

WEEKLY WAVE



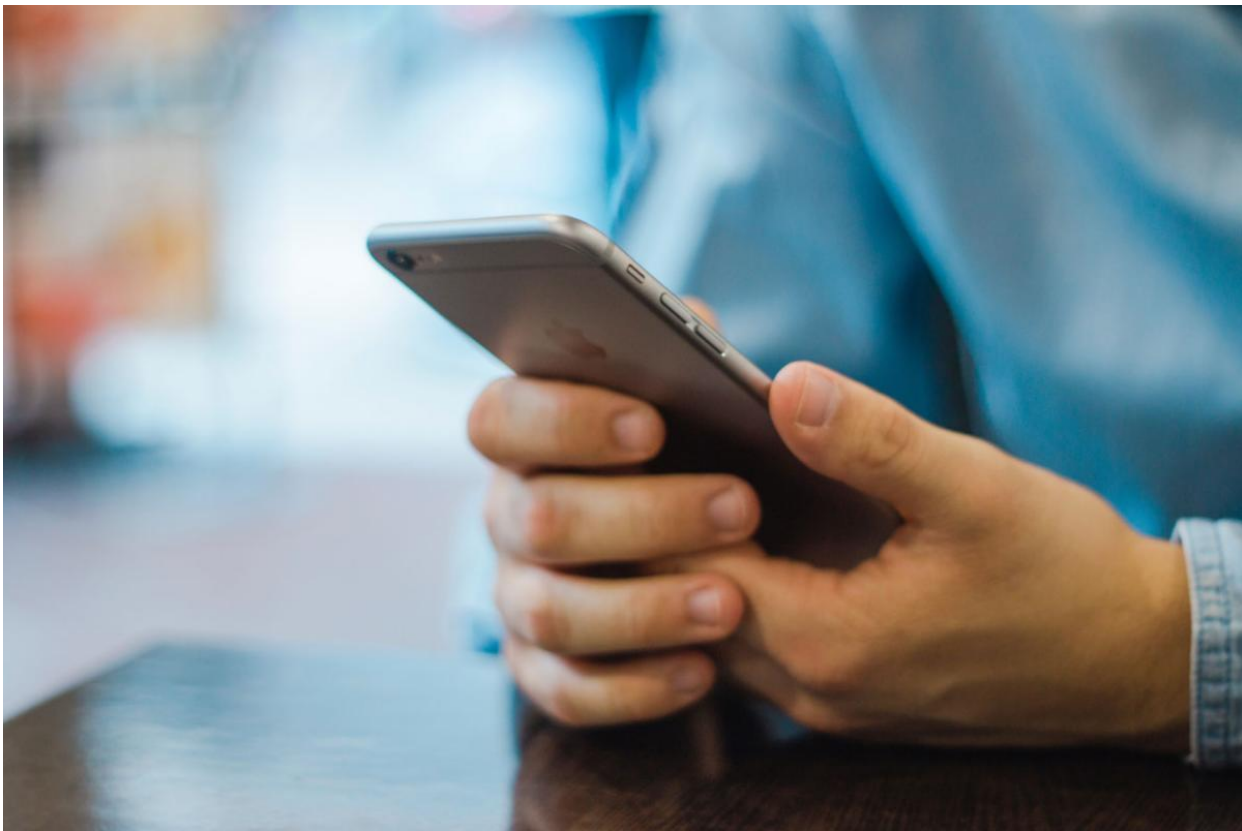
COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**

September 13, 2019 / Volume 7, Issue 20

The Water Resource Research Center - a research unit of the [College of Agriculture and Life Sciences](#) and an Extension unit in [UA Cooperative Extension](#) within the Division of Agriculture, Life & Veterinary Sciences & Cooperative Extension

In this issue: [Brown Bag](#) / [Santa Cruz](#) / [APW](#) / [Water Efficiency](#) / [National Recognition](#)



New Interactive Elements at the 2020 WRRC Annual Conference

The WRRC's 2020 Conference, *Water at the Crossroads: The Next 40 Years*, will take stock of our water management progress since the passage of the 1980 Groundwater Management Act and then look to the future. How are water resources evolving and how do we ensure reliable water resources over time? The WRRC has a long history of creating timely and compelling

conferences that attract water professionals, researchers, decision-makers, and more. Now, through in-conference polling technology, we can also use the conference to tap into our collective knowledge and ask ourselves the important questions that help reveal our water community's ideas and perspectives. Save the date, Friday, March 27, 2020, for a fascinating and interactive conference at the Black Canyon Conference Center, 9440 N 25th Ave, Phoenix, AZ.

[More Information](#)

WRRC EVENTS

SAVE the DATE
FRIDAY, MARCH 27, 2020
UNIVERSITY OF ARIZONA
WATER RESOURCES RESEARCH CENTER
Black Canyon Conference Center
9440 N 25th Ave, Phoenix, AZ 85021

wrrc.arizona.edu

WRRC Brown Bag - Water and Sustainability in Arizona: A Mixed Record

September 18, 2019

Speaker : Dr. Paul Hirt, Professor of History and Senior Sustainability Scholar, Arizona State University

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



This lecture examines the legal and historical context of water rights and water development in Arizona and the challenges we face in managing both surface and groundwater supplies sustainably in a warming and drying future.

[View the presentation online](#)

Upcoming Brown Bags

- **October 8**, Dick Thompson and Maya Teyechea, Hydrologists, Tucson Water, "Santa Cruz Heritage Project Updates"
- **October 16**, Channah Rock, Professor, UA/ENVS, "Food Borne Outbreaks"
- **October 23**, Itzhak E. Kornfeld, Professor, Hebrew University of Jerusalem, "Environmental Law"
- **November 8**, Haley Paul, Policy Manager, Audubon Arizona, "The Economic Impact of Arizona's Rivers, Lakes, and Streams"
- **November 19**, Betsy Wilkening, Ladd Keith, Nicole Iroz-Elardo, UA/APW and CAPLA, "Heat Mapping"
- **December 4**, Laura Condon, Assistant Professor, UA/HAS, "Effects of Groundwater



WRRC NEWS

The Ecology of Water Harvesting

The first brown bag of the season focused on green infrastructure ecology and attracted nearly 30 people to the Sol Resnick conference room at the WRRC. Dr. Vanessa Buzzard, Senior Research Specialist, UA School of Natural Resource and Environment, began by describing the ecosystem services provided by green infrastructure. She then outlined an ongoing research project to assess the ecological changes resulting from application of rainwater or gray water to several basins at a Tucson residence. After explaining the physical, chemical, and biological indicators of soil health, she showed data comparing the different basins' temperature fluctuations, development of soil organic matter, bacterial changes, and other criteria. The project, which is entering its third year, adds to our knowledge about how different water types and conditions can improve green infrastructure benefits in the semi-arid Southwest.



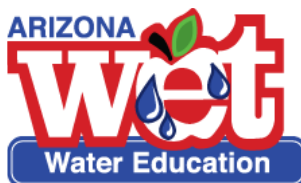
Wildlife Returning to Santa Cruz River

Tucson's Santa Cruz River used to flow throughout the year until the late 1800s and early 1900s. As Tucson's population (and water use) increased, the water table dropped, leading to a lack of permanent river flow. Back in July, Tucson Water began pumping effluent water into the Santa Cruz River as part of the Santa Cruz River Heritage Project. Since then, wildlife has started to return to the area, including dragonflies, fish, toads, coyotes, and other native animals and plants. UA aquatic biologist, Professor Michael Bogan, School of Natural Resources & the Environment is studying the 2.5-mile section of the Santa Cruz River near downtown Tucson. Click on the link to read about his work and see some great photos of returning wildlife.



[Read KOLD Story.](#)

Poolside Teacher Academies



Thirty teachers spent a week of their summer poolside with Arizona Project WET (APW) in July. No, they weren't lounging, they were busy learning about using underwater ROVs (Remotely Operated Vehicles) with their students. In its third



year, APW provided the Underwater Robotics & Engineering Design Academy to 22 teachers in early July. During the four-day professional development academy, teachers investigated the Central Arizona Project and learned how ROVs are used in the water industry. While designing, building and testing an ROV, they built an understanding of circuits, developed soldering skills, and practiced troubleshooting procedures. Additionally, APW partnered with Women in Science & Engineering for a one-day workshop, Diving Into Task Assignment Bias, concentrating on engaging young women in STEM through ROVs. During the last week of July, APW partnered with [MATE](#) (Marine

Advanced Technology Education) to provide an [intermediate workshop](#) where teachers developed their skills further by building an advanced motor control system along with a camera system to use in piloting the robot. All of this work will be showcased when the teachers bring teams of students to participate in the [Arizona MATE Regional Competition](#) in April 2020 at the University of Arizona.

UA Professor Publishes Water-Efficient Cities Study

Surprised to hear that your newly constructed house might not be as water-efficient as you thought? A new study gives insight into the relationship between how single-family water use is influenced by the built environment. Led by Philip Stoker, assistant professor of the UA College of Architecture, Planning and Landscape Architecture, a team of researchers recently published an article focusing on this robust relationship between water use and the built environment as "the way cities take shape". Published by the Journal of the American Planning Association, the study utilizes five built environment measures (housing density, tax assessed value, lot size, vegetative cover, and housing age) to examine water usage in five rapidly growing US cities (Phoenix, Salt Lake City, Portland, and Austin). The research indicates that factors including vegetation, housing density, and lot size have big impacts on water usage, which provides key data for city planners and water managers looking to sustainably address water use strategies as US cities, especially as Western cities continue to grow.



[Read the Study](#)

Tucson, Flagstaff Water Utilities Receive National Recognition

Water utilities are continually faced with new challenges in delivering clean, safe, reliable water to American homes. Flagstaff Water Services and Tucson Water were among several U.S. water utilities that were recognized as innovators with the designation of being "Utility of the Future Today" honorees. The recognition honored 43 water utilities across the U.S. for reimagining partnering and engagement, watershed stewardship, and recovery of resources, including water, energy, and nutrients. "The Utility of the Future Today" was launched in 2016 and Tucson Water has been recognized three years in a row.



[Read WEF Highlights Story](#)

ANNOUNCEMENTS

- [September 15-17 GWPC Annual Conference Oklahoma City - Conference Scholarship Applications](#)
- [September 16 UCOWR/NIWR Conference - Call for Special Sessions](#)
- [September 17-19 Western Groundwater Congress - Registration Open](#)
- [September 18 AWRA Spring Conference: Geospatial Water Technology Conference - Topical Session and Workshop Submissions Due](#)

- [September 22-25 Geological Society of America Annual Meeting - Phoenix](#)
- [September 25 GSA Annual Meeting - Santa Cruz Session](#)
- [September 25-27 Arizona Hydrological Society Symposium - Registration Open](#)
- [September 26-27 Tribal Water Law - Registration Open](#)
- [October 1 UCOWR 2020 Awards Call for Nominations - Deadline to Submit](#)
- [October 1 Babbitt Center Dissertation Fellowship - Applications Due](#)
- [October 3 AWWA Water Quality Technology Conference - Early Bird Registration Closes](#)
- [October 11 AZ Water 2020 Conference Uniting Arizona's Water Professionals - Call for Abstracts](#)
- [October 18 AWRA Spring Conference: Geospatial Water Technology Conference - Abstract Submissions Due](#)
- [October 31 Agnese Nelms Haury Fall 2019 Funding Opportunity - Now Open](#)
- [December 2 AZ Arigbusiness Roundtable - Registration Open](#)

[Visit Our Website](#)