



Modeling Well Specific Pumping at the Provider Level

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Data Management

Can the data of the SRV modeling area be implemented into a provider based model of Arizona's groundwater dynamics?

Why Well Specific Pumping is Important at the Provider Level

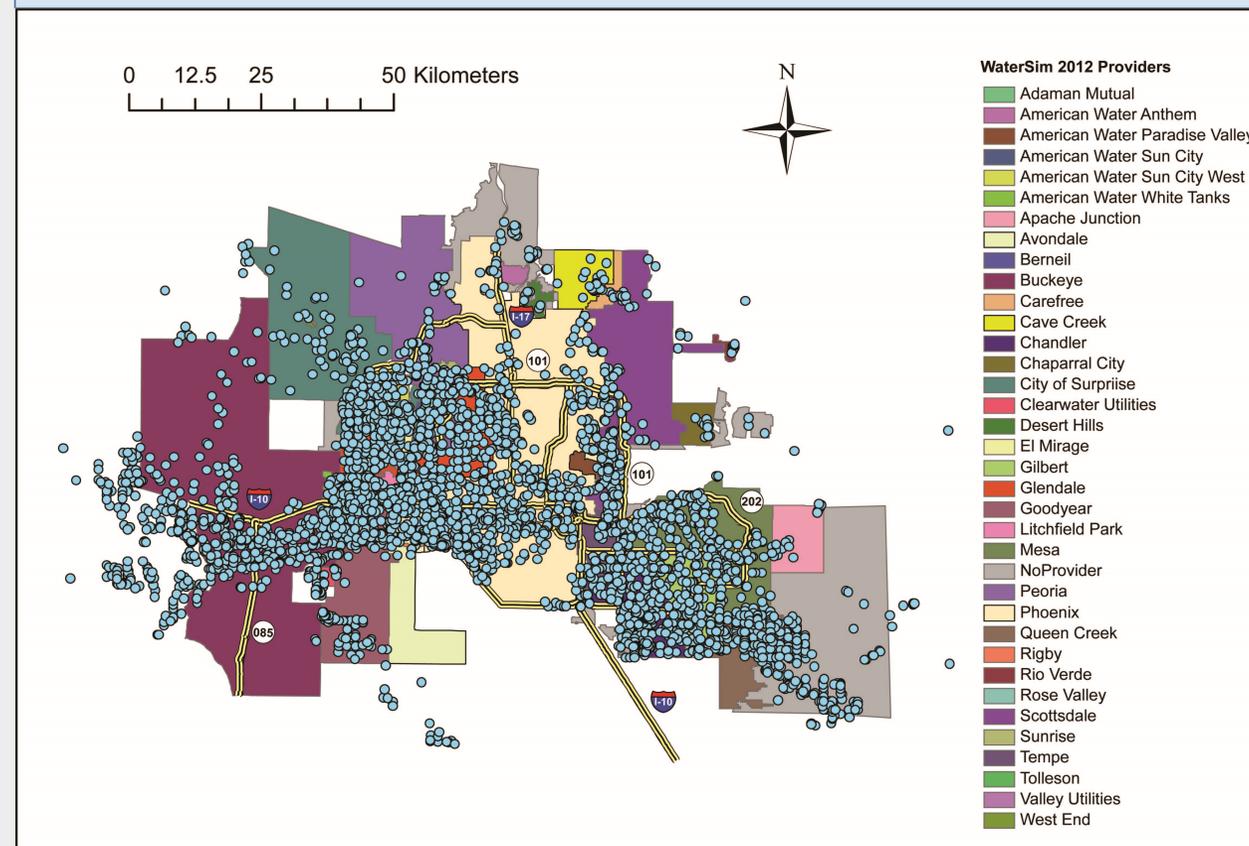
- Climate patterns suggest increased surface temperatures and decreased precipitation in central Arizona. **Decrease in supply**
- As population rises, more people will need access to water. **Increase in demand**
- Modeling groundwater at the provider level allows researchers to share their findings directly with decision-makers.
- Well specific pumping provides a more accurate depiction of groundwater use, since the depth to the water table varies with location.

Total Groundwater Pumping (AF/year)

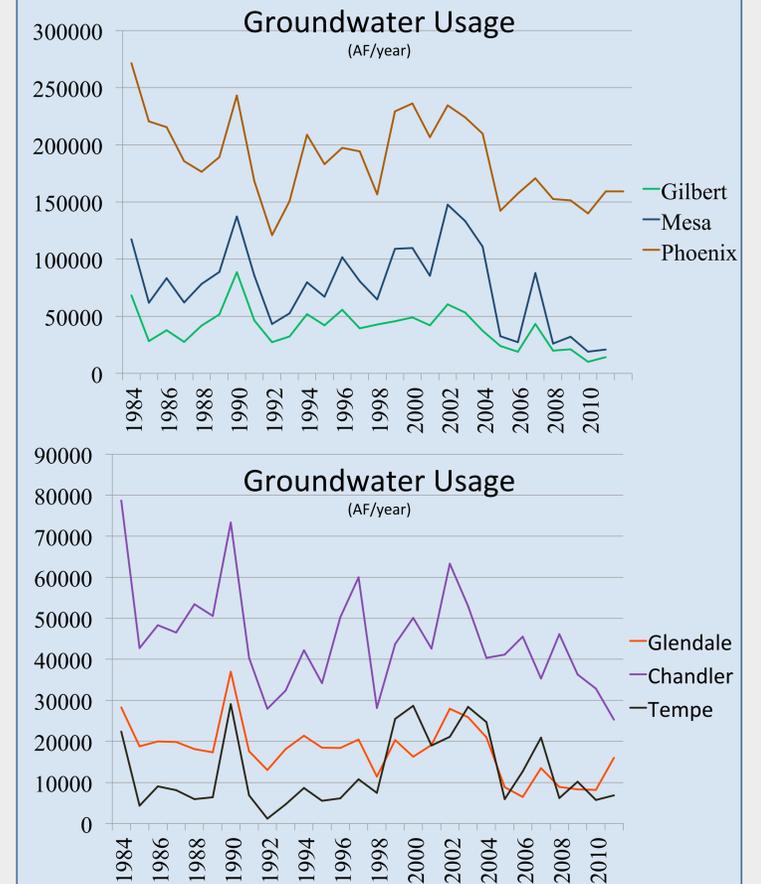


Developing a Provider-based Grid to Model Groundwater for Decision Makers

- 1) Well pumping data was retrieved from ADWR and manipulated into a format that is compatible with data used in previous DCDC research.
- 2) A provider-based grid was developed with the help of ADWR water line information. This grid was overlaid onto the SRV modeling area, displayed in the map below, so that each well could be assigned a specific provider.
- 3) This well specific pumping technique will be implemented into WaterSim in order to develop a more accurate depiction of groundwater dynamics. The model will then be able to help providers make decisions regarding groundwater.
- 4) A coupled WaterSim-SRV groundwater flow model framework has been conceptualized. This research was one step in developing a model that can accurately depict Arizona's groundwater dynamics.



Groundwater Usage by Large Water Providers



WaterSim-MODFLOW Integration

This research project is a small advancement in an ongoing attempt to design a coupled WaterSim-SRV groundwater flow model. This model will be a link between researchers and policy makers, and will help reduce uncertainty in decision making.

Acknowledgment

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