



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2003TX87B

Title: Coupling Modular Hydrologic Models with GIS

Project Type: Research

Focus Categories: Models, Hydrology, Floods

Keywords: modular hydrologic modeling, geographic information system, data model

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Matching Funds: \$10000.00

Congressional District: 7

Principal Investigators: Goodall, Jonathan; Maidment, David R.

Abstract: In the past five years, the Guadalupe River basin of Texas has been visited by two major storm events, both of which resulted in severe flooding. The development and use of spatial watershed models provides one potential way to more accurately predict and map the amount of flooding that will likely result from severe storms. In this study, a group of modular hydrologic simulation subroutines will be developed that can be coupled with the ArcGIS Hydro Data Model. Through the use of these models, the vertical flux of water (precipitation, evapotranspiration, and other data) will be computed. The model will also depict the horizontal flux of water (how it flows throughout catchment areas in the basin). This study illustrates how dynamic linked libraries of data sets can work together with GIS applications, thus providing more accurate flood prediction.

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