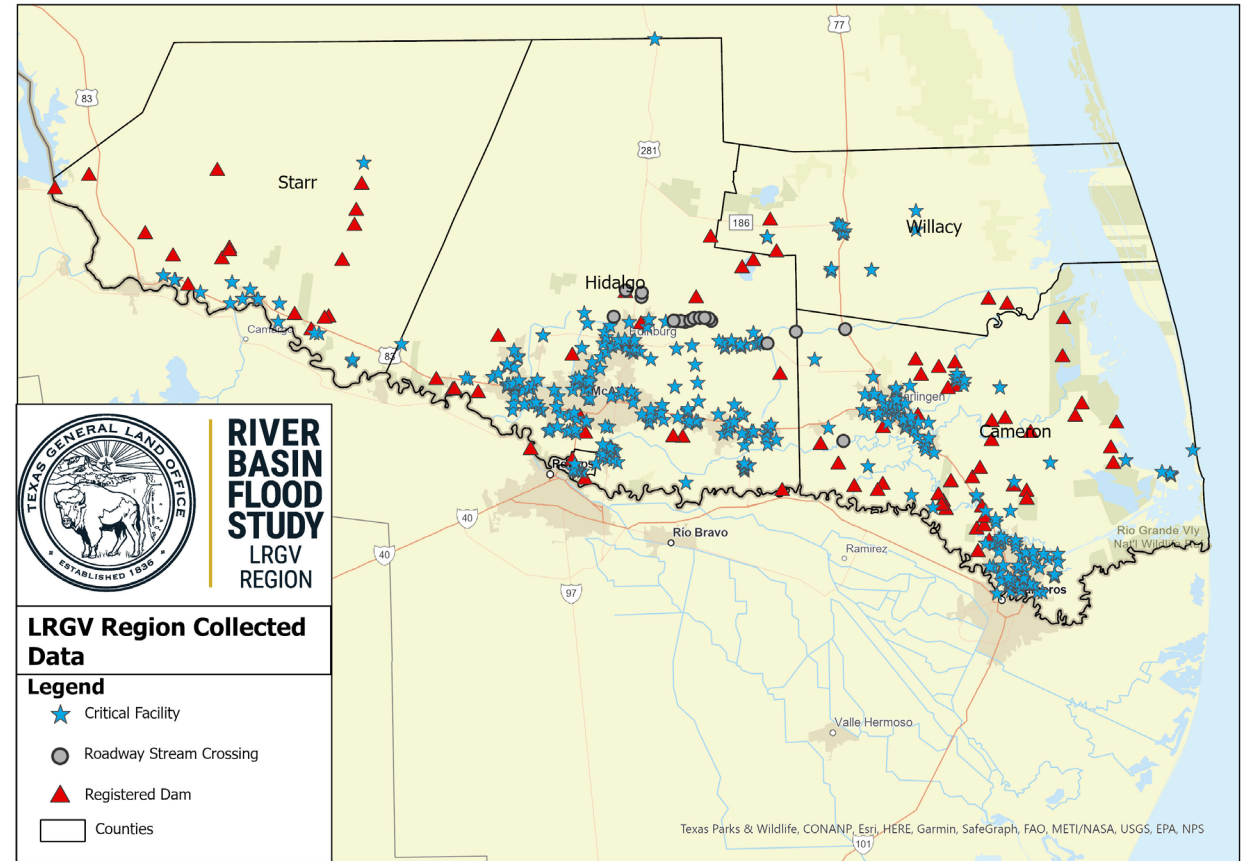
A Coordinated Approach with TWDB

REGIONAL FLOOD PLANNING GROUPS

RIVER BASIN FLOOD STUDY

FLOOD RESILIENCY

FMS

FME

FMP
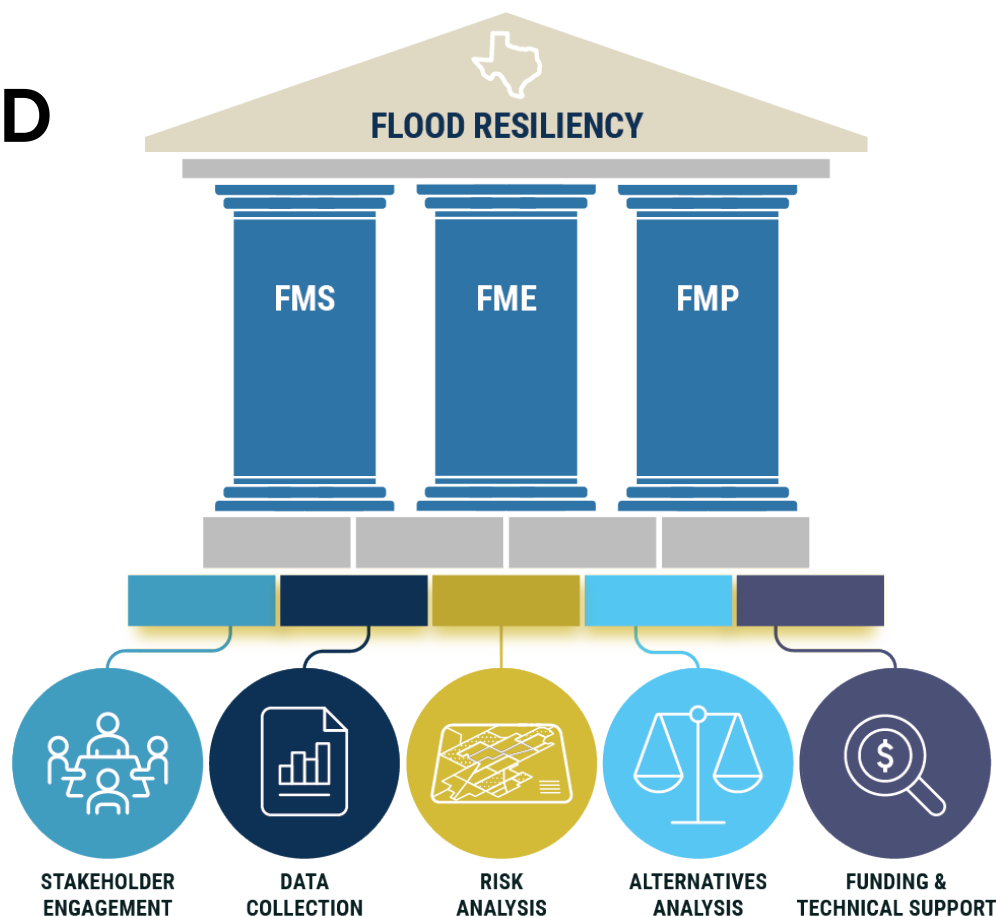
ACRONYMS

FMS: Flood Management Strategies

FME: Flood Management Evaluations

FMP: Flood Mitigation Projects

STAKEHOLDER ENGAGEMENT

DATA COLLECTION

RISK ANALYSIS

ALTERNATIVES ANALYSIS

FUNDING & TECHNICAL SUPPORT

Opportunity for Collaboration: Project Comparison

	Combined River Basins Study	Regional Flood Planning Groups
	Texas General Land Office (GLO)	**Texas Water Development Board (TWDB)**
Location	**Presidential disaster-impacted counties** within Texas • Lower Rio Grande Valley (2015/2016)	**All of Texas**
Project Goals	• Evaluate flood risks to inform the development of **cost-effective mitigation projects** and align them with funding • **Share data and information collected and produced** to support current and future flood resiliency efforts (ex. State Flood Plans, Texas Disaster Information System)	Develop **Regional and State Flood Plans**, aimed to reduce the risk and impact of flooding to lives and property
Flooding Types Considered	• Coastal flooding • Riverine flooding	• Coastal flooding, Riverine flooding • Dam Safety
Level of Detail	**Detailed** to support alternatives analysis and project cost estimates for **high-risk areas**	**Planning-level**
Delivery Timeline	**One-time** **Deadline**: Spring 2025	**Cyclical** (updated every 5 years) **Deadline**: Aug 2022(First Planning Cycle Draft Flood Plan due)
Budget	**$85M Total** • $25M per East, Central, West Regions (HUD CDBG-DR) • $10M for Lower Rio Grande Valley Region (CDBG-MIT)	**$19.5M Total** (First Planning Cycle)

Opportunity for Collaboration: Project Comparison

First RFPG Planning Cycle

- Share stakeholder engagement resources developed or compiled

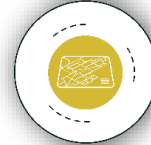- Provide available data collected, including funding source information

Future RFPG Planning Cycles

- Share stakeholder engagement information and resources compiled as a result of this Study

- Provide collected and produced flood risk data

- Share baseline flood risk modeling and mapping where developed

- Provide information on identified flood mitigation projects (FMPs) developed in support of Alternatives Analysis
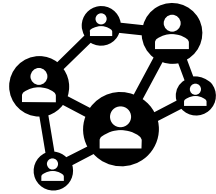
- Share grant application and technical assistance information developed and collected
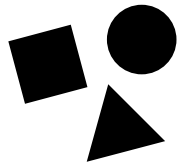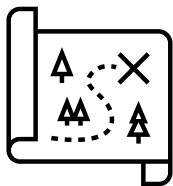
Program Outreach

Overarching Strategies

- Leverage Existing Community Relationships
  - Intergovernmental Relations team

- Diverse Outreach Styles
  - Flexible engagement strategies

- Keeping the Community and Mission First
  - Data sharing agreements
  - Collaboration with ongoing projects
  - Cross-study working groups

Opportunities for Further Collaboration

GLO Study Team

- Combined River Basins (CRB) Study will **provide RFPGs with collected data and relevant stakeholder engagement information for first planning cycle as applicable**
- CRB Study can share all new or updated data and information resulting from the Study for RFPGs to **leverage in the next planning cycle**

Teams can coordinate on Outreach activities to agree on **clear, consistent messaging** to prevent confusion by the general public and **convey collaborative approach**

TWDB Regional Flood Plans

- RFPGs can help **inform the risk prioritization** process of the CRB Study
- P**rovide identified FMPs** to CBR Study, to be screened for federal/state funding
- P**rovide draft RFPG recommendations** to CBR Study to prevent duplication or misalignment in **Alternatives Analysis**

LRGV Region Update

Collaboration with Ongoing Projects:

- TWDB State Flood Planning – Region 15
- 20 TWDB Flood Infrastructure Funding Projects
- 28 GLO CDBG-Mitigation Projects

Next Steps:

- Kickoff Regional Workshop
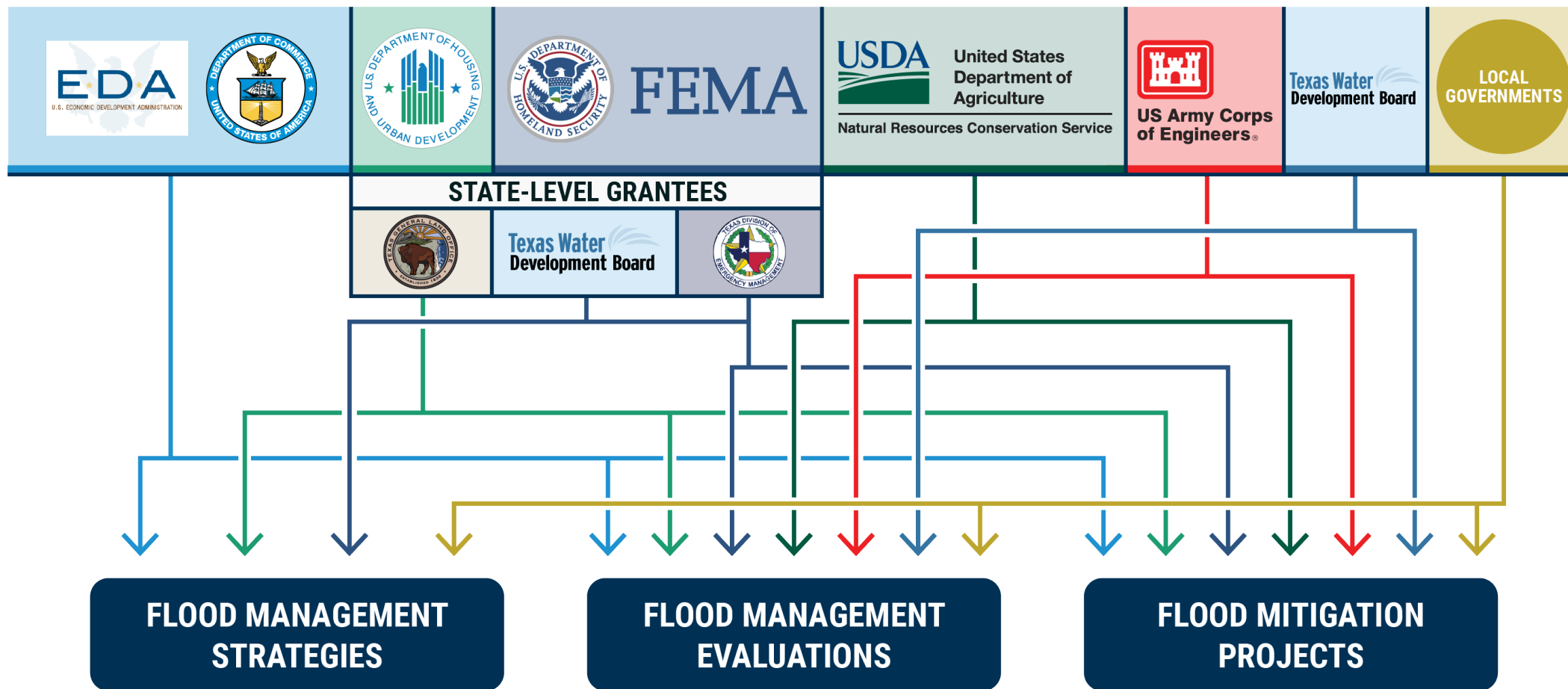- Data collection meetings, community flood needs workshops

Contact Information:

- GLOfloodstudies.lrgv@recovery.texas.gov
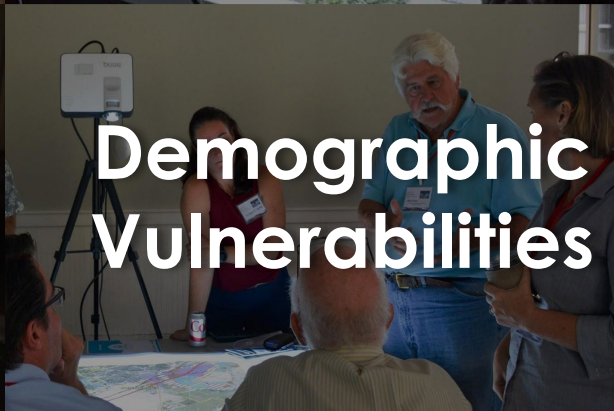
Texas Disaster Information System (TDIS)

- **GLO is partnering with the Institute for a Disaster Resilient Texas (IDRT) at Texas A&M System to create TDIS.**

- TDIS will be an interactive, web-based spatial data system designed to support Preparedness, Response, Recovery and Mitigation for the State of Texas. Together TDIS and IDRT will be able to:

  - Employ statewide data analytics and mapping technologies.

  - Provide users with accurate information to assess related disaster risks, impacts, and mitigation strategies.

  - Enable secured sharing of Texas disaster data information across public networks.

  - Preserve data products generated during disaster response, recovery and planning missions.

Community Health and Resource Management (CHARM)

CHARM provides customizable, hyper-local, interactive analyses to support interactive, data-driven collaboration and planning.

Future Land Use Plans

Higher Development Standards

Riverine & Surge Flood Loss Estimates

Critical Facilities Exercise

Demographic Vulnerabilities

Mitigation Opportunities

Community Health and Resource Management (CHARM)

Using data, support the human dimensions of collaborative decision-making

- ✓ Intended for all technical and non-technical participants and stakeholders
- ✓ Bring various viewpoints to work together
- ✓ Allow participants to come to terms with the data in their own words
- ✓ Build a conversation around data
- ✓ Engage with live mapping feedback
- ✓ Push technology to the background and let people work directly with each other and the data

Plans are nothing,
Planning is everything.

No plan can address the infinite problems caused by disasters. Our goal is to empower decision-makers with the information they need to understand the situation and quickly adapt.

"No plan survives first contact with the enemy. What matters is how quickly the leader is able to adapt."

– Tim Harford

We are not trying to solve any one problem; We are creating the relationships and platforms to address any problem together.

TXGLO

Planning together will promote unity, trust, and empowers decision-makers to better protect Texans from disasters.

QUESTIONS?

Texas General Land Office

@glotx

@txglo