

Fall 2007 Graduate Seminar

Friday, October 26, 2007

MB 0.224

4:00 – 4:50 p.m.

Guest Speaker: Wayne Tschirhart, P.E., CFM

Early Flood Warning Systems (EFWS) at the San Antonio River Authority (SARA)

Wayne Tschirhart is a Water Resources Engineer for the San Antonio River Authority. He began his professional career as a weather forecaster for the U.S. Navy in 1981. After active duty, he graduated from Texas A&M with a B.S. in Meteorology in 1992 and from the University of Texas with a B.S. in Civil Engineering in 1996. He was a forecaster for the National Weather Service before launching his career as an Engineer. After graduating from UT, he worked for the Texas Water Development Board as a surface water Hydrologist doing water planning and lake surface evaporation modeling. He then went to the Guadalupe-Blanco River Authority, where he worked with emergency managers in the basin on flood-related coordination and designed an automated rainfall system with 50 stations that has been in continuous operation for the last seven years. Before moving to the San Antonio River Authority, he worked as a consultant performing FEMA flood studies and designing flood control structures for Pape-Dawson Engineers, Inc. He continues to serve as a meteorology/oceanography officer for the U.S. Navy.

Abstract: Central Texas lies in the middle of “Flash Flood Alley” where watershed response times are very short and peaks are very high, causing significant damage to property and unfortunate loss of life. The traditional solution is to install Early Flood Warning Systems (EFWS) to monitor rainfall and stream levels in order provide a “heads up” when either parameter changes rapidly. These systems provide extremely valuable information for the deployment of first response resources, but it is difficult to visualize the information in a spatial framework. The San Antonio River Authority is currently working with The National Weather Service and other agencies in the river basin to develop a Flood Warning Response System (FWRS) that can map flood information in near real time, include the modeling capability to produce river forecasts on demand, and provide Decision Support System (DSS) tools for the county Emergency Operations Center(s) to use for event planning and event responses. This presentation will cover some of the design considerations that are part of the system development.