



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002KS6B

Title: Groundwater Recharge in the High Plains Aquifer and Associated Aquifers of Kansas

Project Type: Research

Focus Categories: Groundwater, Methods, Water Quantity

Keywords: Groundwater recharge, High Plains aquifer, Recharge database

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Congressional District: 2nd District

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Abstract

Reliable estimates of current and future water resources are essential for continued economic development and sustainability of natural systems. Groundwater recharge is an important component of water resources that limits sustainable groundwater withdrawal and impacts surface water availability. Recharge is also a critical input component to groundwater availability modeling. Although many groundwater investigations assessing aquifer recharge were conducted in Kansas, there is no database available that compiles and evaluates existing information on recharge. Therefore, we propose to: (1) compile and analyze all existing information on recharge rates based on physical, chemical, isotopic, and modeling techniques for the High Plains aquifer in each of the five GMDs and all other interconnected aquifers to it in Kansas ; (2) evaluate the range of recharge rates for each aquifer subunit in light of the techniques used to estimate recharge and assess whether the various techniques are appropriate; (3) develop a conceptual model for the recharge processes in each aquifer subunit and determine the local and regional controls on recharge; (4) determine which aquifer units require additional recharge studies and recommend appropriate techniques for quantifying recharge; and (5) document the results of this study in a comprehensive electronic data base. The database will include all existing information on recharge rates and related information in the State based on various reports by the KGS, USGS, various state and local agencies, state universities, scientific journals, web pages, ongoing studies, and other sources. The proposed database will be made accessible to all interested agencies and general public by putting it on the KGS web page in a prominently identifiable location.