

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**

November 10, 2016 / Volume 4, Issue 35

The [Water Resources Research Center](#) - a research and [Extension](#) unit of the [College of Agriculture and Life Sciences](#)



Arizona Project WET Facilitates Paying It Forward

Copper King's Water Academy 7th and 8th grade students wanted to engage 4th and 5th graders in learning water concepts. In doing so these students learned how difficult it is to balance inquiry, exploration, and discovery with structure and discipline when teaching. The middle school students benefitted greatly from this experience. Mason said, "We've grown a new respect for teachers and instructors for what they do" and his colleague Jayde added, "It makes us look at things from a different perspective." Using Arizona Project WET's successful water festival model, these Pendergast Elementary School District teens made a difference in younger students' lives. Fourth grade student Miles said, "I loved everything. The best field trip ever!" and Trevor emphasized in all

caps, "IT WAS AWESOME!"

To see more on Arizona Water Festivals, click [here](#)



WRRC EVENTS

WRRC Brown Bag Seminar - Low Impact Development: A Brief Overview of Features

November 29, 2016

Time/Location: 12:00 - 1:15 p.m. / WRRC Sol Resnick Conference Room (350 N. Campbell Ave.)



Speaker: Jeff McCormick, Town Manager, Town of Pima (Graham County)

Low-Impact Development (LID) is a concept that began in Prince George's County, Maryland in 1990, as a practical alternative to traditional stormwater management practices. LID includes a series of land engineering and development features that minimize infrastructure, control stormwater runoff near its origin, and help recharge aquifers and restore watersheds, in addition to playing an important role in Smart Growth, Green Building, and helping with Clean Water Act compliance. LID emphasizes both land and water conservation, and with its minimalistic dependence on infrastructure, LID utilizes on-site natural features which help protect water quality while retaining the natural hydrology of the site and preserving its before-development water runoff characteristics. LID minimizes the use of impervious surfaces such as asphalt or concrete, which enhances the ability to control water runoff and improves infiltration.

The economic incentives for utilizing LID appeal to developers and capture the attention of engineers. Curbside gutters are typically unnecessary, as other engineering techniques are utilized to direct water runoff. Underground piping is minimized, as the water is contained on-site and allowed to infiltrate into the soil. Small retention basins replace larger basins, which increases the number of lots in a development project and often increases the value of those lots. With the reduced infrastructure, impact fees are usually lower, sometimes significantly lower. Developers and engineers integrating LID principles into development projects often see higher profit margins. LID is virtually maintenance free, and its use of native vegetation and less land disturbance enhances the property's aesthetics and conserves its natural features. What's more, LID has demonstrated a remarkable capacity to manage the substantial runoff volumes involved in major storm events and reduce or prevent property damage.



If you can't make it to the live seminar on Nov. 29, join us online [here](#) .

WRRC Brown Bag Seminar - Scientific Thinking to Remedy "Black Swans," "Wicked Problems," and Assorted Science/Policy Failures

December 5, 2016

Time/Location: 12:00 - 1:15 p.m. / WRRC Sol Resnick
Conference Room (350 N. Campbell Ave.)

Speaker: Dr. Victor R. Baker, Professor, Department of
Hydrology and Atmospheric Sciences, University of
Arizona



Science can be thought of in two mutually incompatible ways: (1) science-as-knowledge, serving as an authoritative basis for action, and (2) sciences-as-process of inquiry, serving as a continually updated guide to action. There is mounting evidence that overemphasis on (1) is increasingly contributing to failures for the betterment of humankind. In remedy for this, the Earth and environmental sciences, conceived in mode (2), offer great promise for societal benefit through their evolving toward a nature-directed, trans-disciplinary focus on the complexities of the real world. This new focus is needed to overcome problems created by the limitations on scientific thinking that get imposed when reality is artificially simplified in order to generate predictions as the primary basis for action. Among the most pressing issues are "Black Swans" (surprising extreme-impact events that exceed expected possibilities), "Wicked Problems" (unique, seemingly endless questions without true or false answers, that get viewed from conflicting perspectives, and whose "solutions" lead to yet more wicked problems), and failures at achieving wise policy outcomes when science is misconstrued as an authoritative method for fixing belief. The use of abductive inference in scientific thinking, as a complement to the current overemphasis on inductive/deductive inference, can provide the key element for achieving a kind of truly scientific thinking that will make progress on many issues of current societal concern, ultimately leading to improved public understanding and appropriate political action.



If you can't make it to the live seminar on Dec. 5, join us online [here](#)

OTHER EVENTS

SWES Colloquium - Food-borne Diseases and Improving Methodology to Respond to Outbreak Investigations

November 14, 2016

Time/Location: 3:00 p.m. Marley Building, Room 230 ,
(1145 E 4 St).

Speaker: Kristen Pogreba-Brown Ph.D., M.P.H

Kristen Pogreba-Brown is an assistant professor of epidemiology at the University of Arizona Mel and Enid Zuckerman College of Public Health. Prior to joining the faculty, Dr. Pogreba-Brown was an epidemiologist with the College as the director of the Student Aid for Field Epidemiology Response (SAFER) team. In



addition to continuing to oversee the SAFER program, her research projects are focused on foodborne diseases and improving methodology to respond to outbreak investigations. She is currently working on a project to identify the risk factors related to foodborne infection, as well as the risk factors related to specific chronic outcomes following acute disease. She has recently initiated a One Health Program at UA to form collaborative research teams from across campus and develop a graduate level certificate program. She is also actively involved in public health preparedness activities, specifically for large events.

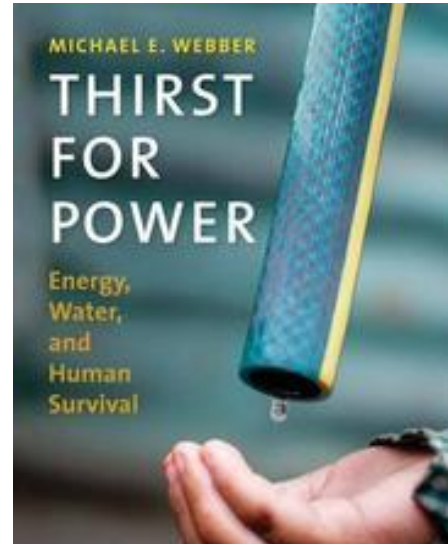
WRRC Co-Hosting Special Seminar - Thirst for Power: Energy, Water, and Human Survival

November 15, 2016

Time/Location: 4:00 p.m. James E. Rogers College of Law, Room 168, (1201 E. Speedway).

Speaker: Michael E. Webber, Ph.D.

Dr. Webber, a leader and teacher in the field of energy development and resources, explains how energy and water supplies are linked and how problems in either can be crippling for the other.



Please note special time and location

The UA Bookstore will host a book signing in the College of Law's courtyard following this event.

NEWS

Budapest Water Summit 2016

From the 28th to the 30th of November the Government of Hungary will host the Budapest Water Summit 2016. UA Director and Research Professor of Environmental Policy, Udall Center for Studies in Public Policy, Robert G. Varady, who was a member of the Summit's International Programme Committee, will participate as a panelist in the Science and Technology Forum closing high-level panel, "Turning the tide? How can scientific knowledge guide SDG policy making at different scale?" In the same Forum, WRRC Director Sharon B. Megdal will participate as a keynote speaker in the session, "Groundwater - How can we manage the commons under uncertainty?" with a presentation entitled "Groundwater Invisibility and Decentralized Governance: The role of science in informing groundwater policy". The presentation will draw from experiences in the southwestern United States with efforts to make groundwater more "visible" to those who use and govern it, by connecting scientific investigations and stakeholder dialogues.



The Budapest Water Summit 2016 aims to foster new types of integrated and sustainable water management. The mission of the Summit is to change the focus from water conflicts and global risks to water as the source of cooperation, peace, and development. It intends to nurture links between political decision-makers and technology development, financing, and public perceptions. Summit participants will be tasked with discussing and adopting the "Budapest Statement 2016", a vehicle offering solutions to relevant international forums.

For more information about the conference, click [here](#)

ALRS Student Presentation Contest Winners

On September 16, Arid Lands Resource Sciences Students and faculty took time to get-together to discuss the state of the program and dissertation preparation. Speakers were invited to present on topics from graduate funding opportunities, club activities, and tips in preparing and writing the thesis/dissertation, publications, or reports. The highlight of the retreat was the 3-minute Research Talk



Challenge, a competition for the best 3-minute research presentation by ALRS students. Six contestants competed for three cash prizes. There was a two-way tie for first place between Saleh Ahmed for his presentation, "Social Vulnerability to Climate Change in Bangladesh" and America Lutz Ley for her presentation, "Global Change and Rural Livelihoods' Adaptation in the San Miguel Watershed in arid Northwest Mexico". Second place was awarded to WRRRC Graduate Student Assistant Elia Tapia for her presentation, "The Desert Flows Database". Third place was awarded to Yulia Peralta for her presentation, "Going backwards to move forward: Water governance and global". Congratulations to all the winners.

To read more about the retreat, click [here](#)

WRRC Director Busy Bringing Visibility to Groundwater

Fall semester at the University is always a busy time of the year. This is certainly true for WRRC Director Sharon B. Megdal who maintains a hectic schedule including multiple presentations on varied water resources topics to a range of audiences. On October 27, 2016, Dr. Megdal was the opening keynote speaker for the American Geophysical Institute's 2016 Critical Issues Forum, in Golden, CO where she presented "Groundwater Governance and Management". On November 3, she was the kick-off speaker at the 95th Annual Meeting of the Arizona Farm Bureau at the Wigwam Resort in Litchfield Park. Her presentation, "Bringing Clarity to a Murky Regulatory Environment", set the stage for water discussions later in the day. On November 9, she presented, "Desalination in Israel" at the second desalination committee meeting of the Governor's Water Augmentation Council Meeting held in Phoenix, AZ. At the American Water Resources Association Conference in Orlando, FL, on November 14, Dr. Megdal will speak on "Improving Integrated Surface Water and Groundwater Management in the United States: Three Case Studies of Innovative Regional Groundwater Governance Approaches"



Weekly Wave Released on Thursday

In recognition of Veteran's Day, the WRRC will be closed on Friday, November 11, 2016. The Weekly Wave is therefore being sent today, Thursday, November 10.

"Honor to the soldier and sailor everywhere, who bravely bears his country's cause. Honor, also, to the citizen who cares for his brother in the field and serves, as he best can, the same cause."

~Abraham Lincoln



ANNOUNCEMENTS

The Center for Rural Leadership Hiring an Executive Director

The University of Arizona College of Agriculture & Life Sciences Cooperative Extension invites applications for the position of Executive Director of Project CENTR a 501c3 non-profit and the premier rural leadership program in the state. UA, as a partner with this association, seeks an energetic, proven leader for this position. This is a University of Arizona position that will be housed in Phoenix at the UA CALS Cooperative Extension office.



To review the full job description as well as apply, click [here](#)

PAG Hosting Public Meeting on Lower Santa Cruz River Basin Study

On November 30, 2016, Pima Association of Governments (PAG) will host a meeting at the PAG offices at 1 E. Broadway Blvd. in the Santa Rita Room. The meeting runs from 4:00 p.m. - 5:30 p.m., with sign-in and refreshments beginning at 3:40 p.m. The purpose of the meeting is to develop strategies to improve water reliability for the Tucson Region. Come find out how you can get involved in this study to address water supply and demand imbalances. Registration is required.

To register for the meeting, click [here](#)

For more information about the LSCR Basin Study, click [here](#)

WaterSmart Innovations Conference and Exposition Issues Call for Abstracts

Professionals, scientists, government employees, organizations, public and private institutions, policy makers, students, and all others working in an industry related to water efficiency are invited to submit abstracts for the 10th annual WaterSmart Innovations Conference and Exposition, scheduled for October 4-6, 2017 in Las Vegas. The deadline for receipt of abstracts is Friday, February 10, 2017.

For additional information or to submit abstracts, click [here](#)

Geological Society of America Meeting Call for Abstracts

The 2017 Cordilleran GSA meeting will be held at the beautiful Hawai'i Convention Center in Honolulu. One themed session in particular relates to water resources. The Integrated Approaches for Assessing Water Resources session will cover water management strategies in relation to legal, cultural, human-health, ecological, and economic considerations.

For more information about the meeting and call for abstracts, click [here](#).

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