

HYDROLOGY / CLIMATOLOGY

Objective: To provide common assessment and methodologies of the groundwater resources in the Ogallala Aquifer and the interrelationships with climate. This includes understanding the status of the aquifer and potential rates of decline, as well as, investigating climatic variables specifically targeting prediction capacity.

- **5.1 Regional GIS database**
 - Characterizing climate across the region
 - Identifying all aquifer(s) and the(ir) characteristics
 - Identifying Ogallala aquifer recharge rates / locations
- **5.2 Hydrologic Models**
 - GAM interface with irrigation demand
 - Other models (existing and new)
- **5.3 Climatic Forecasting**
 - Using / improving long-range climatic forecasts
 - Using / improving short-range weather forecasts
 - Evaluate risk demands in terms of climate and water resources
 - Value of information analysis

Outcome: 1) Integrated model for current and future aquifer withdrawals [Answer a variety of what-if questions], 2) site specific hydrological/climatological models for water districts that forecast aquifer conditions on an annual basis, 3) Provide model output for groundwater management districts and national and state policy makers.