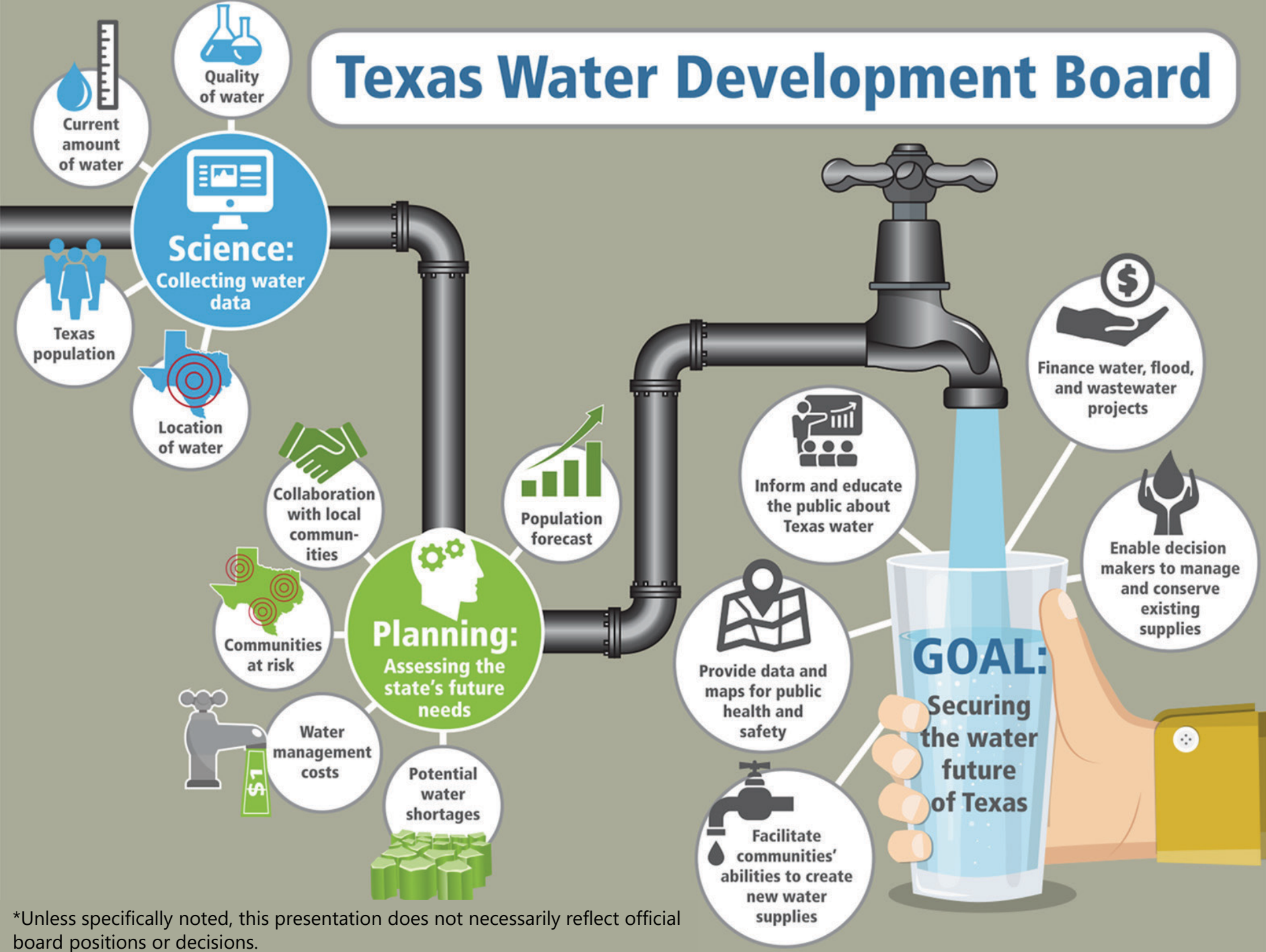


# Statewide Flood Initiatives



Interstate Council on Water Policy  
Annual Meeting  
October 8<sup>th</sup>, 2020  
Taylor Christian

# Texas Water Development Board



\*Unless specifically noted, this presentation does not necessarily reflect official board positions or decisions.

# TWDB Flood Responsibilities

State grants for flood protection planning

FEMA's Flood Mitigation Assistance (FMA) Grant Program

**Pre-2015**

State coordinator for National Flood Insurance Program (NFIP)

Statewide mapping partner in FEMA's Cooperating Technical Partner (CTP) Program

# TWDB Flood Responsibilities

Flood Gage  
Network

Texmesonet.org

**Post-2015**

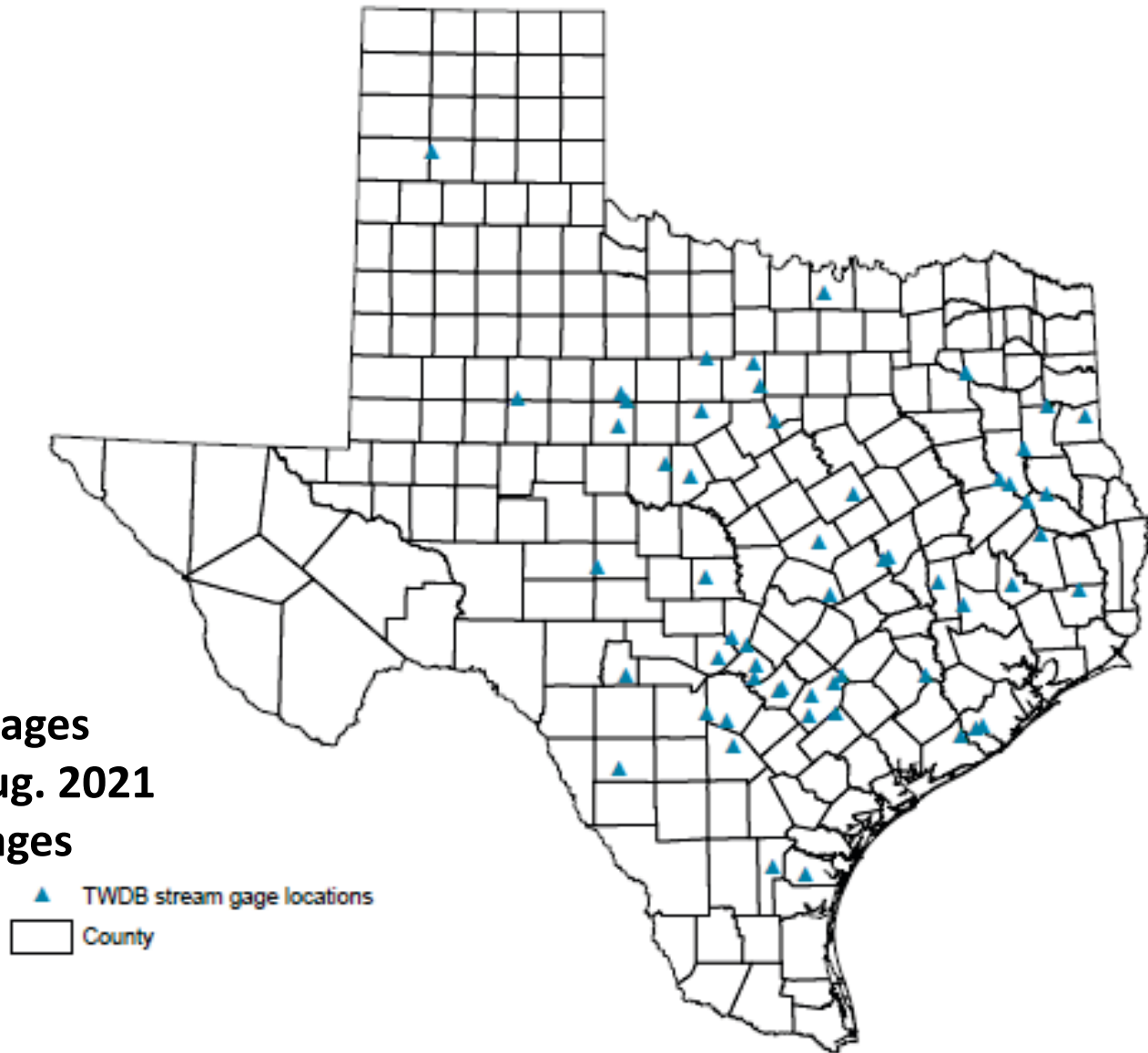
Texasflood.org

State Flood  
Assessment



# Flood Gages

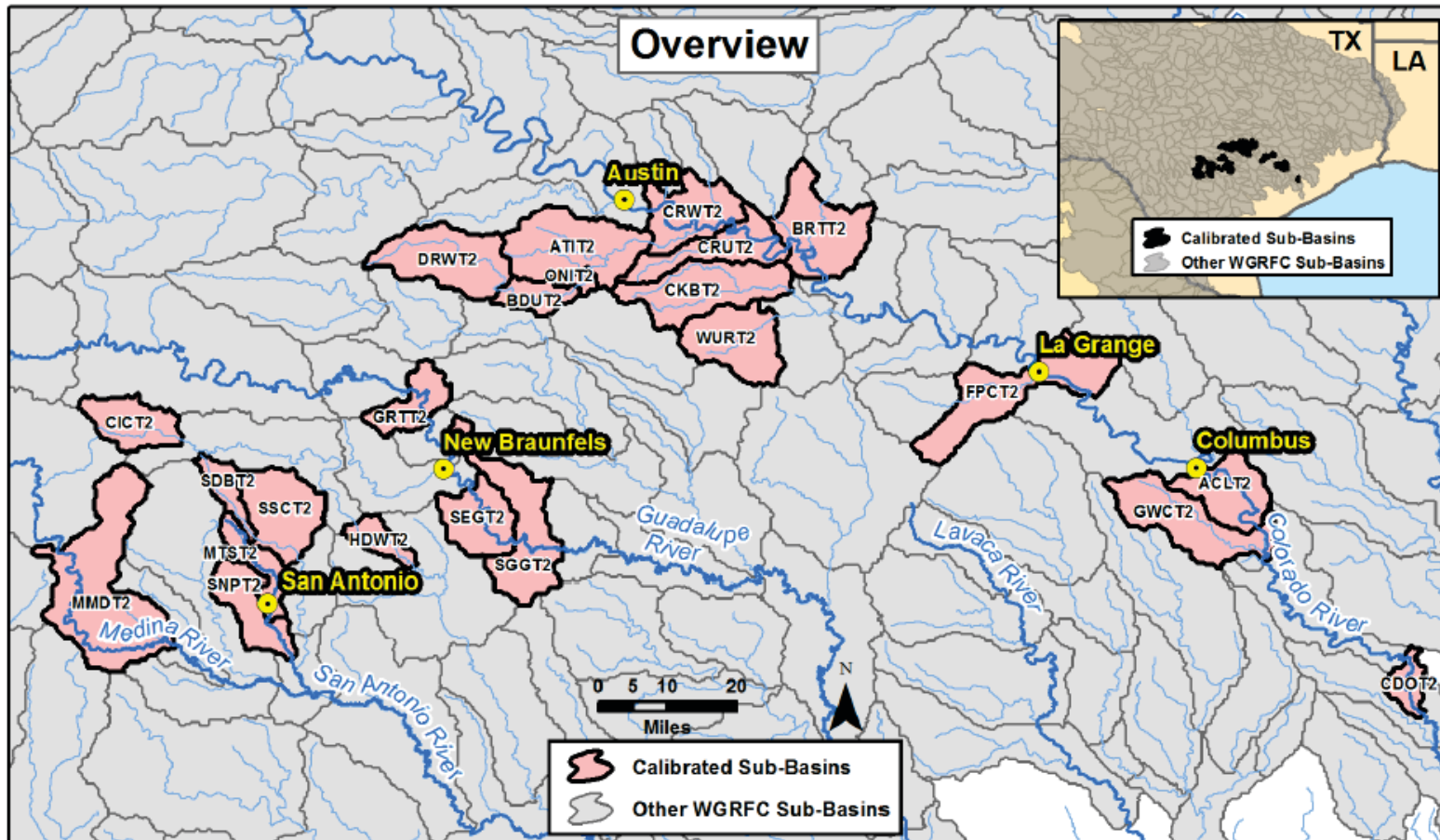
- Installed 56 new flood gages
- 4 additional gages by Aug. 2021
- Final build-out of ~60 gages

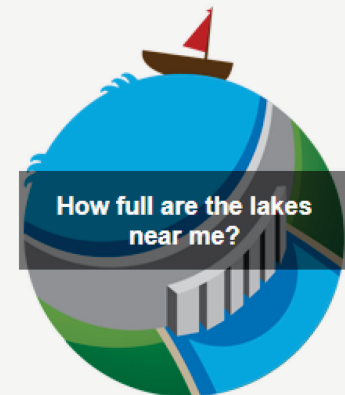


# Flood Modeling

- 51 sites calibrated
- 60 more by Aug. 2021

Figure 1. Project Region Showing Final Sub-basin Delineations





## TEXAS FLOOD.org

What to Do? Before, During, and After a Flood

Texas is no stranger to flood. With its diverse geography and extensive, hurricane-prone coastline, the state frequently leads the nation not only in structural damage but also in loss of lives related to flooding events. Given the deadly nature of floods and the rapid timeframe in which they can occur, being ready for the next event is essential. We list the most critical steps to take in each stage of the flood

### What to Do? Before, After, and During a Flood

- What is a flood?
- Before a Flood
- During a Flood
- After a Flood

### Flood Protection Grant Programs

### National Flood Insurance Program (NFIP)

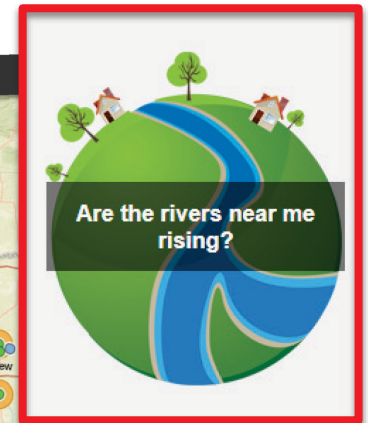
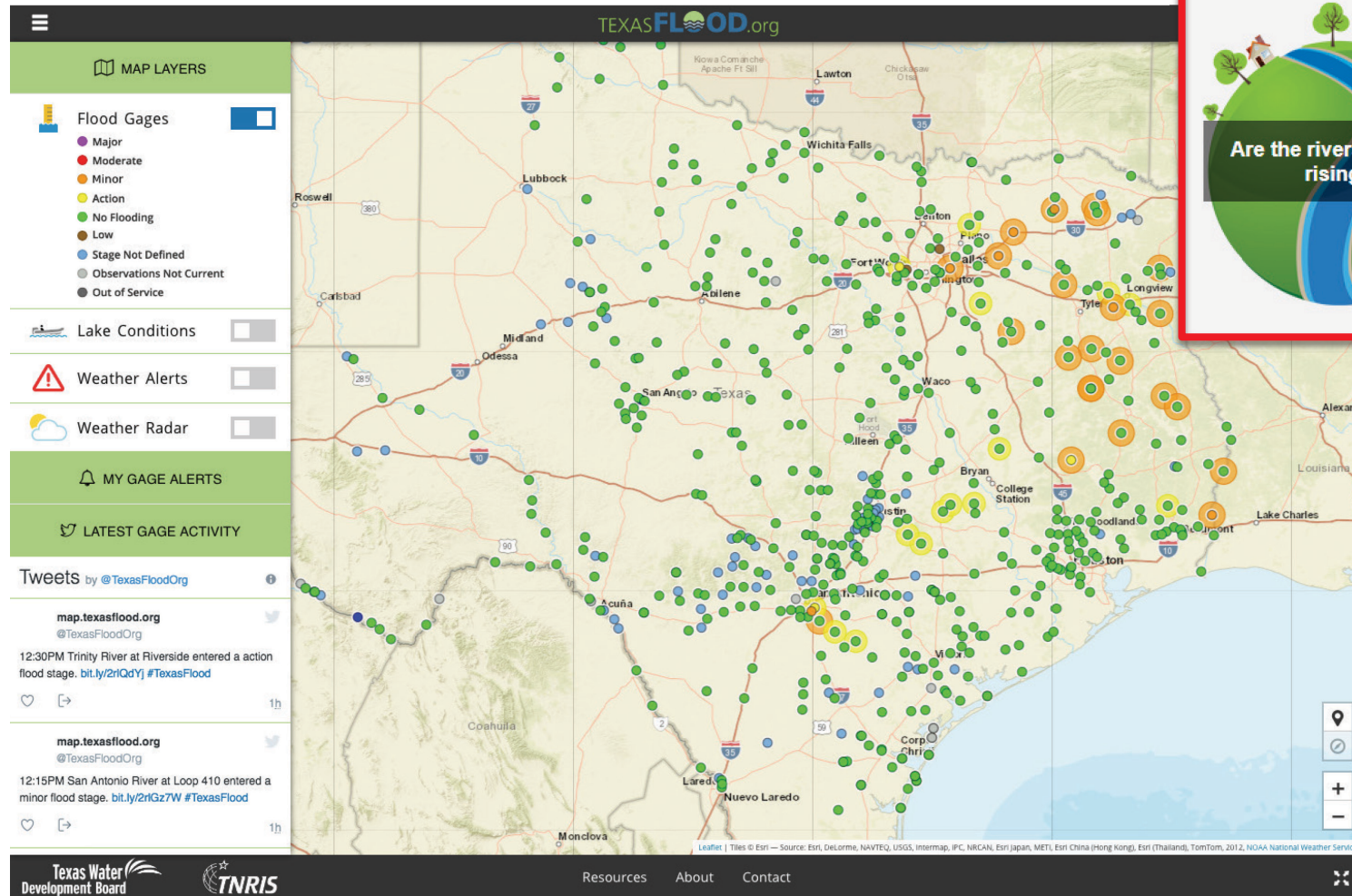
### Workshop & Training

### Community Resources

### Flood Mitigation Planning Staff



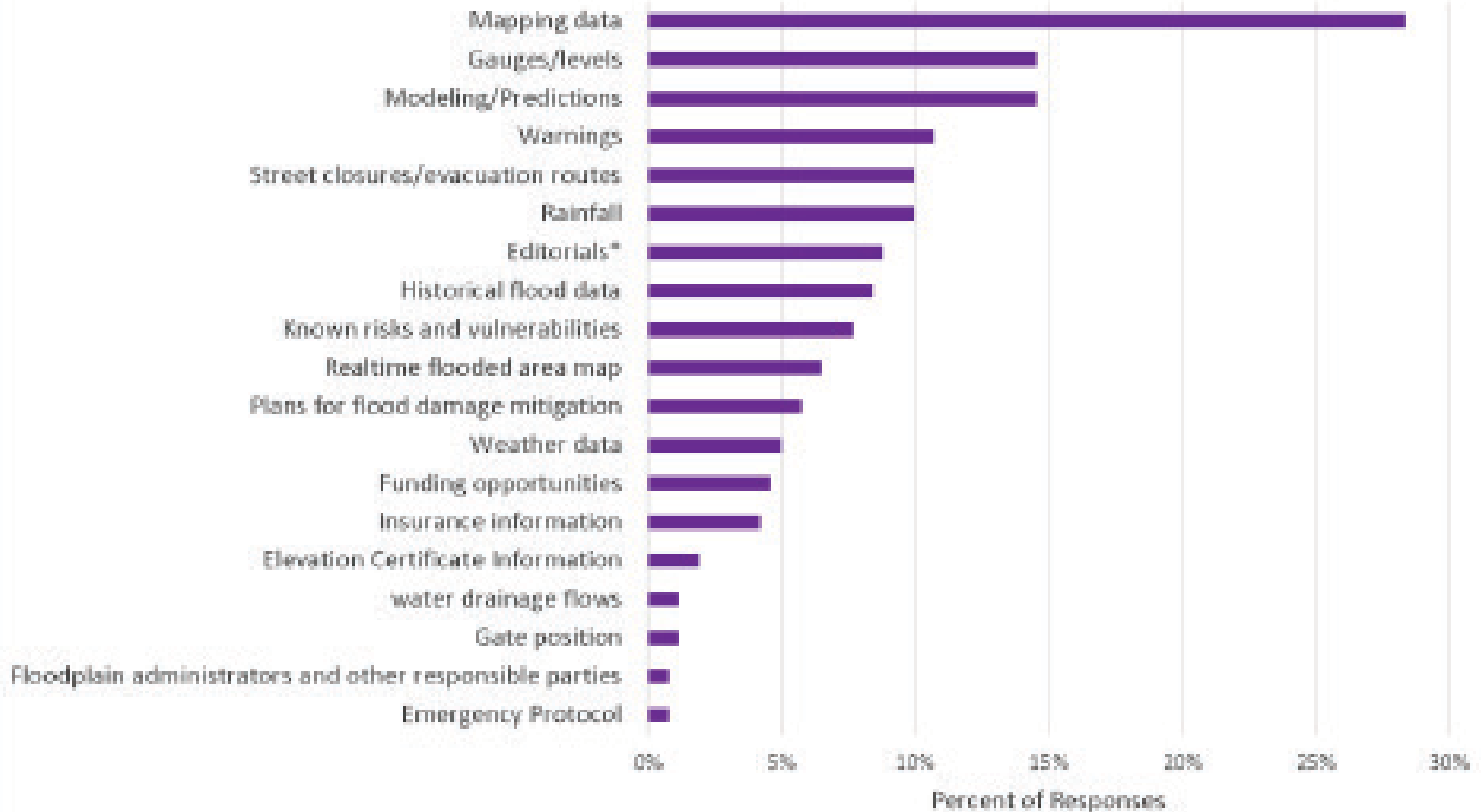
# Flood Viewer: map.TexasFlood.org

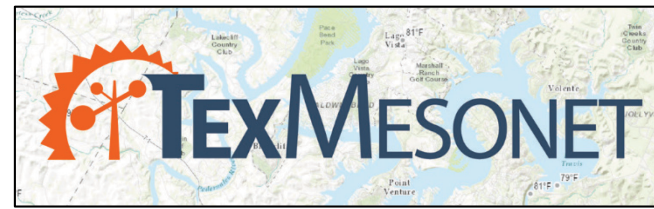




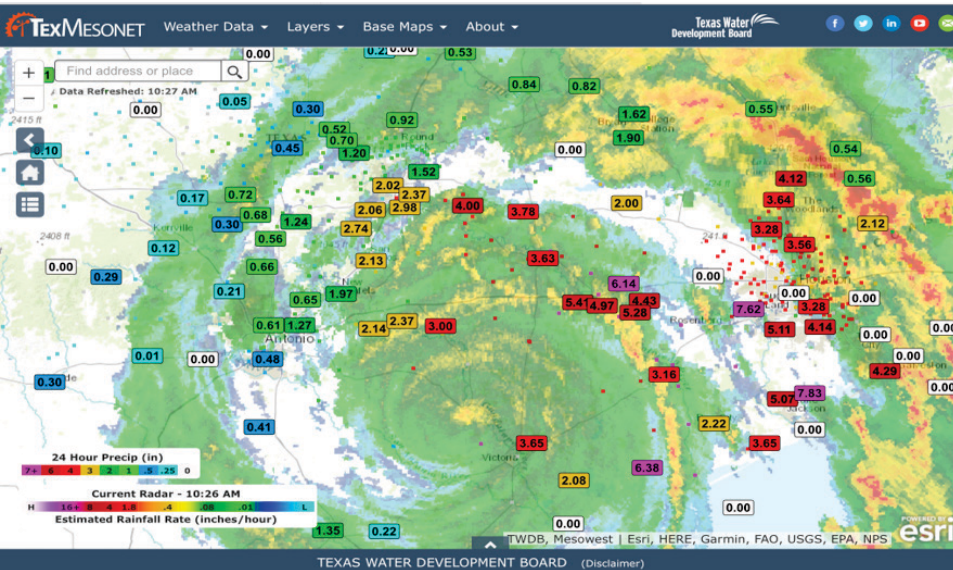
# TexasFlood.org

Responses to Question 10:  
What flood-related information do you wish was more easily available?





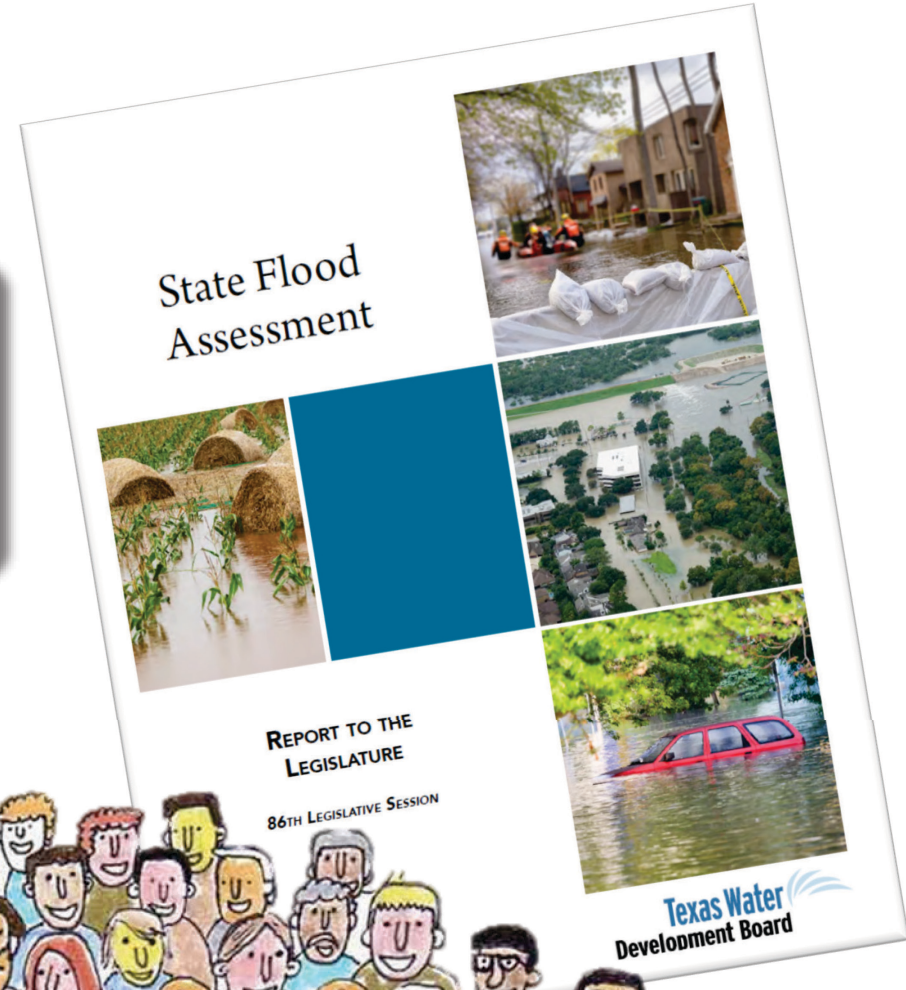
- ✓ **Statewide observation network for weather, solar energy, soil moisture & temp.**
- ✓ **Supports flood monitoring & forecasting as well as drought monitoring**
- ✓ **70 TWDB stations are operational**
- ✓ **15-20 more by Aug. 2021**
- ✓ **Participation is free; partnership is appreciated**



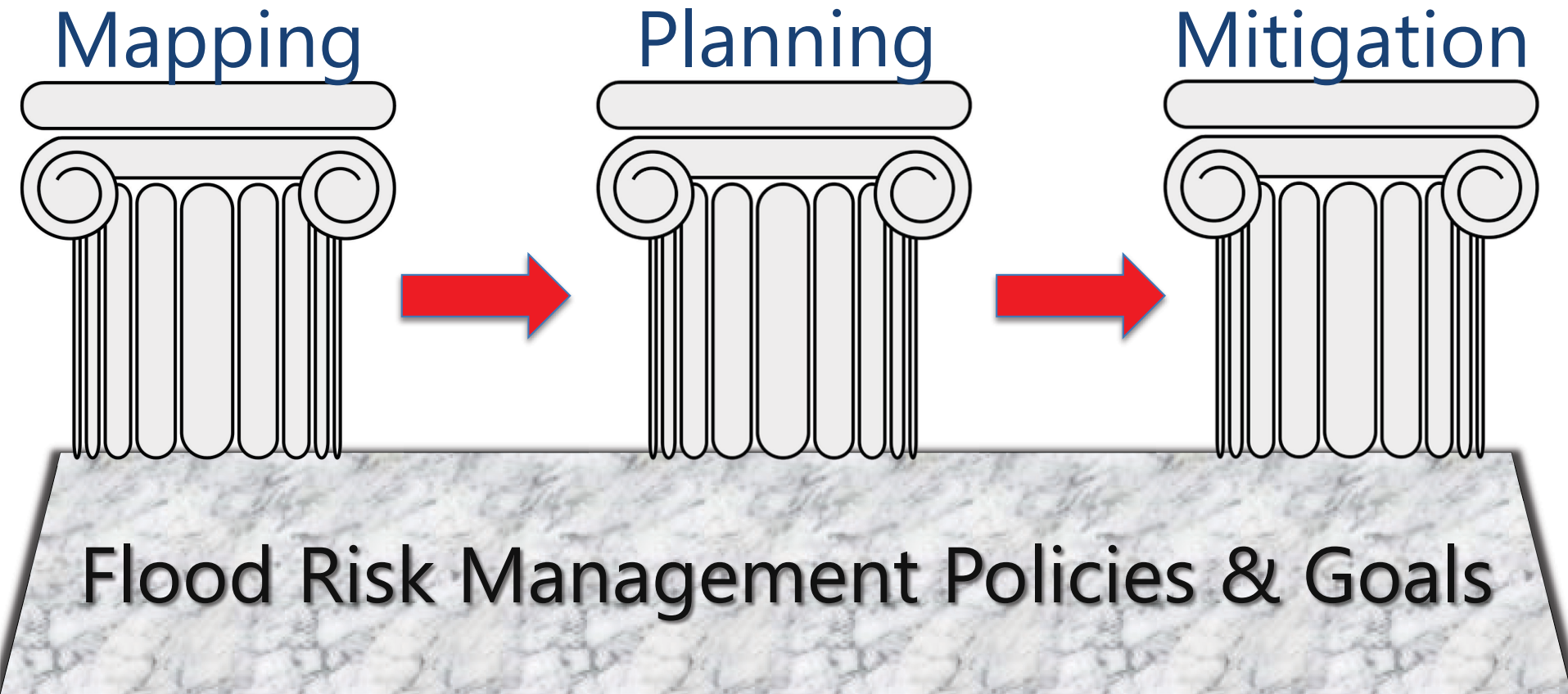




# STATE FLOOD ASSESSMENT

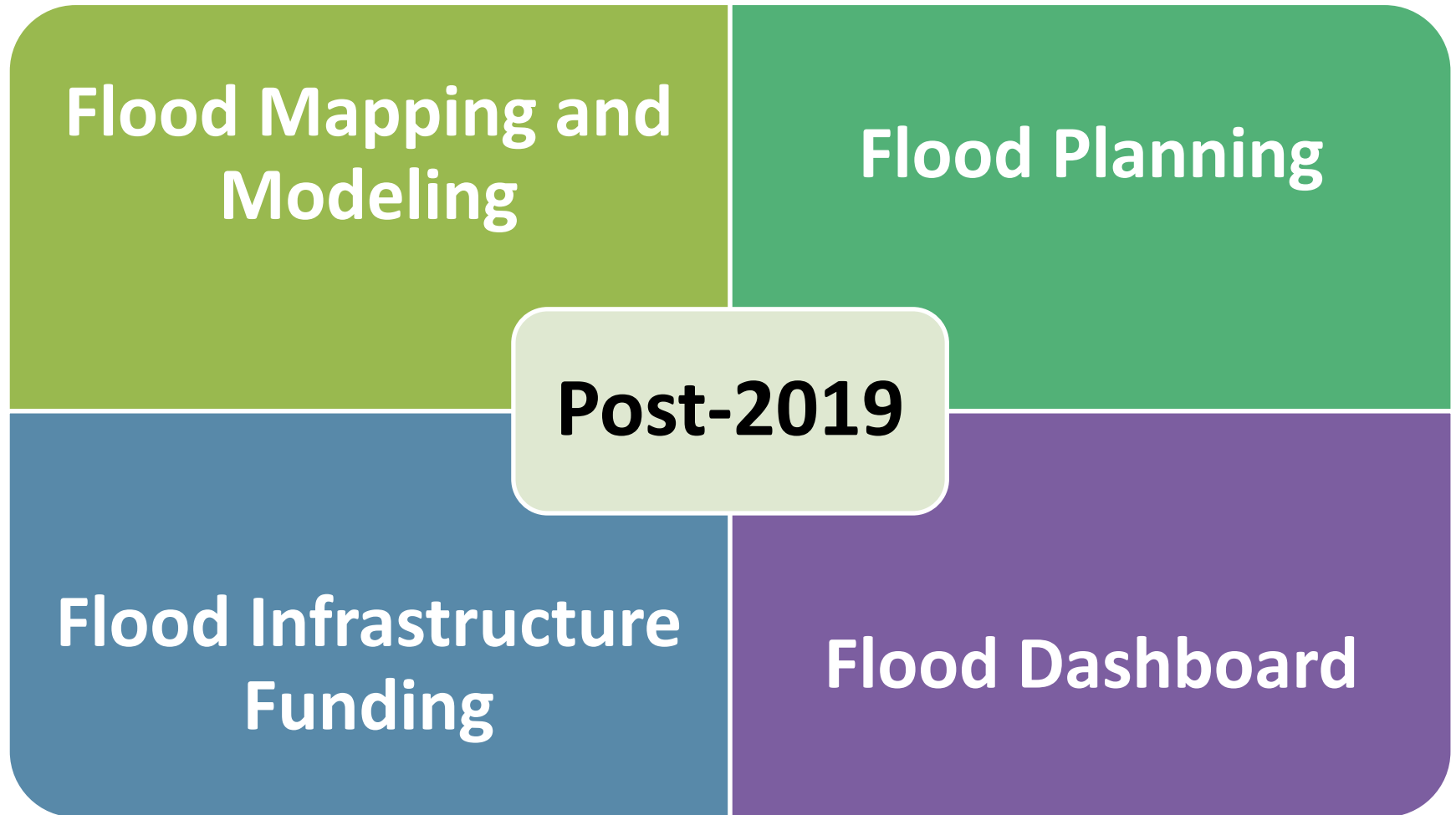


# Three Pillars of Flood Risk Management

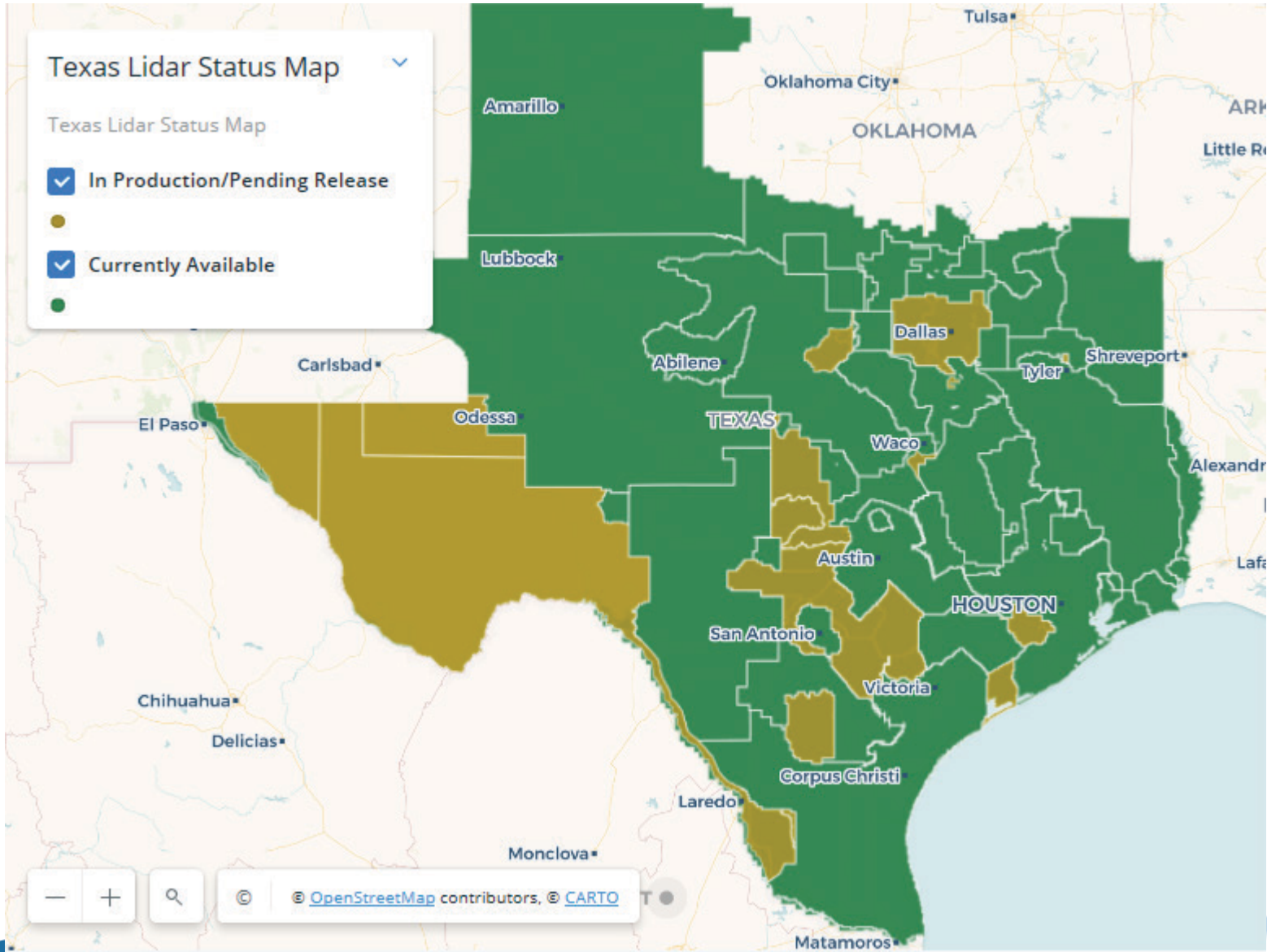




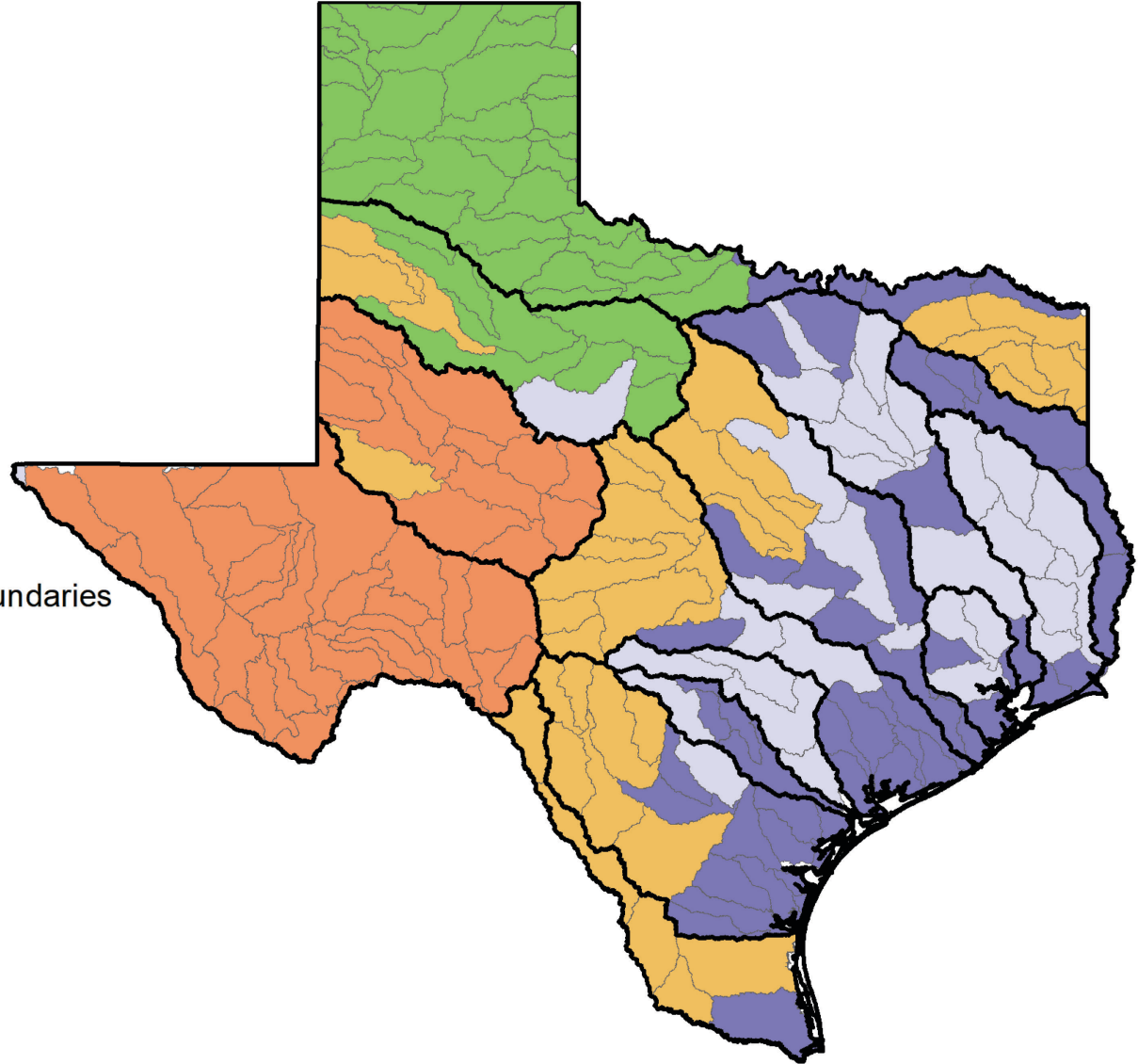
# TWDB Flood Responsibilities



# LiDAR status, Jun 2020



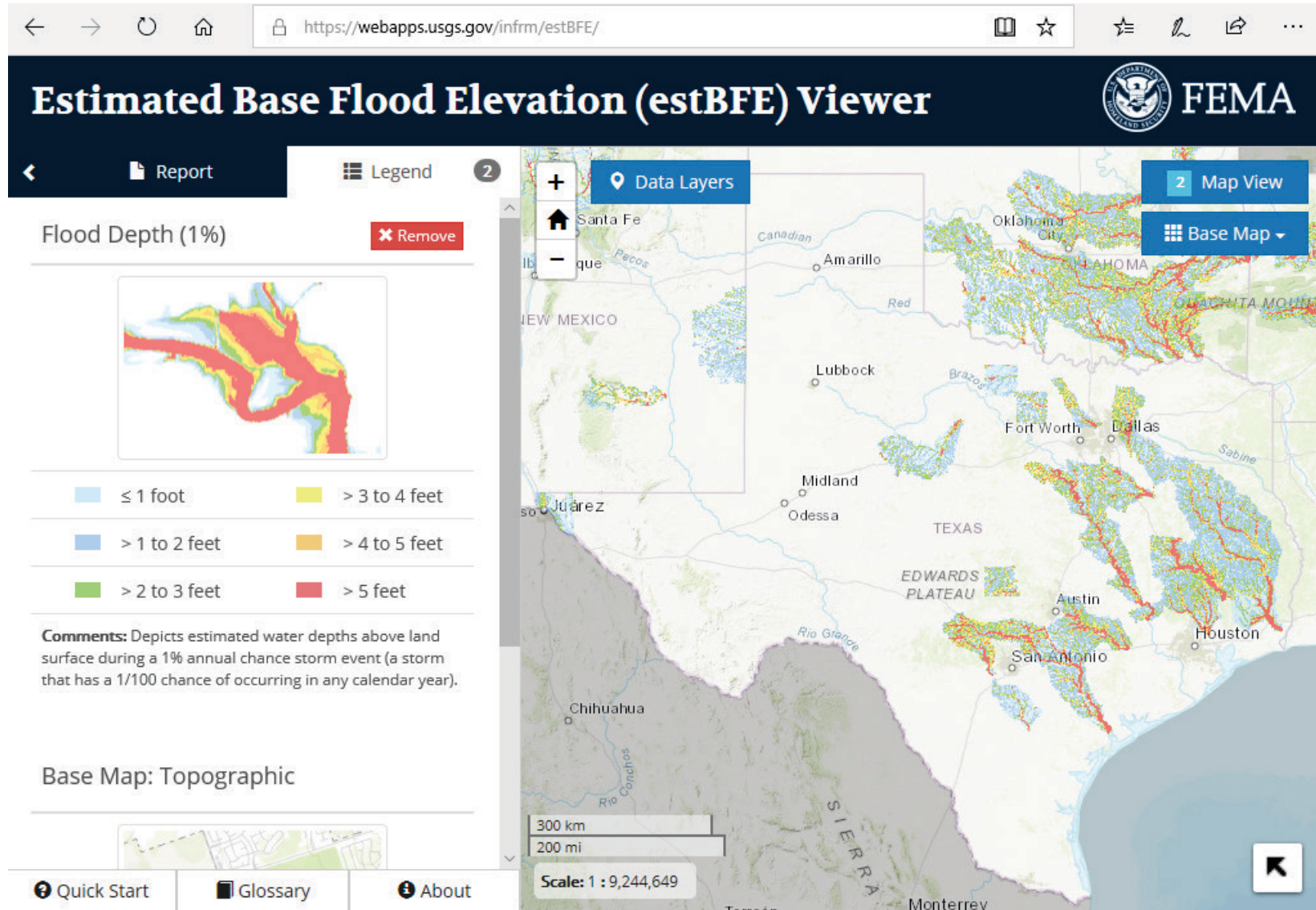
# Base Level Engineering (BLE) status as of Sep 2020



Fiscal year	Cumulative coverage
20	15%
21	38%
22	61%
23	80%
24	100%

Base Level Engineering is funded through FEMA and the TWDB.

# Estimated Base Flood Elevation Viewer





# Regional Flood Planning

Flood Planning Region Boundaries



# Flood Infrastructure Funding



Category 1 – Flood Protection Planning for Watersheds

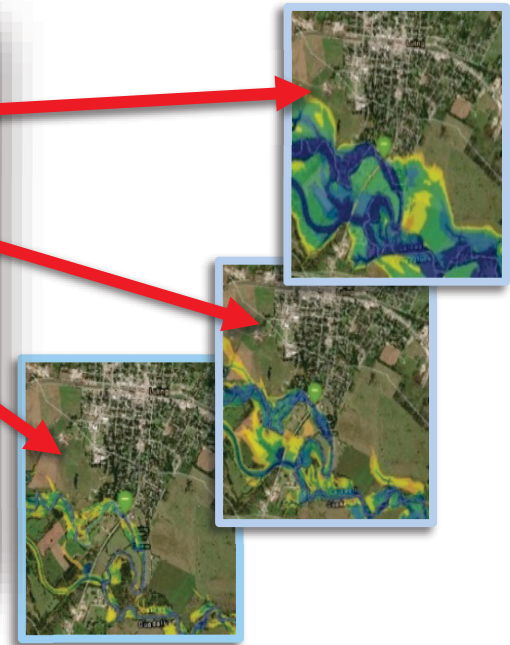
Category 2 – Planning, Acquisition, Design, Construction, Rehabilitation.

Category 3 – Federal Award Matching Funds

Category 4 – Measures Immediately Effective in Protecting Life and Property

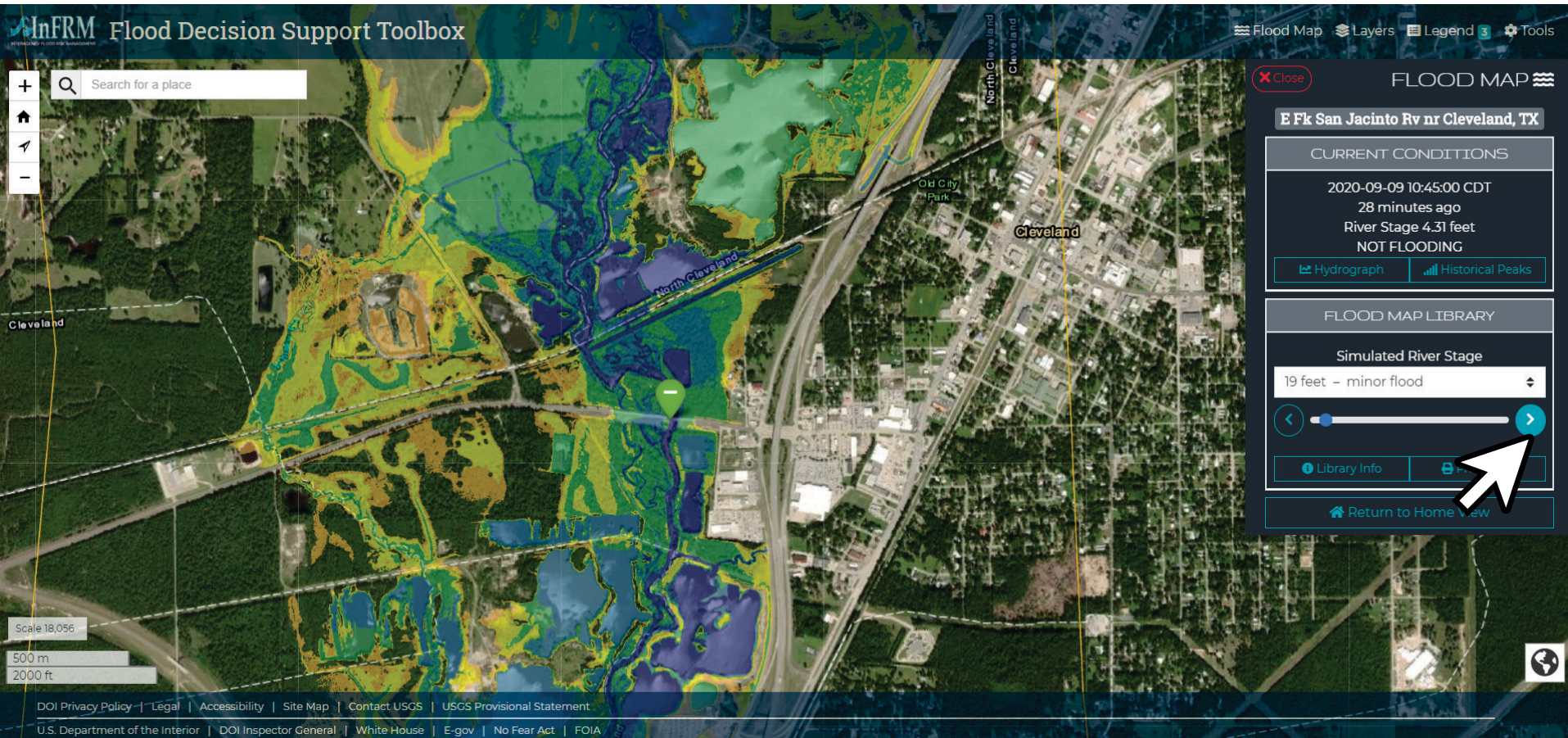
# Flood Decision Support Toolbox (FDST)

- Pre-positioned map libraries
- Tied to:
  - USGS streamgauge data
  - NWS River Forecasts
  - NWS Flood Categories
- Scenario Planning
- Historic Flood viewing
- Print Map Generation





# FDST Functionality



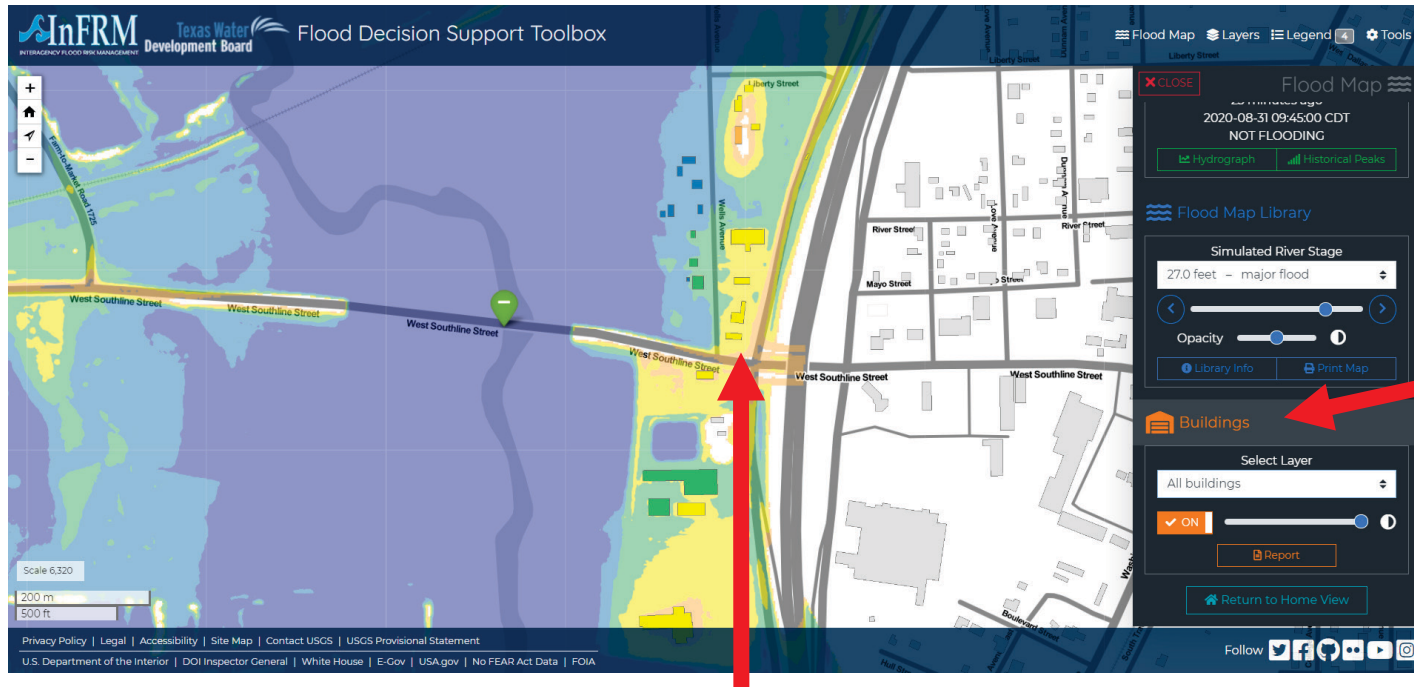
Map library extends from NWS Minor Flood stage to maximum expected flood (max observed OR 500-year event)

20



# FDST Future Functionality

Updates are a result of new partnership  
with TWDB



New 'Buildings' layer displays building footprint.

'Report' function summarizes building flooding

Inundated buildings are color-coded based on max depth within structure footprint

# Questions?

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**Water Data Scientist and Coordinator**  
**Taylor.Christian@twdb.Texas.gov**