

AWRA Bio – Hilary Robinson – Student presenter

Hilary Robinson is a master's degree candidate in Environmental Engineering at Rice University in Houston, TX. She grew up in Bethesda MD and moved to Houston in 2004 to attend Rice, where she received her BSCE from the Civil and Environmental Engineering Department. Dr. Philip Bedient has been her mentor and advisor for the past four years; her training in surface water modeling started as a sophomore. Robinson contributed to the latest edition of Dr. Bedient's textbook, Hydrology and Floodplain Analysis, and has assisted him in three classes: Hydrology and Watershed Analysis, Hydrologic Design Lab, and Water Resource Engineering.

Robinson completed research last year in the Cypress Creek watershed in Northwest Houston, which was the focus of her AWRA conference presentation. Her presentation, titled "The Use of *Vflo*TM to Determine Best Detention Practices in Cypress creek Watershed," was voted the best Oral Student Presentation at the New Orleans conference in November 2008. Working with a model created by Andrea Zimmer, she used different scale detention ponds to show that maximum allowable outflow should be reexamined to prevent adverse impact at all points within a watershed. The *Vflo*TM model used for this research is a distributed hydrologic model with cells of 300m on a side, which allows for small scale alteration to mimic gradual development, while keeping the entire watershed simultaneously calibrated.

For her thesis, Robinson is working to develop a distributed hydrologic model of the Yuna River basin in the Dominican Republic. This work is part of an international effort to introduce technology to the Caribbean for improved flood prediction and control. The region frequently suffers flash floods, as well as wide floods downstream, that are both deadly and severely damaging to property and agriculture. Additionally, Robinson received a grant from the Clinton Global Initiative University this year to help increase flash flood warnings in Bona0, a city along the Upper Yuna River. With this work, Robinson hopes to provide better understanding of this watershed, while also creating a template model for comparison of flood control options.