



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2005TX193B

Title: Enhancing A Distributed Hydrologic Model for Storm Water Analysis within a GIS Framework in an Urban Area

Project Type: Research

Focus Categories: Floods, Models, Hydrology

Keywords: flood prediction, urban hydrology, distributed hydrologic model

Start Date: 03/01/2005

End Date: 02/28/2006

Federal Funds: \$5,000

Non-Federal Matching Funds: \$10,001

Congressional District: 8th

Principal Investigators:

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Abstract

This project will develop an advanced flood modeling system for flood-prone areas in Houston, Texas. The study will use National Weather Service NEXRAD (next generation) RADAR as inputs to a physics-based vFlo model. Excess rainfall will be converted to stormwater runoff or overland flow. The model is unique in that stormwater mains and distribution systems will be incorporated into this real-time distributed computer model. This innovative modeling approach will provide more accurate data on areas where stormwater networks most affect the likelihood of flood events, and will help water resources managers and engineers develop feasible and effective flood control projects. The project builds upon two previous TWRI projects funded at Rice to develop flood alert systems for Houston and Austin. The project is supported by the Texas Medical Center.