

# GAM run 05-21

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## REQUESTOR:

Mr. Ray Brady, on behalf of the Hemphill County Underground Water Conservation District

## DESCRIPTION OF REQUEST:

Mr. Brady requested a shape file of the saturated thickness of the northern part of the Ogallala aquifer in 2005.

## METHODS:

We ran the northern part of the Ogallala Groundwater Availability Model (GAM: version 2.0) with the most recent demand values generated by the Panhandle Regional Water Planning Group (see GAM run 05-09). We created a saturated thickness file by subtracting the bottom elevation of the Ogallala aquifer from the 2005 water levels. The resulting file was exported into ArcGIS and converted to a shape file.

## PARAMETERS AND ASSUMPTIONS:

- The recharge used represents average climatic conditions.
- All other parameters and assumptions agree with those discussed in the GAM final report by Dutton in 2004 (version 2.0 GAM) and in the report by Dutton and others, 2001 (original GAM).
- Root mean squared error for this model is 53 feet. This error will have more of an effect on model results where the aquifer is thin.
- Please see GAM run 05-09 for other assumptions and how the model was extended from ending in 2050 to ending in 2060.

## RESULTS:

The shape file is available at this link.

[http://www.twdb.state.tx.us/gam/GAMruns/GR05-21\\_sat\\_thick.zip](http://www.twdb.state.tx.us/gam/GAMruns/GR05-21_sat_thick.zip)

## REFERENCES:

Dutton, A., 2004, Adjustments of parameters to improve the calibration of the Og-N model of the Ogallala aquifer, Panhandle Water Planning Area: prepared for

Freese and Nichols, Inc. and the Panhandle Regional Water Planning Group by the Bureau of Economic Geology, The University of Texas at Austin, 9 p.

Dutton, A., Reedy, R., and Mace, R., 2001, Saturated thickness of the Ogallala aquifer in the Panhandle Water Planning Area – Simulation of 2000 through 2050 Withdrawal Projections: prepared for the Panhandle Water Planning Group by the Bureau of Economic Geology, The University of Texas at Austin, 54 p.