

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**



November 4, 2022 / Volume 10, Issue 30

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. [Land Acknowledgement](#).

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IN THIS ISSUE: Upcoming Events, NVIS, Colorado River, APW, USGS, Common Good

UPCOMING WRRC EVENTS!



WRRC Offers Three Events in November

The WRRC has three great events lined up for this month. Next week, on Thursday, November 10, we will be hosting a Brown Bag webinar featuring two University of Arizona (UArizona) graduate students who will each present on their 104(b) research projects. The presentation from Chandler Noyes will address the paleoclimate and past recharge rates in the Tucson Basin across the Holocene. Noyes will share findings that show a general warming trend, variable ongoing recharge corresponding to dramatic shifts in climate, and a need for metrics besides groundwater age to inform resilient groundwater management. Simone Williams will share findings from a literature review conducted to understand

diversity, equity, inclusion, and justice (DEIJ) issues in water governance and management and identify strategies for addressing such issues in water dialogues.

[Read More](#)

EVENTS

WRRC Brown Bag Webinar: 104(b) Grant Program: Student Research Presentations

Date: Nov 10, 2022

Time: 12:00 pm–1:15 pm Arizona Time

Location: [Webinar Only](#)

Speakers:

Chandler Noyes, *PhD Candidate, Hydrology, UArizona*

Simone A. Williams, *PhD Candidate, Arid Lands Resource Sciences, UArizona*



Variations in Groundwater Recharge During the Mid-Holocene Revealed in the Tucson Basin (Arizona, USA) Using Radioisotopes and Noble Gases

This WRRC Brown Bag presentation will cover research into the paleoclimate and past recharge rates of the Tucson Basin across the Holocene (past 12,000 years or so). Findings from this research show a general warming trend across the Holocene and ongoing, yet variable recharge across the Holocene corresponding to dramatic shifts in climate, and metrics besides groundwater age are needed to inform the resilience of groundwater resources.

Examining Diversity, Equity, Inclusion, and Justice in Water Dialogues

In the United States, the lack of diversity, equity, inclusion, and justice (DEIJ) in water governance and management has been identified as a serious problem that affects the validity of decisions. This WRRC Brown Bag presentation will share findings from a literature review conducted to understand DEIJ issues and identify strategies for addressing such issues in water dialogues.

[Register Here](#)

[More Info](#)

WRRC Brown Bag Webinar: Watershed Collaboration in the Tucson Basin: Santa Cruz Watershed Collaborative Adopts a Watershed Restoration Plan to Promote Flowing Rivers

Date: Nov 18, 2022

Time: 12:00 pm–1:15 pm Arizona Time

Location: [Webinar Only](#)

Speakers:

Lisa Shipek, *Executive Director, Watershed Management Group*

Amanda Webb, *Ecological Monitoring Program Coordinator, Pima County*

Since 2017, the Santa Cruz Watershed Collaborative (SCWC) has been providing forums for partner agencies and organizations to work toward better aligning their approaches to watershed management in the Tucson Basin of the Santa Cruz River watershed. SCWC is working toward the vision of people working together to ensure a healthy urban watershed with flowing rivers and streams. In response to a request for input, stakeholders expressed a need for greater coordination and collaboration across the watershed and a more holistic approach to ensuring a sustainable water supply and healthy ecosystems. As a result, after more than three years of collaboration, SCWC adopted a Watershed Restoration Plan in 2022. In this WRRC Brown Bag Webinar presentation, panelists will discuss development of the plan, strategies stakeholders are rallying around to achieve shared goals, and how SCWC is moving forward to address ongoing challenges in the watershed.



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

Upcoming Events

Nov 29: Water and Agriculture: Chile-Arizona Experience; Co-hosted by the Agricultural Office of the Embassy of Chile in the US and the University of Arizona Water Resources Research Center; 11:00 am to 1:00 pm AZ Time – Save the Date

Nov 30: [Native Voices in STEM Fall 2022 Seminar Series featuring Dr. Raymond Torres – Save the Date](#)

NEWS

NVIS Fall 2022 Series: Jack(lyn) of All Trades, Dr. Melissa Clutter

On October 26, the third webinar in the Native Voices in STEM Fall 2022 Series was hosted by the UArizona-Sloan Indigenous Graduate Partnership; Department of Hydrology and Atmospheric Sciences; NSF-NRT Indigenous Food, Energy, Water Security, and Sovereignty; Water Resources Research Center; and Indigenous Resilience Center. In this webinar, Dr. Melissa Clutter, a member of the Cherokee Nation, provided an overview of the research and teaching journey that led to her assistant professorship in the Geosciences Department at Fort Lewis College. Though she is a “jack(lyn) of all trades” and her research has shifted from groundwater to snow science, in all of her projects, she values communicating large-scale, complex scientific research to inform decisions at smaller scales. Clutter aims to make her research usable by all stakeholders, and she applies this concept to her teaching as well. For example, she explained how her hydrology students expressed dissatisfaction with their textbooks and were put off by modeling problems and complex equations to the point where some students hardly opened the textbook. In response, she and her colleagues wrote and published a book with pictures, analogies, and real-world applications to promote meaningful understanding of the material. This speaks to her commitment to educating future educators and experts in the geohydrological field as well as adapting research for the “little guy.”



- [View the Recording](#)
- [Indige-FEWSS Seminar Library](#)
- [Geohydrology Textbook](#)

Reclamation Announces New Federal Action on the Colorado River

On Friday, October 28, the US Bureau of Reclamation (Reclamation) announced the initiation of an expedited process for developing a “Supplemental Environmental Impact Statement (SEIS)” on proposed revisions to the December 2007 Record of Decision relating to the Colorado River Interim Guidelines. The SEIS will lay out options to address the troubling operating conditions facing the river system now and in the future. Public comments submitted by December 20 will be reflected in the draft SEIS to be released next spring, with the final expected in late summer. Revisions to the current interim operating guidelines will apply as early as 2023-2024. Current operating rules date to the 2007 guidelines as amended in 2019. When reservoir levels fall below specified elevations, larger and larger cuts in water allocations are taken. Those rules will expire after 2026, and most observers believe immediate action is needed because the 2026 deadline for negotiating new rules is too late.



[Read More](#)



APW AmeriCorps Spotlight: Juliana Perez

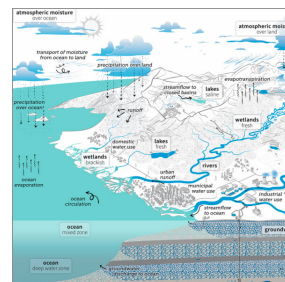
My name is Juliana, and I am one of four AmeriCorps Water Educators in Tucson working with Arizona Project WET (APW). So much happened in our first few weeks on the job. We all jumped right into the action. As water educators, we are tasked with teaching students from 4th grade all the way through high school through APW's different programs. During the first month, in addition to learning about water and how to lead the lessons through training and seminars, we also had firsthand teaching experiences.



[Read More](#)

USGS Releases Updated Water Cycle Diagram

Curious about the human role in the water cycle? A new, global water cycle diagram, published by the US Geographical Survey (USGS) VizLab, in collaboration with the USGS Water Resources Mission Area Web Communications Branch, features humans as major contributors to the movement, storage, and quality of water. A previous diagram, published by USGS nearly 20 years ago, had much of the same information; however, it lacked many anthropogenic features of the water cycle, such as industrial, agricultural, and domestic uses. Also, it gave the impression that the water cycle is one large, closed cycle when, in



reality, there are several loops. The script provided with the diagram elaborates on these sub-systems. In an article from the science news magazine *Eos*, Data Visualization Specialist and diagram designer Cee Nell said that the updated diagram reflects research revealing humanity's central role in the water cycle. She stated that recognizing our impact is important "to be able to live and use water sustainably for our future." To disseminate this diagram and its message, USGS plans to translate it into 60 languages.

Image: USGS

- [More Info](#)
- [USGS Water Cycle Diagram](#) (currently available in English and Spanish)
- [Eos Article](#)

Registration Open for Common Good Challenge

A new competition has been announced by the Arizona Community Foundation with AZCENTRAL and ASU Morrison Institute for Public Policy. The Common Good Challenge is an Arizona-based grant competition that will award three \$100,000 prizes to projects that "develop meaningful solutions to complex problems" and "advance dialogue across social, economic, political, racial, and other boundaries to solve specific community challenges." Interested parties must register by Tuesday, December 13, 2022, to be eligible to submit a proposal. Proposal submissions are due Wednesday, January 18, 2023, and will be evaluated February–April 2023.



[More Info](#)



**WRRC 2022
Photo Contest**

WATER NOW!
Living With Less



Submit your photos!

WATER JOBS

- Central Arizona Project (CAP) [Water Resources Planning Analyst II](#)
- Texas A&M Agrilife Research [Director, Texas Water Resources Institute](#)
- University of Arizona [Postdoctoral Research Associate I](#)

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

ANNOUNCEMENTS

- **Nov 7:** [SCWC Fall Field Trip: Connecting with Our Watershed: Springs, Shallow Groundwater Areas, and River Restoration](#)
- **Nov 7-9:** [AWRA 2022 Annual Water Resources Conference](#)
- **Nov 8:** [Election Day – Five CAP Board Seats Up for Election in Maricopa County](#)
- **Nov 9:** [Water Education Foundation 2023 California Water Leaders Virtual Q&A](#)
- **Nov 9:** [Arizona Riparian Council Speaker Series: Andrew Holycross - A 30+ Year Study of a Montane Snake Community](#)
- **Nov 10:** [WRRRC Brown Bag Webinar: 104\(b\) Grant Program: Student Research Presentations](#)
- **Nov 12:** [ADWR Public Hearing: Proposed Hualapai Valley INA](#)
- **Nov 15:** [Phoenix Water - Colorado River Shortage Town Hall Virtual Meeting](#)
- **Nov 15:** [SCWC Fall Field Trip: Connecting with Our Watershed: Springs, Shallow Groundwater Areas, and River Restoration](#)
- **Nov 16:** [Yuma Center of Excellence for Desert Agriculture: Desert Agriculture Research Symposium](#)
- **Nov 16:** [Arizona Association of Women in Water & Agriculture: Wine, Women & Water](#)
- **Nov 17:** [Arizona Association of Women in Water & Agriculture: Annual Meeting & Networking Conference](#)
- **Nov 17:** [Common Good Challenge Pre-Registration Webinar](#)
- **Nov 18:** [WRRRC Brown Bag Webinar: Watershed Collaboration in the Tucson Basin: Santa Cruz Watershed Collaborative Adopts a Watershed Restoration Plan to Promote Flowing Rivers](#)
- **Nov 20:** [Native Voices in Film - Inhabitants and Finding Nemo in Navajo Screenings](#)
- **Nov 27-Dec 1:** [The 8th International Conference on Drylands, Deserts & Desertification: Learning from Drylands: A Global Effort Towards Ecosystem Restoration](#)
- **Nov 29:** [Water and Agriculture: Chile-Arizona Experience; Co-hosted by the Agricultural Office of the Embassy of Chile in the US and the University of Arizona Water Resources Research Center – Save the Date](#)
- **Nov 30:** [Native Voices in STEM Fall 2022 Seminar Series featuring Dr. Raymond Torres – Save the Date](#)
- **Dec 6:** [CAP University: Deeper Dive on Power](#)
- **Dec 7:** [Water Education Foundation 2023 California Water Leaders Class – Application Deadline](#)
- **Dec 8:** [ADWR Supply and Demand Assessment Informational Meeting](#)
- **Dec 13:** [Common Good Challenge – Registration Deadline](#)
- **Dec 16:** [UCOWR Board of Directors 2023 Election – Nomination Deadline](#)
- **Jan 1, 2023:** [NGWA Conference: Managed Aquifer Recharge: Unleashing Resiliency, Protecting Groundwater Quality – Abstract Submission Deadline](#)
- **Jan 15, 2023:** [Campus Sustainability Fund Annual Grants – Preliminary Application Deadline](#)
- **Jan 30, 2023:** [2023 UCOWR/NIWR Annual Water Resources Conference – Abstract Deadline](#)
- **Feb 15, 2023:** [Call for Papers: JCWRE Special Issue on Undergraduate Research and Education – Submission Deadline](#)
- **Feb 24, 2023:** [2023 Land and Water Summit – Registration Deadline](#)
- **Mar 1-3, 2023:** [2023 Land and Water Summit](#)
- **Apr 24-25, 2023:** [NGWA Conference: Managed Aquifer Recharge: Unleashing Resiliency, Protecting Groundwater Quality Conference](#)
- **May 7-10, 2023:** [National Association of Environmental Professionals \(NAEP\) 2023 Conference](#)
- **May 8-9, 2023:** [Water for Food Global Conference: Cultivating Innovation: Solutions for a Changing World](#)
- **Jun 13-15, 2023:** [UCOWR/NIWR 2023 Annual Water Resources Conference](#)
- **Jul 17-19, 2023:** [AWRA 2023 Summer Conference: Connecting Land & Water for Healthy Communities](#)

PUBLICATIONS & MEDIA

Almond Alert Podcast interviewed Family Farm Alliance Executive Director Dan Keppen in an episode titled "The Future of Western Water." [Watch Here](#)

Oxford Research Encyclopedia of Environmental Science

On October 19, the article "Managed aquifer recharge as a tool to improve water security and resilience," co-authored by WRRC Post-doctoral Researcher Mary-Belle Cruz Ayala and Director Sharon B. Megdal, was published in the Oxford Research Encyclopedia of Environmental Science. It examines recent literature on how MAR facilities contribute to meeting water management objectives and increasing resilience in arid and semi-arid regions. This research identified four elements impacting MAR efforts: (1) the regulatory framework, (2) the role of nongovernmental actors, (3) the sources of financial support to create or maintain MAR facilities, and (4) the end use of the recharged water. The article is available at no cost to those with access to the University of Arizona library. [More Info](#)

Blog post by Dan Keppen

"There Has Never Been a More Important Time to Protect American Food Production"
[Read Here](#)

Responsible Desert Dweller Guide

New online resource from Tucson Water. [More Info](#)

BBC article on drought in Tucson. [Read Here](#)

ADWR guide to terminology about water in the Southwest. [Read Here](#)

Funding Opportunities for Tribal Water Priorities

Western Resource Advocates Guidebook. [Read Here](#)

OTHER NOTICES

UCOWR Board of Directors Call for Nominations

Nominate a colleague or yourself for one of three open positions. Nominations are also being accepted for a new graduate student board position. Email all nominations to ucowr@siu.edu no later than Friday, December 16, 2022.

Water Conservation Field Services Program

This funding opportunity offers grant awards of up to \$100,000 for selected projects. Eligible projects include conservation planning, system optimization reviews, and water management improvements. Applications must be submitted by November 18, 2022. [More Info](#)

New CAP General Manager Selected

The CAWCD Board has named Brenda Burman as its next General Manager. Burman will begin in her new role effective Jan. 6, 2023, following the retirement of current General Manager Ted Cooke. [More Info](#)

Do you have a story idea, water job announcement, or event to share?

[Contact us here](#)