

Mission

The University of Arizona's Water Resources Research Center (WRRC) promotes understanding of critical state and regional water management and policy issues through research, community outreach and public education.

Background

A research and extension unit of the College of Agriculture and Life Sciences, WRRC was founded at The University of Arizona

Research

Staff and students at the WRRC carry out collaborative research on a diverse range of topics related to water policy and management. Current topics include:

- Incorporating Climate Information and Stakeholder Engagement in Groundwater Resources Planning and Management - employs a novel modeling framework and extensive stakeholder interactions to achieve the following objectives: (1) Address climate uncertainties with a sophisticated modeling framework; (2) Increase stakeholder capacity to adapt water planning and management to future climate uncertainties; (3) Establish the transferability of the modeling framework and capacity building approach.
- Developing qPCR Protocols to Assess Bacterial Activities in the Biosphere2 Hillslope Experiment - will use the



in 1957 and designated Arizona's water resources research institute under the Federal Water Resources Research Act of 1964. The WRRC is committed to providing:

- Assistance for communities in water management and policy;
 - Education for teachers, students and the public about water; and
 - Scientific research on state and regional water issues.
- In addition, the Center houses several programs for research, outreach and education on water.

Biosphere2 Landscape Evolution Observatory (LEO) to reconstruct microbial colonization of soils in a relatively pristine site to develop information that will help quantify the internal mechanisms of the LEO hillslope functioning and aid in assessing the effects of future hillslope perturbations (e.g., drought) on biogeochemical cycling.

- Supporting Watershed Management Planning for People and the Environment in the Desert Landscape Conservation Cooperative Region: A Demonstration in the Upper Gila River Watershed - will develop planning tools to support planning in the Upper Gila River Watershed (Graham and Greenlee Counties, Arizona) and other watersheds within the Desert LCC region with regional water resource management in the face of climate change and changing land use patterns.
- Utility Guide to Rainwater /Stormwater Harvesting as an Adaptive Response to Climate Change-project to develop a decision support tool for utilities and agencies to evaluate suitability and cost-effectiveness of rainwater and stormwater capture at various scales.

Education & Outreach

Arizona Water Resource

Published by the WRRC since 1993, the AWR newsletter appears quarterly. Each issue contains a feature article of timely interest and a public policy comment by the WRRC Director, as well as announcements and information on current water news, legislation and law, publications, and special projects.



Arroyo

An annual newsletter that presents in-depth discussion of a single topic. Arroyo addressed the topic of Desalination in Arizona in its 2011 issue and Border Water Source of Conflict and Cooperation in 2012. In 2013, Arroyo will cover water contaminants of emerging concern. Both publications are available free online or by subscription.

Brown Bag Seminars

This popular series of seminars draws UA campus and local community members to hear from experts addressing a variety of current water-related issues.

Annual Statewide Water Conference

These well-regarded conferences provide a forum for water professionals, academics, public officials and the general public to discuss important state water issues. Topics have included agricultural water use, water in the environment, water quality protection, the Colorado River, and desalination. The 2013 conference is focusing on the many interrelated issues of water security.



Programs

NIWR (The National Institutes for Water Resources)

The WRRC is a member of the National Institutes for Water Resources, which provides national coordination of the Water Resources Research Act, Section 104(b) research grant program, funded through the U.S. Geological Survey. Under this program, the WRRC provides grant support for research projects on water-related issues of importance to the state and region. Competitive awards totaling approximately \$40,000 per year are distributed for research projects at the three Arizona state universities.

Water Sustainability Program



WSP
Water Sustainability Program
Our Water Future

Water Sustainability Program (WSP) is a partner in the Water, Environmental and Energy Solutions (WEES) initiative with the Institute of the Environment (IE) and the Renewable Energy Network funded by the Technology and Research Initiative Fund (TRIF). WSP supports water research, student fellowships and outreach activities at the University of Arizona. The WEES umbrella organization is co-directed by Sharon Megdal.

Arizona Project WET (Water Education for Teachers)

Project WET, a global water education program for teacher training and student engagement, is represented in Arizona by the award-winning program—Arizona Project WET (APW). The premier Project WET program in the U.S., APW has expanded in many directions and today includes not only teacher professional development, but also a unique Water Investigations Program for high school students, hands-on programs for grade school students



including Water Festivals, an on-site wetlands and groundwater model learning module, and a school water audit program (SWAP). APW is also a partner in NASA funded Earth Camp activities,

providing in-depth exposure for students and teachers to the interconnections of the environment.

Transboundary Aquifer Assessment Program – Arizona/Sonora (TAAP-A/S)

TAAP-A/S is a federally funded program co-hosted by the USGS Arizona Water Science Center and the WRRC. The program originates from U.S. Public Law 109-448, the Transboundary Aquifer Assessment Act. The Act applies to the states of Texas, New Mexico, and Arizona. In Arizona and Sonora, the Santa Cruz and San Pedro aquifers are designated for priority assessment, and assessment activities in support of groundwater management have focused on these aquifers. Aside from the

USGS, WRRC and Udall Center for Studies in Public Policy at the University of Arizona, a variety of other U.S. and Mexican stakeholders participate in priority setting for the assessment process. TAAP-A/S has been designated a case study by the UNESCO Internationally Shared Aquifer Resource Management (ISARM) program.

Water for the Environment

Connecting Environmental Water Needs to Arizona Water Planning (EnWaP) - WRRC's 2010 Water Needs Assessment for Arizona is the basis for a collaborative effort at the local, regional and state level to explore what it means to consider the environment in water planning. Ultimately, the program aims to establish dialogue among water users about voluntary, stakeholder-driven options for addressing the environment in the context of limited water supplies and existing water rights.

Conserve to Enhance

Based on research on consumer attitudes and motivations, Conserve to Enhance (C2E) uses the environment as a



motivation for implementation of water conservation. The central component is an innovative mechanism for dedicating conservation saving to environmental restoration. With this mechanism, and

education on individual opportunities for water efficiency, the program links traditional water conservation programs – water audits, rebates, retrofits, landscape conversions, etc. – with the environment, and can improve the effectiveness and penetration of these programs.

Desert Water Harvesting Initiative

The Desert Water Harvesting Initiative grew from efforts to enhance outreach and communication between utilities, practitioners of water harvesting, academics, and interested citizens. The Initiative includes a two-



year WaterSMART research grant to develop a decision guide to rainwater and stormwater harvesting; an online data clearinghouse for research and publications on water harvesting, low-impact development, and green infrastructure; and the Rainwater-Stormwater Professionals Network (RSPN) that meets semi-annually at the WRRC to keep members abreast of current and planned activities, resources, and data.

Water Resources Research Center The University of Arizona

350 N. Campbell Avenue, Tucson, Arizona 85719

Phone: 520-621-9591

Fax: 520-792-8518

wrrc.arizona.edu

Sharon B. Megdal, Director

Email: smegdal@cals.arizona.edu