

Abstract

Identification of Geographic Areas Suitable for Groundwater Banking using GIS

Track: Water Resources

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The demand for water in Texas is increasing, yet supplies are more limited than ever. One method of alleviating water supply problems during drought is storing surplus surface water during non-drought times in aquifers using artificial recharge, an approach known as "water banking."

GIS was used to identify areas suitable for groundwater banking. Statewide data layers were assembled including depth to groundwater, soils, slope, groundwater and surface water quality, rate of infiltration, water conveyance systems, and water demand estimates. Ranking criteria were developed and applied to each thematic data layer to rate the suitability of each site for groundwater banking.

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