

# WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES  
COOPERATIVE EXTENSION

**WATER RESOURCES  
RESEARCH CENTER**



**May 7, 2021 / Volume 9, Issue 18**

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.](#)

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**IN THIS ISSUE:**

IALC, Cooperative Extension, Community Gardens, APW, Drew Eppheimer, NGWA



Photo: Sharon B. Megdal (Dead Sea)

**In Focus: Day One of the Upcoming  
International Arid Lands Conference**

▼

We invite all to join us for the three-day virtual conference *Addressing the Environmental Challenges of Arid Lands*, which is hosted by the International Arid Lands Consortium. The opening day, May 24, 2021, features Professor Alon Tal of Tel Aviv University, who is sure to deliver a thought-provoking keynote exploring the stresses to arid lands' natural resources, people, and economic activities. Following his remarks, an expert panel will focus on critical issues of water in the Colorado River Basin, Jordan, and Israel, including implications for agriculture. Abeer Albalawneh, Maysoon Al-Zoubi, Uri Shani, and Anne Castle will engage in an interactive discussion of water problems, including lack of access to safe and reliable water supplies and the many implications of climate change. Come hear them speak to solutions, too! The 90-minute panel will include time for audience questions, moderated by WRRC Director Sharon Megdal. This stimulating discussion will set the stage for days 2 and 3 of the conference, which will be featured in upcoming Weekly Wave stories. Register now for free. You will not want to miss hearing the insights shared!

[Information and Registration](#)  
[Conference Agenda](#)

## EVENTS

### **Water Solutions for Our Warmer World Series, Episode 3: The Realities of Adaptation in the Water Sector**

**Date:** Wednesday, May 19, 2021  
**Time:** 4:00 pm-5:30 pm MST  
**Location:** [Webinar Only](#)



Moderated by Andrea K. Gerlak, Professor in the School of Geography, Development & Environment

Join the Arizona Institutes for Resilience for the third episode of the Water Solutions for Our Warmer World series, "The Realities of Adaptation in the Water Sector," co-hosted by the UArizona Udall Center and WRRC! In this public webinar, panelists will speak to questions such as "How is adaptation unfolding in the water sector?" and "What is the role of knowledge, governance, and equity in adaptation?" Please join Governor Stephen Roe Lewis of the Gila River Indian Community, Lester Snow, Former Secretary of the California Natural Resources Agency, and other distinguished panelists for this important discussion.

*This series is dedicated to the memory of Regents Professor Jim Shuttleworth, 1945-2020.*

[Register Here](#)  
[More Info](#)

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### **Upcoming WRRC Events**

**May 24-26: [International Arid Lands Consortium Virtual Conference Addressing the Environmental Challenges of Arid Lands](#)**

**Jun 17: [Brown Bag Webinar - International Watersheds Coping with Climate Hazards; Twin-City Solutions at Ambos Nogales and San Diego-Tijuana](#)**

Laura M. Norman, Ph.D., *Supervisory Research Physical Scientist, U.S. Geological Survey, Western Geographic Science Center*

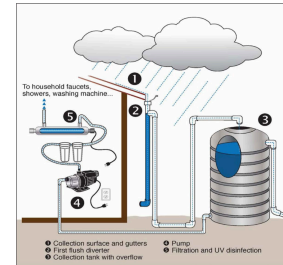


**Aug 30-Sep 1: [WRRRC 2021 Annual Conference: Tribal Water Resilience in a Changing Environment](#)**

## NEWS

### **UArizona Cooperative Extension Releases New Rainwater Harvesting Publications**

University of Arizona Cooperative Extension (CE) has just posted two new publications on rainwater harvesting for potable supply. Mary Ann Capehart, Instructional Specialist for Cochise County CE, was joined by WRRRC's Susanna Eden on both publications; and Janick Artiola, UArizona Environmental Science Research Scientist (retired) contributed his experience and technical expertise as co-author of *Preparing Rainwater for Potable Use*. The WRRRC's John Polle provided the graphics. Rainwater harvesting offers a realistic source of potable water for homeowners, especially those living in remote areas. As groundwater becomes harder to access in many areas, the risks and costs associated with groundwater wells may make rainwater harvesting an attractive option. Local groundwater quality also may be a factor. Large rainwater harvesting systems can provide potable water for an entire household. These two publications step the homeowner through the why and how of rainwater harvesting and treatment for potable use, with examples, charts, and tables for most situations in Arizona.



### **[Preparing Rainwater for Potable Use](#) [Choosing Large-scale Rain Harvesting for Potable Supply](#)**

### **Reducing Irrigation Water for CGT**

Throughout Tucson, there are many community gardens providing space for individuals to grow food and community. Nonprofit organizations and foundations, such as Trees Please, the Dunbar Coalition, and the Primavera Foundation, manage gardens in neighborhoods and schools; the Community Food Bank of Southern Arizona runs an urban community farm. The nonprofit Community Gardens of Tucson (CGT) manages 20 gardens across the city. A recently published policy brief, "Making Water Affordable for Tucson's Non-Profit Sector," addresses the issue of irrigation costs for community gardens. This report shows that a Tucson Water pilot community garden water rate program, in partnership with CGT, has helped reduce CGT's water bills. The study also shows that initiatives like rainwater harvesting and educational programs by the UArizona Pima County Cooperative Extension SmartScape program and nonprofits have helped reduce water use at CGT gardens. The brief concludes with recommendations for both the City of Tucson and CGT, offering paths forward to improve access to community gardens, which, according to the brief, help address regional food insecurity. The policy brief was authored by Dr. Stephanie Buechler, Associate Research Professor, and Sehdia



Mansaray, graduate student, at the UArizona School of Geography, Development & Environment, and Scott Feierabend and Bruce Plenk from the CGT.

## [Read the Report](#)

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### Discover the Colorado River STEM Academy

Once fierce and mighty, the Colorado River was originally tapped as a lifeline for the Southwest, precisely because of its unique hydrology. Its high-elevation headwaters created a fast-flowing river perfectly suited for spinning turbines and generating electricity for the developing Southwest, but long-term drought and a warming climate threaten this water supply. Would you like to learn more about this? If so, join APW for a two-day online teacher academy that will empower 5<sup>th</sup>-12<sup>th</sup>-grade educators to learn about the Southwest's most important river and offer them resources to share this vital information with students. This academy will enable teachers to bring real-world and relevant Arizona water issues to their classrooms using three-dimensional science instruction with a focus on Crosscutting Concepts and Science and Engineering Practices.



The *Explore the Colorado River STEM Academy* will have participants grappling with the question: "How can we ensure that a reliable Colorado River water supply is available to Central Arizona for the next 150 years?" A teacher from last year's academy commented, "I was really impressed with the online format. I found it very engaging, and the lessons were adapted well."

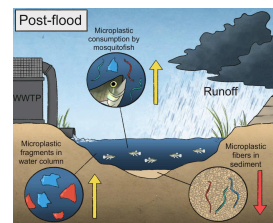
June is approaching fast so register now to join us for the *2021 Explore the Colorado River STEM Academy* on June 1 & 2!

## [Register Here](#)

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### Summary of Impacts of Baseflow and Flooding on Microplastic Pollution in an Effluent-Dependent Arid Land River in the USA

*The WRRC is pleased to feature the following article summary, prepared by co-author, Drew Eppheimer, Arid Lands Resource Sciences PhD Candidate at the University of Arizona.*



Treated wastewater-supported rivers are common throughout the world. In arid and semi-arid environments, treated effluent is often the only source of perennial flow in these systems. Effluent discharge can create and maintain aquatic habitat, but there are challenges, including microplastic pollution. Microplastics are ubiquitous worldwide and include primary microplastics, like microbeads, and secondary microplastics, such as fragments, film, and fibers. Although modern wastewater treatment plants remove the vast majority, microplastics are still present in treated effluent.

## [Read More](#)

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## NGWA Offering Free Membership to Students



The National Ground Water Association (NGWA) is offering free memberships to full-time students in groundwater-related fields. NGWA student member benefits include access to NGWA's online Career Center, access to the Journals *Groundwater*, *Groundwater Monitoring & Remediation*, and *Water Well*, a subscription to the NGWA newsletter, and more.

### [Student Membership Application](#)

## WATER JOBS

- University of Arizona [Program Director, Arizona Project WET](#)
- City of Chandler [Water Conservation Specialist](#)
- Northern Arizona University [Postdoctoral Scholar](#)
- The Nature Conservancy [CRP Freshwater Scientist](#)

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

## ANNOUNCEMENTS

- **May 7:** [AHS 33<sup>rd</sup> Annual Symposium – Abstract and Poster Deadline](#)
- **May 9:** [Re-envisioning the Middle East Ecosystem: Desert Ecology and Environmental Diplomacy](#)
- **May 10-12:** [International Conference on Water Energy Food and Sustainability \(ICoWEFS 2021 - Leiria, Portugal\)](#)
- **May 11:** [AHS Tucson Monthly Chapter Meeting](#)
- **May 12:** [AHS Phoenix Monthly Chapter Meeting](#)
- **May 13:** [Pima County Virtual Community Town Hall \*Creating Vibrant Communities\*](#)
- **May 18-20:** [11<sup>th</sup> International Conference on Sustainable Water Resources Management: \*Effective Approaches for River Basins and Urban Catchments\* \(Milan, Italy\)](#)
- **May 18-20:** [French American Innovation Days: \*Facing the Predictably Unpredictable\*](#)
- **May 19:** [5MP Agricultural Subgroup Meeting](#)
- **May 19:** [Water Solutions for Our Warmer World series, Episode 3: \*The Realities of Adaptation in the Water Sector\*](#)
- **May 19:** [Building Tribal Capacity with Water Research Partnerships Workshop](#)
- **May 21:** [30<sup>th</sup> Annual Desert Horticulture Conference](#)
- **May 24:** [Grants for Concept Papers on Resilience Research for Development Challenges – Submission Deadline](#)
- **May 24-26:** [International Arid Lands Consortium Virtual Conference \*Addressing the Environmental Challenges of Arid Lands\*](#)
- **May 26-27:** [Problematic Groundwater Contaminants: \*More than PFAS Forum\*](#)
- **May 30:** [NWRI Fellowship Program 2021 – Application Deadline \*\*EXTENDED\*\*](#)
- **Jun 1:** [2021 Central Arizona Project Award for Water Research – Application Deadline](#)
- **Jun 4:** [Global Environmental Sciences Summit](#)
- **Jun 7:** [2021 AWRA Annual Conference – Call for Abstracts Deadline](#)
- **Jun 8-10:** [UCOWR/NIWR Annual Water Resources Conference](#)
- **Jun 14-17:** [ACE21 - Registration Open](#)



- **Jun 15:** [WaterReuse Arizona 2021 Scholarship – Deadline](#)
- **Jun 22-23:** [WEF SWI Stormwater Summit 2021](#)
- **Jun 22-23:** [Fate of PFAS: From Groundwater to Tap Water](#)
- **Jul 1:** [Women in Water Scholarship - Application Deadline](#)
- **Jul 19-21:** [AWRA 2021 Virtual Summer Conference \*Connecting Land & Water for Healthy Communities\* - Registration Open](#)
- **Aug 26-27:** [29<sup>th</sup> Annual Arizona Water Law Conference](#)
- **Aug 30-Sep 1:** [WRRRC 2021 Annual Conference, \*Tribal Water Resilience in a Changing Environment\*](#)
- **Sep 13-15:** [GRA 4<sup>th</sup> Annual Western Groundwater Congress](#)
- **Sep 15-17:** [2021 AHS Symposium](#)
- **Oct 20-21:** [The Third International Congress on Desert Economy: \*Energy Economics between Deserts and Oceans \(Dakhla, Morocco\)\*](#)
- **Oct 21:** [Imagine a Day Without Water](#)
- **Nov 1-5:** [AIWW 2021: \*Connect & Act to Make Water Work – Save the Date\*](#)
- **June 14-16, 2022:** [UCOWR 2022 Annual Water Resources Conference – Save the Date](#)
- **Sep 11-15, 2022:** [IWA World Water Congress & Exhibition - \*Water for Smart Liveable Cities \(Copenhagen\)\*](#)

## PUBLICATIONS

Capehart, Mary Ann, Janick Artiola, and Susanna Eden. *Preparing Rainwater for Potable Use*. The University of Arizona Cooperative Extension, Mar. 2021, [extension.arizona.edu/pubs/preparing-rainwater-potable-use](https://extension.arizona.edu/pubs/preparing-rainwater-potable-use).

Capehart, Mary Ann, and Susanna Eden. *Choosing Large-Scale Rain Harvesting for Potable Supply: Guide for Rural Homeowners in Arizona*. The University of Arizona Cooperative Extension, Apr. 2021, [extension.arizona.edu/pubs/choosing-large-scale-rain-harvesting-potable-supply](https://extension.arizona.edu/pubs/choosing-large-scale-rain-harvesting-potable-supply).

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