Water *for* Texas

How to Request a Groundwater Availability Model Run

Groundwater availability modeling is the process of using computer models as management tools to help assess groundwater availability or managed available groundwater. The Texas Legislature tasked the Texas Water Development Board (TWDB) with obtaining or developing groundwater availability models for major and minor aquifers in Texas. To view a list of the groundwater availability models currently available and to request a model run, please see our Web page: http://www.twdb.texas.gov/gam/gamruns.htm.

How can groundwater availability modeling information be used?

Groundwater availability modeling information can be used in many different ways to answer many different questions. The program captures two primary types of information: the model itself and the information in the model. The model can be used to predict water levels and flows in response to pumping and drought. For example, if a new well field is planned, groundwater availability modeling can be used to predict possible effects of the well field on water levels in the aquifer. The information inside a model may also be very useful. For example, groundwater availability models require information on recharge, aquifer geometry (depth and thickness), and aquifer properties (transmissivity, hydraulic conductivity, storativity, and water levels). Aquifer geometry and property information can be used to calculate water in storage and drawdown around individual wells.

Groundwater availability modeling information can be used in many ways to estimate managed available groundwater, depending on the desired future condition of the aquifer. Following are two examples of the many possible ways groundwater availability models can be used to assess groundwater availability:

1. The desired future condition of the aquifer is equal to the volume of water in the aquifer. Groundwater availability modeling information can be used to estimate the volume of water in an aquifer for a specified area at a specified time under specified conditions.
2. The desired future condition of the aquifer is equal to an average water elevation, springflow, or baseflow level. Groundwater availability modeling can be used to assess effects of pumping and drought on water levels, springflow, and baseflow.

Most of the groundwater conservation districts and regional water planning groups have already used groundwater availability models in their plans. For example, the Panhandle Regional Water Planning Group and the groundwater conservation districts in Groundwater Management Area 1 have used groundwater availability modeling information to define the volume of water available to meet their goals for the Ogallala Aquifer (as in Example 1 above). The Barton Springs/Edwards Aquifer Conservation District is using a variation of the groundwater availability model to assess the possible effects of increased pumping on water levels and springflows (as in Example 2 above).

The models are particularly well suited to investigating the effects on groundwater availability of well fields, changes in pumping and pumping patterns, and changes in climate, such as droughts. Because they are regional models, groundwater availability models themselves cannot be used to accurately assess the impacts of individual wells. They can, however, be used to assess the collective effect of individual wells. Groundwater availability modeling information can be retrieved for use with

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analytical models to predict water level declines around individual wells.

Who may request groundwater availability model runs?

Groundwater conservation districts, regional water planning groups, and the Texas Legislature may request runs.

How much does a groundwater availability model run cost?

Nothing. The TWDB provides this service at no cost.

How may I request a groundwater availability model run?

We recommend that you contact the TWDB to discuss your request. TWDB staff can determine if a groundwater availability model is the appropriate tool to answer your questions. Please contact Mr. Marius Jigmond at (512) 463-8499 or Marius.Jigmond@twdb.texas.gov.

You can formally request a groundwater availability model run by sending a letter to

Mr. Marius Jigmond
P.O. Box 13231
Austin, TX 78711-3231

Please make your request as specific as possible.

What happens after I submit my request?

- The TWDB will send a letter of acknowledgment within two weeks of receipt of your request.
- Your request will be logged into the groundwater availability modeling request log that is posted on the groundwater availability modeling Web page.
- TWDB staff will contact you for more information and will give you an estimated time for completing the request.
- TWDB staff will prepare a brief report detailing the request, the parameters and assumptions used to run the request, and an appropriate display of the results.
- TWDB staff will deliver a draft version of the report to the requestor and discuss the results to ensure the run meets the requestor's needs.
- If additional runs are necessary, a new request may be required.
- Once the report has been discussed and approved, a final report will be posted on the groundwater availability model run Web page.

How long will it take for my request to be completed?

- The response time on a request will depend on the complexity of the request, other requests, and current TWDB workload.
- Every effort will be made to respond to requests in a timely manner. However, priority requests, such as those from the Texas Legislature, may take precedence. Priority may also be given to requests from groundwater conservation districts developing groundwater management plans or desired future conditions or regional water planning groups updating regional water plans.
- TWDB staff is usually able to complete requests within four months. However, estimated groundwater availability model run completion dates may be modified, depending on priority requests.