NM statewide water assessment: Assessment of Spatiotemporal Groundwater Level Changes Throughout New Mexico

Objectives

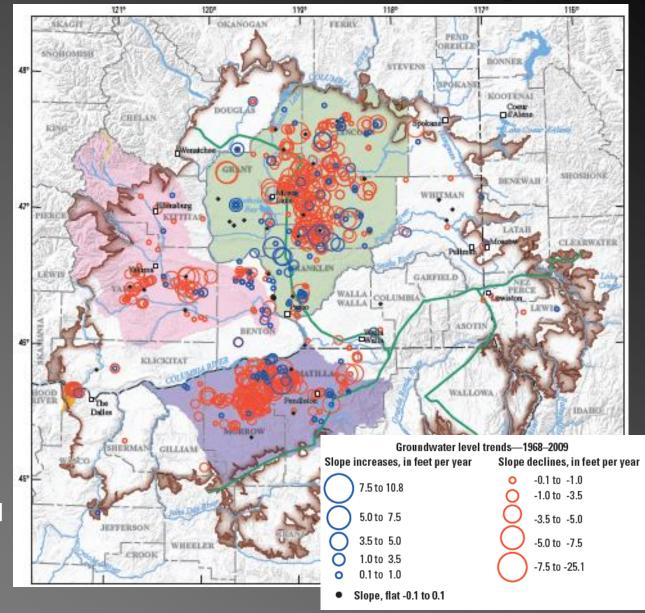
- Transmit data from a groundwater database into a Geographic Information
 System (GIS) to map out the spatial distribution of groundwater level changes
 for visual and spatial analysis
- Calculate groundwater elevation, change in groundwater elevation, and change in groundwater pumping and population
- Evaluate the potential impact of increased groundwater pumping on changes in groundwater elevation

Projected Outcomes

- Statewide maps showing changes in groundwater elevation from 1994 to 2014 (5-year time intervals)
- A map of the change in groundwater levels over time provides a spatiotemporal assessment of the impact of groundwater withdrawals over time throughout NM.

Analogous Assessment of Groundwater Level Changes

- Burns et al., 2012, used trend analysis and evaluated changes in water levels over time (slope increase or decline in figure legend).
- This figure from Burns et al. (2012) illustrates the type of product that will be generated for the State of NM.
- These data will be compared to land use, population, and groundwater extraction data to evaluate potential causes of water-level change.



Burns, E.R, Snyder, D.T, Haynes, J.V., and Waibel, M.S., 2012, Groundwater status and trends for the Columbia Plateau Regional Aquifer System, Washington, Oregon, and Idaho: U.S. Geological Survey Scientific Investigations Report 2012–5261, 52 p., http://pubs.er.usgs.gov/publication/sir20125261.