

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**



Mar 12, 2021 / Volume 9, Issue 10

The Water Resources 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. [Subscribe to the Weekly Wave.](#)

[WRRRC Office Update](#)

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WRRRC Conference, Brown Bag Recap, HB 2056, APW, Art Contest, AIR Grants



**WRRRC 2021
Annual Conference**

SAVE the DATE

Aug. 30 - Sept. 1

*Tribal Water Resilience in a
Changing Environment*

Photo: David DeJong, MAR 5 site, Gila River Indian Community

**Save the Date for the
WRRRC 2021 Annual Conference**

We are excited to announce the dates for the WRRRC 2021 Annual Conference, *Tribal Water Resilience in a Changing Environment*. Based on the input of an amazing group of expert advisors, we have decided to convene the conference virtually over three days, August 30, August 31, and September 1, 2021. In addition to three-hour sessions each day, we plan to offer some special pre-conference programming. Our current plans are to hold the first session on Monday afternoon from 1:00 to 4:00 pm Arizona time, with the following two sessions being held in the morning. Please save the dates, check back for updates on the program, and contact us for sponsorship opportunities!

EVENTS

Special Event Series - Water Solutions for Our Warmer World (Episode 1): Perspectives on Regional Water Sustainability

Date: Wednesday, Mar 17, 2021

Time: 4:00-5:30 pm MST

Location: [Webinar Only](#)



Moderated by Kathy Jacobs, Director of the [Center for Climate Adaptation Science and Solutions](#)

How should we define water sustainability in an era of climate change, and shifts in socio-economic conditions and community priorities? What does water sustainability look like in the Colorado River basin? What are the paths forward to more inclusive solutions?

[Register Here](#)

[More Info](#)

Upcoming WRRC Webinars

Mar 22: [Special World Water Day Event - Managing Aquifer Recharge: A Showcase for Resilience and Sustainability](#)

Mar 31: [Brown Bag Webinar - The Internet of Water: Modern Water Data Infrastructure for 21st Century Water Management](#)

Peter Colohan, *Executive Director, Internet of Water Project, Duke University*

Apr 8: **Brown Bag Webinar - Binational Sea Water Desalination Study - Sea of Cortez Region**

Chuck Cullom, *Colorado River Programs Manager, Central Arizona Project*

Lela Perkins, PE, *Senior Water Resources Engineer, Jacobs Engineering Group*

Apr 14: **Brown Bag Webinar - Tucson Water's Reclaimed Water System: Providing the Right Water for the Right Use for Nearly 40 years**

John Kmiec, *Interim Director, Tucson Water*



External Events

Mar 18: [AzSCE Environmental & Water Resource Institute \(EWRI\) Monthly Virtual Meeting](#)

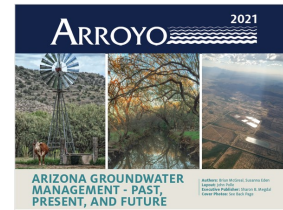
Water Arizona's Long Term Storage Credits Marketplace

Susanna Eden, PhD, *Research Program Officer, WRRC, UArizona*

Rebecca Bernat, *PhD Student, Department of Environmental Science, UArizona*

Addressing Current and Future Water Challenges in Arizona

On Monday, March 8, Dr. Susanna Eden, Research Program Officer and former WRRC Assistant Director, and Brian McGreal, Master's Student in the UArizona Department of Agricultural and Resource Economics, gave a Brown Bag presentation on key sections of the 2021 *Arroyo*, "Arizona Groundwater Management – Past, Present and Future." Providing context to the discussion, they described the significant consequences of climate change on water resources in the west, then turned the focus to Arizona's water challenges and potential solutions. For example, groundwater supply for domestic use in some rural areas is uncertain due to unregulated groundwater pumping by industrial and agricultural users. Moreover, these often low-income communities may not be able to afford the infrastructure needed for water deliveries. According to the presentation, solutions could involve developing alternative groundwater management tools for unregulated areas and cooperative infrastructure projects between rural entities. Additional strategies were offered to address broader challenges, such as modeling Arizona's water future, augmenting water supply with desalination, resolving tribal water issues, and allocating water for the environment. The speakers noted the recent Arizona law, HB 2056, which would allow surface water right holders to conserve water according to a water conservation plan without forfeiting their water rights. This would be an important change to Arizona's surface water law and would promote water conservation statewide.



[View the Recording](#)
[Read the 2021 Arroyo](#)

New Arizona Surface Water Conservation Law

In February, Governor Doug Ducey signed into law a bill that shifts long-standing Arizona legal doctrine governing surface water use. HB 2056 clarifies a provision in Arizona water law commonly referred to as "use it or lose it," wherein a right holder must put surface water to a beneficial use to maintain the right. Section 45-151(A) of the Arizona Revised Statutes defines beneficial uses as "...domestic, municipal, irrigation, stock watering, water power, recreation, wildlife, including fish, nonrecoverable water storage pursuant to section 45-833.01 or mining uses..." If any portion of the water right goes unused for five or more consecutive years, the unused portion may be forfeited. Under the new law, surface water users may conserve a portion of their water allocation to leave in a stream, without risking forfeiture or abandonment, if they submit a water conservation plan to the Arizona Department of Water Resources. The conservation plan protects users against forfeiture for non-use for up to 10 years. Subsequent notices may be filed for additional 10-year periods. According to Kim Mitchell, Senior Water Policy Advisor at the Western Resource Advocates, HB 2056 is a win for "Arizonans, the economy, and the environment."



Photo Credit: Coconino National Forest, U.S. Forest Service

[HB 2056 Fact Sheet](#)
[Kim Mitchell Op-Ed](#)

Charting a New Course

Underwater robots are exploring new depths and APW is exploring new possibilities for hands-on learning. Partnering with 4-H STEM YOUiversity, we are providing a 12-week online Underwater Robotics Camp to youth and 4-H leaders across Arizona. Family teams and adult 4-H educators in five counties are designing, building, and testing ROVs (also known as underwater robots). Thanks to several grants secured by APW and 4-H, each team has the necessary equipment to participate, including portable pools. Using MATE (Marine Advanced Technology Education) lessons that were modified for online delivery, Betsy Wilkening (APW) and Jerry Lopez (4-H) are facilitating the camp, which includes Wednesday evening and Saturday afternoon sessions. The camp ends in May with a remote competition based on a modified version of the MATE II 2021 Scout Challenge. Teams will demonstrate their ROVs performing tasks in their pools remotely, design a marketing display, and deliver an online engineering presentation with judges. These activities are all part of the MATE II competition format. APW and 4-H began exploring this partnership four years ago and, despite COVID-19 restrictions, we have worked together to finally create this new opportunity for STEM learning.



[MATE ROV Competition](#)
[4-H STEM YOUiversity](#)

Submit Your Artwork to Raise Water Awareness

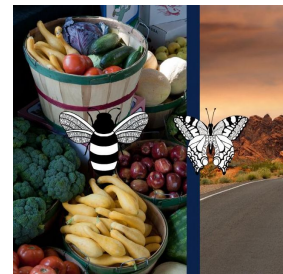
The Permanent Forum of Binational Waters (PFBW) is inviting painters and photographers to participate in their first water art contest, "A Call for Art, A Call for Water." PFBW is a collaborative network that promotes water sustainability in Mexico and the US. The organizers of the event aspire to foster water sustainability knowledge and engage communities through art. Professional and amateur artists of any nationality have until July 30 to submit up to three works (per artistic discipline). The artwork must reflect "the vital, scenic, practical or personal relevance that water has in natural environments and human settlements, particularly, but not limited to the US-Mexico borderlands. PFBW will feature the photographs and paintings of all participants in their online Art Gallery.



[More Info](#)

Water-Related Research Well-Represented in AIR Resilience Grants

Last month, the Arizona Institutes for Resilience (AIR) awarded 13 Resilience Grants in support of its interdisciplinary efforts "to develop practical, applied solutions that further the resilience in our natural and human communities." The 13 awarded teams included six UArizona colleges and 14 departments or units, as well as off-campus partners. In its February 19 issue, the *Weekly Wave* highlighted the work of one of these teams and promised mention of others. Water-related research was



well-represented by teams led by Karletta Chief, Associate Professor and Extension Specialist in the Department of Environmental Science; Jon Chorover, Professor and Head of the Department of Soil, Water and Environmental Science; Luke McGuire, Assistant Professor of Geomorphology; and Yang Song, Assistant Professor of Hydrology and Atmospheric Sciences. The teams led by Chief and Chorover are investigating practical solutions to troubling water quality issues, while the teams led by McGuire and Song are assessing the resilience of important ecoregions to disruptions. The WRRC will continue to follow these and other research efforts to bring summaries of completed studies to our readers.

[2021 AIR Resilience Grants Recipients](#) [February 19 Weekly Wave](#)

WATER JOBS

- UWM Center for Water Policy [Water Policy Specialist](#)
- The Nature Conservancy [Freshwater Scientist](#)
- City of Yuma [Assistant Director of Utilities](#)

Please visit [WRRC's website](#) for a complete listing of water jobs & opportunities.

ANNOUNCEMENTS

- **Mar 12:** [GRA 4th Annual Western Groundwater Congress – Abstract Deadline](#)
- **Mar 12-Apr 29:** [Programming for Geospatial Hydrological Applications](#)
- **Mar 13:** [National Groundwater Awareness Week Ends](#)
- **Mar 14-Apr 25:** [Re-envisioning the Middle East Ecosystem: Desert Ecology and Environmental Diplomacy](#)
- **Mar 15-25:** [36th Annual WateReuse Symposium: Resilience Redefined: health.economy.environment](#)
- **Mar 17:** [AHS Phoenix Chapter Meeting](#)
- **Mar 17:** [NIDIS Webinar Ecological Drought: Impacts on Coastal Ecosystems](#)
- **Mar 18:** [AzSCE Environmental & Water Resource Institute \(EWRI\) Monthly Virtual Meeting](#)
- **Mar 19:** [National Science Foundation Research Traineeship \(NRT\) Program Information Session](#)
- **Mar 19:** [GWAICC Meeting](#)
- **Mar 22:** [World Water Day Webinar: Managed Aquifer Recharge – A Showcase for Resilience and Sustainability - Registration Open](#)
- **Mar 24:** [UCOWR Winter 2021 Virtual Roundtable: Addressing Wicked Water Problems](#)
- **Mar 24:** [5MP Agricultural Subgroup Meeting](#)
- **Mar 25-26:** [Santa Cruz River Research Days](#)
- **Mar 30-Apr 13:** [2021 AWRA Virtual Young Professional Workshop Series: Navigating Your Path From Student to Working Professional in the Time of COVID-19](#)
- **Apr 1:** [Special Issue of the Journal Water \(ISSN 2073-4441, IF 2.544\) - Advances in Transboundary Aquifer Assessment - Manuscript Submission Deadline](#)
- **Apr 1-Jul 1:** [Women in Water Scholarship - Applications Accepted](#)
- **Apr 5:** [Virtual Kick-Off for the 3rd Annual Arizona Water Professionals Appreciation Week \(Apr 5-11\)](#)
- **Apr 6:** [2021 AHS Symposium – Abstract Deadline](#)

- **Apr 6-8:** [AZ Water 2021 Annual Conference](#)
- **Apr 6-8:** [Virtual 2021 Southwest Adaptation Forum \(SWAF\)](#)
- **Apr 7-9:** [Biochar Opportunities in the Southwest: Extension Workshop](#)
- **Apr 8-22:** [UArizona, Maricopa County Cooperative Extension 2021 Advanced Smartscape: Irrigation course](#)
- **Apr 12-15:** [International Tropical Islands Water Conference](#)
- **Apr 15-16:** [2021 Virtual Joint AWRA & National Capital Annual Water Symposium, Human Dimension to Resilient and Sustainable Water Management: Promoting Integrated Collaboration - Registration Open](#)
- **Apr 30:** [NWRI Fellowship Program 2021 – Application Deadline](#)
- **May 10-12:** [International Conference on Water Energy Food and Sustainability \(ICoWEFS 2021 - Leiria, Portugal\)](#)
- **May 18-19:** [The Third International Congress on Desert Economy: Energy Economics between Deserts and Oceans \(Dakhla, Morocco\)](#)
- **May 18-20:** [11th International Conference on Sustainable Water Resources Management: Effective Approaches for River Basins and Urban Catchments \(Milan, Italy\)](#)
- **May 24-26:** [International Arid Lands Consortium Virtual Conference Addressing the Environmental Challenges of Arid Lands](#)
- **May 26:** [Problematic Groundwater Contaminants: More than PFAS Forum](#)
- **Jun 8-10:** [UCOWR/NIWR Annual Water Resources Conference](#)
- **Jun 13-16:** [ACE21 - Registration Open](#)
- **Jun 22-23:** [WEF SWI Stormwater Summit 2021](#)
- **Jun 22-23:** [Fate of PFAS: From Groundwater to Tap Water](#)
- **Jul 19-21:** [AWRA 2021 Virtual Summer Conference Connecting Land & Water for Healthy Communities - Registration Open](#)
- **Nov 1-3:** [AIWW 2021: Blue-Green Deals with Integrated Solutions](#)
- **Sep 2022:** [IWA World Water Congress & Exhibition - Water for Smart Liveable Cities \(Copenhagen\)](#)

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