

# TWDB Outlook - New Directions

Joint TWDB/UT Arlington/National Integrated  
Drought Information System workshop

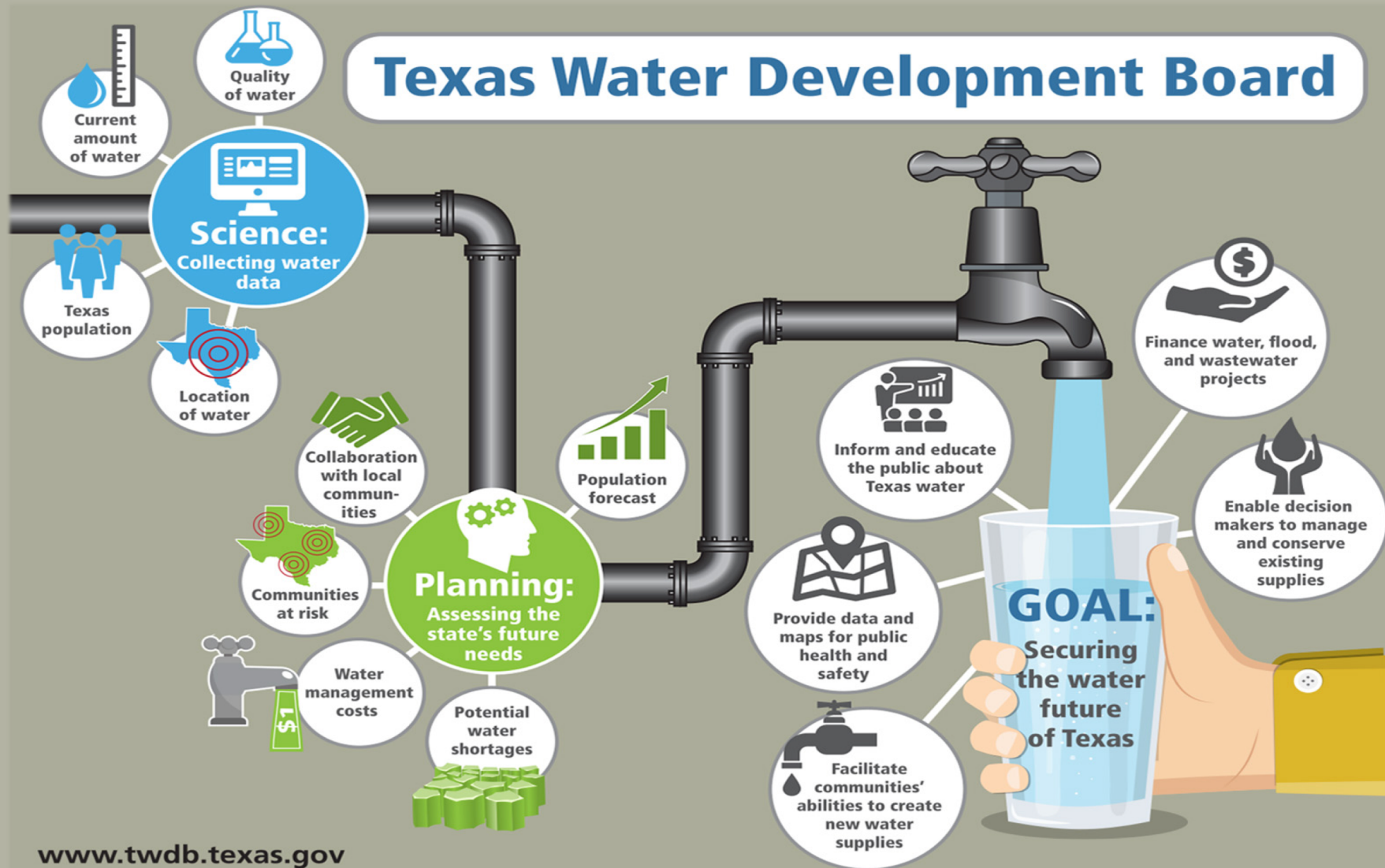
John T. Dupnik, P.G.  
Deputy Executive Administrator  
Water Science and Conservation

September 12, 2019

**Texas Water**  
**Development Board**



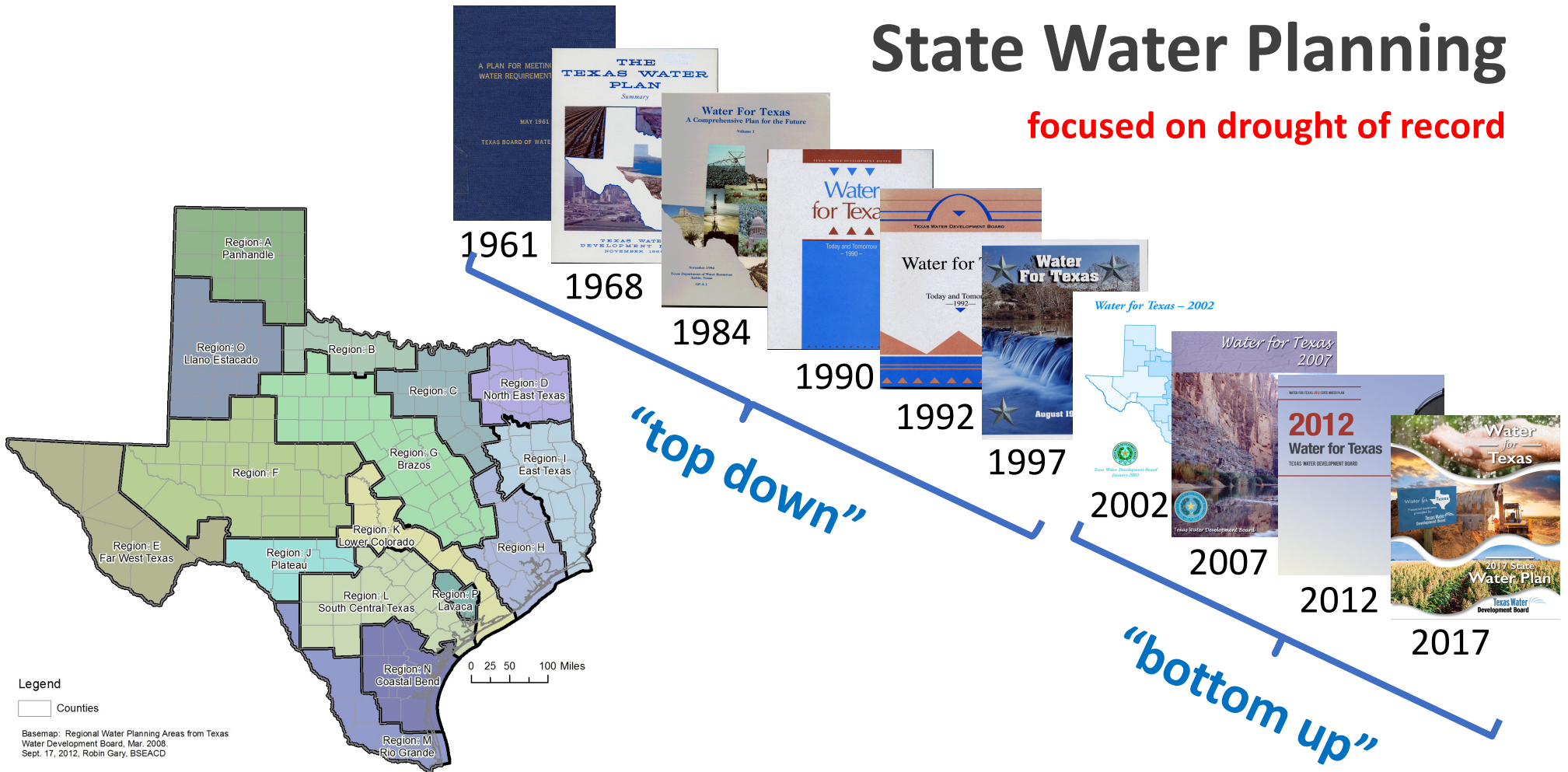
# Texas Water Development Board





# State Water Planning

focused on drought of record



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**Texas Water** **Development Board**

# WATER SCIENCE & CONSERVATION



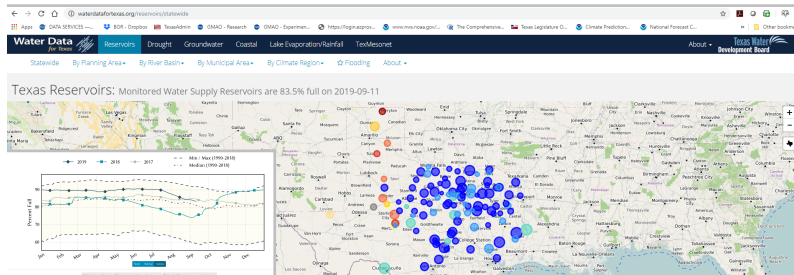
## MISSION:

*To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible **development of water** for Texas.*

***“The better the data, the better the science. The better the science, the better the policy.”***

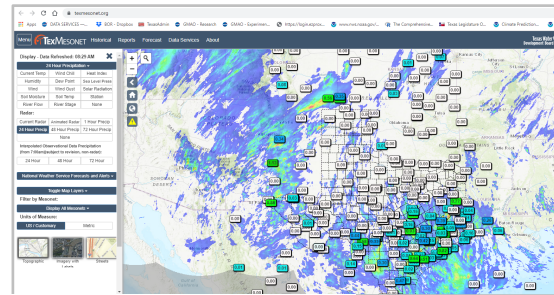
***Director Kathleen Jackson***

# TWDB Water Decision-support Applications



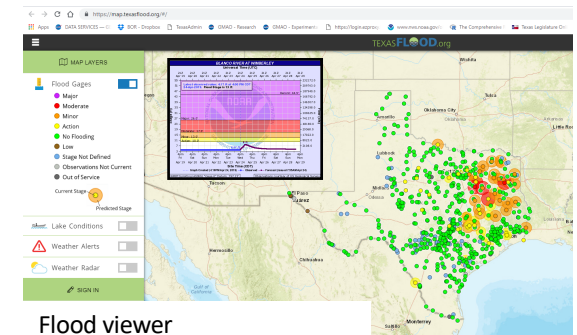
Reservoir storage information

<https://waterdatafortexas.org/reservoirs/statewide>



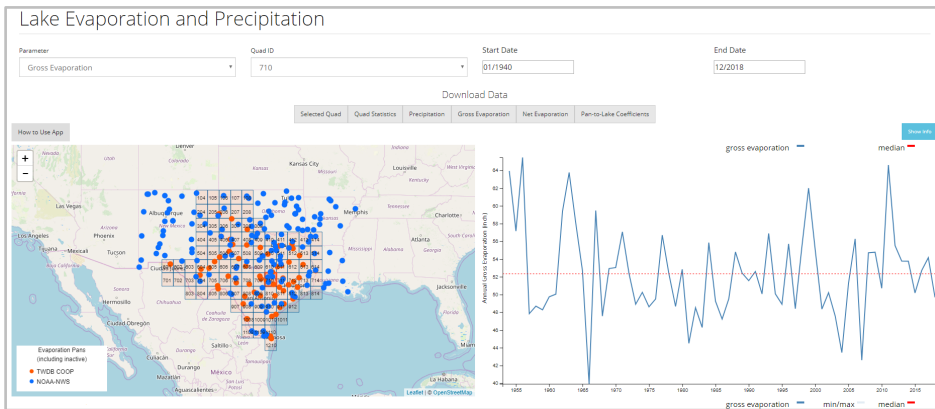
TexMesonet

<https://www.texmesonet.org/>



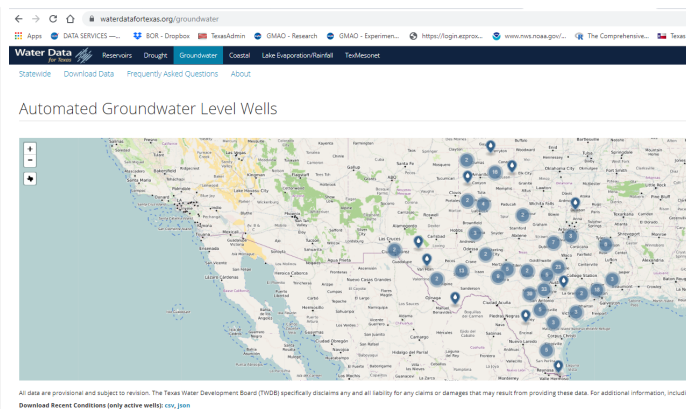
Flood viewer

<https://map.texasflood.org/#/>



Reservoir evaporation and rainfall data ap

<https://waterdatafortexas.org/lake-evaporation-rainfall>



Groundwater data viewer

<https://waterdatafortexas.org/groundwater>

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# TWDB's Role: Water Services

## Providers of data and forecasts:

NOAA/NWS forecast offices (e.g. WGRFC), USGS, USACE, universities, and consulting firms.

## TWDB

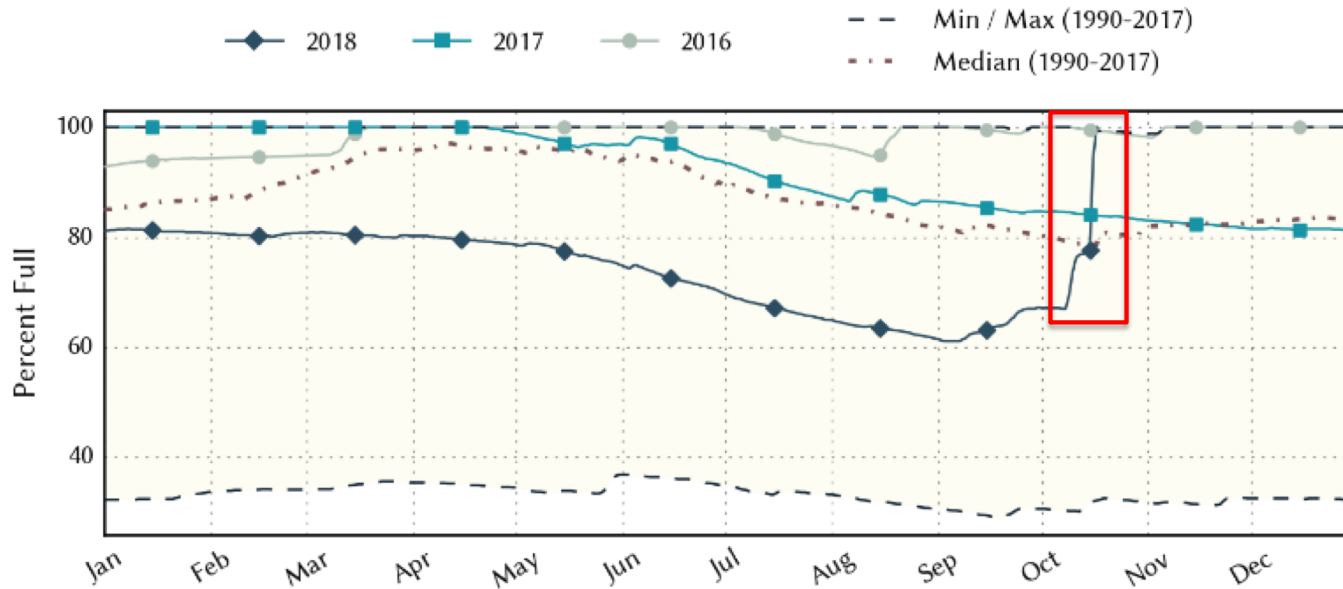
Translator of data and forecasts into information products for users; investor in observation networks

- *real-time reservoir storage information*
- *value-added displays on TexMesonet viewer*
- *flood stage information/alerts on Texas flood viewer*
- *county/HUC8-level May–July rainfall forecasts*
- *groundwater data viewer*

## Users of water/climate/drought/flood information

Texas water stakeholders:  
communities, water user groups, regional water planning groups, utilities, political subdivisions, etc.

# Lake Travis water levels in October 2018



<https://waterdatafortexas.org/reservoirs/individual/travis>

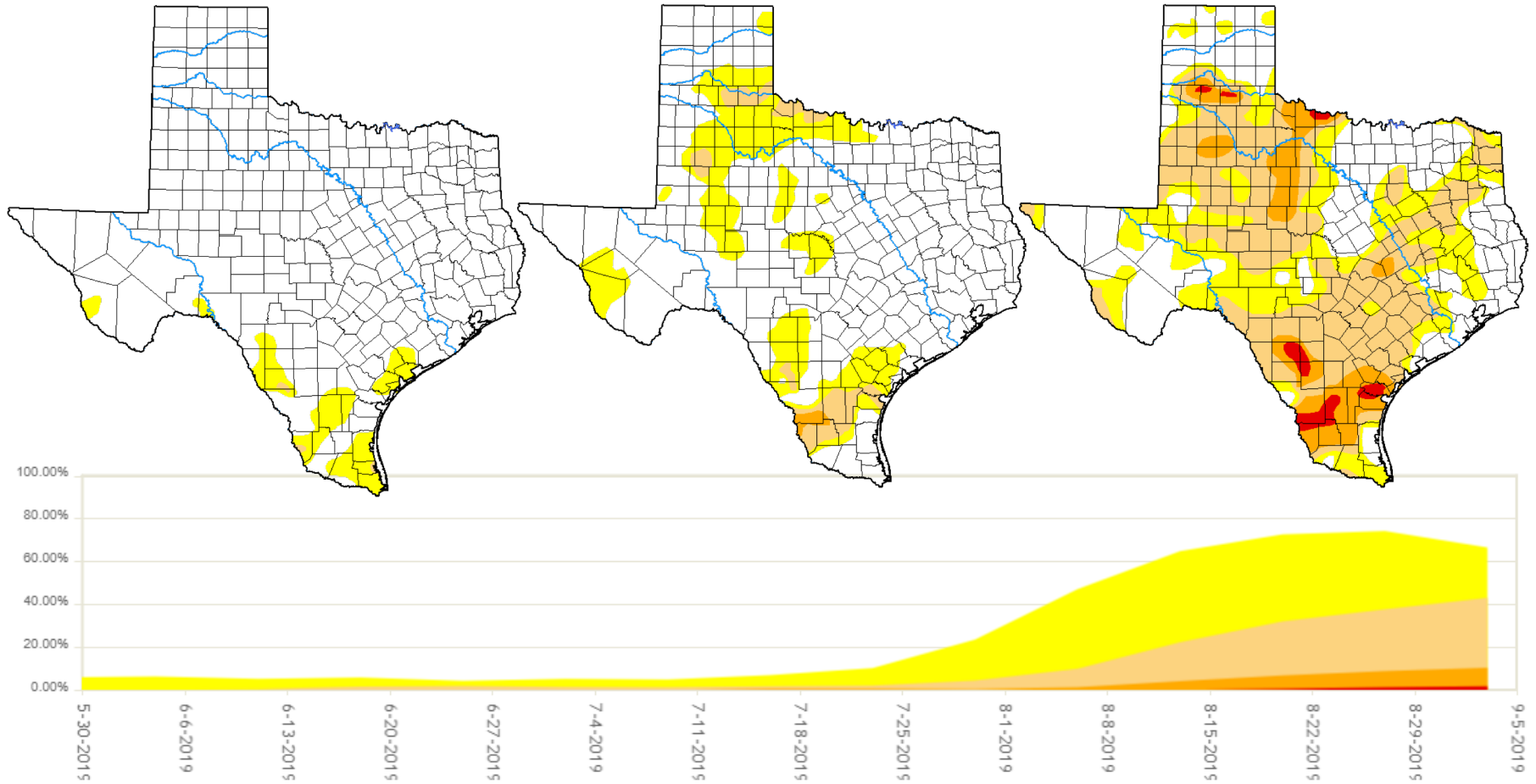
***“Texas is a land of perennial drought broken by the occasional devastating flood.”***  
***- National Weather Service, 1927***



**June 4, 2019**

**July 30, 2019**

**September 3, 2019**




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**Blanco River  
Wimberley, Texas  
(2015)**





# Hurricane Harvey (2017)

## An extraordinary event

Image: NASA Earth Observatory

### Flows to the Coast

- Coastal inflow averages **41 million acre-feet** per year.
- Total flows to the coast for 2017 were **57.8 million acre-feet**.
- Hurricane Harvey delivered **29 million acre-feet**, equating to **51%** of the annual inflow for 2017.

# New Directions - Expanded Flood Responsibilities in 2015

	DATA	SCIENCE	COMMUNICATION	FUNDING
NEW EFFORTS				
EXPANDED EFFORTS				

**2015 MOU \$ 6.8 million**  
**85<sup>th</sup> Legislature \$7.8 million**

# New Directions - Expanded Flood Responsibilities in 2015

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

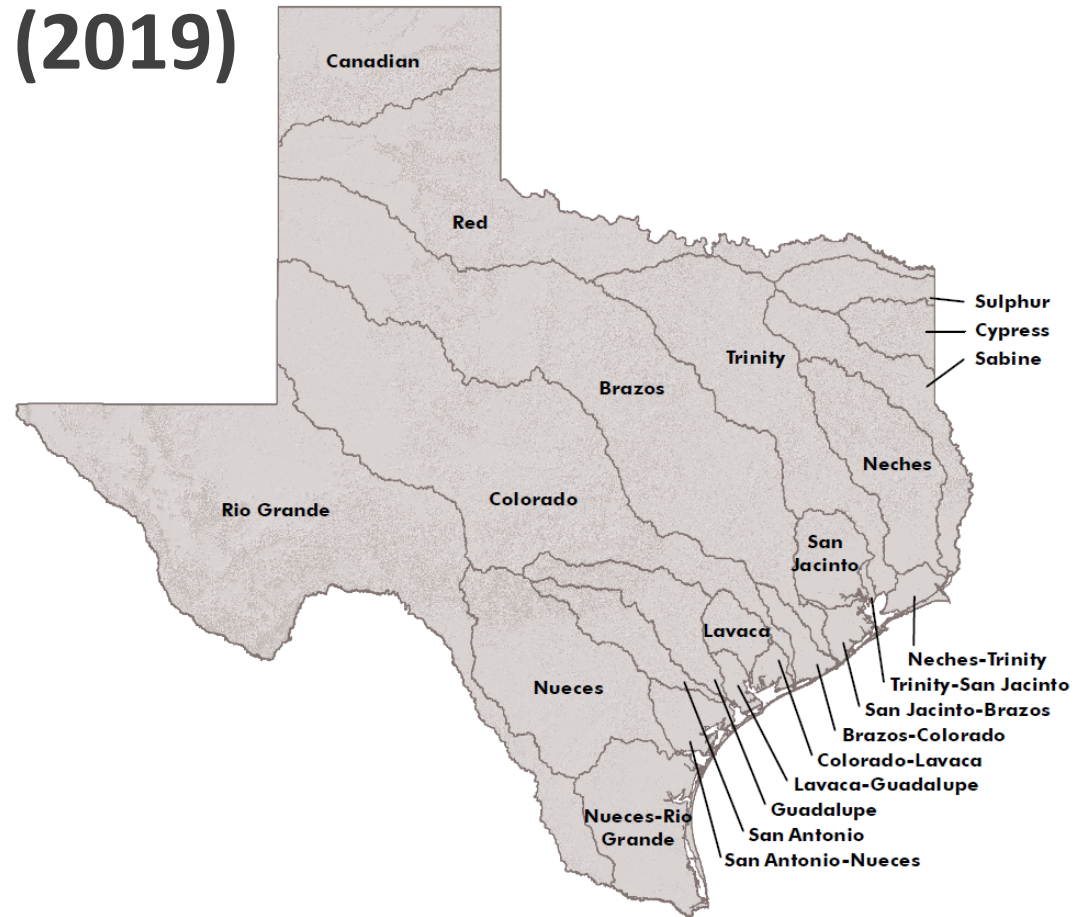
<b>EXPANDED EFFORTS</b>	Lidar Data	Flood Mapping	Community Outreach	Flood Protection Grants
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# 86<sup>th</sup> Legislative Session (2019)

## Senate Bills 7/8

- Water supply planning model
- Bottom up process
- Watershed-based planning
- Data/science-driven
- 5-year cycle



# New Directions - Future Flood Science at TWDB

DATA	SCIENCE	COMMUNICATION	FUNDING
Flood Gages	River Forecast Model Calibration	Community Outreach	Flood Protection Grants
TexMesonet	River Modeling	TexasFlood.org	SB7 - FIF/TIRF
Lidar Data	Coastal Modeling	TexMesonet.org	
Reservoir Flood Pools	Flood Mapping	Data Hub/ Dashboard	
	Priority Research		



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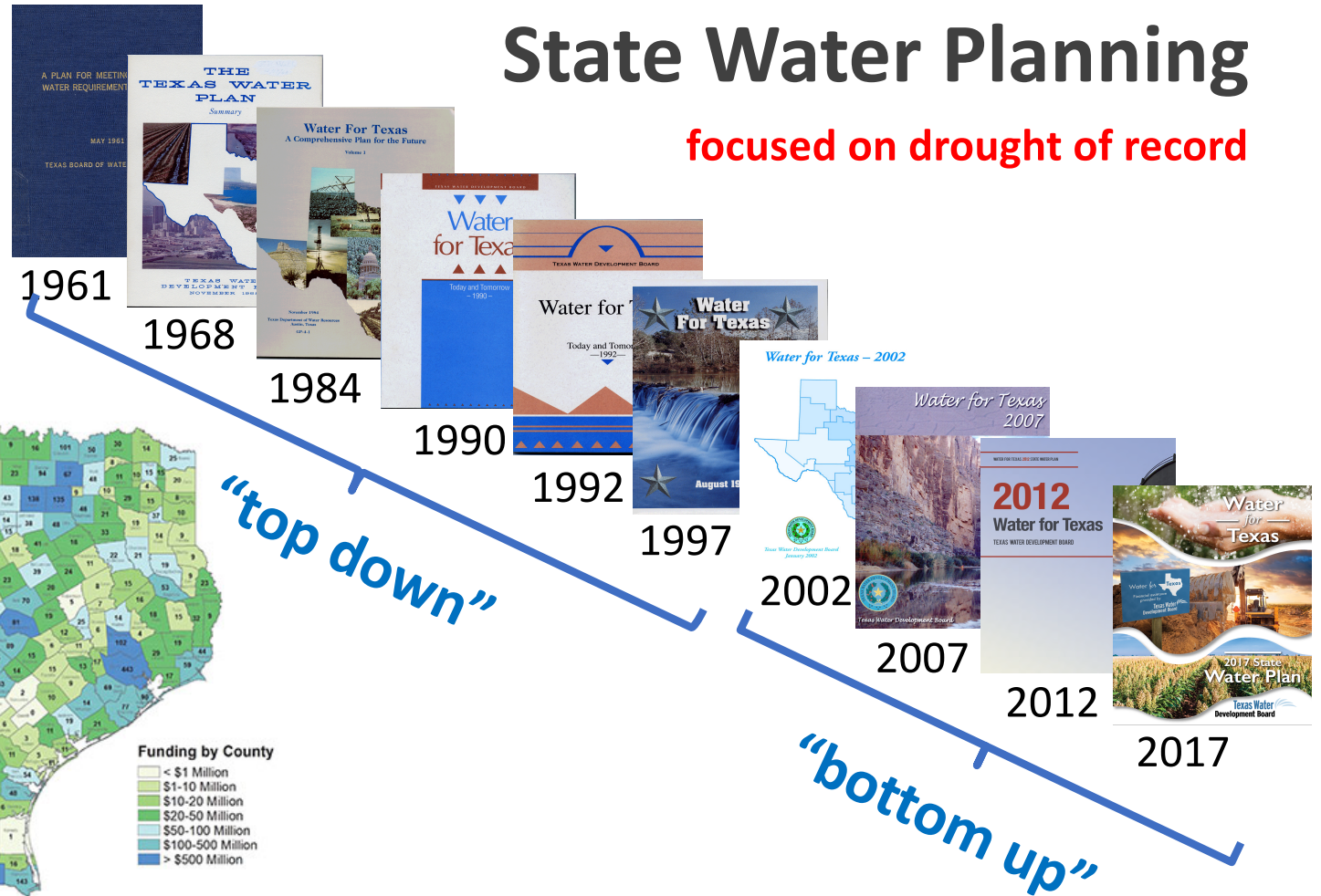
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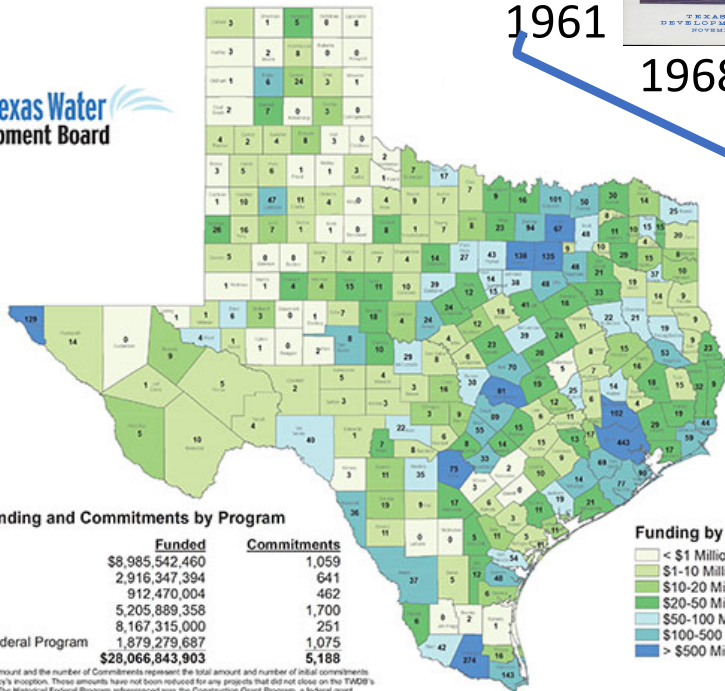
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Funding and Commitments by Program

Program	Funded	Commitments
CWSRF	\$8,985,542,460	1,059
DWSRF	2,916,347,394	641
EDAP	912,470,004	462
STATE	5,205,889,358	1,700
SWIFT	8,167,315,000	251
Historical Federal Program	1,879,279,687	1,075
<b>Total</b>	<b>\$28,066,843,903</b>	<b>5,188</b>

Notes: The Funded amount and the number of Commitments represent the total amount and number of initial commitments made since the Agency's inception. These amounts have not been reduced for any projects that did not close on the TWDB's financial assistance. The Historical Federal Program referenced was the Construction Grant Program, a federal grant program created to fund wastewater projects prior to the CWSRF.

Funding by County

- < \$1 Million
- \$1-10 Million
- \$10-20 Million
- \$20-50 Million
- \$50-100 Million
- \$100-500 Million
- > \$500 Million

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## Three Pillars:

1. Mapping
2. Planning
3. Mitigation

*Built on foundation of flood risk management policies and goals*

