TEXAS GROUNDWATER CONSERVATION DISTRICT POLICY: CONTENT MINING AND STATISICAL ANALYSIS

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ABSTRACT

Groundwater is an increasingly significant and precious commodity within the state of Texas. The only statewide regulatory vehicle for governance and management of the groundwater resources are the Groundwater Conservation Districts (GCDs). The comprehensive statewide planning process was established by two senate bills in 1997 and 2001 which set forth the required actions for districts to manage and conserve the groundwater resources within the State of Texas. The bills require that all water conservation districts (including groundwater conservation districts, underwater conservation districts and subsidence districts) develop a management plan and update it at regular intervals. The management plans include a full accounting of the district's water demands and the water supplies, the resultant water need (shortage or surplus) within each district as well as the rules of the district. Each district's management plans are also required to establish a set of goals that the district will use to manage its water resources in order to meet its reported shortage or maintain a surplus water budget. GCDs are mandated to produce management plans during their initiation, as well as periodic updates over time. This research attempts to draw connections between the policy documentation of each district and the status of its groundwater resources through a method of content mining and a series of statistical models. This project summarizes the most current data available to portray high-level summaries of each District's current and projected water balance snapshot, as well as pertinent demographic and infrastructure information. Lastly, a qualitative survey was deployed to all GCDs to capture anecdotal insight into the current statewide management structure. The assemblage of the factsheets, model results and qualitative survey produced a baseline portrait of the management policy of all 100 Texas Groundwater Conservation Districts.

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