

# WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES  
COOPERATIVE EXTENSION

**WATER RESOURCES  
RESEARCH CENTER**



**Feb. 5, 2021 / Volume 9, Issue 5**

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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**IN THIS ISSUE:** IALC, Brown Bag Recap, AHS, APW, Courney Crosson, Chocolate Fest



**Save the Date: Arid Lands Consortium  
Virtual Conference May 24–26**

To commemorate 30 years of collaboration on arid lands issues, the International Arid Lands Consortium (IALC) will host a three-day international conference, *Addressing the*

*Environmental Challenges of Arid Lands*. The conference, to be held May 24–26, will celebrate IALC collaborative research and projects and examine current and future challenges in IALC's regions of focus. A key goal of the conference is to underscore the value of the IALC mission: promoting peace through collaborative research and demonstration projects in the arid lands of the world. The conference will feature keynote presentations and panel discussions on Water and Agriculture, Land and Natural Environment, and Forests and Fire and will emphasize the broader value of collaborative multinational research and problem-solving to address issues that confront the sustainable use and management of arid lands globally. The conference is free to attend with preregistration.

### [More Information](#)

## WRRC EVENTS

### **Brown Bag: *Reaching Safe-Yield in the Phoenix AMA***

**Date:** Tuesday, Feb 16, 2021

**Time:** 12:00-1:15 p.m. MST

**Location:** [Webinar Only](#)

**Speaker:**

Jessica Fox, *Water Policy Advisor, AMWUA*



Among its many successes, Arizona's innovative Groundwater Management Act of 1980 established the Phoenix Active Management Area (AMA) and its management goal of safe-yield. Today, the Arizona Municipal Water Users Association (AMWUA) is an ongoing participant in two state-led processes that seek to evaluate the AMA's progress toward achieving its goal and develop near and long-term management solutions that reduce our reliance on groundwater. It is within the context of providing support to these processes that AMWUA recently produced an analysis of the progress and impediments toward achieving safe-yield in the Phoenix AMA. This presentation will describe AMWUA's evaluation of the Arizona Department of Water Resources' approach to tracking the AMA's safe-yield status, provide an overview of the issues surrounding safe-yield in the Phoenix AMA, and shed light on some obstacles to achieving safe-yield by 2025 and thereafter.

*Jessica Fox is the Water Policy Advisor at AMWUA. She earned a B.S. in Environmental Studies from the SUNY College of Environmental Science and Forestry and an M.S. in Sustainability from Arizona State University. Before joining AMWUA, Jessica spent nearly nine years working as a water policy analyst for the Central Arizona Project and, more recently, the Central Arizona Groundwater Replenishment District.*

### [Register for the Webinar](#)

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## Upcoming Webinars

### **Mar 11: *Community Service and Environmental Justice as Essential Best Practices For the Clean Water Utility of the Future***

Andrew Kricun, *Managing Director, Moonshot Missions; Senior Fellow, US Water Alliance*

### **Mar 31: *The Internet of Water: Partnerships for Progress—Modernizing Water Data to Meet 21st Century Needs***

Peter Colohan, *Executive Director, Internet of Water, Nicholas Institute for Environmental Policy Solutions, Duke University*

**Apr 8: Binational Study of Water Desalination Opportunities in the Sea of Cortez**

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

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

**Apr 14: Update from Tucson Water on Reuse Projects**

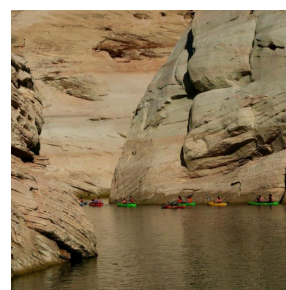
John Kmiec, *Interim Director, Tucson Water*



## OTHER EVENTS

### 23<sup>rd</sup> Annual Law of the Colorado River Conference: Preparing for Renewed River Management Plans

The 23<sup>rd</sup> Annual Law of the Colorado River Conference has a new virtual format! A diverse faculty will discuss many important topics on the conservation and management of the Colorado River during the two-day virtual conference, March 11-12, 2021.



*Photo: Canoes on Lake Powell, Gilles Boyer, 2019*

[More Information](#)

## NEWS

### Recovery of AWBA Long-Term Storage Credits

On Wednesday, February 3, the WRRRC hosted Rabi Gyawali from the Arizona Department of Water Resources (ADWR), Simone Kjolsrud from the Arizona Water Banking Authority (AWBA), and Angie Lohse from the Central Arizona Project (CAP), who co-presented “Recovery of Arizona Water Bank Credits to Mitigate Shortages on the Colorado River.” Since its creation in 1996, AWBA has been storing Colorado River water at underground storage facilities and groundwater saving facilities to ensure that Arizona’s CAP subcontractors and others have backup water supply when a shortage is declared on the River. To date, AWBA has accrued more than 3.8 million acre-feet of stored water as long-term storage credits. After an overview of AWBA and its functions, the presentation highlighted the upcoming update to the 2014 Joint Recovery Plan. The 2021 update to the Joint Plan will provide projection models developed by the US Bureau of Reclamation, ADWR, CAP, and AWBA, to determine the likelihood, magnitude, and timing of a shortage triggering the recovery of AWBA long-term storage credits. The Joint Plan also covers how stored water may be recovered by water users, through direct or indirect delivery, or credit exchange.



Recovery of Arizona Water Bank Credits: Mitigating Shortages on the Colorado River



[View the Webinar](#)

### Arizona Hydrological Society

*A guest article profile by Michael Block, Corporate Board Vice-President, AHS*



The Arizona Hydrological Society (AHS) is a nonprofit organization dedicated to advancing Arizona hydrology and water resources research, planning, and development. Founded more than 35 years ago by a small group of visionary water professionals and university researchers, its membership has grown to more than 410 individuals, and includes six lifetime members, and 44 members from companies and agencies. Membership is open to anyone with an interest in water. The members of its three chapters (Flagstaff, Phoenix, and Tucson) are academics, students, consultants, equipment suppliers, drillers, laboratory personnel, water attorneys, NGO staff and volunteers, and municipal, state, and federal government employees.

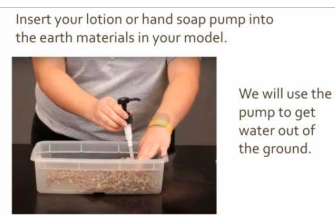
AHS chapters hold monthly meetings, which have been virtual since in-person meetings were discouraged due to the pandemic. Meetings include presentations on a broad range of water-related topics of interest to the membership. AHS also holds an annual fall symposium that provides an opportunity for professionals, students, and others to exchange information. AHS symposia are known for their stimulating sessions and fun activities. In addition, student scholarships, workshops, and field trips support public understanding, education, and training in the science and technology of hydrology and water resources.

- [Join AHS](#)
- [Upcoming Meetings](#)
- [2021 Symposium](#)



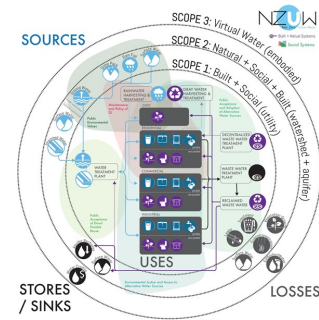
### Mini Groundwater Models Help Students Conduct Experiments at Home

Groundwater education has always been a central part of Arizona Project WET's work. With 40% of the state's water supply coming from groundwater, and a general lack of understanding about this essential resource, groundwater education requires expert support. Helping Arizonans learn about such an integral part of our environmental systems is the perfect mission for an Extension team like ours. In non-COVID times, we visit hundreds of classrooms with hands-on models to teach kids that groundwater exists between the grains of sand and gravel underground, moves due to gravity, is connected to surface water, and is essential because we use it. This semester, the team at APW is bringing its usual engaging, student-centered approach to the virtual setting. Students are invited to make their own simple models at home using gravel, a lotion or soap pump, and a container. They work alongside Americorps members to interpret what the models tell us about groundwater. So far, five classes have had fun experimenting with groundwater at home and learning about this important water system.



## Summary of Net Zero Urban Water from Concept to Applications: Integrating Natural, Built, and Social Systems for Responsive and Adaptive Solutions

*The WRRC is pleased to feature the following article summary prepared by the lead author, UArizona Assistant Professor Courtney Crosson.*

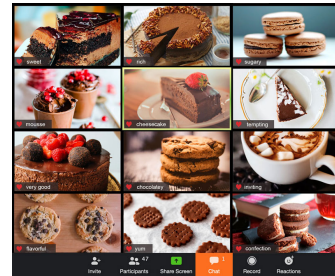


In this article, we present a vision to enhance urban water system resilience through a Net Zero Urban Water (NZUW) approach, which meets the needs of a given community with a locally available and sustainable water supply, without detriment to interconnected systems or long-term water supply (See Figure 1 below). NZUW is an integrative, place-based approach with progressive targets assessed using a quantitative framework to expand adaptive and responsive solutions for urban water self-sufficiency (see Figure 2 below). Decision-makers can use NZUW to understand tradeoffs between future interventions to urban water systems across spatial and temporal scales. We present the overall NZUW approach, drivers of change, applications, and research gaps in the article.

[Read More](#)

## 17<sup>th</sup> Annual WRRC Chocolate Fest

Are you looking for something a little different to wrap up your workweek? Do you delight in all things chocolate? Join us for our annual Chocolate Fest on February 12, from 3:30-5:00 p.m.! This year, the festivities will be adapted to suit the realities of the COVID era, but the opportunity to indulge in tasty treats remains. Prepare your favorite homemade chocolate goodie to share virtually in this Chocolate Delight Show & Tell. A real chocolate prize goes to the Fest favorite, so decorate your cocoa confection to impress! Although others will be unable to taste your creation this year, participants are encouraged to share their recipes via chat. During the second part of the event, we will celebrate the 2020 Photo Contest winners with a slide show and insights into what makes a winning photo.



Meet new friends, chat with old friends, and of course, invite others to join the fun! We hope to see you all there!

[Register Here](#)  
[2020 Photo Contest Winners](#)

## WATER JOBS

[USDA Announces Robust Hiring Effort for Conservation Careers in Arizona](#)

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

# ANNOUNCEMENTS

- **Feb 7:** [Fate of PFAS: From Groundwater to Tap Water - Abstract Deadline](#)
- **Feb 9:** [Internet of Water \(IOW\) De Nora Idea Challenge - Registration Deadline](#)
- **Feb 9:** [AHS Monthly Tucson Chapter Meeting](#)
- **Feb 10-Mar 10:** [ADWR 5MP Work Group Meetings - 5MP Municipal Subgroup Meeting, 5MP Turf Breakout Meeting, 5MP Safe-Yield Technical Subgroup Meeting](#)
- **Feb 10-Mar 24:** [UCOWR Winter 2021 Virtual Roundtable Series](#)
- **Feb 11:** [Climate Tucson presents Author Tom Bowman on Climate Education as a Priority for Rejoining the Paris Agreement](#)
- **Feb 11:** [USIBWC Southeast Arizona Citizens Forum](#)
- **Feb 12:** [WRRC Chocolate Fest - Register via Zoom](#)
- **Feb 15:** [UCOWR/NIWR Annual Water Resources Conference - Abstract Deadline](#)
- **Feb 16:** [AHS Phoenix Monthly Chapter Meeting](#)
- **Feb 17-26:** [RiversEdge West 2021 Conference - \*Changing Rivers\*](#)
- **Feb 18-19:** [Family Farm Alliance 2021 Conference and Annual Meeting: \*Bridge Over Troubled Water\*](#)
- **Feb 19:** [Re-envisioning the Middle East Ecosystem: Desert Ecology and Environmental Diplomacy - Registration Deadline](#)
- **Feb 23-24:** [GRA Virtual Event: \*The Future of Water\*](#)
- **Feb 28:** [Indigenous Food, Energy, and Water Security and Sovereignty \(Indige- FEWSS\) Traineeship Program - Application Deadline](#)
- **Mar 1:** [2021 Babbitt Center Dissertation Fellowships - Application Deadline](#)
- **Mar 1:** [Arizona Growing Water Smart Workshop - \*Integrating Water and Land Use to Create Resilience\* - Application Deadline Extended](#)
- **Mar 3:** [Problematic Groundwater Contaminants: More than PFAS Forum - Abstract Deadline](#)
- **Mar 7-13:** [National Groundwater Awareness Week](#)
- **Mar 11-12:** [23<sup>rd</sup> Annual Law of the Colorado River Conference](#)
- **Mar 15-25:** [36<sup>th</sup> Annual WaterReuse Symposium: \*Resilience Redefined: health.economy.environment\*](#)
- **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 6-8:** [AZ Water 2021 Annual Conference](#)
- **Apr 6-8:** [Virtual 2021 Southwest Adaptation Forum \(SWAF\)](#)
- **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](#)
- **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\*](#)
- **Jun 13-16:** [ACE21 - Registration Open](#)
- **Jun 21-23:** [WEF SWI Stormwater Summit 2021](#)

- **July 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 15-17:** [Annual AHS Symposium - Save the Date](#)
- **Sept 2022:** [IWA World Water Congress & Exhibition - \*Water for Smart Liveable Cities\* \(Copenhagen\)](#)

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