

USACE COLLABORATION WITH THE TEXAS GENERAL LAND OFFICE; COMMUNITY DEVELOPMENT AND REVITALIZATION PROGRAM (GLO-CDR) AND PARTNERSHIP WITH THE TEXAS WATER DEVELOPMENT BOARD

Coraggio Maglio
Chief of Hydraulics and Hydrology, Construction Division
USACE-Galveston District



US Army Corps
of Engineers®



TEXAS DISASTER RECOVERY PLAN

U.S. DEPT OF HOUSING & URBAN DEVELOPMENT

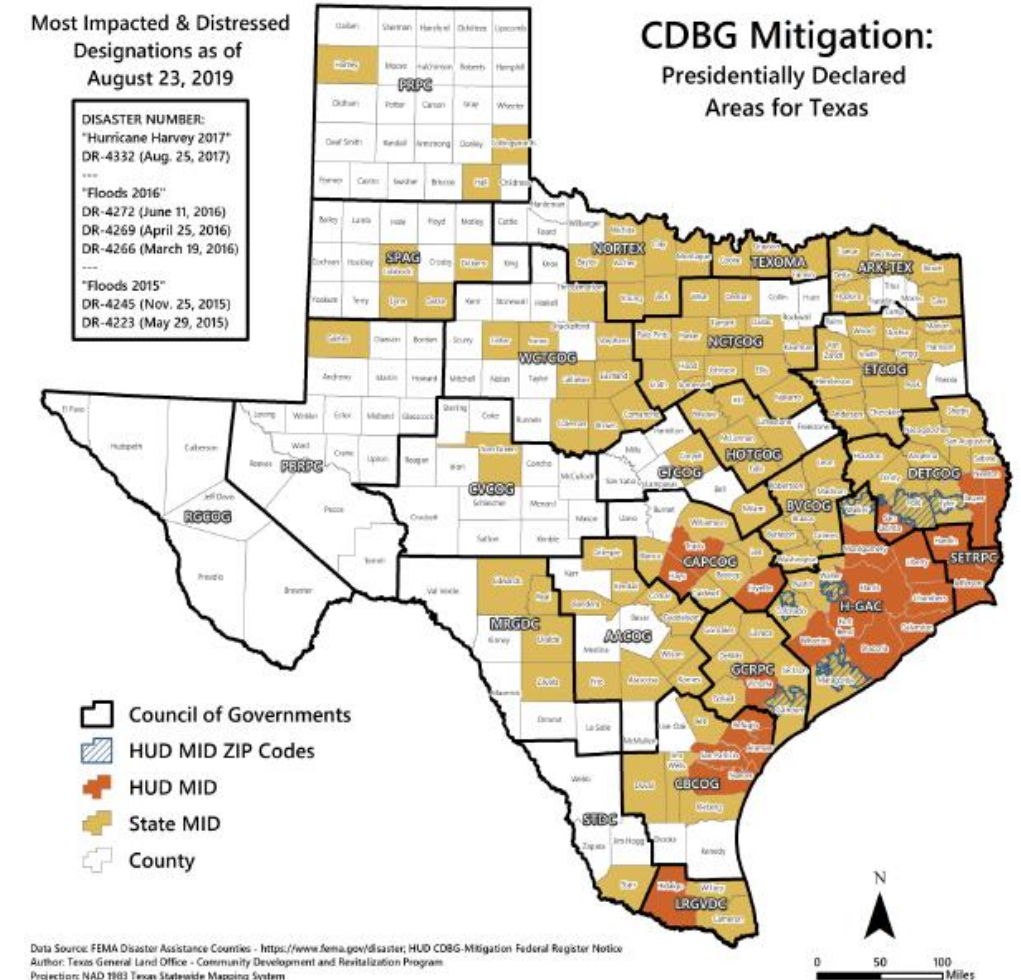


CDBG Recovery Allocation

- \$5.676B Allocation
 - Harris County - \$1.221B
 - City of Houston - \$1.265B
 - 48 eligible counties - \$3.189B
- \$137M Allocated for State Planning
- Funds must be expended by June 2024

CDBG Mitigation Allocation

- \$4.3B Allocation
- Federal register published August 30, 2019
- State run planning has a tentative budget of \$200M
- Funding expires 2032



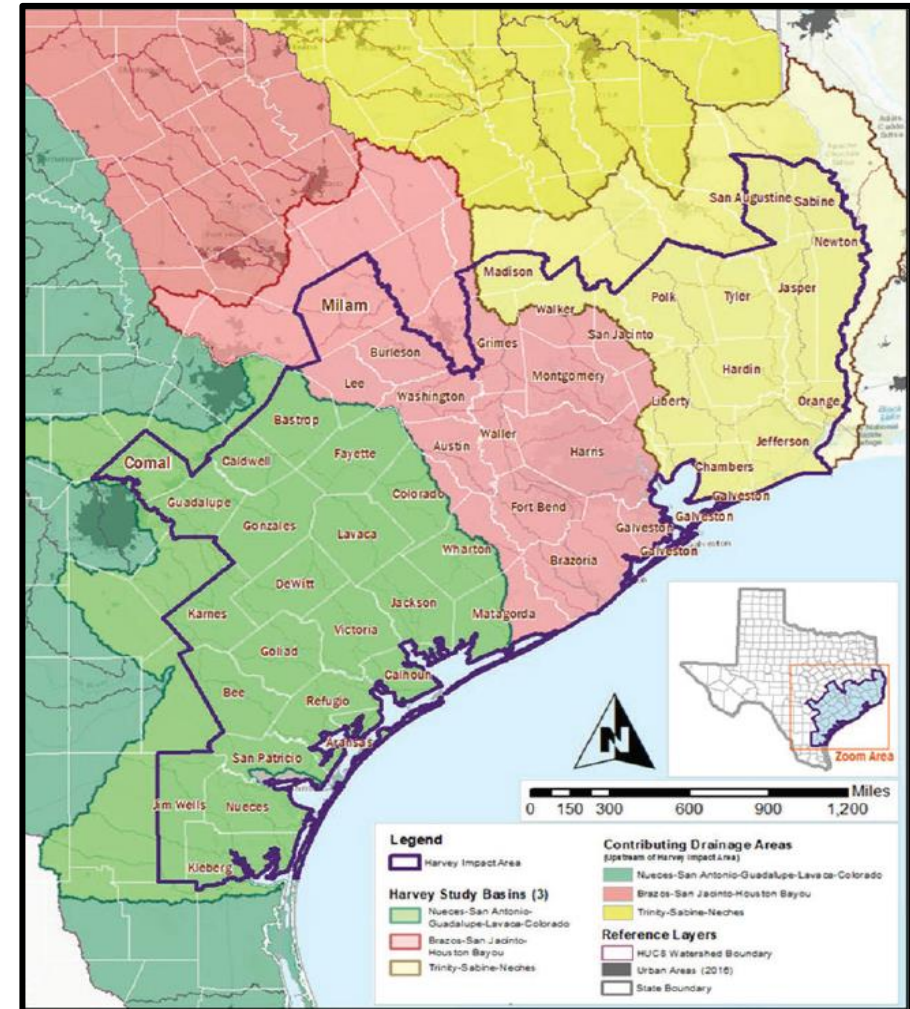


REGIONAL FLOOD STUDIES – SWF LEADING TECHNICAL OVERSIGHT WITH SWG SUPPORT



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 protect Texans from future disasters.

- 3 Regions - \$25M/region (\$75M Total) – A&E's: Dannenbaum, Freese & Nichols, and AECOM
- Region 4 - RGV (\$10M) also to be included – GLO-CDBG funded A&E's
- Five-phase study
 1. Data Collection & Stake Holder Engagement Plans
 2. Pilot Study
 3. Flood Model Development
 4. Alternatives Analysis and Cost-Benefit Analysis
 5. Recommendations and Pursuit of Additional Mitigation Funds



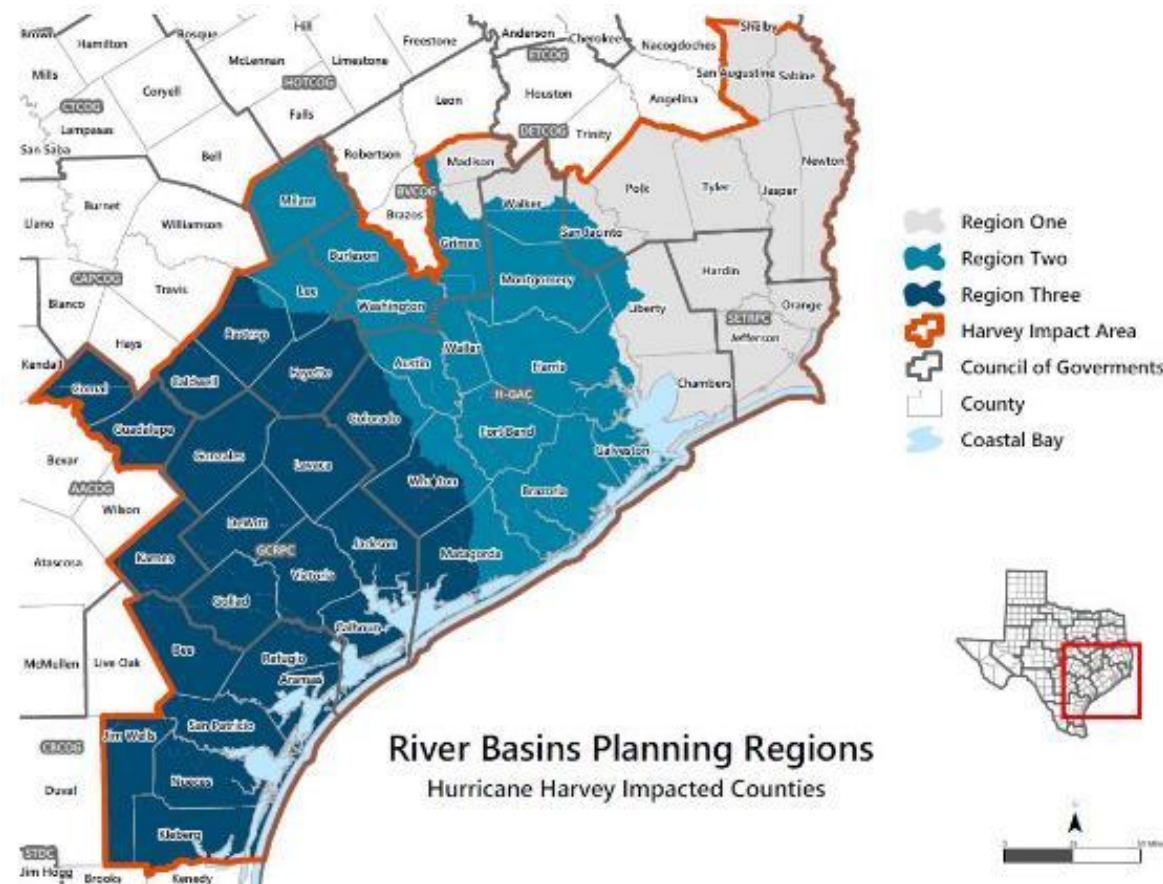


TEXAS INTEGRATED FLOODING FRAMEWORK - PLANNING RESILIENCY



Purpose: Develop a framework for implementing a comprehensive, science-based strategy to address riverine, pluvial, and coastal resiliency for Texas

- Lead by the TWDB
 - USACE and USGS supporting
- \$3M Budget over 3 years
- Four-phase study
 1. Data and Monitoring Gap Analysis
 2. Data Management and Visualization
 3. Integrated Flood Modeling Framework
 4. Planning and Outreach
- Due – 30 June 2024



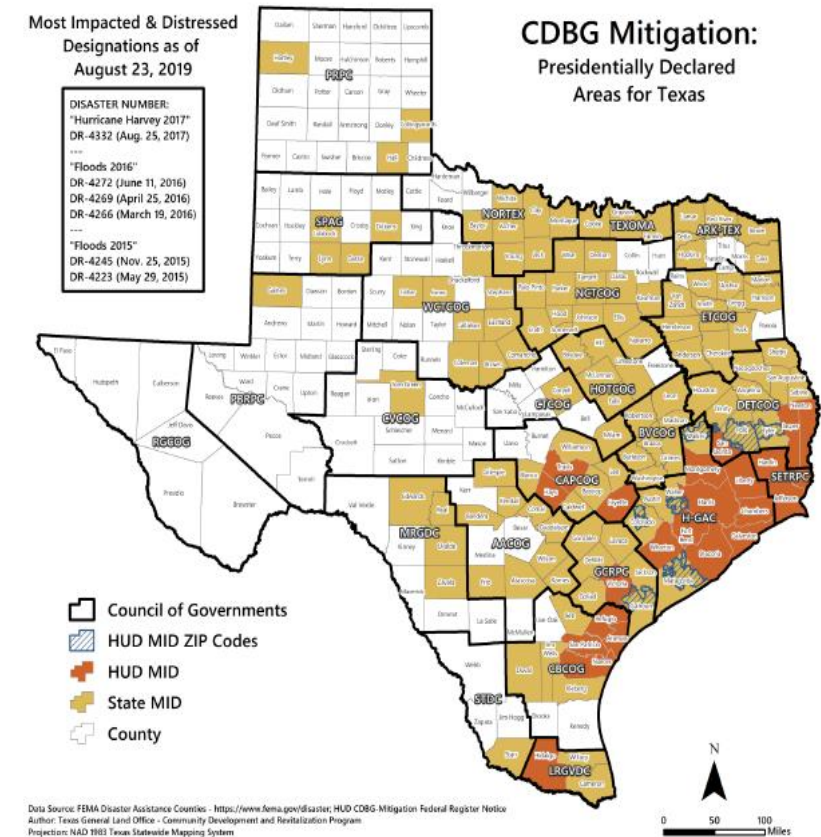


TEXAS INTEGRATED FLOODING INITIATIVE - IMPLEMENTATION



Purpose: Generate comprehensive fundamental datasets, expand real-time data collection, and enhance publicly available flood information; and develop accurate coastwide assessments of flood risk to enable more efficient, affordable, and transparent mitigation planning in the Coastal regions of Texas

- Texas Water Development Board, USACE, USGS
- Estimated at between \$10-100M investment over a decade
- Four-phase effort:
 1. Monitoring Systems Evaluation & Implementation
 2. Database Infrastructure, Interoperability & Visualization
 3. Coupled Coastal Modeling System Design
 4. Comprehensive Flood Hazard Identification & Planning





SIGNIFICANT COLLABORATION BETWEEN ALL STATE, FEDERAL AND ACADEMIC AGENCIES



Open lines of communication:

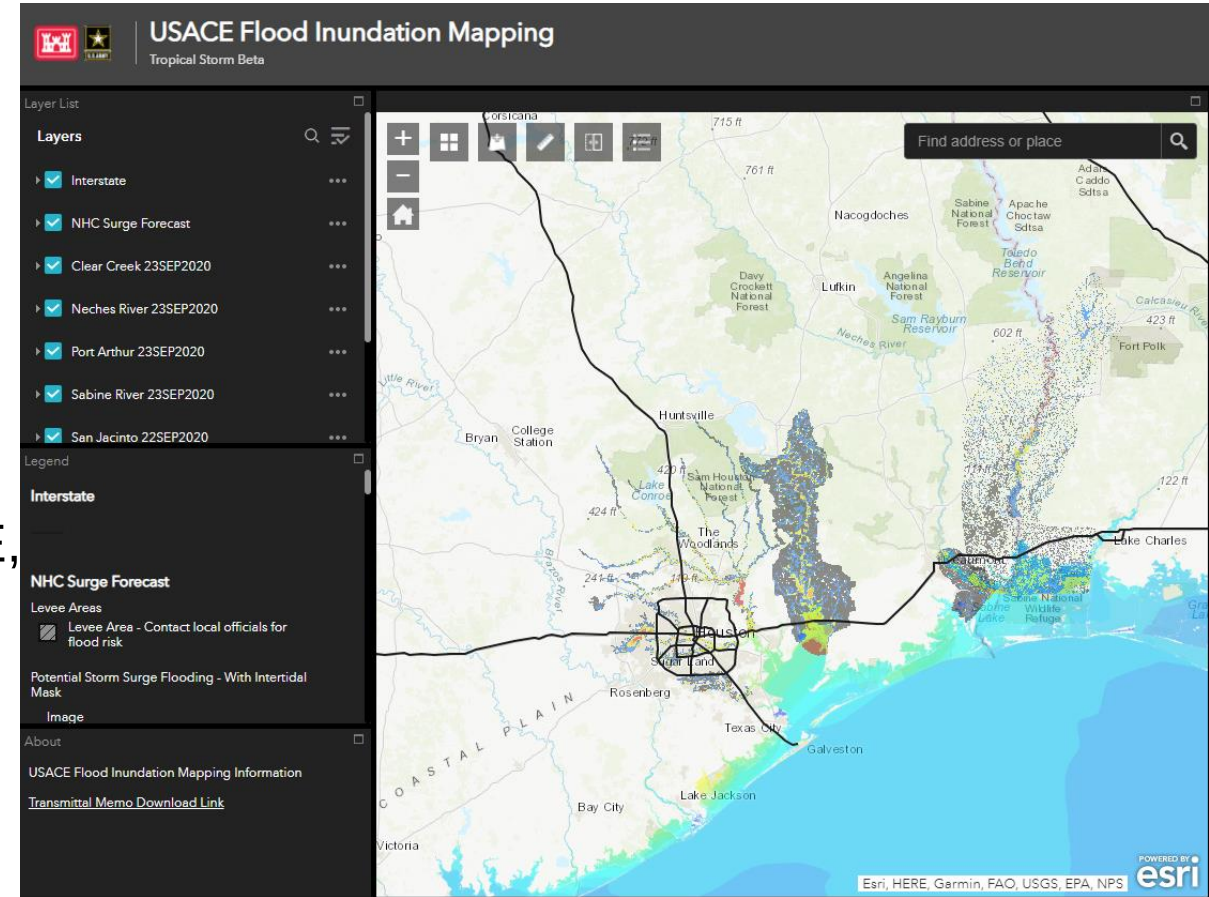
- SilverJackets meetings - monthly
- Conference presentations – TFMA
- Texas Flood Organizing Group - TWDB led

Iowa Flood Center Visit - 6 Jan 20 & 4 Fed 2021

- 30 Texas Attendees: TxGLO, TWDB, USACE, USGS, FEMA, TDEM, NCTCOG, TRA, LCRA, UT, UTA, TAMU AgriLife, NWS

Collaboration in emergency response:

- NWS, TDEM, SWF, MVN, MMC
- Flood inundation map products produced for:
 - Laura & Marco, Beta, Delta



Coastal Surge, Clear Creek, Buffalo Bayou, San Jacinto, Trinity, Neches, Port Arthur, Sabine





TEXAS DRIVING TECHNICAL ADVANCEMENT



Software Investments

1. HEC-RAS 2D rain-on-grid incorporation – Texas funded \$500k
2. HEC-RAS 2D - HEC-RAS 6.0 improvements
 - Spatial infiltration (losses)
 - Spatial precipitation
 - 1-D bridge hydraulics inside of 2D Flow Areas
 - Wind forcing

Model Development

- SWG – developing improved SWAN-ADCIRC Coastal Surge model for Texas - \$600k
- ERDC- Developing improved surge hazard stats and compound flooding analysis - \$230K

Interagency Agreements

- TWDB and USACE-SWF collaboration Floodplain Management Services (FPMS) \$120k FY21
- TWDB and USACE-SWG collaboration FPMS \$75k FY21



COMPREHENSIVE COASTAL RESILIENCY



Intentional Implementations

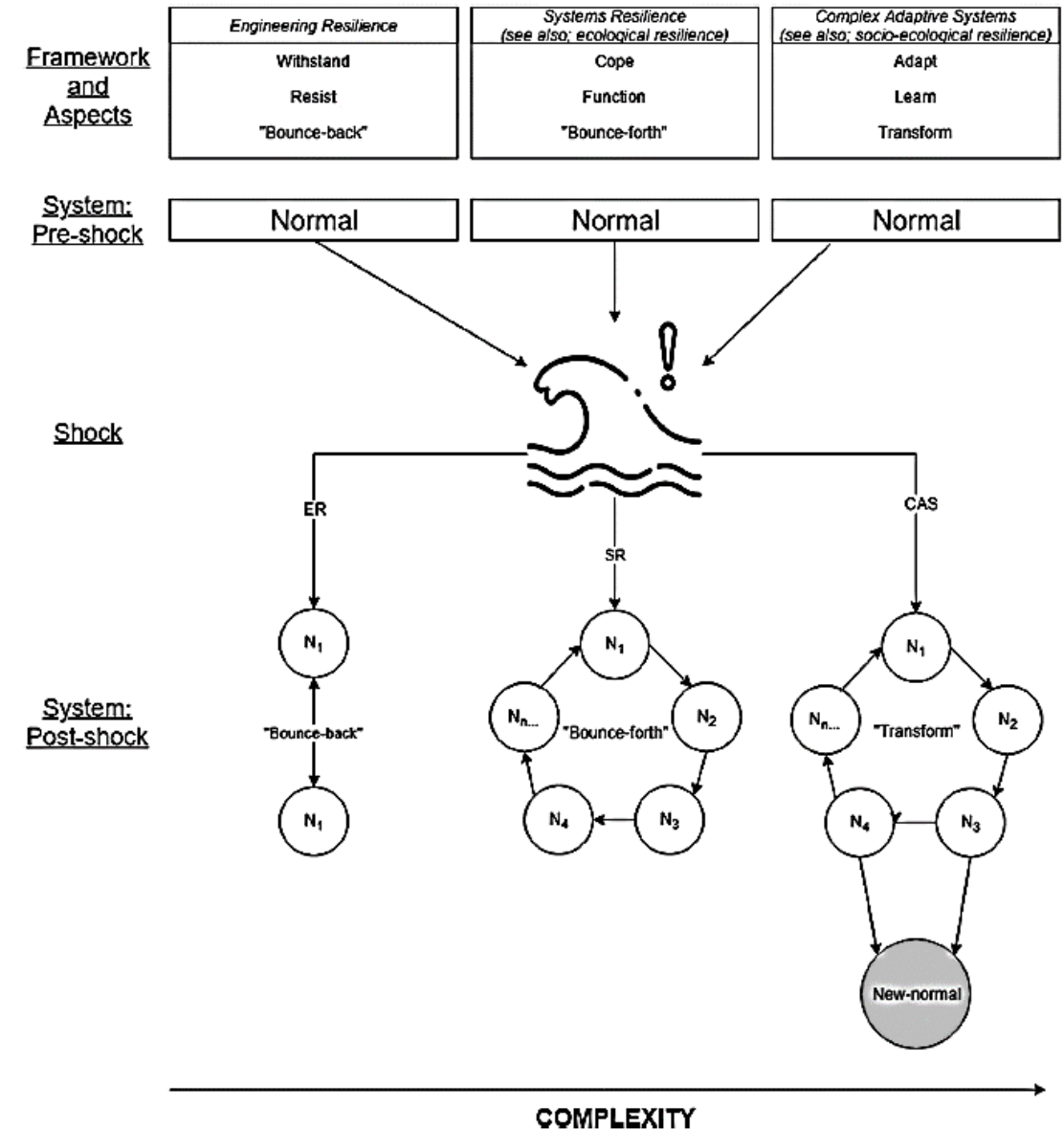
- Prioritize Resilience needs
- Focused
- Structured

Adaptive Management

- Monitoring
- Avoiding repeated mistakes
- Tipping points
-

Develop quantifiable success metrics

- Developing best-practice guidance
- Socialize and communicate success





CONCLUSION



Collaboration and coordination

- Lines of communication
- Alignment of resources and data sharing partnerships
- Collaboration in emergency response

Innovation and Advancement

- Software
- Model development
- Webviewers

Purpose and Dedication

- Shared understanding
- Driven conscientious professionals
- Funding
- Resiliency

