



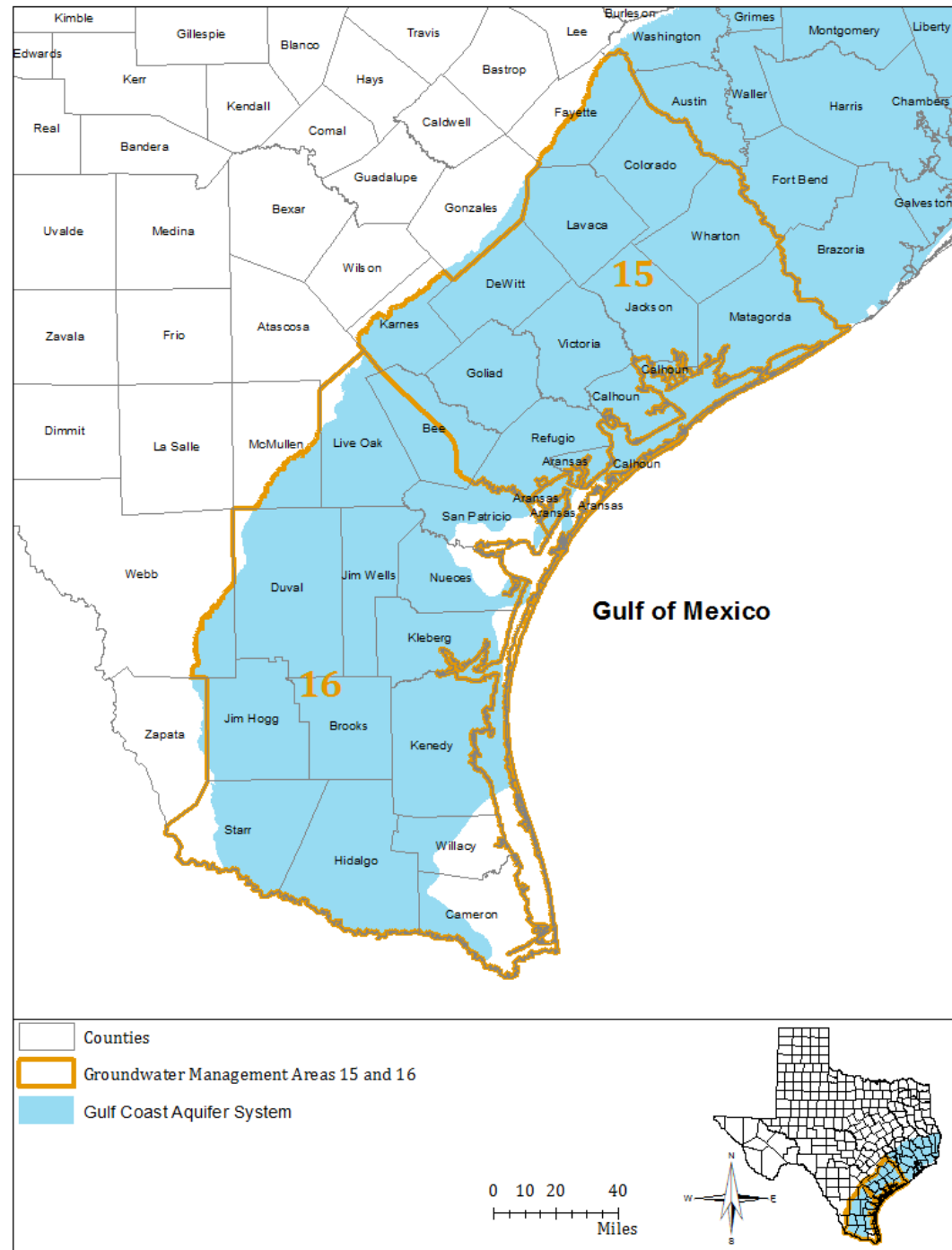
Update on Gulf Coast Aquifer System Groundwater Availability Model (GAM) for Groundwater Management Areas 15 and 16

**At
Brush Country GCD Office
732 West Rice Street
Falfurrias, Texas
June 25, 2019**

Jerry Shi, Ph.D., P.G.

Outline

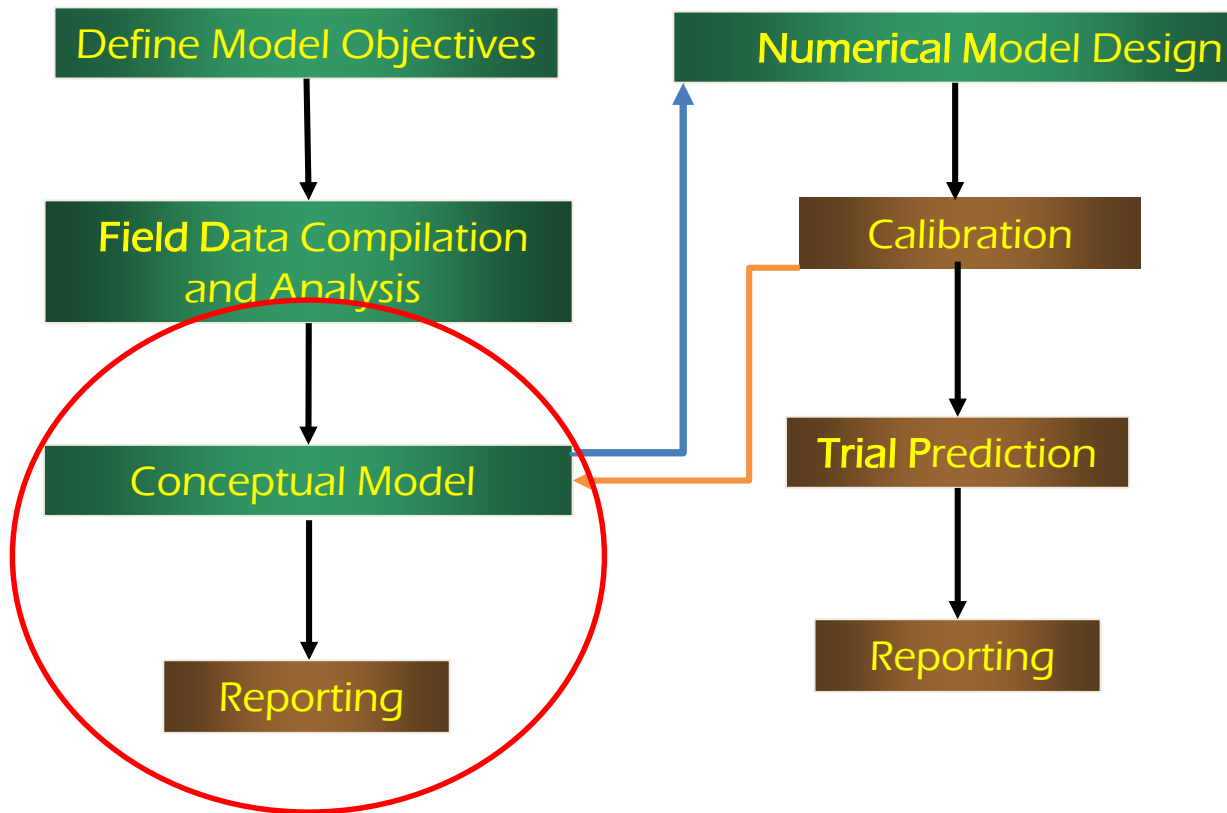
- Introduction to Project Team
- Project Status
- Schedule



Project Team

- Jerry Shi, Ph.D., P.G.
 - Project Management
 - Modeling
- Radu Boghici, P.G.
 - Water Quality
 - Geology and Data Analysis
- Roberto Anaya, P.G.
 - Framework Analysis
 - GIS Support

Flow Chart of Project

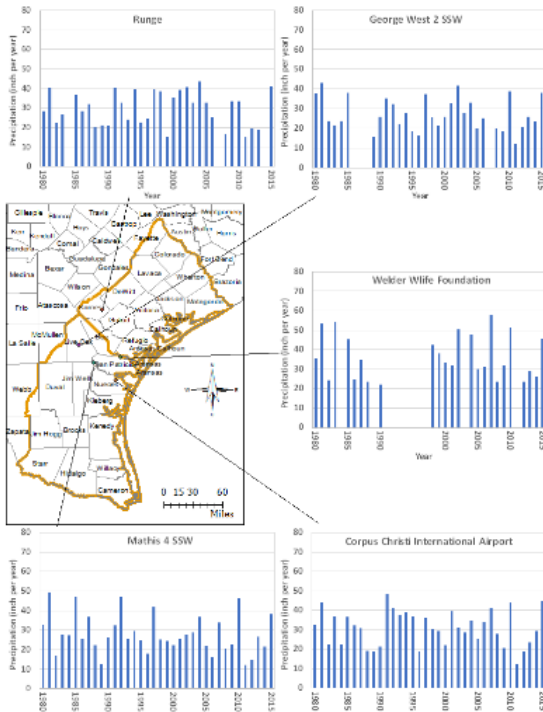


Major Components of Conceptual Model

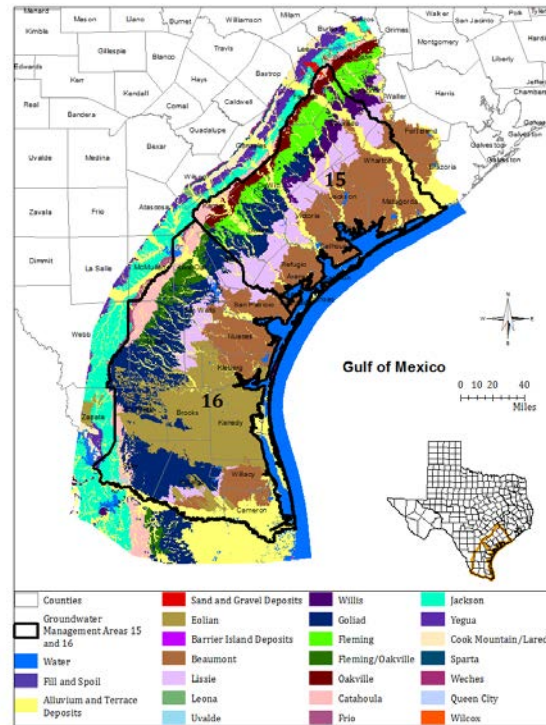
- Purpose (done)
- Geology of Study Area (done)
- Previous Investigations (done)
- Hydrogeology
 - Framework (done)
 - Groundwater Levels and Flows (done)
 - Recharge (done)
 - Surface Water (done)
 - Hydraulic Properties (in progress)
 - Aquifer Discharge (in progress)
 - Groundwater Quality
- Conceptual Model/Source Data/Reporting (in progress)

Conceptual Model Component Examples

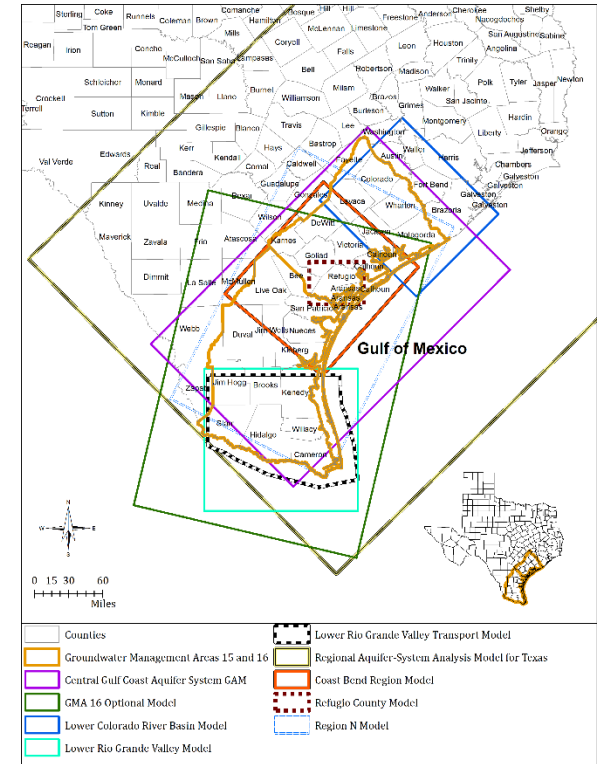
Precipitation



Surface Geology

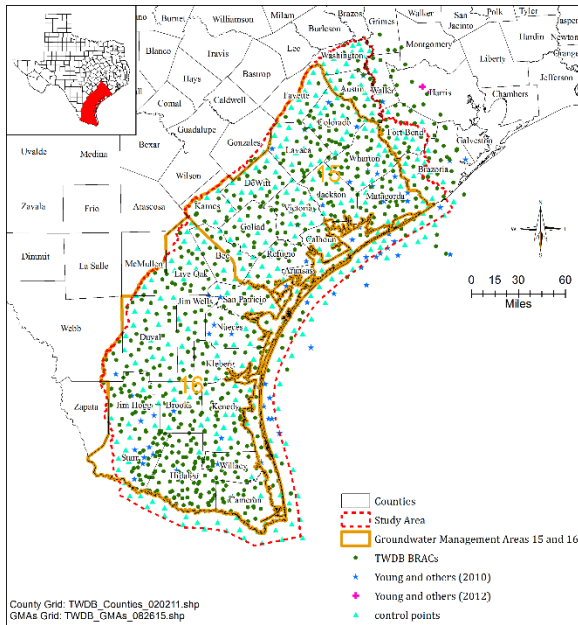


Existing Models

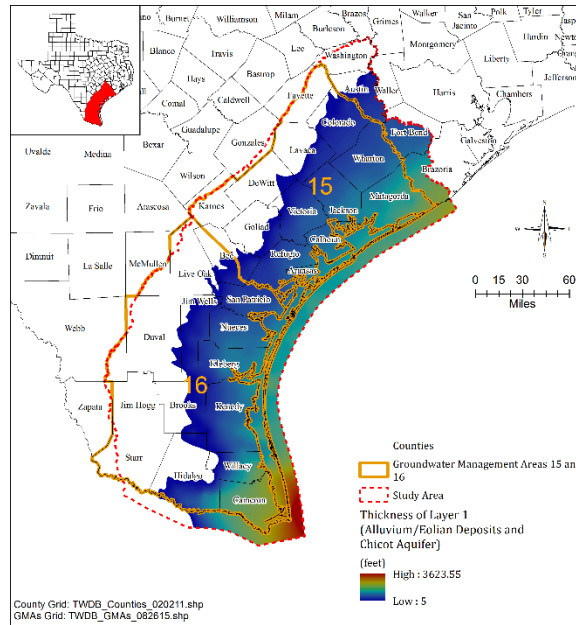


Conceptual Model Component Examples

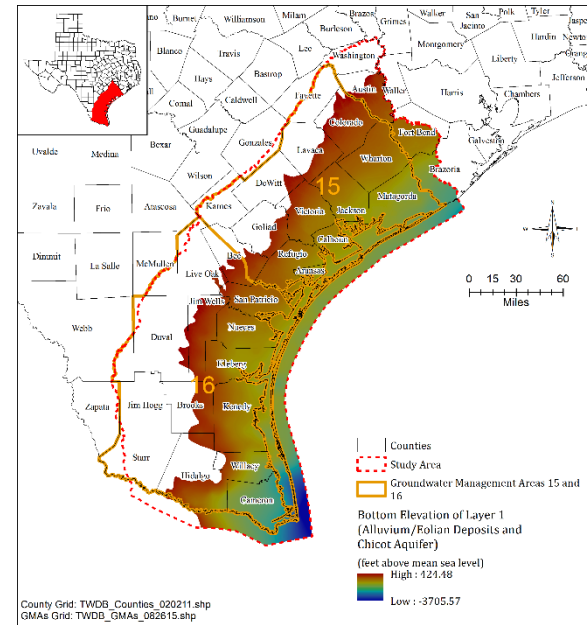
Logs/Control Points



Layer/Unit Thickness



Layer/Unit Bottom Elevation

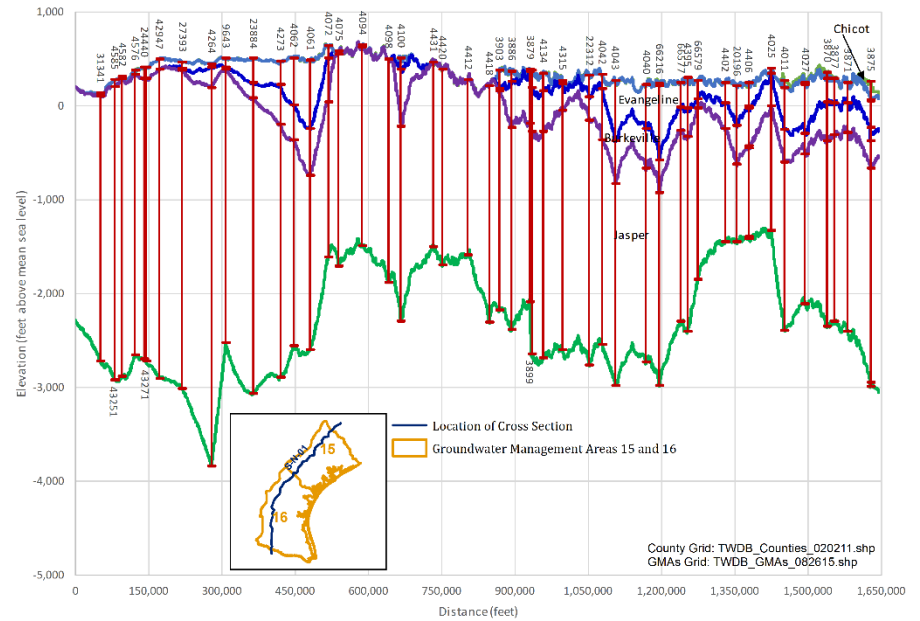
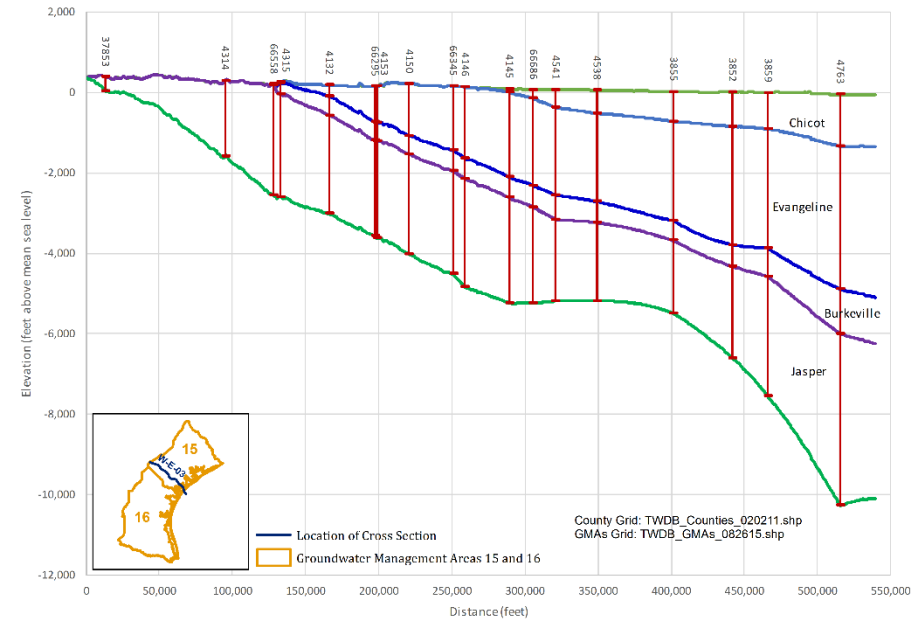


Conceptual Model Component Examples

Cross Sections

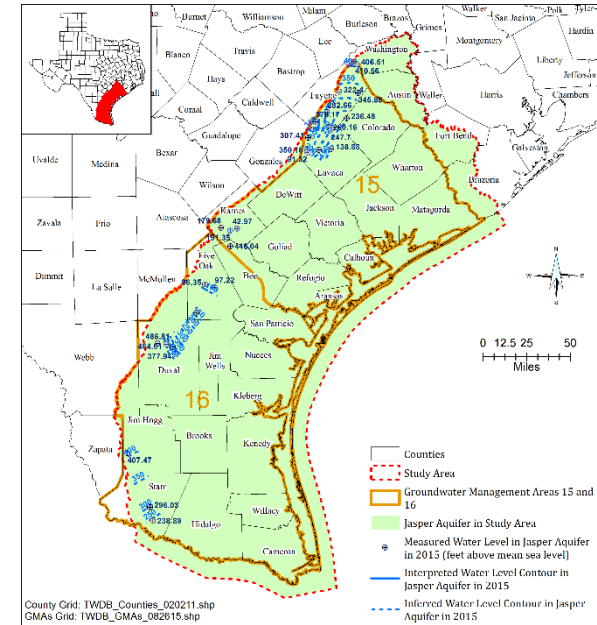
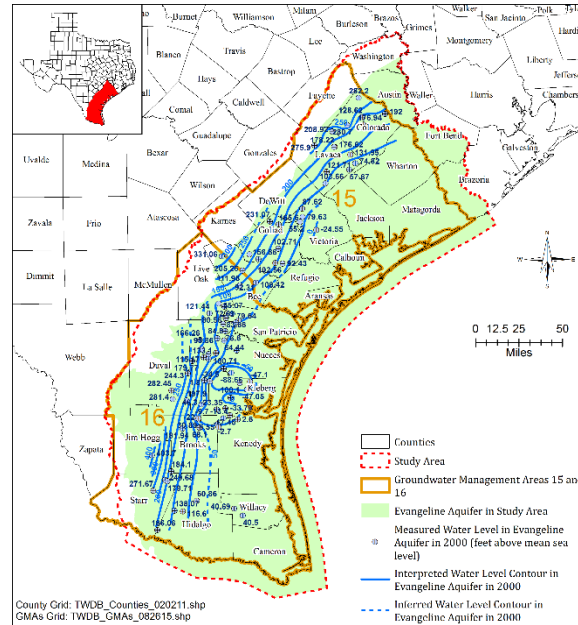
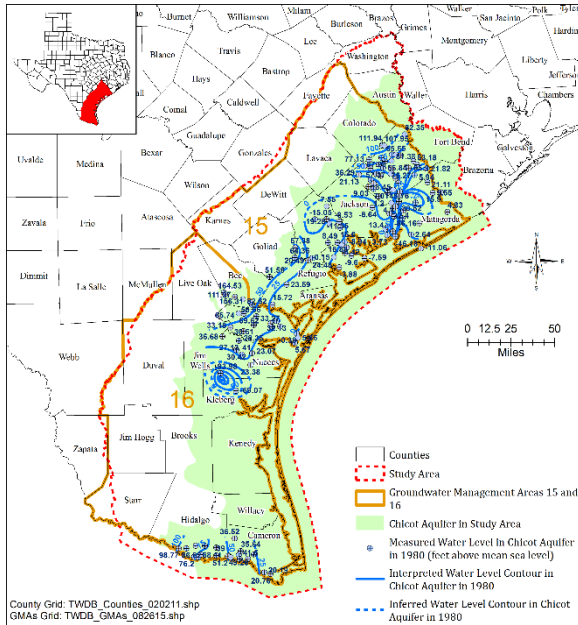
West-East Cross Section 03

South-North Cross Section 01



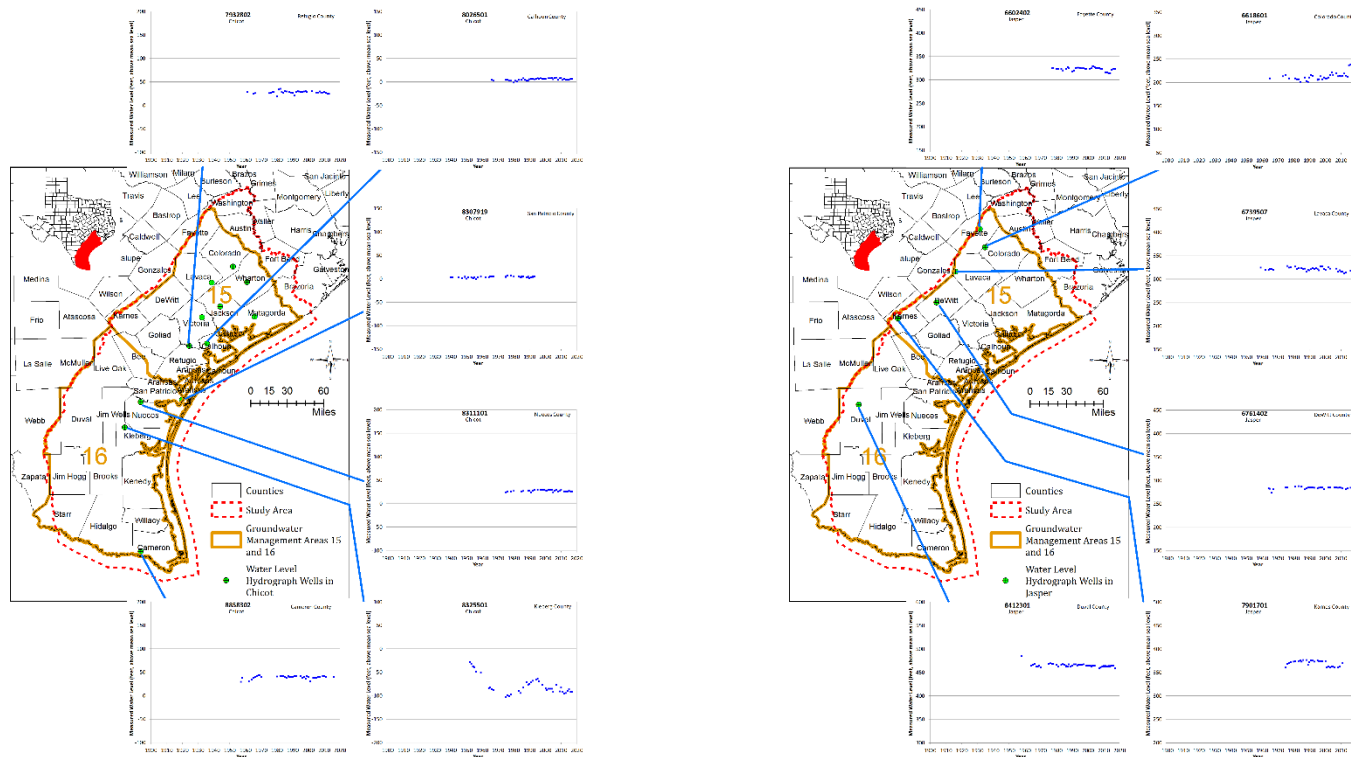
Conceptual Model Component Examples

Water Level Contours



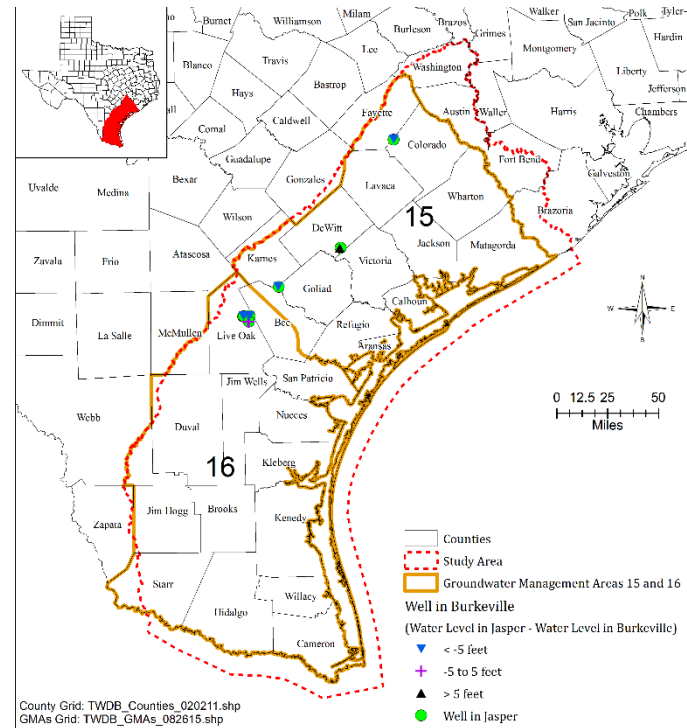
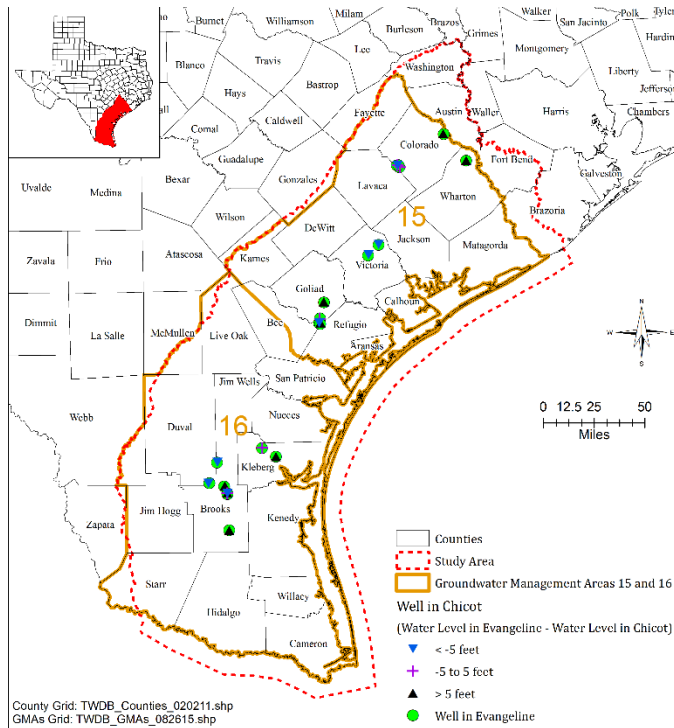
Conceptual Model Component Examples

Water Level Hydrographs



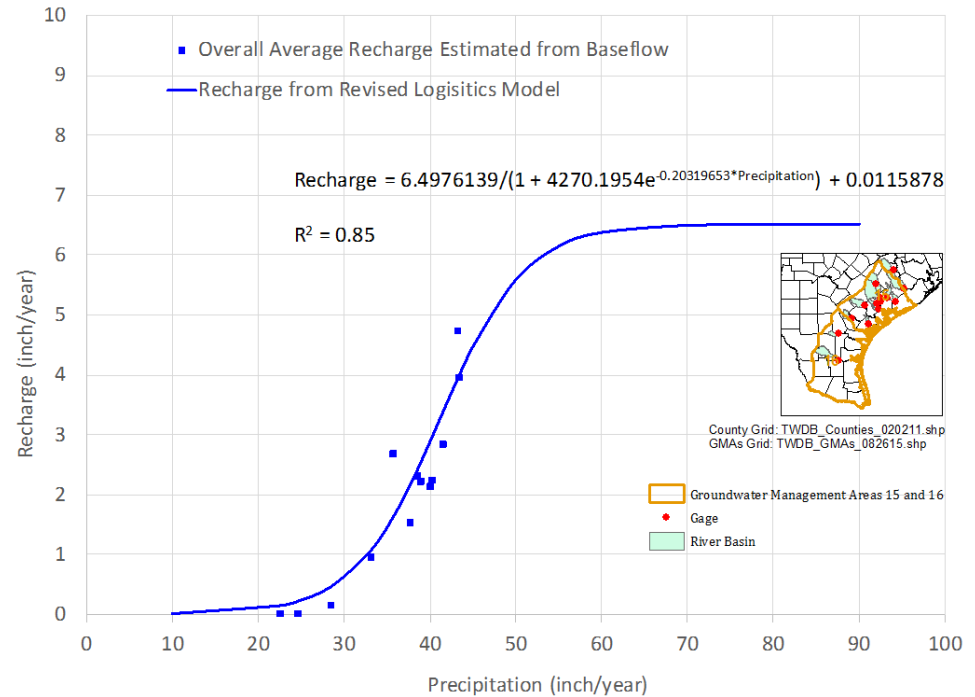
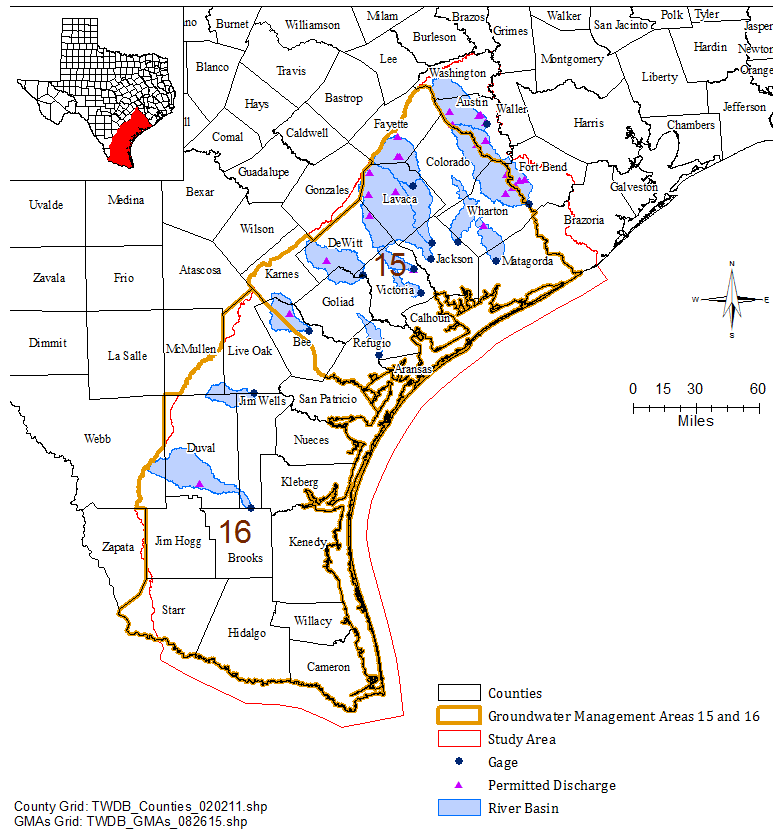
Conceptual Model Component Examples

Cross Formation Flows



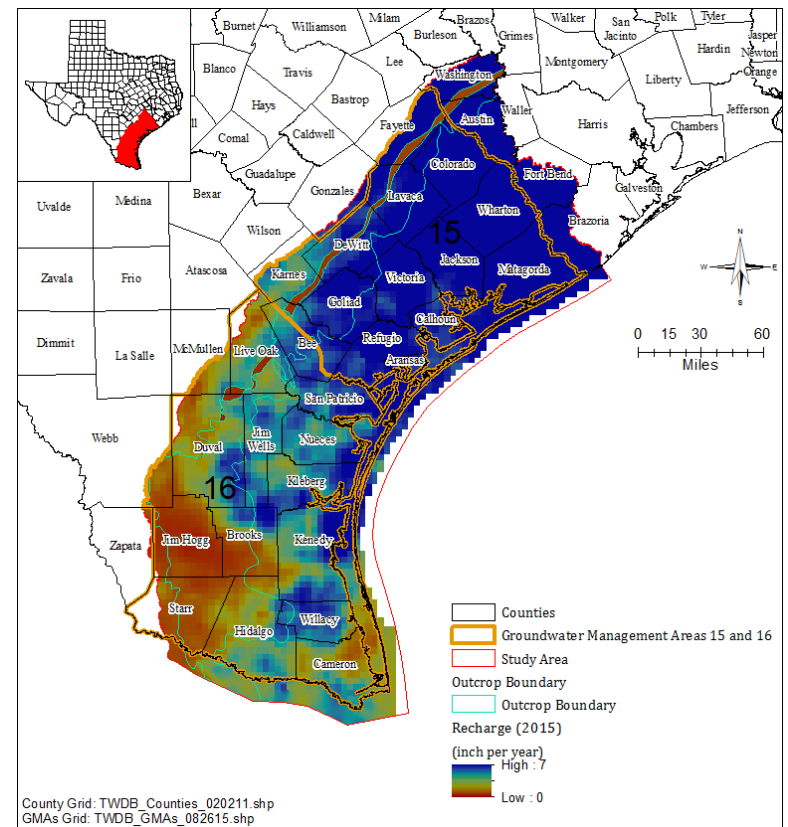
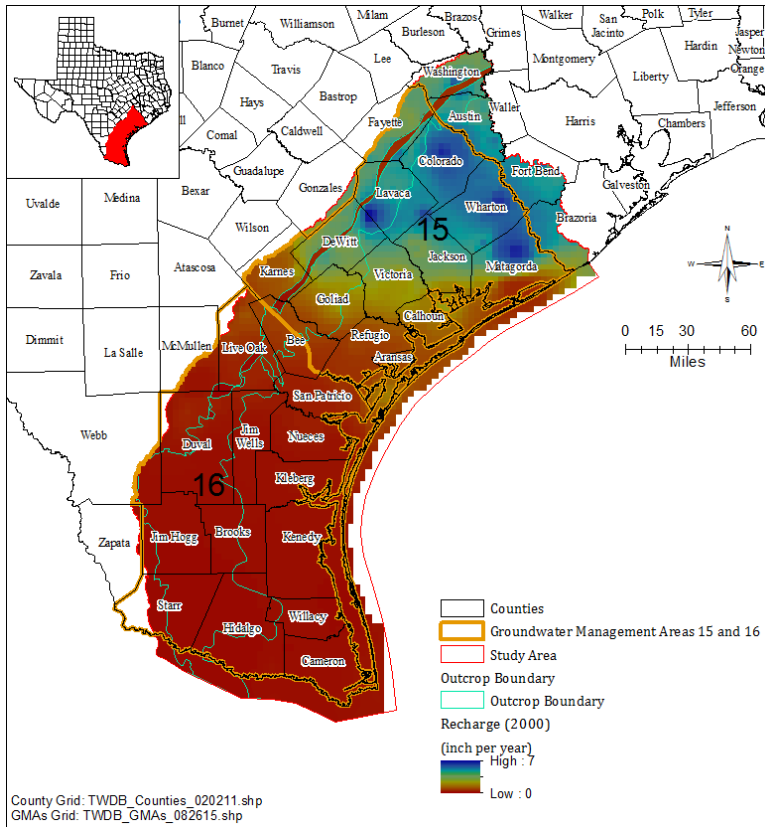
Conceptual Model Component Examples

Stream Baseflow to Recharge



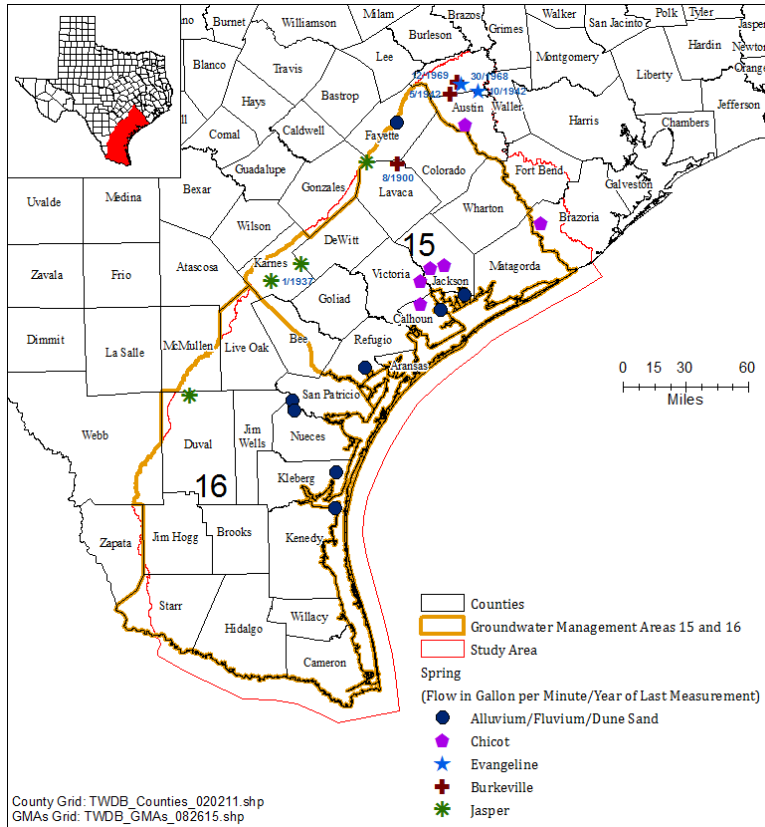
Conceptual Model Component Examples

Precipitation to Recharge (Every Year between 1980 and 2015): Adjusted between Aquifers and Confining Unit

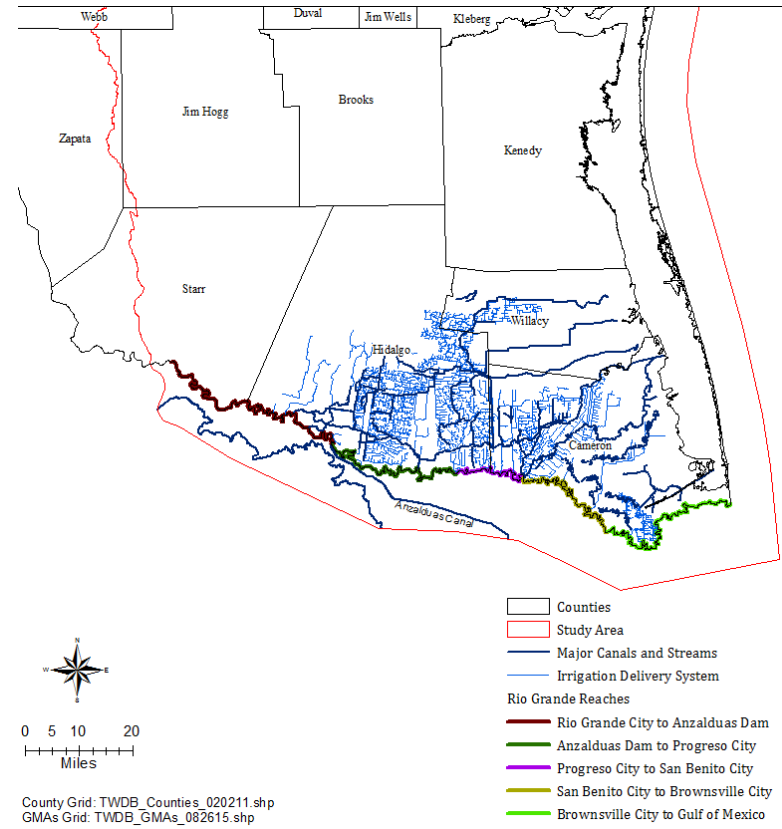


Conceptual Model Component Examples

Springs



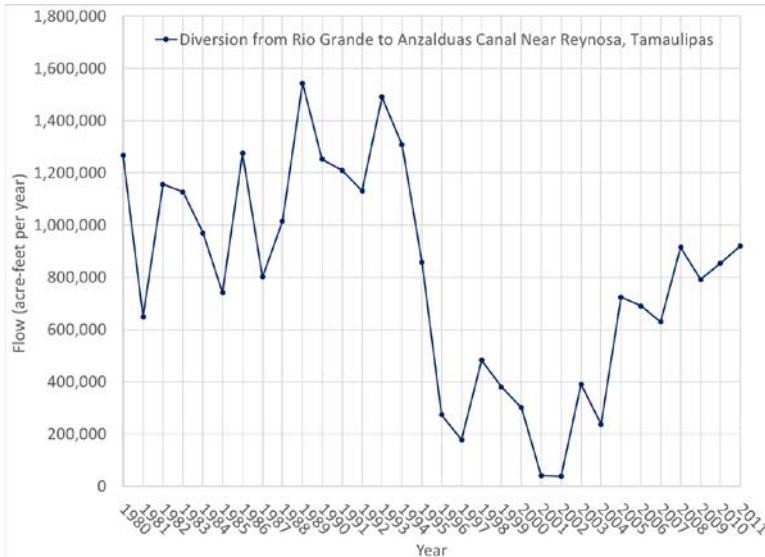
Canals



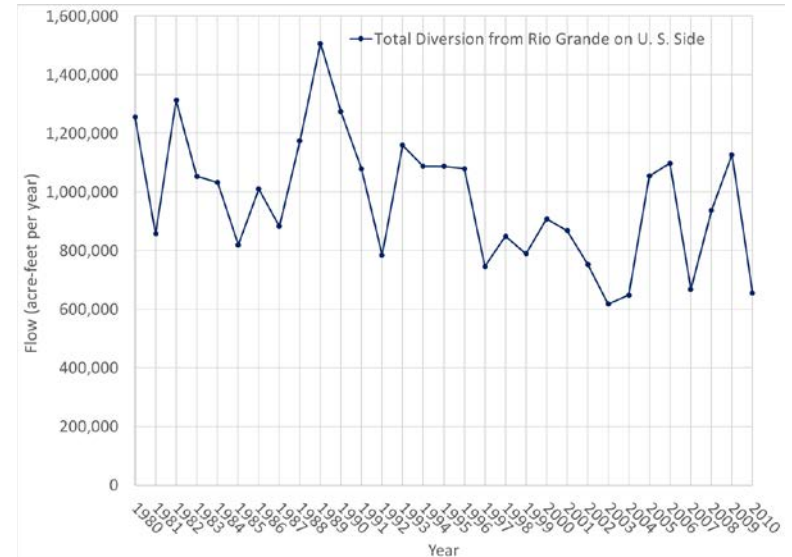
Conceptual Model Component Examples

Diversions

Mexico



U. S.



Major Components of Conceptual Model

- Purpose (done)
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Tentative GAM Schedule

- ❖ Project Team Reassigned – September 2017
- ❖ Conceptual Model/ Draft Report Available for Public Review/Stakeholder Advisory Forum #2 – Winter 2019
- ❖ Numerical Model/Draft Report Available for Public Review/Stakeholder Advisory Forum #3 – Summer 2021
- ❖ Finalize Project – End of 2021

Tentative GAM Schedule

- ❖ A formal SAF will be held once Conceptual Model Report is posted this winter.

**This presentation will be posted on
TWDB website**

**Thank You
Questions?**

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GAM Purpose

- ❖ Estimate Desired Future Conditions and Determine Modeled Available Groundwater
- ❖ GCD Management Plan
- ❖ Aquifer Storage