AgriLIFE RESEARCH & EXTENSION
Texas A&M System

TEXAS A&M UNIVERSITY

New Waves

Texas Water Resources Institute's E-Newsletter
Breaking news about water resources research and education at Texas universities

August 28, 2009

RGBI Conference held in McAllen

More than 120 attendees participated in the 2009 Rio Grande Basin Initiative (RGBI) Conference Aug. 10-13 in McAllen. Administrators and representatives from both Texas and New Mexico, as well as the federal project representatives, kicked off the conference. Keynote speakers then discussed agricultural and urban water issues in the basin and the luncheon presenter discussed climate change issues. The remainder of the conference allowed for project participants to give brief overviews of what each task group has accomplished throughout the past year. Wrap-up information from the conference will be posted at http://riogrande-conference.tamu.edu.

Funded through the U.S. Department of Agriculture Cooperative State Research, Education, and Extension Service (CSREES), RGBI focuses on efficient irrigation and water conservation in the Rio Grande Basin. The project is administered by the Texas Water Resources Institute and the New Mexico State University Water Task Force.

International SWAT Conference held in Boulder

The 2009 International SWAT Conference was held Aug. 5-7 at the University of Colorado at Boulder and drew more than 160 attendees from 16 countries. SWAT, the Soil and Water Assessment Tool, is a public domain model jointly developed by USDA Agricultural Research Service and The Texas A&M University System.

Conference presentations included SWAT development and application; large-scale assessment; landscape processes; GIS interfaces and databases; climate change; new developments and auto-calibration and uncertainty analysis. About 135 papers were presented and recorded. Presentations, the book of abstracts, and more information about the conference and upcoming regional SWAT conferences are all available on the conference Web site. Conference proceedings will also be posted soon.

SWAT is a river basin-scale model used to simulate the quality and quantity of surface and groundwater and predict the environmental impact of land management practices on different soil patterns and land use patterns. SWAT is widely used in soil erosion prevention and control, non-point source pollution control and regional management in watersheds.

TWRI grant recipient helps make Texas water data easily accessible

Eric Hersh, a doctoral student at the University of Texas at Austin, worked with his advising professor **Dr. David Maidment** to develop an information system to facilitate the public discovery, acquisition, and sharing of data relevant to environmental flows. The information system makes water data from fields such as hydrology and hydraulics, water quality, climatology, geomorphology and physical processes, and biology, available in a consistent and accessible manner, all in one place.

The project was supported for the 2008-2009 academic year with a $5,000 Texas Water Resources Institute (TWRI) grant provided by the U.S. Geological Survey (USGS) as part of the National Institutes for Water Research annual research program. TWRI is the designated institute for water resources research in Texas.

The data model resulting from Hersh's efforts brings together geospatial, physical, chemical, and biological data along with supporting documents and base maps from federal, state, academic, river basin, and local sources. The data is available at http://data.crwr.utexas.edu/. Working with the Texas Natural Resources Information System, the state's digital data agency, a web-based map viewer was also created at http://www.waterdatafortexas.org/ to allow the public access to data relevant to their interests and needs.

Following the inception of Senate bills 2 and 3, the issue of environmental flows has become increasingly relevant in Texas. Environmental flows work involves developing standards for the state's river basin and bay systems, with the goal of supporting sound ecological environments. Hersh said he hopes that the information system will help the Texas Commission on Environmental Quality and involved scientists and stakeholders establish flow requirements in a systematic manner.

In another part of the research, Hersh and Maidment are developing a desktop methodology, called BioDesktop, which seeks to establish linkage between environmental flows and habitats, and to evaluate environmental flow needs.

"In the long-term, I desire my studies and research to serve as a foundation for a career dedicated to ensuring the availability, safety, and sustainability of water for generations to come," Hersh said.

For more information on Hersh's research, visit TWRI's USGS research grants Web page.

Floriculture water webinar planned

People in floriculture who need to know about water quality, conservation and management but can't travel to a remote meeting now have a new option. The Ellison Chair in International Floriculture at Texas A&M University is offering a webinar, or series of meetings via the Internet, according to **Dr. Charlie Hall**, Ellison chairholder and Texas AgriLife Research horticulturist.

The current webinar is titled "Water Quality, Conservation, and Management." The first topic covered in the series was water quality, and you can listen to the recording here. The next edition of the webinar is scheduled for Sept. 15 and Dr. Peter Ling of Ohio State University will be speaking on the topic "Knowing exactly when to apply irrigation water." The final installment of the series is titled "Water management that makes cents" and will be held Oct. 20.

To watch a video invitation to the webinar, visit Dr. Hall's blog. Registration is available here and previous webinars by the floriculture program can be found at Ellison Chair Web site.

Groundwater conference scheduled for October

The Texas Water Development Board (TWDB), in conjunction with Texas A&M University's Water Degree Program will host the third annual Groundwater 101 Conference on Oct. 13-14, at the College Station Conference Center. This year's conference will be combined with the Aquifers of the Upper Coastal Plains Conference, part of a series of conferences by TWDB's Groundwater Division that will eventually cover all major and most minor aquifers in the state.

The conference will include topics such as the Carrizo-Wilcox Aquifer, groundwater law, groundwater modeling, drought management planning, and water level monitoring techniques. The course is designed primarily for groundwater conservation district staff and members of their boards of directors, but all interested individuals are welcome to attend.

Registration is available here and the registration fee is $50. For more information, contact **Brenner Brown** at Brenner.Brown@twdb.state.tx.us.

Texas ET Network installs Georgetown weather station

Residents in Williamson County now have a way to estimate how much water they need to irrigate. The Texas ET Network, a program of Texas AgriLife Extension Service's Irrigation Technology Center, recently installed an agricultural weather station in Georgetown, according to an AgriLife Extension associate.

Charles Swanson, manager of the Texas ET Network, said information from the weather station, which collects temperature, relative humidity, solar radiation, wind speed and rainfall measurements, can be viewed at http://TexasET.tamu.edu. The network uses these parameters to calculate a plant's water requirement, known as evapotranspiration or ET.

"This area uses a tremendous amount of water for landscape irrigation," Bob Whitney, AgriLife Extension agent for Williamson County said. "This weather station will help us to schedule that water use much more efficiently and effectively."

The TexasET Network, which includes more than 30 weather stations across the state, was created as an online tool to help landscape and agricultural irrigators efficiently schedule irrigation. Users of TexasET can view the daily weather records and use one of the three online tools on the Web site: the home watering calculator, turf/landscape calculator and the crop irrigation calculator. Frequent TexasET users also have the ability to create a free account with TexasET and receive email water recommendations.

TAMMI conference to address lessons learned from Hurricane Ike livestock casualties

After Hurricane Ike hit in 2008, Texas government officials and Texas AgriLife Extension Service personnel were faced with the loss of about 4,800 adult cattle and 5,600 calves killed in the storm surge zone.

"Another hurricane season is upon us," said **Dr. Saqib Mukhtar**, AgriLife Extension agricultural engineer. "Massive animal mortality management without coordinating efforts among government agencies, volunteers and producers may become a logistical and disposal nightmare impacting people, property and the environment."

Mukhtar is the coordinator of the upcoming Texas Animal Manure Management Issues (TAMMI) conference, set for Sept. 29-30 at the Austin Marriott North in Round Rock. Speakers with animal mortality management experience will present "Disposal of Catastrophic Animal Mortality - Lessons from Hurricane Ike" at the conference. Other conference topics will include energy production from manure and new advances in animal manure management, Mukhtar said.

The cost of registration is $125 and more information is available at the TAMMI Web site.

Read the entire Ag News story here.

Dust Bowl to Mud Bowl conference to be held in Kansas City

"From Dust Bowl to Mud Bowl: Sedimentation, Conservation Measures and the Future of Reservoirs," a conference sponsored by the U.S. Department of Agriculture's Cooperative State Research, Education, and Extension Service, Kansas State University, and the Soil and Water Conservation Society, is scheduled for Sep. 14-16, in Kansas City, Mo.

The conference seeks to expand opportunities for multi-state interdisciplinary collaboration regarding conservation practices and the sustainability of reservoirs, examine current scientific research and technological issues related to sediment loading, and formulate recommendations regarding strategies to address sedimentation in reservoirs.

The Texas Water Resources Institute (TWRI) is part of the conference planning committee, and TWRI Acting Director **Dr. B.L. Harris** will be moderating a conference session on "Consequences of Nutrient Loading and Sedimentation on Eutrophication."

See the conference's Web site for more information.

TWDB upgrades Water IQ site

The Texas Water Development Board (TWDB) has recently revised the WaterIQ.org water conservation public awareness Web site, which provides an opportunity for Texans to learn more about water conservation efforts throughout the state.

Communities can provide information about their local and regional water conservation efforts by exchanging links from their community Web site to the Water IQ site. TWDB also provides water conservation brochures and other educational materials for indoor and outdoor water conservation at home and for agricultural water use. These publications are free in limited quantities, and additional copies may be ordered for a nominal fee.

For more information, contact **Holly Vierk** at Holly.Vierk@twdb.state.tx.us.

Inaugural International Flash Flood Laboratory workshop to be held

The International Flash Flood Laboratory (IFFL) Inaugural Workshop will be held Oct. 19 at Texas State University-San Marcos. Sponsored by the James and Marilyn Lovell Center for Environmental Geography and Hazards Research, the IFFL workshop will determine what activities the laboratory should initiate to effectively serve the mission of reducing flash flood fatalities and property loss, according to **Dr. Pamela S. Showalter**, center director.

Dr. Eve Gruntfest, a widely published and internationally recognized expert in warning systems, flash floods, and the challenge of integrating the social and atmospheric sciences, will deliver the annual James and Marilyn Lovell Distinguished Lecture.

For more information and registration, visit the Workshop Web site.

Baylor research tests wetlands used in septic tank systems

Two Baylor University researchers have created and tested several new on-site wastewater treatment systems to see if they could be part of the next generation of residential treatment systems, according to a Baylor news release.

Dr. Joe Yelderman, professor of geology, and **Dr. Margaret Forbes**, research associate in biology, constructed five different submerged gravel wetlands and tested the contaminant-removal ability of each wetland against different dosing systems, ranging from a continuous dose to a more rapid batch dose coming out of a septic tank. The submerged wetlands rely on the gravel and plants to remove contaminants by mirroring the pollutant removal ability of nature.

After several tests on the wetlands to see what dosing system works the best with a specific wetland, the Baylor researchers found that the wetland with gravel and plants performed better, discharging cleaner water, during batch dosing when compared against more continuous dosing.

Read the complete Baylor news story here.

TNRIS Web site adds new mapping features

The Texas Natural Resources Information System (TNRIS) has added an interactive mapping component to the front page of its Web site. Using technology developed from the Geospatial Emergency Management Support System, the new map viewer offers real-time weather and traffic information to anyone who visits the site. Data feeds supply real-time Doppler weather radar, precipitation, and county level weather warnings. TNRIS is planning additional future enhancements to expand the use of this interactive technology, enhancing accessibility to TNRIS data. TNRIS is part of the Texas Water Development Board.

New Publications/Papers

Education of Best Management Practices in the Arroyo Colorado Watershed, Texas Water Resources Institute Report TR-355, 2009

The Texas Water Resources Institute (TWRI) and the Texas AgriLife Extension Service (Extension) implemented an educational program within the three-county area of the Arroyo Colorado watershed to

address water quality protection and improvement for the agricultural community. The educational program focusing on nutrient management, best management practices, pesticide safety and compliance with the watershed protection plan was funded through a Clean Water Act Section 319(h) grant from the Texas State Soil and Water Conservation Board (TSSWCB) and the U.S. Environmental Protection Agency (EPA).

Understanding and Installing Drainage Systems, Juan Enciso, Xavier Peries, Luis Ribera, Dean Santistevan, B-6229, 2009

Farmers can increase yields and net returns by installing artificial drainage systems on soils that have poor natural drainage. This publication explains why artificial drainage is needed on some soils, the types of drainage systems, drainage design considerations, and the steps and economics of installing a relief drainage system.

TWRI Water Resources Training Courses

SWAT for Beginners	Nov. 2-3, 2009
Advanced Data Processing for ArcSWAT	Nov. 4, 2009
SWAT for Advanced Users	Nov. 5-6, 2009
Texas Watershed Planning Short Course	May 10-14, 2010 (tentative)

New Waves is an e-mail newsletter of Texas Water Resources Institute, part of Texas A&M University College of Agriculture and Life Sciences, Texas AgriLife Research, and Texas AgriLife Extension Service. **New Waves** publishes timely information about water resources news, results of projects and programs, and new water-related research projects, publications, papers and faculty, at universities in Texas.

If you have information for possible inclusion in **New Waves** please e-mail **Leslie Jordan** at lhjordan@ag.tamu.edu, or call 979.862.7139, and include your contact information. All submissions may be edited for grammar and style.

If you have difficulty with any links or text, please visit the online version of **New Waves** at http://twri.tamu.edu/newsletters.php.

To subscribe, unsubscribe or manage your personal membership options to the **New Waves** mailing list visit http://twri.tamu.edu/subscribe.php.