



Texas Water Resources Institute's E-Newsletter

Breaking news about water resources research and education at Texas universities

May 30, 2008

TWRI requests Mills Scholarship applications

The Texas Water Resources Institute (TWRI) is still accepting applications for the 2008-2009 TWRI Mills Scholarship Program. TWRI anticipates funding 15 graduate students with one-year \$1,500 scholarships payable at the beginning of the 2008-09 academic year. The deadline for submission is June 19, 2008.

This scholarship program provides funds to graduate students in diverse disciplines pursuing research in water-related studies at Texas A&M University. Priority is given to students who are addressing priority water issues and plan to pursue a water-related career in Texas. Students selected for these scholarships will be eligible to waive out-of-state tuition.

Throughout the past three decades, TWRI has awarded Mills Scholarships with funds endowed by Mills Cox, former chair of the Texas Water Development Board. These scholarships are an excellent opportunity for conducting research beneficial to the future of the state, said Dr. Allan Jones, TWRI director. "The intent of this permanently endowed fund is to help support scholarships for graduate students with demonstrated interest in fields of studies that have the potential to help Texas solve future water problems."

For more information, contact Cecilia Wagner, Cecilia@tamu.edu, 979.458.1138. Additional information about the program as well as award recipients from previous years can be found [here](#).

Nonpoint pollution annual report published

The [Texas Commission on Environmental Quality](#) and the [Texas State Soil and Water Conservation Board](#) have published the 2007 annual report on the state's Nonpoint Source Management Program, as part of the requirement for the federal Clean Water Act.

"Managing Nonpoint Source Pollution in Texas" is available at http://www.tsswcb.state.tx.us/files/contentimages/2007_Annual_Report.pdf.

The management program, with funding from the U.S. Environmental Protection Agency, addresses the goals, objectives and various strategies under way in Texas to reduce and prevent nonpoint source pollution and provides a schedule to measure progress, according to the report.

Book summarizes turfgrass use, water management in urban landscapes

The [Council for Agricultural Science and Technology](#) (CAST) recently published the book, "Water Quality and Quantity Issues for Turfgrasses in Urban Landscapes."

The book is composed of 16 presentations from 25 water, turf, and landscape specialists, who addressed a three-day workshop in 2006 hosted by CAST. Dr. James Beard, a retired professor of Texas A&M University's Soil and Crop Sciences Department, and Dr. Mike Kenna of the U.S. Golf Association co-chaired the task force and wrote the executive summary.

The workshop proceedings provide a science-based summary of strategies for turfgrass use and water management in urban landscapes that will assist policy making and regulation agencies to understand the uses of turfgrasses in urban environments and proper irrigation practices, according to a CAST flyer on the publication. It also benefits university scientists; water providers; local, state, and federal policy personnel; and turfgrass industry/association representatives by providing a comprehensive summary of what can be done to conserve potable water, use recycled water and protect valuable drinking water from pollution.

For more information or to obtain a copy of the book, visit CAST's [Web site](#).

Climate Change conference proceedings available

Presentations from the "[Forecast: Climate Change Impacts on Texas Water](#)" conference on April 28-30 in Austin are available on the conference [Web site](#).

Over the three days, the conference featured national climate change scientists who have conducted cutting-edge research in the prediction of global warming and the impending changes on the earth's climate. State climatologists and scientists who are working to understand the impacts to Texas and its water resources also spoke.

The [River Systems Institute](#) at Texas State University in San Marcos sponsored the conference. Co-sponsors were the [Texas Water Resources Institute](#), Texas A&M AgriLife; the [Environmental Sciences Institute](#), The University of Texas at Austin; [Guadalupe—Blanco River Authority](#); [Lower Colorado River Authority](#); [Magnolia Charitable Trust](#); the [Jackson School of Geosciences](#), The University of Texas at Austin; [Meadows Foundation](#); [National Oceanic and Atmospheric Administration](#); and the [U.S. Geological Survey](#).

Desalination workshop will present latest technologies

The 4th annual practical short course, "Water: Desalination, Process and Wastewater Issues and Technologies," is set for Aug. 4-5, 2008 at Texas A&M University in College Station.

The hands-on workshop exploring the technologies of desalination is sponsored by the [Global Petroleum Research Institute](#), the [Separation Sciences Program](#), and the [Food Protein Research and Development Center](#) of Texas A&M University; and the [Texas Water Resources Institute](#), Texas A&M AgriLife.

Workshop presenters will cover pretreatment equipment, processing, systems, field testing, case studies and post-treatment technologies. Lectures will be complimented by several daily pilot plant demonstrations at the Separation Sciences Laboratory on the Texas A&M campus.

[Texas Water Development Board](#)'s director of special projects, **Jorge Arroyo**, will speak about the board's desalination program.

The registration fee is \$650 before July 25, 2008 and \$695 after July 25. Continuing education units for water & water management are available.

To register or for more information, please visit the laboratory's [Web site](#) or contact Carl Vavra at 979.845.2758 or cjavavra@tamu.edu; Connie Conaway at 979.845.2272 or connie@pe.tamu.edu; or Cyndi Casanova at 979.847.8997 or shortcourse@tamu.edu.

Texas Watershed Steward Training set

The [Texas AgriLife Extension Service](#) and [Texas State Soil and Water Conservation Board's](#) Texas Watershed Steward Training program will be held at the Williamson County's AgriLife Extension Office on June 10 from 8 a.m. to 4 p.m.

This program is for individuals who are interested in water quality issues and want to become more directly involved in watershed protection and management in their area.

For more information, visit the [Texas Watershed Steward Web site](#) or contact Jennifer Peterson at 979.862.8072 or jlpeterson@ag.tamu.edu.

To continue reading the AgNews story, click [here](#).

Workshop to focus on water-wise landscapes

Texas AgriLife Extension Service's Concho Valley Master Gardeners Association is hosting "Water-Wise Landscaping," at 7 p.m. June 10 at the Tom Green County 4-H Center, 3168 N. U.S. Hwy 67.

There is no charge for the workshop, but organizers ask that participants call the AgriLife Extension office in Tom Green County at 325.659.6528 by June 6, so enough printed material can be made available.

To read the AgNews story, click [here](#).

Far West Texas climate change conference scheduled

The [Texas Water Development Board](#) (TWDB) is sponsoring a Far West Texas Climate Change Conference June 17 at the Water Resources Learning Center in El Paso. The conference will consider the possible impact of climate change on surface water supplies from the Rio Grande and brainstorm potential water management strategies to offset any potential impacts.

There is no registration fee for the conference; however, participants should RSVP to Kathleen Ligon at kathleen.ligon@twdb.state.tx.us by May 30. For more information contact Ligon or visit TWDB's [Web site](#).

New Book presents insights on Texas water issues

A new book published by the [River Systems Institute](#) at Texas State University and the Texas A&M University Press uses innovative maps and graphics to present water resources issues facing Texas.

Drs. Lawrence Estaville and **Richard Earl** of the Department of Geography at Texas State University developed the *Texas Water Atlas*.

The book contains sections describing climate, surface water and groundwater, water hazards associated with floods and drought, water quantity and quality, water projects, pollution, water recreation, and future water supply and demand. Each section begins with an introductory text followed by colorful maps, charts, and graphics.

"We created the *Texas Water Atlas* as a fundamental reference book for a diversity of people interested in Texas water resources, including university and high school students, policymakers, environmentalists, and the general public," Estaville said.

The book differs from many other publications that describe water resources in that it presents water resources information using maps. For example, a map of the Edwards Aquifer shows the location of springs along the contributing recharge and artesian zones. A series of maps shows which regions of Texas have been most affected by flash floods, catastrophic storms and hurricanes, and lists the intensity of rainfall associated with these events. Other maps present information on the habitats of water-dependent fish, mammals, birds, and plants that may be endangered.

In addition, the book includes a comprehensive timeline from 1542 to present time of important developments in Texas water resources.

For more information about the book, contact Estaville at 512.245.7618 or le02@txstate.edu or Earl at 512.245.3204 or re02@txstate.edu. The book may be ordered through the Texas A&M University Press from its Web site, <http://www.tamu.edu/upress/>.

Real-time water quality information available across the nation

Real time water-quality data are now easily accessible online through the [U.S. Geological Survey's](#) (USGS) WaterQualityWatch [Web site](#), according to a USGS news release.

Real-time water quality measurements are available at more than 1,300 sites across the United States in streams with watersheds as small as a few square miles to more than a million square miles in the Mississippi River. Measurements include streamflow, water temperature, specific conductance, pH, dissolved oxygen, and turbidity.

"Real-time water information is breaking new ground in science and technology and is proving to be very useful, helping local water managers make important daily decisions, such as regarding drinking water, water treatment, recreation, and public safety on beaches throughout the U.S.," said Matthew Larsen, USGS acting associate director for water.

Access additional USGS real-time water information sites by visiting the Web sites: [WaterWatch](#) for surface water information and [Ground-Water Watch](#) for groundwater information.

Arnold named Purdue's 2008 Distinguished Agricultural Alumni

Dr. Jeffery Arnold, research leader of the [Grassland Soil and Water Research Laboratory](#) of U.S. Department of Agriculture's (USDA) Agricultural Research Service in Temple, was recently recognized as Purdue University's 2008 Distinguished Agricultural Alumni. This title is given to individuals in recognition of outstanding accomplishments and significant contributions to their profession and society.

Arnold earned a doctorate degree from Purdue University's Agriculture and Biological Engineering department in 1992. As a Purdue doctoral student, he worked to develop the Soil and Water Assessment Tool (SWAT).

Arnold has published more than 235 articles and chapters and has reported at nearly 50 national and international meetings. In the United States, his work plays a key role in USDA's conservation policy and the Environmental Protection Agency's environmental policy.

New Projects

Classification of Current Land Use/Land Cover for Certain Watersheds Where Total Maximum Daily Loads or Watershed Protection Plans Are In Development

An important component to any watershed assessment is having up-to-date land use data. Land use/land cover data is used to understand potential pollutant sources and to target pollutant abatement/remediation efforts. To address pollutant source assessment needs, the Spatial Sciences Laboratory will classify the current land use for the Big Cypress Creek, Middle Brazos River, Navasota River, Lake Granger and Buck Creek watersheds. The results of this effort will be used in the decision-making processes as a part of the Total Maximum Daily Load or watershed protection plan development in these watersheds.

Principal Collaborators: Spatial Sciences Laboratory, Texas A&M University; Texas Water Resources Institute, Texas A&M AgriLife

Funding Agency: Texas State Soil and Water Conservation Board

United States/Mexico Transboundary Aquifer Assessment Project

This program will initiate and conduct scientific research to systematically assess priority transboundary aquifers, providing a scientific foundation for state and local officials to address pressing water resource challenges in the United States-Mexico border region. Scientists from New Mexico State University, Texas AgriLife Research, University of Arizona, the U.S. Geological Survey, state agencies and their Mexican counterparts will work together to collect and evaluate new and existing data to develop high quality, comprehensive groundwater quantity and quality data and groundwater flow models for binational aquifers.

Principal Collaborators: Texas AgriLife Research, Texas Water Resources Institute, New Mexico State University, New Mexico Water Resources Research Institute, The University of Arizona Water Resources Research Center, U.S. Geological Survey, and state agencies, natural labs, and Mexican counterparts

Funding Agency: U.S. Geological Survey

Continuing Project

Watershed Assistance to Improve Water Quality in North Central Texas

In this continuing federally funded project, the Texas Water Resources Institute and Texas A&M AgriLife are collaborating with Tarrant Regional Water District to study water quality protection and potential improvements in five reservoirs with major sediment and nutrient problems.

Principal Collaborators: Tarrant Regional Water District; Texas Water Resources Institute, Texas A&M AgriLife; Texas AgriLife Research; Texas AgriLife Extension Service; Spatial Sciences Laboratory, Texas A&M University; Alan Plummer Associates, Inc. and Espey Consultants, Inc.

Funding Agency: U.S. Department of Agriculture's Natural Resources Conservation Service

New Publications

[Bosque River Environmental Infrastructure Improvement Plan: Phase I Final Report](#)

Raghavan Srinivasan, Texas Water Resources Institute Report, TR-312, 2008

The Bosque River and its associated watershed face a myriad of water quality challenges. Previous attempts made to address these concerns have had limited success due to a relatively narrow, specific problem approach. A scientific advisory committee developed a list of potential best management practices (BMPs). After establishing the prioritized list, BMPs were evaluated by the Spatial Sciences Laboratory at Texas A&M University using geographic information systems to identify areas within the watershed where implementing these practices would be most effective. This document outlines an effective methodology for determining which locations in the watershed should receive focus when field work begins, and which BMPs would be most effective in specific sub-watersheds.

[Bosque River Environmental Infrastructure Improvement Plan: Phase II BMP Modeling Report](#)

Pushpa Tuppada and Raghavan Srinivasan, Texas Water Resources Institute Report, TR-313, 2008

The Bosque River Watershed is located in the Brazos River Basin in central Texas and is facing several water quality issues resulting in sediment, nutrient, and bacteria loading. These loadings are potentially derived from improperly managed cropland and grazing land, land-applied dairy waste and effluent discharge from eight wastewater treatment plants. The objectives of this project (Phase II) are to apply the Soil and Watershed Assessment Tool (SWAT) model to simulate and evaluate the impacts of implementing several best management practices (a) in the entire watershed, and (b) at incremental levels in high, medium, and low priority areas of the watershed, identified using three different impact indices.

For these Texas AgriLife Extension Service publications, visit the Bookstore [Web site](#).

[Texas Watershed Steward Handbook: A Water Resource Training Curriculum](#)

Jennifer Peterson, Mark L. McFarland, Nikkoal Dictson, Diane Boellstorff, Matthew Berg, Texas AgriLife Extension Service publication, B-6203

This curriculum is for participants in the Texas Watershed Steward program. It includes the background, principles, and tools you will need to become a Texas Watershed Steward. However, the information can help all citizens understand the need to care for our water resources. The book discusses the ways our watersheds are impaired and how they can be restored through proper management. It includes helpful resources such as lists of water quality agencies and organizations and suggested activities for communities.

[On-Site Wastewater Treatment Systems: Graywater](#)

Rebecca Melton, Bruce J. Lesikar, David Smith, Courtney O'Neill, Texas AgriLife Extension Service publication, B-6176 (reprint)

Reusing household water (graywater) to irrigate landscapes is becoming more popular. This publication explains how graywater collection and distribution systems work and what regulations pertain to their use. There are helpful illustrations to show system design.

[Proceedings of Playa Lakes Symposium 2007](#)

Kenneth A. Cearley, Texas AgriLife Extension Service publication, SP-323

Playas are natural depressions in the land that occur across the high plains of Texas, New Mexico, Colorado, Kansas, Nebraska, and Oklahoma. These ephemeral wetlands, numbering approximately 30,000, provide important habitat for many wildlife species. Playas are also the primary source of recharge water for the immense Ogallala Aquifer. The 2007 Playa Lakes Symposium covered best management practices for playas, so this publication is a useful tool for the sound stewardship of playas.

"**New Waves**," an email newsletter of Texas Water Resources Institute, a unit of Texas A&M AgriLife, 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 email [Kathy Wythe](mailto:Kathy.Wythe@texasaam.edu) or call 979.845.1862 and include your contact information. All submissions may be edited for grammar and style.

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