

# GAM run 04-03

by Shirley Wade

Texas Water Development Board  
Groundwater Availability Modeling Section  
(512) 463-7847  
February 9, 2004

## REQUESTOR:

Gary Westbrook, Post Oak Savannah Groundwater Conservation District.

## DESCRIPTION OF REQUEST:

Post Oak Savannah Groundwater Conservation District requested the following information from the Central Carrizo-Wilcox Groundwater Availability Model (GAM):

- Mean value of Simsboro aquifer transmissivity for (1) all grid cells in Burleson County and (2) all grid cells above 3,000 feet depth.
- Histogram of Simsboro aquifer transmissivity for (1) all grid cells in Burleson County and (2) all grid cells above 3,000 feet depth.
- Map of Simsboro aquifer transmissivity for Burleson County

## METHODS:

To address the request, we:

- Extracted horizontal hydraulic conductivity values and aquifer thickness values from the Central Carrizo-Wilcox GAM.
- Calculated transmissivity (aquifer thickness times horizontal hydraulic conductivity).
- Calculated statistics and plotted histograms.
- Plotted map of grid cell transmissivity in GIS.

## PARAMETERS AND ASSUMPTIONS:

None: Data request

## **RESULTS:**

### **Transmissivity Statistics for the Simsboro Aquifer**

Mean and median values of transmissivity from the Central Carrizo-Wilcox aquifer in Burleson County are shown in Table 1. Values are listed for all cells and for all cells above 3,000 feet depth.

### **Histograms**

Histograms for Simsboro transmissivity in Burleson County are shown in Figures 1 and 2. The histograms show the total number of cells within each range of transmissivity values.

### **Transmissivity Map**

A map showing the distribution of transmissivities from the model is shown in Figure 3. The transmissivities are given in units of square feet per day.

## **REFERENCES:**

Dutton, A. R., Harden, R., Nicot, J. P., and O' Rourke, D., 2003, Groundwater Availability Model for the Central part of the Carrizo-Wilcox Aquifer in Texas: Final Report prepared for the Texas Water Development Board.

Table 1. Summary of Transmissivity of Simsboro aquifer in Burleson County from Central Carrizo-Wilcox GAM. Transmissivities are in square feet per day.

Parameter	All grid cells in Burleson County	Grid cells above 3,000 feet depth
Mean	9,137	11,453
Median	9,022	12,678
Minimum	1,197	1,200
Maximum	15,200	15,200
Count	677	261

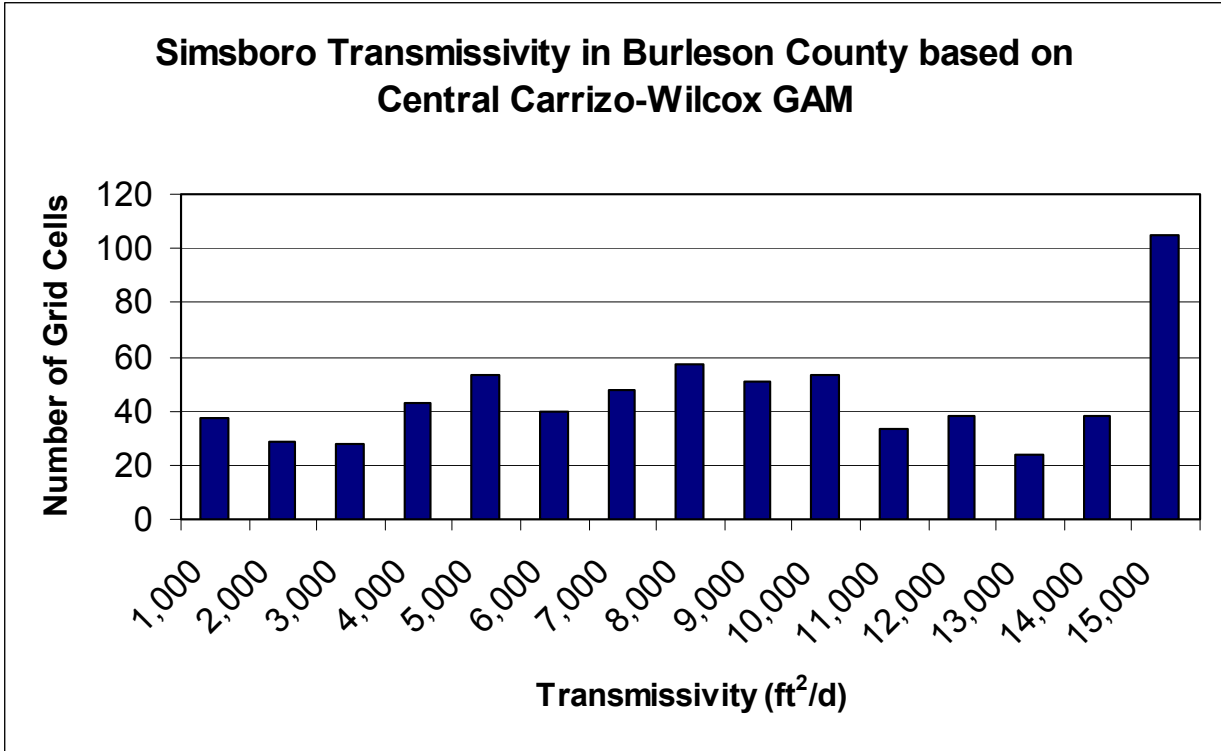


Figure 1. Histogram of Simsboro transmissivity from the Central Carrizo-Wilcox GAM for all grid cells in Burleson County.

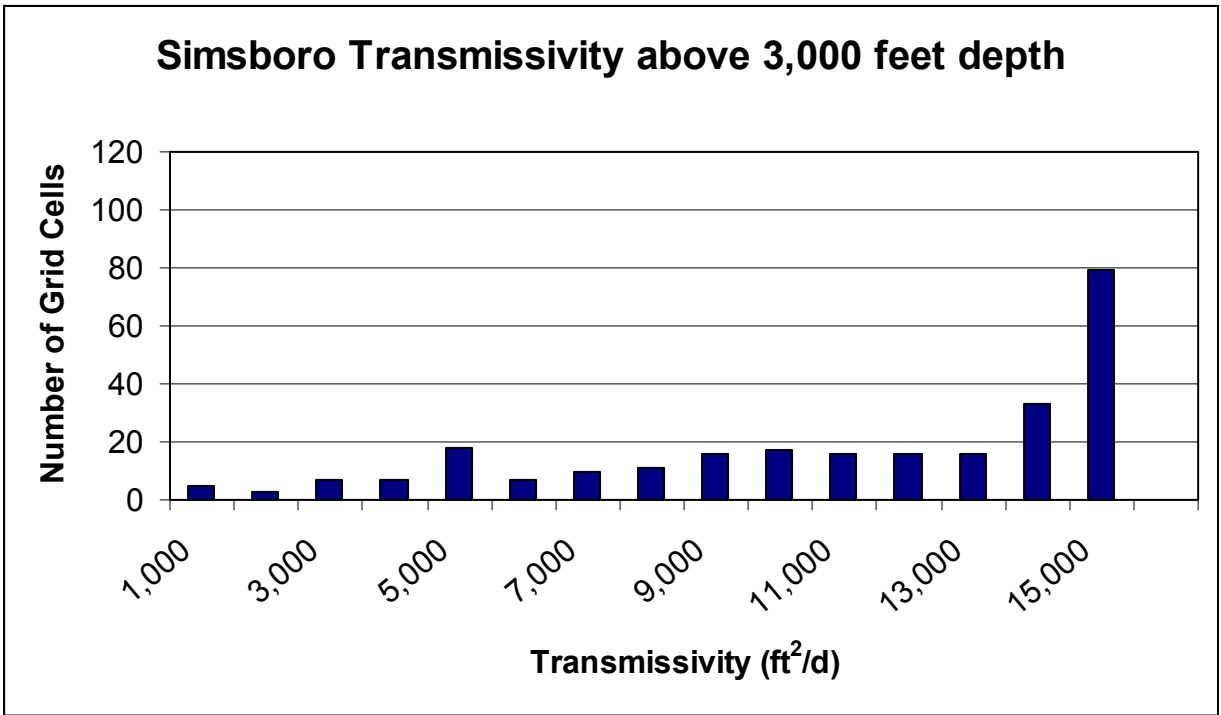


Figure 2. Histogram of Simsboro transmissivity in Burleson County above 3,000 feet depth.

## Transmissivity from Central Carrizo-Wilcox GAM

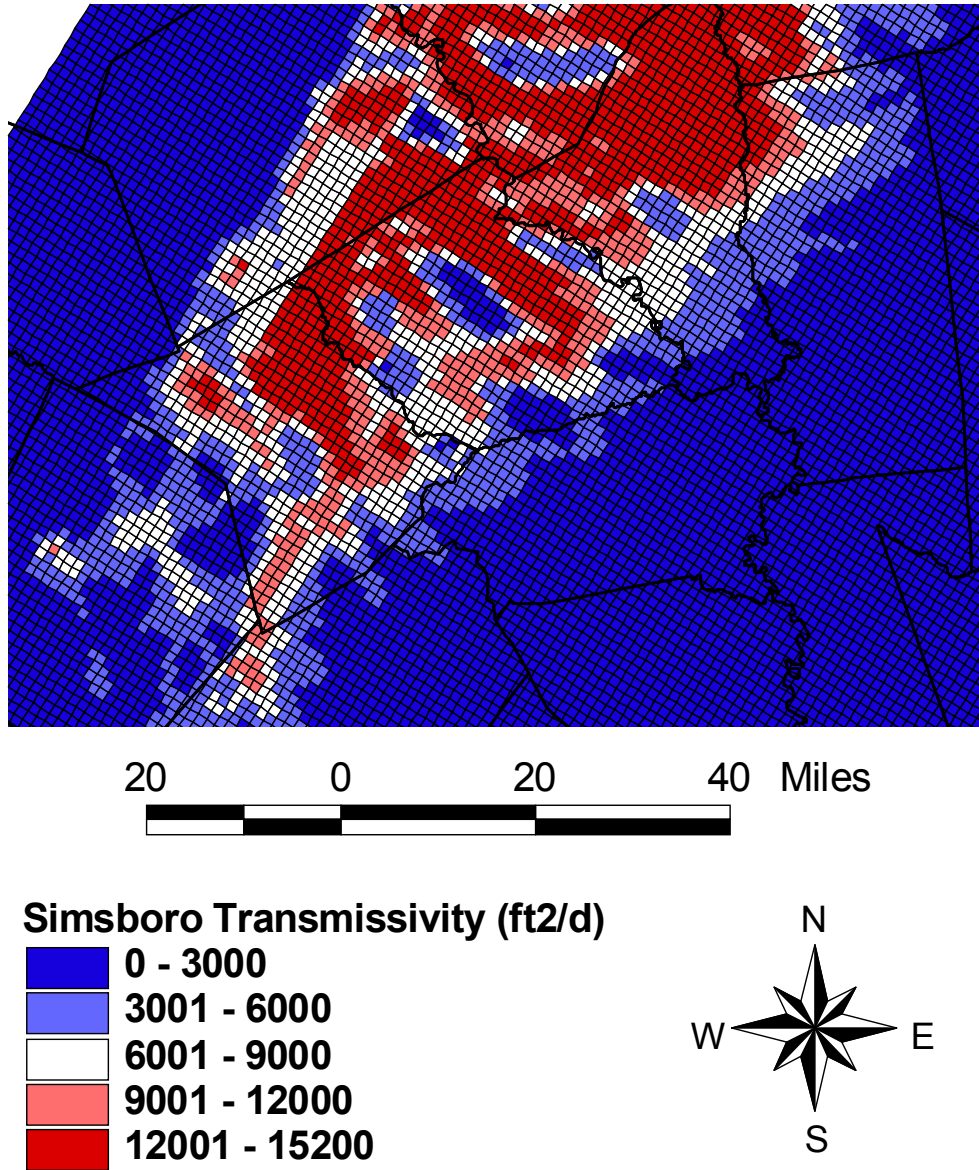


Figure 3. Map of Simsboro Transmissivity from Central Carrizo-Wilcox GAM