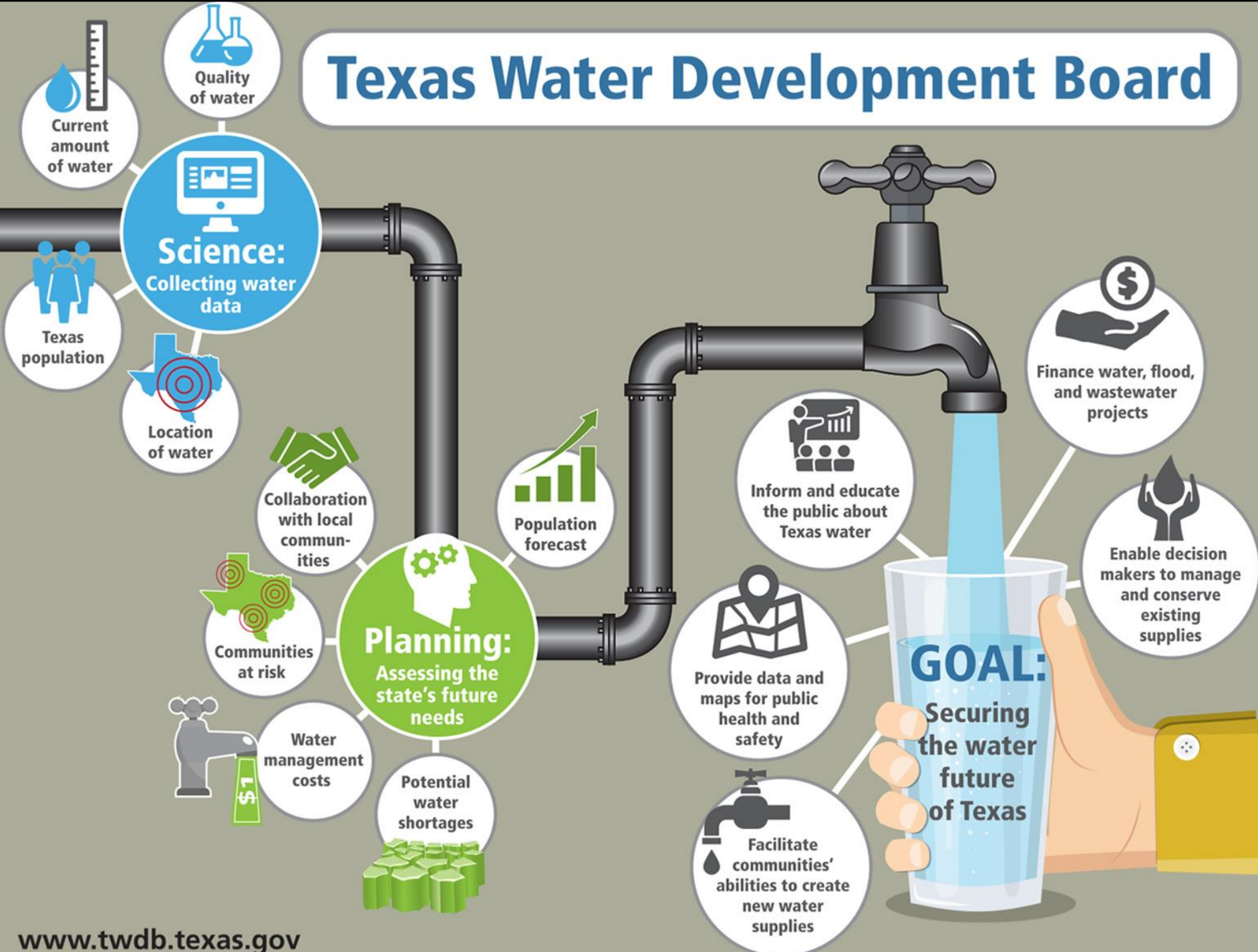


Flood Implementation Stakeholder Workshop



August 2019

Texas Water Development Board



Agenda

- **Welcome and opening remarks**
- **TWDB Flood Activities: Past, Present, and Future**
- **Presentations of Senate Bill (SB) 7 and SB 8 stakeholder consideration issues**
(interactive with real-time polling and audience participation)
- **Breakout session discussions (optional)**
 - Group 1: discussion on flood planning
 - Group 2: discussion on financial assistance
- **Adjourn**

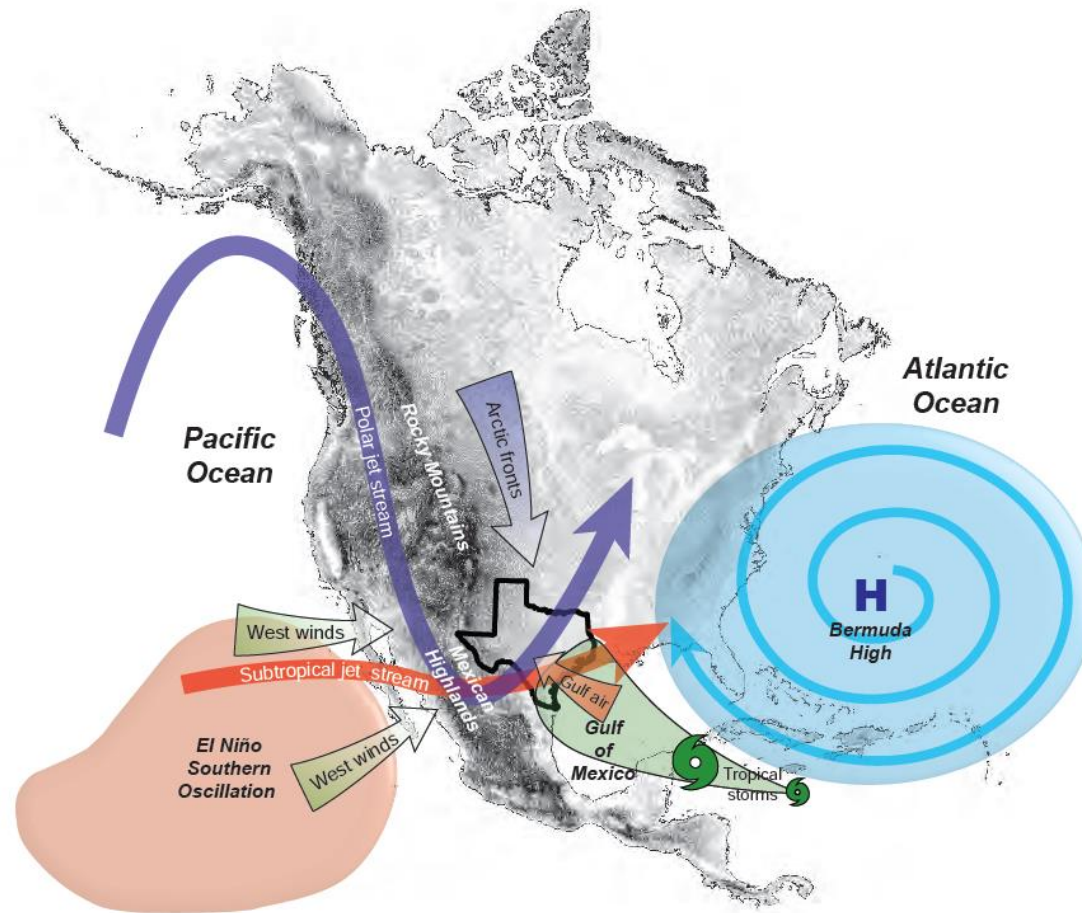
Agenda

What won't be covered today:

- Flood Insurance Rate Maps (FIRMs) or insurance issues
- Local regulations, bond programs, or projects
- Federal projects or programs
- Disaster recovery efforts
- Public assistance to homeowners/businesses

TWDB Flood Activities: Past, Present, and Future

Texas Weather: Drought. Flood. Repeat.



TWDB Flood Responsibilities

- Prior to 2015, TWDB:
 - Funded state grants for flood protection planning to conduct feasibility studies for an entire watershed to evaluate both structural and nonstructural solutions
 - Administered federal Flood Mitigation Assistance Grant (FMA) Program
 - Served as state coordinator for:
 - National Flood Insurance Program (NFIP)
 - Cooperating Technical Partner Program

Expanded Flood Responsibilities in 2015

	DATA	SCIENCE	COMMUNICATION	FUNDING
NEW EFFORTS				
EXPANDED EFFORTS				

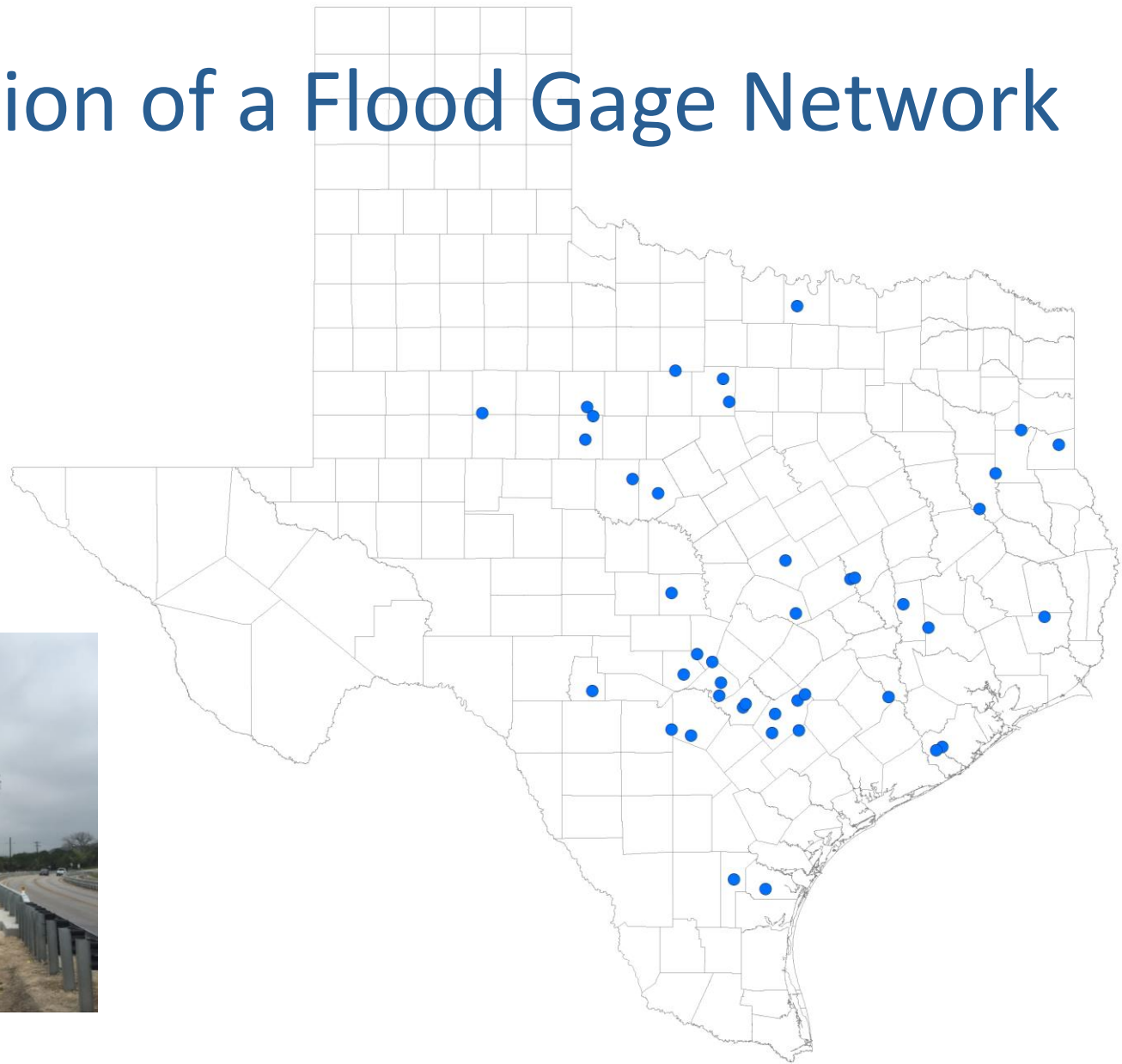
2015 MOU \$ 6.8 million
85th Legislature \$7.8 million

New and Expanded Data Collection

	DATA	SCIENCE	COMMUNICATION	FUNDING
NEW EFFORTS	Flood Gages	River Forecast Model Calibration	TexasFlood.org	
	TexMesonet		TexMesonet.org	
			State Flood Assessment	

EXPANDED EFFORTS	Lidar Data	Flood Mapping	Community Outreach	Flood Protection Grants
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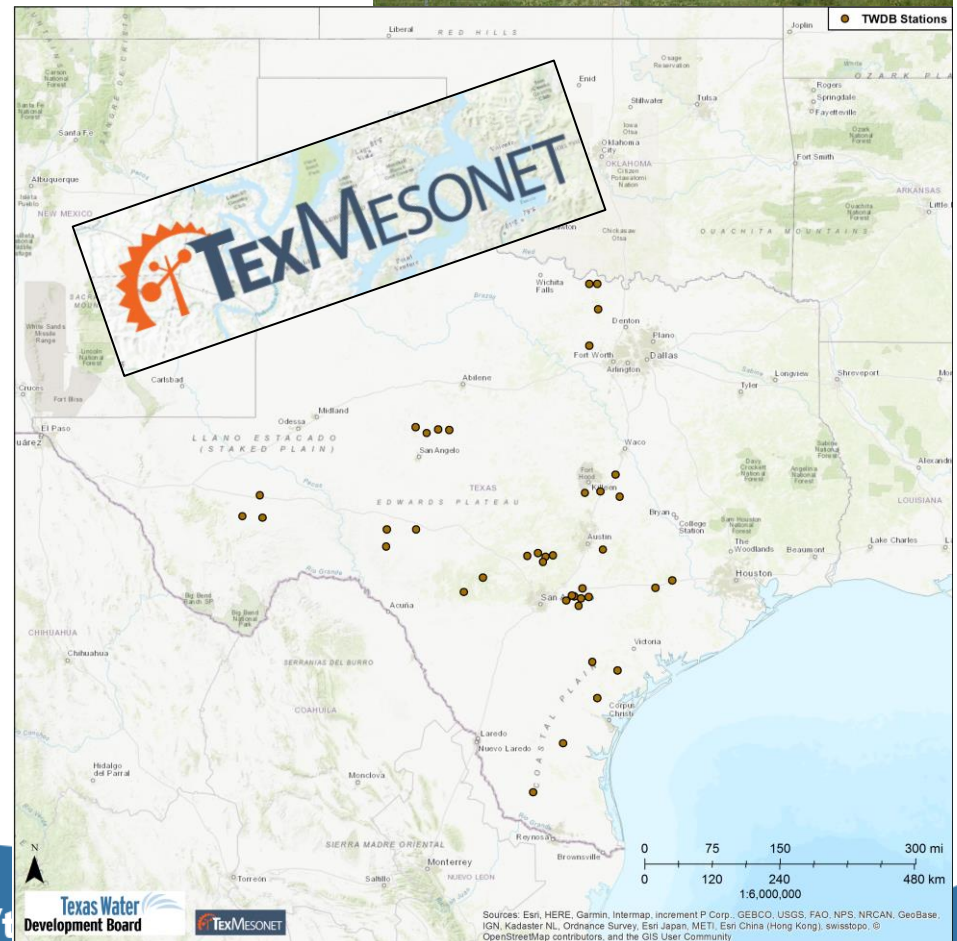
Creation of a Flood Gage Network



Creation of TexMesonet

statewide earth observation network

- Collects:
precipitation, wind direction/speed, air temp., relative humidity, soil moisture/temp.
- Supports flood & drought monitoring and forecasting





STATE FLOOD ASSESSMENT

1. Assess risk and roles
2. Estimate flood mitigation costs
3. Envision the future of flood planning in Texas

State Flood Assessment



REPORT TO THE
LEGISLATURE

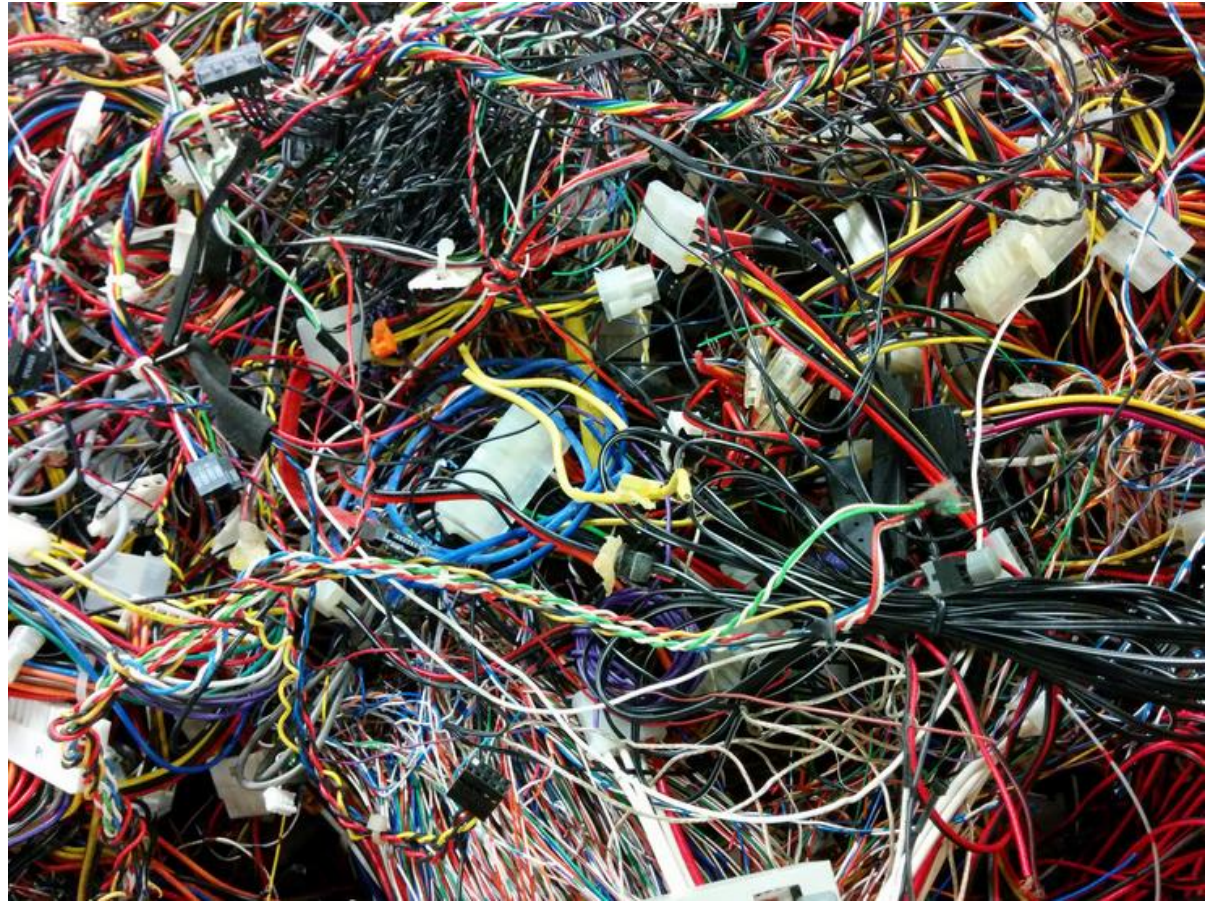
86TH LEGISLATIVE SESSION



STATE FLOOD
ASSESSMENT

Texas Water
Development Board

Flood-related Roles and Responsibilities





We asked: *What would most benefit your community?*

awareness mapping
drainage local regional
development
funding
planning
county
mitigation



Three Pillars of Flood Risk Management

Mapping

Planning

Mitigation



Flood Risk Management Policies & Goals

Governor's Commission to Rebuild Texas: Eye of the Storm Report

“Texas needs to work toward making the Texas Gulf Coast—and indeed the entire state— more resilient in the face of future risks, whether the threat comes from hurricanes, tornadoes, wildfires, flooding or other disasters.”

Outcomes of the 86th Texas Legislature

- SB 7 (Sen. Creighton): Creates the Flood Infrastructure Fund (FIF) and the Texas Infrastructure Resiliency Fund (TIRF)
- SB 8 (Sen. Perry): Creates a new state and regional flood planning process
- HJR 4 (Rep. Phelan): Flood Infrastructure Fund creation outside the treasury
- SB 500: Appropriates funding for bills, including:
 - Expansion of TexMesonet
 - Lidar acquisition
 - Development of a dashboard/datahub
 - Updates to reservoir flood pool measurements

SB 7 and SB 8

Implementation Process Timeline

August 2019: Informal, pre-rulemaking request for feedback, stakeholder workshops, and webinar

Fall 2019/Early 2020: Formal rulemaking activities, including public comment period

Early 2020: Flood funding applications are solicited

Mid 2020: Regional flood planning groups are formed

Opportunities to Provide Input

- In following presentations on SB 7 and SB 8:
 - Respond to Poll Everywhere questions as member of audience
 - Pose questions and comments to the group
- Attend breakout session(s) or mingle
- Provide written comments by August 30
- Participate in formal rulemaking public comment options this fall
- Participate in regional flood planning process

Poll Everywhere

Tell us a little bit about yourself.

What town or county do you call home?

Poll Everywhere

Tell us a little bit about yourself.

What interests do you most identify with (top 2)?

- Floodplain manager/ flood professional
- City or county
- State government
- Federal government
- Water-related district or political subdivision
- Concerned citizen/ flood survivor
- Legislative/ policy
- Council of government
- Environmental/natural resources
- Engineering/consulting
- Real estate/ development
- Education/academics
- Business
- Professional association
- Insurance
- Other

SB 7: Flood Financing

SB 7: Flood Financing

- Low interest loans
- Grants:
 - Lack of ability to repay a loan
 - Outside of metropolitan statistical area
- Can fund both structural and non-structural mitigation activities

Flood Mitigation Activities

Structural			Non-structural		
Local drainage		Bridges, culverts, pipes	NFIP	Development ordinances	
Local detention / retention	Regional detention / retention	Channel conveyance	Elevation, flood-proofing	Training & education	Buyouts or relocati...
		Infrastructure		Warning system	

SB 7: Flood Financing

Prior to adoption of state flood plan in 2024, the Flood Infrastructure Fund can fund projects that have been developed through cooperative planning efforts:

- Drainage
- Flood mitigation
- Flood control

After adoption of state flood plan in 2024:

- Can fund projects in state flood plan

SB 7: Form of Financial Assistance (Issue 1)

Given that the amount of funding is limited and the needs for financial assistance are great, should the TWDB:

- A. *Give out more grants than loans to meet immediate needs for those that qualify?*
- B. *Give out more low-interest loans to maximize overall funds available over time?*
- C. *Balance loans and grants based on program demands and interest?*

SB 7: Form of Financial Assistance (Issue 1)

How important are the needs for financial assistance for repair and rehab of existing infrastructure that manages floodwaters?

A. Very important

B. About the same importance as needs for new infrastructure/mitigation activities

C. Less important than the needs for new infrastructure/mitigation activities

SB 7: Form of Financial Assistance (Issue 1)

What is the best use of state funds?

A. Local match for federal programs?

B. Complement to federal buyout programs?

C. Assistance to implement local projects that lack funding?

SB 7: Prioritization of Projects (Issue 2)

What types of projects do you consider to be the most impactful at addressing loss of life and property from flooding?

SB 7: Prioritization System (Issue 2)

Which criteria should TWDB use in its point system?

- Severity of risk?
- Risk to life vs. property?
- Benefit to cost ratio?
- Diverse urban/rural benefits?
- Repeated historical losses?
- Regional benefits?
- Socioeconomic considerations?
- Emergency need?
- Local contribution?
- Readiness to proceed?
- Water supply benefits?
- Multiple project benefits (including benefits to natural resources, recreation, etc.)?
- Expedites delivery of federally funded project?
- Others?

SB 7: Property Buyouts (Issue 4)

Should state financial assistance be available for political subdivisions to purchase private property to prevent future flood losses?

A. *Yes*

B. *No*

C. *Only in conjunction with federal programs*

SB 7: Property Buyouts (Issue 4)

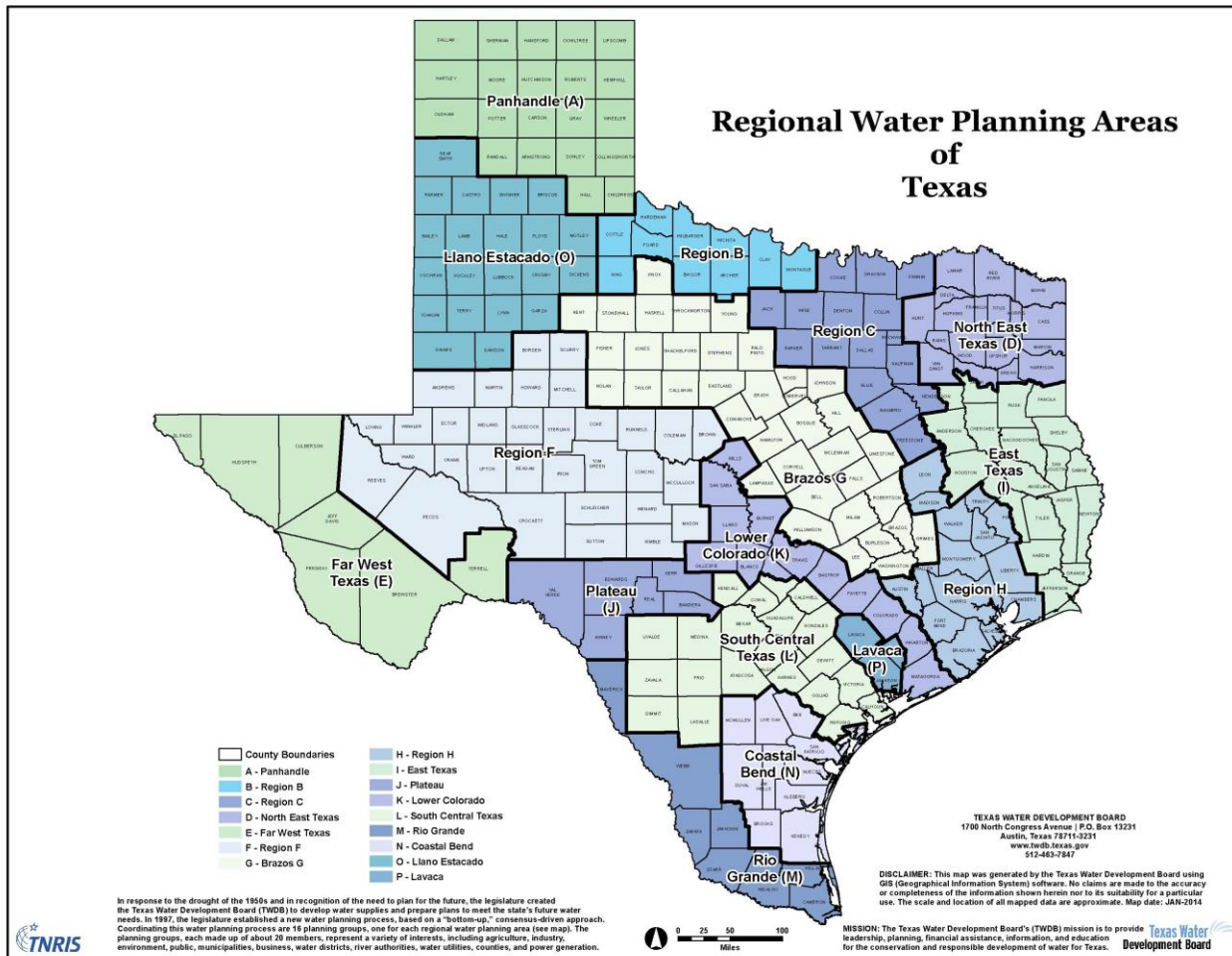
- *How could state funds be used to complement federal buyout programs?*
- *What requirements for future land use should be placed upon properties that are bought out?*

SB 7: Other Issues

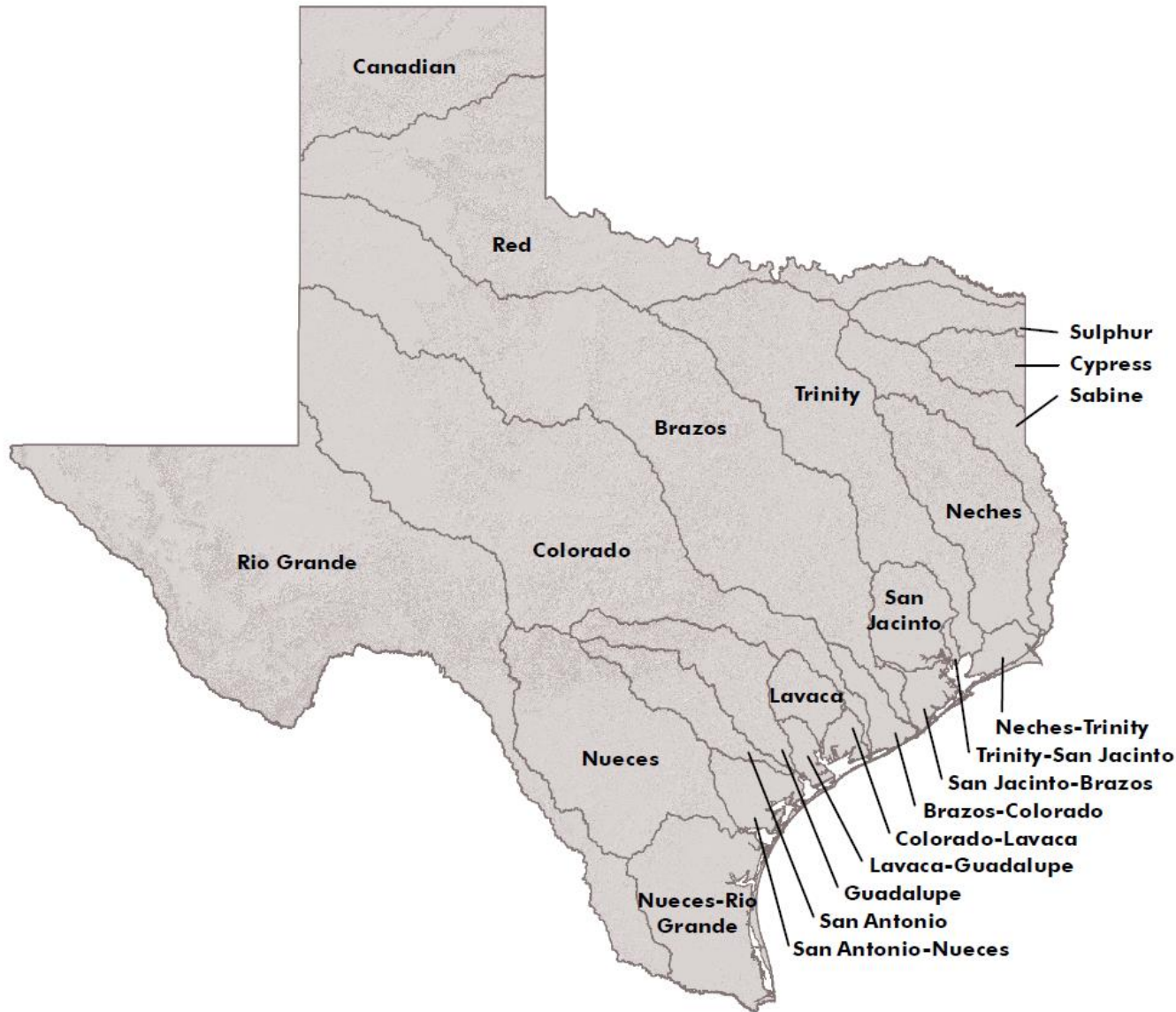
- *Should the entities that get the most value from flood mitigation (i.e. those in the floodplain) pay more? If so, how? If not, why not?*
- *What other issues do you see that the TWDB faces for this program?*
 - *What other issues do potential program participants face?*
- *How do you suggest that we address those issues?*

SB 8: Regional and State Flood Planning

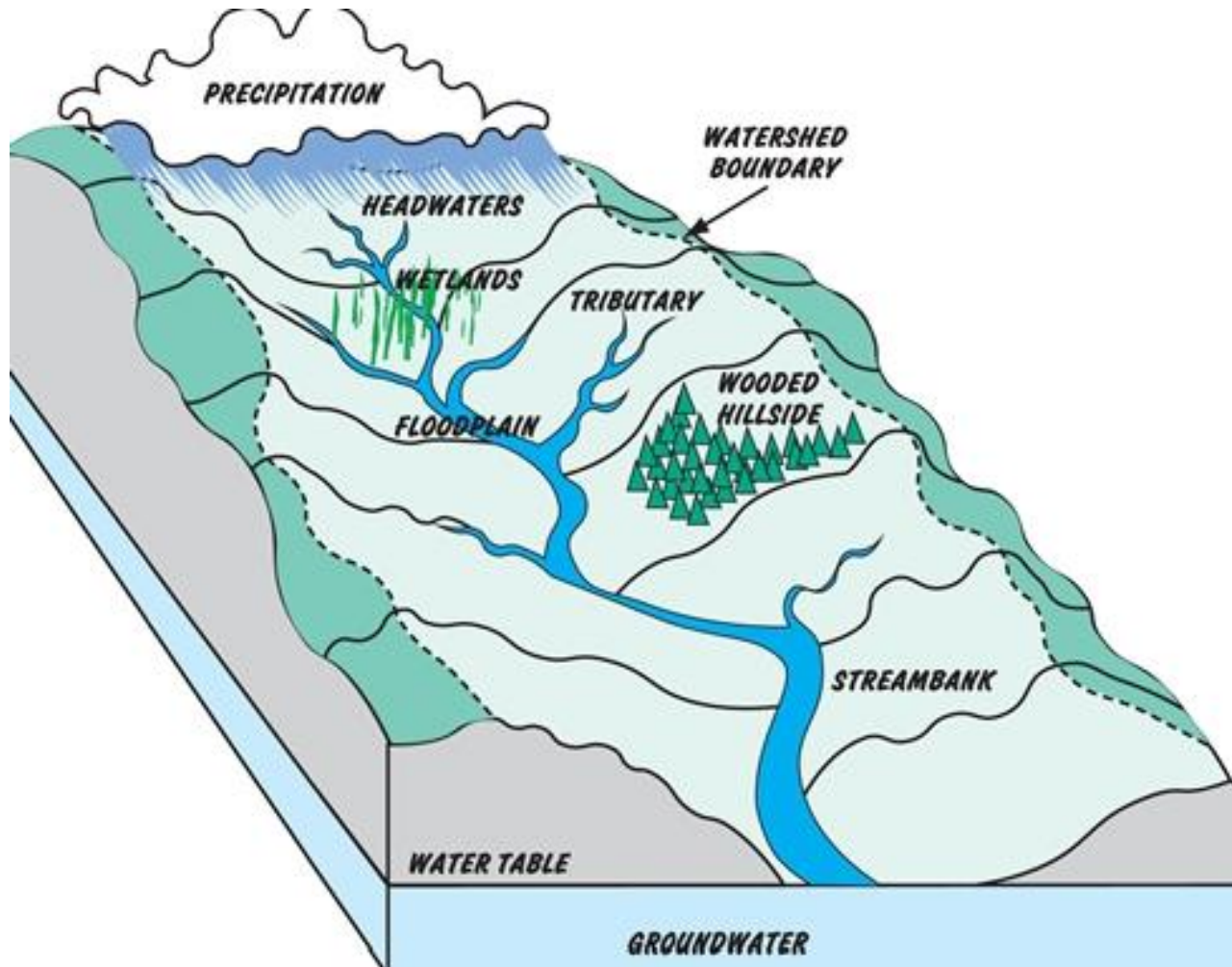
SB 8: Regional Flood Planning



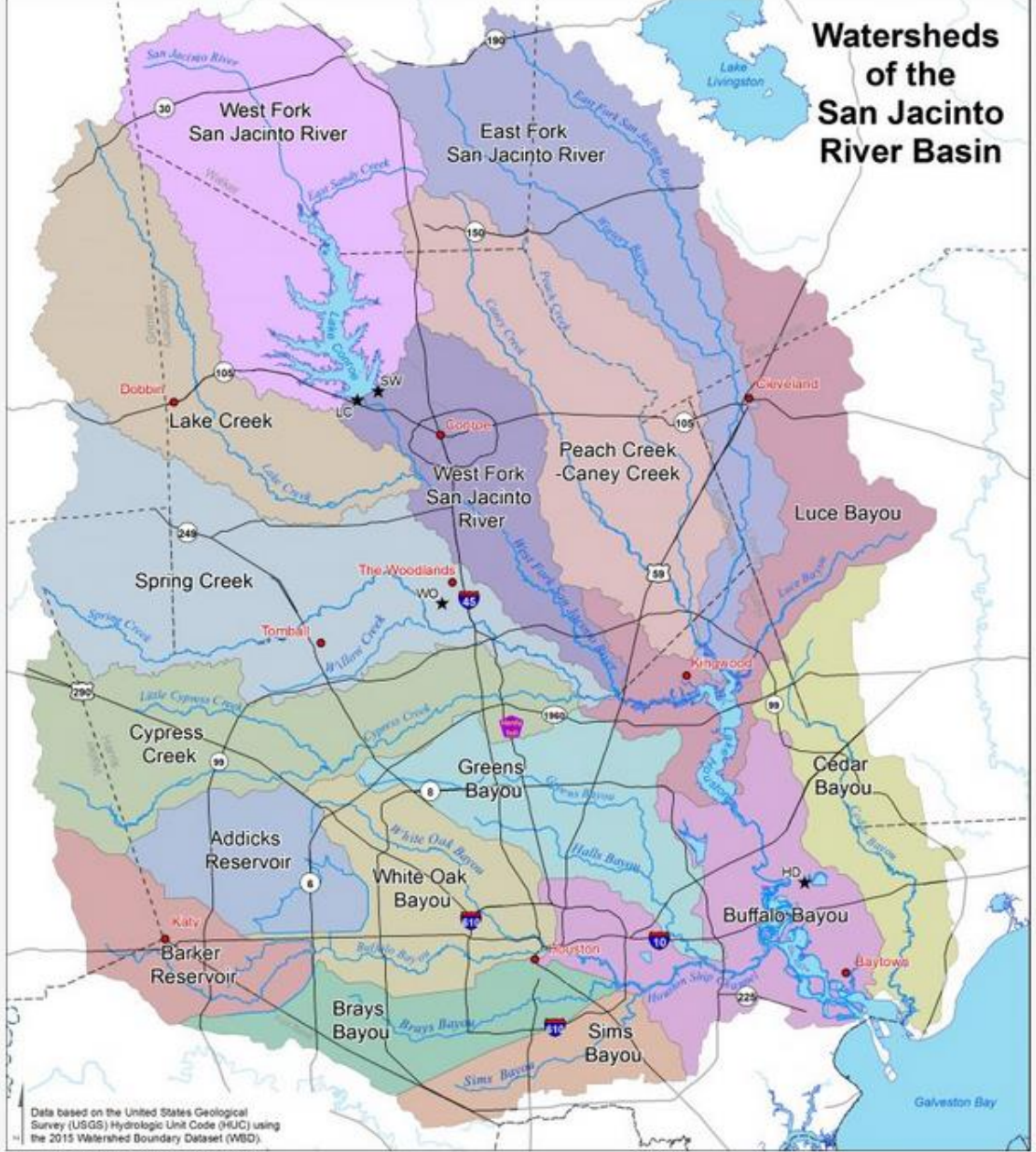
Texas River Basins



SB 8: Planning by Watershed

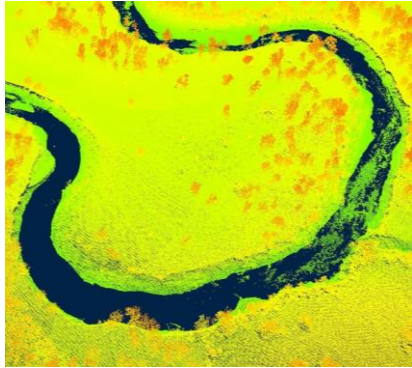


Watersheds of the San Jacinto River Basin

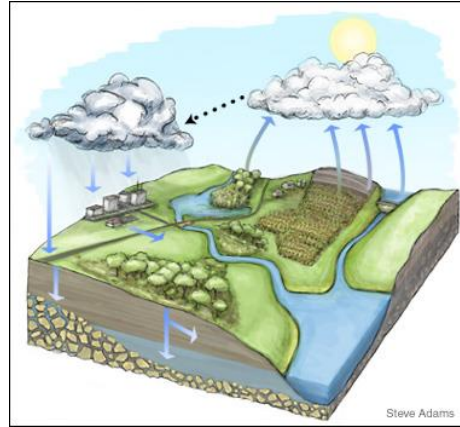


Data based on the United States Geological Survey (USGS) Hydrologic Unit Code (HUC) using the 2015 Watershed Boundary Dataset (WBD).

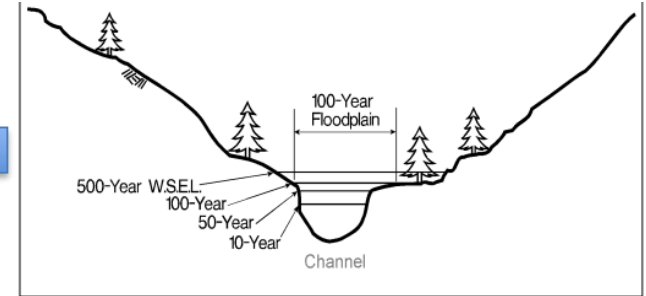
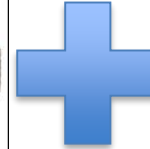
SB 8: Supporting Data



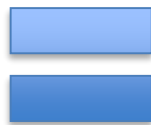
LiDAR



Hydrology



Hydraulics



Base level
engineering

SB 8: Planning Group Membership (Issue 1)

Required interests:

- Public
- Counties
- Municipalities
- Industries
- Agricultural interests
- Environmental interests
- Small businesses
- Electric generating utilities
- River authorities
- Water districts
- Water utilities

Ex officio members:

- TWDB
- Texas Commission on Environmental Quality
- General Land Office
- Texas Parks and Wildlife Department
- Texas Department of Agriculture
- Texas State Soil and Water Conservation Board
- Texas Division of Emergency Management

SB 8: Planning Group Membership (Issue 1)

*What other interests
should be represented on the
regional flood planning groups?*

SB 8: Planning Standards and Parameters (Issue 2)

To what extent should the regional flood plans consider local stormwater and drainage issues?

- A. *Regional plans should focus only on flooding that results in the loss of life or property.*
- B. *All regional plans should include a lower limit for project scale, such as contributing drainage area of greater than 1.0 square mile.*
- C. *Regional flood groups should have some flexibility on consideration of project scale.*

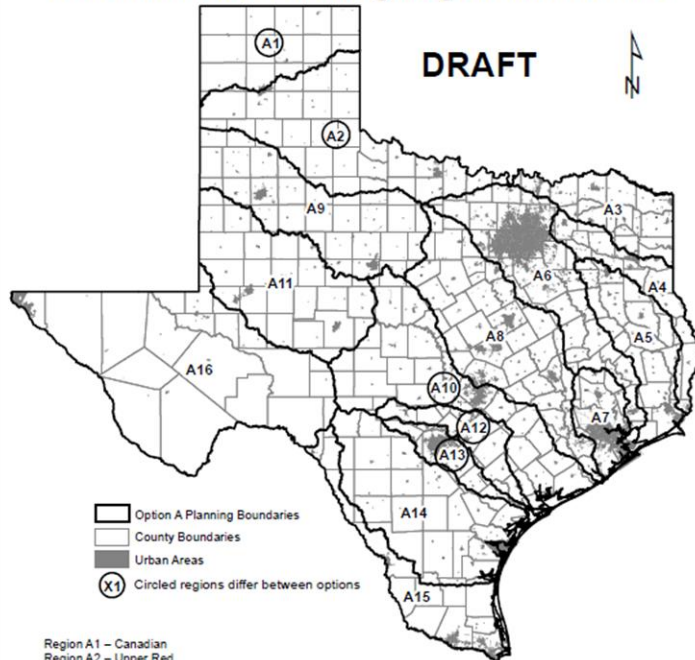
SB 8: Planning Standards and Parameters (Issue 2)

What timeframe should the planning process cover?

- A. 10 years?*
- B. 20 years?*
- C. 30 years?*
- D. 40 years?*
- E. 50 years?*

SB 8: Planning Area Boundaries (Issue 3)

**Option A:
Potential Flood Planning Region Boundaries**



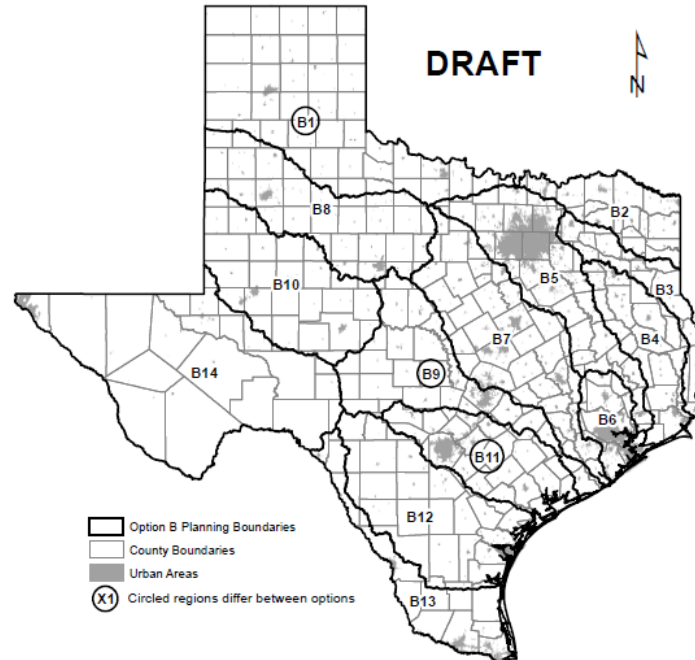
- Region A1 – Canadian
- Region A2 – Upper Red
- Region A3 – Lower Red-Sulphur-Cypress
- Region A4 – Sabine
- Region A5 – Neches
- Region A6 – Trinity
- Region A7 – San Jacinto
- Region A8 – Lower Brazos-San Bernard
- Region A9 – Upper Brazos
- Region A10 – Lower Colorado-Lavaca
- Region A11 – Upper Colorado
- Region A12 – Guadalupe
- Region A13 – San Antonio
- Region A14 – Nueces
- Region A15 – Lower Rio Grande
- Region A16 – Upper Rio Grande

Factors in boundary selection:

- Overall number of regions: 16
- Coastal basins were combined with an adjacent mainstem river basin based on:
 - potential to be influenced by river basin flooding
 - ongoing coastal management efforts
 - stream contributions to bay
- Large river basins (Rio Grande, Colorado, Brazos, Red) were divided:
 - where existing reservoir provided a clear break point
 - while preserving USGS/USC-43 boundaries
- Small river basins (Cypress, Lavaca, Sulphur) were combined with larger basins based on:
 - similar types of flooding
 - small populations
 - potential administrative constraints



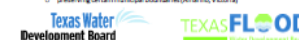
**Option B:
Potential Flood Planning Region Boundaries**



- Region B1 – Canadian-Upper Red
- Region B2 – Lower Red-Sulphur-Cypress
- Region B3 – Sabine
- Region B4 – Neches
- Region B5 – Trinity
- Region B6 – San Jacinto
- Region B7 – Lower Brazos-San Bernard
- Region B8 – Upper Brazos
- Region B9 – Lower Colorado
- Region B10 – Upper Colorado
- Region B11 – San Antonio-Guadalupe-Lavaca
- Region B12 – Nueces
- Region B13 – Lower Rio Grande
- Region B14 – Upper Rio Grande

Factors in boundary selection:

- Overall number of regions: 14
- Coastal basins were combined with an adjacent mainstem river basin based on:
 - Potential to be influenced by lateral basin flooding
 - ongoing coastal management efforts
 - stream contributions to bay
 - where existing reservoir provided a clear break point
- Large river basins (Rio Grande, Colorado, Brazos, Red) were divided:
 - while preserving USGS/USC-43 boundaries
- Greater river basins (Cypress, San Antonio, Guadalupe, Sulphur, Cypress, Lavaca) combined with larger basins based on:
 - local flooding patterns, resource constraints, and population
 - similar types of flooding
 - small populations
 - potential administrative constraints
 - preserving certain municipal boundaries (Amarillo, Victoria)



SB 8: Planning Area Boundaries (Issue 3)

- *How should the larger river basins be divided?*
 - *How should the smaller river basins be combined with other basins?*
- *How should the coastal basins be addressed?*

SB 8: Issue 6

Please review and provide comments on proposed guidance principles and rule outline.

- *Have the guidance principles been crafted to adequately reflect the public interest of the entire state?*

SB 8: Other Issues

- *What other issues do you see that the TWDB faces for this program?*
- *What other issues do the flood planning groups face?*
- *How do you suggest that we address those issues?*

Opportunities to Provide Input

- Provide written comments by August 30
- Attend breakout session or mingle
- Participate in formal rulemaking public comment options this fall
- Participate in regional flood planning process starting in 2020

Stay in Touch!



Board Meetings



[Meet the board members](#)

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[Watch board meeting video](#)

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[Stakeholder Opportunities](#)

Agency Tweets

[Follow @TWDB](#) 6,010 followers

TX Water Dev Board Retweeted



Clear weekend for Texas with 0 gages in flood stage across the state! Good weekend to enjoy the water whether its the lakes, rivers, or the Gulf of Mexico. Enjoy! #bxwx #bxwater



Hot Topics

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[Schedule for Flood Outreach Meetings](#)

[Flood Implementation Fund FAQ](#)

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Registration

To join our mailing list, please complete the information below and click Sign Up.

* Email Address

* First Name

* Last Name

Address

Select a state/province



Zip Code

Company

Email Lists

Flood Information (TWDB electronic newsletter, flood planning information, flood risk, flood funding, National Flood Insurance Program, events, website updates)

TWDB Conservation Information (TWDB electronic newsletter, educational information, events, website updates)

TWDB Financial Assistance Information (TWDB electronic newsletter, state revolving fund information, intended use plan information, application information, website updates)

TWDB General Information (TWDB electronic newsletter, Board meeting reminders, events, surveys, website updates)

TWDB Groundwater Information (TWDB electronic newsletter, desired future condition information, events, website updates)

TWDB SWIFT Information (Notifications for public comments and public meetings)

TWDB Texas Natural Resources Information System (TWDB electronic newsletter, events, geographic information system information, website updates)

TWDB Water for Texas conference

TWDB Water Resources Planning Information (TWDB electronic newsletter, regional water plan information, events, website updates)

Stay in Touch!

- Contact flood@twdb.Texas.gov for general information
- Send written comments to rulescomments@twdb.Texas.gov



Optional Breakout Session Discussions

- Group 1: Flood planning
- Group 2: Financial assistance



Thank you for being here today!