

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**

April 7, 2017 / Volume 5, Issue 14

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



Photo: Lynn Ketchum-College of Agriculture and Life Sciences

Poster Session at WRRC Conference Presents Engaging Opportunity for Students

The Water Resources Research Center Annual Conference poster session provides a unique opportunity for UA students to showcase their research and interact with the diverse mix of conference participants. Among the posters presenters this year, were two WRRC student research assistants, Erin Gray and Bailey Kennett. Although their research areas related to water are quite different, both found the opportunity a rewarding platform to engage with water sector professionals.

WRRC EVENTS

WRRC Brown Bag - Transforming Wastewater to Drinking Water: How Two Agencies Collaborated to Build the World's Largest Indirect Potable Reuse Project



April 13, 2017

Time/Location:

12:00 p.m. - 1:30 p.m. / WRRC Sol Resnick Conference Rm. (350 N. Campbell Ave.)

Speaker:

Adam Hutchinson, *Recharge Planning Manager, Orange County Water District*

In the early 2000's, two Orange County agencies faced some challenges. The Orange County Sanitation District (OCSD) needed to replace an ocean outfall for treated sewer water at a cost of millions of dollars. The Orange County Water District's Water Factory 21, a groundbreaking water recycling facility constructed in the mid-1970s, was nearing the end of its useful life.

Rather than focus on their individual needs, the two agencies developed a mutually beneficial project that saved money and generated tremendous benefits for the citizens of Orange County. This project is the Groundwater Replenishment System (GWRS), which currently generates 100 million gallons per day of advanced purified water that is recharged into the Orange County groundwater basin to supplement potable water supplies. Further expansion of the GWRS to 130 million gallons per day will result in the recycling of all the available wastewater within OCSD's service area, further bolstering the reliability of Orange County's water supplies. In addition to being a reliable supply, GWRS water is very pure, which greatly assists in reversing a salt imbalance in the basin and improving overall groundwater quality.



If you can't make it to the live seminar on April 13th, join us online [here](#).

[April 13 Brown Bag web page](#)

WRRC Brown Bag - The Financial Benefits of Water Conservation: The Tucson Story



April 19, 2017

Time/Location:

12:00 p.m. - 1:30 p.m. / WRRC Sol Resnick Conference Rm. (350 N. Campbell Ave.)

Speakers:

Candice Rupprecht, *Water Conservation Specialist, Tucson Water*
Mary Allen, P.E., *Pima County Wastewater Reclamation*

"Why do you ask me to conserve water and then raise my rates?" This question is frequently asked by water customers, often without a clear answer from utilities except to say that water rates would be higher today without conservation. This presentation will share the findings of the *Tucson Avoided Cost Analysis* done by WaterDM in partnership with the Alliance for Water Efficiency, Tucson Water, and Pima County Regional Wastewater. The cost analysis explored the impacts of water conservation and efficiency on today's water rates.

The *Tucson Avoided Cost Analysis* provides a rigorous examination of the overall impact of water efficiency on water and wastewater rates and clearly and convincingly debunks the myth that conservation drives up water rates. Water and wastewater rates in Tucson are at least 17% lower today than they would need to be had Tucsonans not implemented various water conservation and efficiency actions. Tucson, like many other communities, would be facing a much different situation today if per capita water demand had not been curtailed, dropping over 30% while population increased by nearly 70%.



If you can't make it to the live seminar on April 19th, join us online [here](#).

[April 19 Brown Bag web page](#)

Sally & Ralph Duchin Campus Lecture Series - Israel's Shared Borders and Shared Waters: Water as a Bridge and a Barrier

April 19, 2017

Time/Location:

4:00 p.m. / The University of Arizona Hillel Foundation
(1245 E 2nd St.)

Speaker:

Sharon B. Megdal, *Director, UA Water Resources
Research Center*



Israel has overcome the scarcity of naturally occurring freshwater through the deployment of technology and a holistic approach to water management. Large desalination plants, use of reclaimed water by the agricultural sector, irrigation efficiency, and water conservation have changed the water balance in Israel from one of deficit to adequacy or even surplus. Yet, water challenges remain. The Dead Sea continues to decline. The Lower Jordan River and other rivers continue to be the focus of rehabilitation efforts. Wastewater flows remain a problem in some areas.

In this presentation, Prof. Sharon B. Megdal will explain how Israel has addressed the scarcity of freshwater and how the lessons learned by Israel can assist us here in the Southwest as we deal with low flows on the Colorado River and growing population. She will discuss collaborative efforts involving Israelis, Jordanians, and Palestinians. She will also address what she sees as some challenges and barriers to water cooperation. Her presentation will include reflections on her most recent visit to the Middle East with the Mexican and U.S. Commissioners of the International Boundary and Water Commission and more recent efforts to foster dialogue and professional exchanges.

For more information on this lecture, click [here](#).

WRRC Brown Bag - Plugging into



WEST: Researchers, Industry, and Arizonans Benefit by Connecting with the UA Water and Energy Sustainable Technology Center

April 26, 2017

Time/Location:

12:00 p.m. - 1:30 p.m. / WRRC Sol Resnick Conference Rm. (350 N. Campbell Ave.)

Speakers:

Ian Pepper, *Co-Director, WEST Center*

Bob Stea, *Associate Director, Research Business Development, WEST Center*

In 2016 WEST became the most recently established RDI "Institutional-level" Center at the University of Arizona. Such Centers are initiated to provide unique infrastructure or technological capabilities to the UA personnel on campus. The two Co-directors, Ian Pepper and Shane Snyder, report to the Senior Vice President for Research within the Office of Research, Discovery and Innovation. WEST focuses on the water/energy nexus and has unique features that allow for innovative research and technology that can make research proposals more competitive. WEST partners with companies in the private sector and public utilities, and focuses on water and wastewater treatment, providing opportunities to pursue real-world problems. WEST is also interested in developing training programs on specific topics related to advanced water treatment, real-time sensors, and state-of-the-art molecular and microbial assays. Finally, WEST is the perfect vehicle for outreach and education activities related to water and energy. This presentation focuses on the latest projects and innovations at WEST, and the potential to be "plugged into WEST."



If you can't make it to the live seminar on April 26th, join us online [here](#).

[April 26 Brown Bag web page.](#)

OTHER EVENTS

Katharine Hayhoe - *Why Facts are Not Enough*

April 12, 2017

Time/Location:

7:00 p.m./ ENR2 building, Room N120 (1064 E. Lowell St., Tucson)

Speaker:

Katharine Hayhoe, *Professor, Department of Political Science and Director, Climate Science Center at Texas Tech University*



Katharine Hayhoe, an atmospheric scientist and evangelical Christian, is known for her work on regional climate impacts and for sharing her research with faith-based communities. She has been called "one of the nation's most effective communicators on the threat of climate change and the need for action" by The New York Times.

Join Dr. Hayhoe as she explores pathways to productive discussion about climate change: moving

past the smokescreens to address the real objections and beginning conversations with values we share rather than facts we disagree on. Please share the [attached flyer](#) with your colleagues.

The talk is open to the public and is sponsored by the Institute of the Environment, the Agnese Nelms Haury Program in Environment and Social Justice, the Climate Justice Network, the Center for Climate Adaptation Science and Solutions, and the Carson Scholars Project.

Screening and Panel Discussion - *Paya: The Water Story of the Paiute*

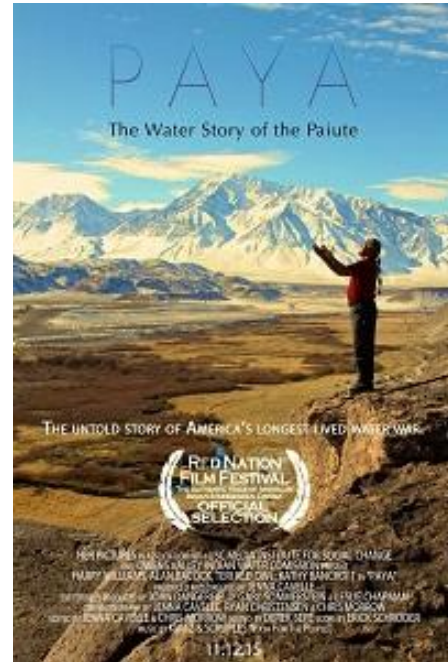
April 21, 2017

Time/Location:

6:00 p.m./ ENR2 building, Room S107 (1064 E. Lowell St., Tucson).

The Paiute Native Americans constructed and managed 60-miles of intricate irrigation systems in Owens Valley for millennia long before Los Angeles secured its largest source of water through modern engineering a century ago. Today, 150 years after the Paiute returned to the region, they continue to fight to save their waterworks. *Paya*, which means water in Paiute, intends to restore both Paiute history and practices, and strengthen their legal case through the powerful medium of this film.

This event is co-sponsored by the Native American Law Students Association; UA James E. Rogers College of Law, Indigenous Peoples Law & Policy; UA Water Resources Research Center; UA School of Anthropology; Environmental Law Society, UA School of Geography and Development; and UA Confluentcenter for Creative Inquiry.



Lecture - Decision Support for Uncertain Climate Futures: The Confidence Trap

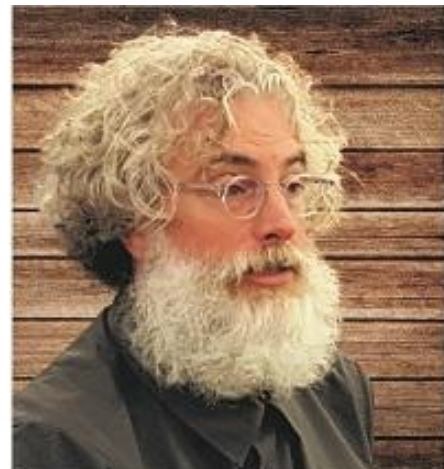
April 27, 2017

Time/Location:

12:00 p.m. - 1:00 p.m./ ENR2 Building, Room S107 (1064 E. Lowell St., Tucson)

Speaker:

Jeff Arnold, *Lead Climate Scientist, U.S. Army Corps of Engineers*



For more than 200 years, the U.S. Army Corps of Engineers (USACE) has had primary responsibility for water resource operations on most major U.S. river systems. Managing the impacts of climate variability and change is a significant challenge; projections of specific, possible threats and impacts to regional scale hydrology are still uncertain enough that explicit guidance is needed on their interpretation and use. This talk will describe new approaches to helping decision makers understand uncertainties in managing real river systems, aiming to avoid communication issues about confidence while respecting uncertainties.

Please share [the attached flyer](#) with your colleagues.

Colloquium - Managing the Colorado River in Interesting Times: Overallocation, Drought and Climate Change



April 27, 2017

Time/Location:

4:00 p.m./ ENR2 Building, Room 225 (1064 E. Lowell St., Tucson)

Speakers:

Ted Cooke *General Manager, Central Arizona Project*

Marie Pearthree, P.E. *Former Deputy General Manager, Central Arizona Project*

This is a critical time for the State of Arizona and key sectors of its economy, given the impacts of the 17 year drought on the Colorado River and historic overallocation of its supplies characterized as a "structural deficit." This colloquium will present the history of Colorado River management from 1922 to the present, focusing on the evolution of decision making on the river over time, the impacts of changing climatic and hydrologic conditions on water supplies, and current negotiations among the seven Basin States and Mexico.

Annual Meeting and Water Conference- Trumping Arizona Ag



May 19, 2017

Time/Location:

8:00 a.m. - 12:30 p.m./ SRP's Pera Club (1 E. Continental Dr., Tempe)

Registration is now open, click [here](#) to download form.

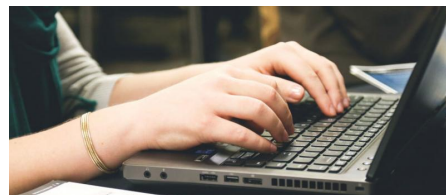
The Agribusiness & Water Council of Arizona's Annual Meeting and Water Conference will feature many topics critical to water and agriculture in Arizona. Several presentations will focus on potential federal policies and regulatory changes related to new administrative directions that are likely under the Trump administration. Registration fees include all meeting activities as well as breakfast and lunch.

For further information, please contact Kathy Rappleye at (480) 558-5301 or by [email](#).

NEWS

Reminder to Apply to WRRRC's Summer Writing Internship

The deadline is approaching to apply for the WRRRC summer internship—an internship designed for students interested in gaining experience writing about environmental and water issues. The selected intern will contribute to research and writing for an issue of Arroyo, the annual WRRRC publication that focuses on a critical Arizona water issue. This year's topic is Arizona's irrigated agriculture. It will



look at the many issues of associate with agricultural water use, water rights, efficiency and conservation, and participation in solving water supply challenges. The 2017 internship is support by gifts from the Agri-business and Water Council of Arizona and BKW Farms.

[More](#)

Complete an [application](#) today.

Water Innovation Challenge Networking Event

The Southwest Water Campus Team, winners of the New Arizona Prize: Water Innovation Challenge, are hosting a reception and networking opportunity on April 12 th at the historic FOX Theater (17 W. Congress St., Tucson). At the event, you can learn about the exciting Arizona Pure Water Brew Challenge, which seeks to reduce negative public perception of water reuse by creating a travelling water reclamation plant and engaging Arizona's craft beer brewers to use the water in a statewide beer challenge. The ultimate goal is to help people understand that water reclamation can be a viable solution for water scarcity.



There will be a special screening of the 30-minute documentary Groundwater: To enact a law for common good. Filmmaker Michael Schiffer and Kathleen Ferris tell the true and inspiring story of the battle among farms, cities, and mines over groundwater in the 1970s.

To register for this free event, click [here](#).

Our Future in Good Hands



Ever worry about the future of our planet? At last week's Arizona Envirothon, students gave plenty of reason to feel optimistic! Student attendees competed in four different eco-stations



where they were tested on their knowledge of forestry, soils & land use, wildlife, and aquatic ecology. Then, given realistic scenarios regarding a farming operation, students formulated and delivered recommendations concerning the improvement of soil quality, water sustainability, environmental impact and crop productivity to a panel of judges. Finally, the first place team from Tri-City College Prep in Prescott was selected to represent Arizona in the international competition being held in Maryland in July.

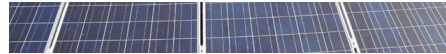
Arizona Project WET has been involved with the Arizona Envirothon for 12 years, educating students about the importance of water to our environment. **Learn more about APW's pathways towards conservation on our [programs page](#).**

Student Opportunity to Participate in Cutting-Edge Solar Project

Ben Lepley of the UA School of Architecture is designing a 6-credit research project focused on covering the canals of the Central Arizona Project with solar panels. This



multidisciplinary research project will examine different structures and concepts for covering the canal. Are you a student with knowledge of the calculation of evaporation in a moving canal, water friction, turbulence, water temperature, or canal related issues? Are you available during the 2017-2018 school year? Do you have knowledge of Arc-GIS (this is not required, but is a plus). For anyone interested in learning more, Mr. Lepley will be giving a preliminary presentation on April 11 at 4:15p.m. in the architecture building's Sundt Gallery.



For more information, [email Mr. Lepley](#)

CALL FOR ABSTRACTS: Cutting-edge Solutions to Wicked Water Problems Conference

TRAVEL SUPPORT OPPORTUNITY for UA FACULTY provided by the International Arid Lands Consortium

The University of Arizona is a member of the International Arid Lands Consortium (IALC), which is a collaborating partner for the conference *Cutting-edge Solutions to Wicked Water Problems*, scheduled for **September 10-11, 2017 in Tel Aviv, Israel**. IALC is pleased to offer partial funding to up to four UA faculty members who present at the conference. The exact amount of support will depend on the number of faculty requesting support, but the minimum amount will cover the \$450 registration fee.



Sorek Desalination Plant
(Photo by S. Megdal)

Abstracts are due April 17, 2017

More info on the conference [here](#).
View the call for abstracts [here](#).

ANNOUNCEMENTS

BBCS Postdoctoral Research Associate Job Posting

The Bridging Biodiversity & Conservation Science (BBCS) Initiative is pleased to announce this job advertisement. Applicant reviews will begin April 26, 2017.

For more information on this posting, click [here](#).

Community Water Coalition (CWC) is Seeking a Coordinator

The Community Water Coalition (CWC) is hiring a Coordinator to grow the CWC and further its vision, mission and goals.

For more information on this posting, click [here](#).

AWRA Annual Conference Abstracts due May 8, 2017

The 2017 [AWRA Annual Water Resources Conference](#) returns to The Rose City (known to the glitterati as 'Portlandia' or 'Rip City') after a four-year hiatus and promises water resources professionals a magnificent venue amidst the scenic and culinary splendor of the Pacific Northwest.

WaterReuse Arizona 2017 Offered Scholarship

WaterReuse Arizona will award two scholarships of two-thousand five hundred dollars (\$2,500) each to Arizona university and college students. The purpose of this award is to encourage full-time students with a focus on wastewater reclamation, water reuse, and/or desalination.

Applications must be post-marked by June 15, 2017

[View application](#) .

Save the Date: January 26-27, 2018 - Urban Waterfront Planning, Development, and Culture

The Waterfront Center's 33rd Annual Conference is being held this year on the banks of the lower Colorado River in Yuma, AZ. More information will be provided as it becomes available.

WATER RESOURCES RESEARCH CENTER

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