

# WEEKLY WAVE



THE UNIVERSITY OF ARIZONA  
COOPERATIVE EXTENSION

## WATER RESOURCES RESEARCH CENTER



May 3, 2024 / Volume 12, Issue 18

The Water Resources Research Center - a research unit of the [College of Agriculture, Life and Environmental 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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2024 marks the 60<sup>th</sup> anniversary of the Water Resources Research Center at the University of Arizona. Find out [more](#).

**IN THIS ISSUE:** JCWRE Paper of the Year, Glen Canyon Dam, CRIT, Factsheet, Kyl Center

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**104(b)-Funded Project Leads to  
Paper of the Year Award**

The WRRC is excited to announce that the paper “Diversity, Equity, Inclusion, and Justice in Water Dialogues, A Review and Conceptualization,” by lead author WRRC Graduate Research Associate Simone Williams and others, has been named 2024 Paper of the Year by the *Journal of Contemporary Water Research and Education* (JCWRE). Williams is pursuing her PhD in Arid Lands Resource Sciences. Paper co-authors are WRRC Research & Outreach Program Officer Susanna Eden, Director Sharon B. Megdal, and former Post-Doctoral Research Associate Valerisa Joe-Gaddy. Williams carried out an exhaustive and expansive literature review and analysis. The resulting paper focuses on diversity, equity, inclusion, and justice (DEIJ) in water governance and management dialogues, exploring how DEIJ is defined in this context, what forces influence DEIJ in water decisions, and how DEIJ in water resources might be increased. Williams’ research was funded by the WRRC with a one-semester research grant from the Water Resources Research Act (WRRRA) Section 104(b) program, which is administered through the US Geological Survey (USGS). Support for the project was also provided by the Technology Research Initiative Fund/Water, Environmental and Energy Solutions Initiative administered by the University of Arizona Office for Research, Innovation and Impact. The paper was published in the April 2023 edition of JCWRE, a journal of the Universities Council on Water Resources (UCOWR). The 2024 Paper of the Year award will be presented at the Joint AWRA/UCOWR/NIWR 60th Anniversary Water Resources Conference later this year.

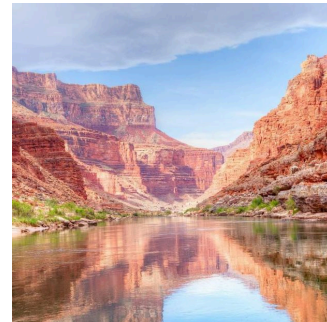
- [Read the Paper](#)
- [JCWRE](#)
- [Joint AWRA/UCOWR/NIWR Conference](#)

## EVENTS

### Law of the Colorado River Annual Conference: Planning for Post-2026 Operations in a Drought-Stressed Basin

**Dates:** May 6–7, 2024

**Location:** [Embassy Suites by Hilton Denver Downtown](#)  
[1420 Stout St, Denver, CO 80202](#)



Hear all points of view from the Upper and Lower Basins on critical issues along the Colorado River as the guidelines near expiration. **Participants can Earn up to 12 Hours of MCLE Credit, Including One Hour of Ethics, or up to 12 Hours of Engineering Credit.**

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

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### NVIS Spring 2024 Seminar: ?Eiletek Waali? (I'm Reading Country)

– *Co-sponsored by the WRRC*

**Date:** May 7, 2024

**Time:** 12:00–1:00 pm Arizona Time

**Location:** [Zoom](#)

**Speaker:** Don Hankins, *Professor of Geography and Planning, California State University, Chico*

Dr. Don Hankins combines his academic and cultural interests through applied research of Indigenous stewardship practices as a keystone process to aid in the conservation and management of resources. He is currently engaged in fire and water research involving Indigenous communities in California and Australia. Hankins has been involved in various aspects of land management and conservation for a variety of organizations and agencies including federal and Tribal governments.



- [Register Here](#)
- [Event Flyer](#)
- [More Info](#)

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## **WRRC Water Webinar: Addressing Transboundary Water Issues in the AZ–Sonora Border Region: The Arizona Perspective**

**Date:** May 9, 2024

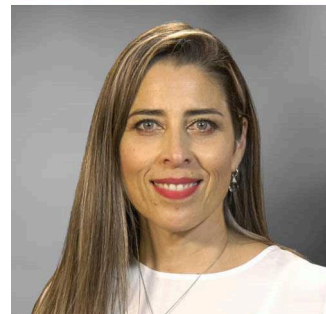
**Time:** 12:00–1:15 pm Arizona Time

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

### **Speakers:**

Joaquin Marruffo, *Environmental Justice Coordinator, Arizona Department of Environmental Quality*

Claudia Gil Anaya, *Environmental Science Specialist, Arizona Department of Environmental Quality*



The water dynamics in the Arizona-Sonora border region are complex and challenging. The environmental conditions of this region, as well as the socio-economic and political asymmetries of both countries, often result in serious water quality issues for the communities on both sides of the border, while also affecting public health at large. The accelerated growth undergone by the Sonora border communities, in addition to the limited resources of these communities to respond to such a pattern, often results in environmental and human health impacts on both sides. Despite the uniqueness of this border region, it also allows for effective binational cooperation opportunities and strategic planning through existing solid collaboration platforms such as the Arizona-Mexico Commission and the US EPA-Border 2025 Program, as well as the existence of binational entities such as the North American Development Bank and the International Boundary and Water Commission. The mission of the Border Programs Unit at the Arizona Department of Environmental Quality is to protect public health and the environment in Arizona border communities via collaboration with entities on both sides of the border to achieve tangible, on-the-ground improvements to environmental quality. This WRRC Water Webinar will address how the team works to develop, nurture, and strengthen working relationships with stakeholders to effectively resolve transboundary environmental issues.

- [Register Here](#)
- [Event Flyer](#)
- [More Info](#)

## Upcoming Events

- Aug 8–9: [Arizona Water Law Conference: In the Eye of the Storm](#)

# NEWS

## Memo Raises Concerns about Damage at Glen Canyon Dam

A recently released Bureau of Reclamation memo details damage found at the Glen Canyon Dam, which generates hydroelectric power and releases stored water from Lake Powell downstream to the Colorado River Lower Basin States and Mexico. The damage was found on a series of pipes known as “river outlet works” and was caused, in part, by cavitation — the formation of vapor bubbles in high-velocity water that can erode metals and coatings and cause other mechanical damage. According to the memo, the damage threatens the integrity of the river outlet works, therefore Reclamation should “not rely on the river outlet works as the sole means for releasing water from Glen Canyon Dam.” News of this warning has raised concerns about the future availability of water for millions in the Southwest. In recent years, Lake Mead has seen historic lows, and the river outlet works would be the only way to move water through the dam and into the Colorado River should Lake Powell drop below 3,490 feet of elevation. The pipes are not expected to be able to handle the volume of water allocated to California, Arizona, Nevada, and Mexico under the Colorado River Compact. Some repairs at Glen Canyon Dam could begin later this year.



*Image: Bureau of Reclamation. Aerial View of Glen Canyon Dam and Lake Powell.*

## [Reclamation Memo News Article](#)

## Colorado River Indian Tribes Sign Historic Water Agreement

On April 26, Tribal, state, and federal officials came together to sign a historic agreement that will allow the Colorado River Indian Tribes (CRIT) to market portions of its Colorado River allocations to water users outside of the reservation. CRIT Chairwoman Amelia Flores, US Secretary of the Interior Deb Haaland, and Arizona Governor Katie Hobbs signed the agreement at the Bluewater Resort on the CRIT Reservation near Parker, Arizona. They were joined by US Senator Mark Kelly, Bureau of Reclamation Commissioner Camille Calimlim Touton, Arizona Department of Water Resources Director Tom Buschatzke, and Tribal council members. The agreement comes as a result of the federally approved Colorado River Indian Tribes Water Resiliency Act of 2022, which authorizes CRIT to enter into lease, exchange, and storage agreements regarding its Colorado River allocations. CRIT described the signed agreement as moving “one step closer to strengthening its sovereignty over its water resources to improve the lives of future generations of CRIT members while protecting the life of the river.”



*Image: John Wright, Parker Pioneer. CRIT Chairwoman Amelia Flores, U.S. Secretary of the Interior Deb Haaland and Arizona Governor Katie Hobbs sign historic water-marketing agreement.*



## CRIT Water Rights and Leasing History

Located along the Colorado River in La Paz County, the Colorado River Indian Tribes (CRIT) are a significant water rights holder and state partner. CRIT is composed of four distinct Tribes: the Mohave, Chemehuevi, Hopi, and Navajo. With first-priority entitlements to almost one-third of Arizona's Colorado River allotment (662,402 acre-feet or 200 million gallons per year), CRIT sustains a strong agricultural industry, generating more than \$78 million in agricultural sales in 2017. However, with climate change and the over-allocation of Colorado River water, record-breaking depletions of Lakes Mead and Powell concern all water users. When Arizona created the 2019 Drought Contingency Plan (DCP) to forestall catastrophic water declines in key Colorado River reservoirs, CRIT voluntarily pledged to fallow farmland (take acreage out of production) to help the state meet its DCP obligations. From 2020-2022, the fallowing conserved 150,000-acre feet of water. Finalized in 2023, the CRIT Water Resiliency Act grants CRIT full leasing authority over their Colorado River water entitlements in Arizona. By leasing water to other Arizona water users, CRIT aims to mitigate state drought stress while generating revenue for agricultural infrastructure improvements and Tribal services.

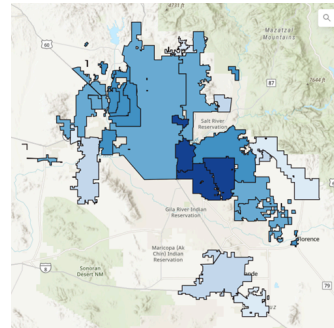


### [CRIT Water Resiliency Act](#) [La Paz County Water Factsheet](#)

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## New ASU Kyl Center Water and Land Use in Central Arizona Report

At the end of March 2024, Arizona State University's Kyl Center for Water Policy released its latest report and interactive map titled, "Water and Land Use in Central Arizona." Rather than focusing solely on population growth to explain water use patterns, this report focuses on land use to explain how water is used across central Arizona. Land use changes such as the conversion of agricultural fields into subdivisions, coupled with an increase in both agricultural and municipal water efficiency practices, have kept total water use in Arizona the same as it was 70 years ago despite the state's population increasing by six million people. The report also sheds light on how and why urban water use intensity differs across central Arizona. Water use intensity is the total amount of water delivered for indoor and outdoor uses divided by the number of developed acres. The report's authors analyzed community differences such as socioeconomics, industrial presence, recreation patterns, landscaping, historical context, etc. that impact land and water use. A "Water Use Intensity" interactive map for central Arizona allows users to explore how water use intensity varies across central and southern Arizona communities.



## WATER JOBS & OTHER OPPORTUNITIES

- SRP [Analyst Water Planning](#)
- SRP [Water Resource Analyst](#)

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

## NOTICES, PUBLICATIONS & MEDIA

### From the WRRC

#### **WRRC Invites Research Proposals for 104(g) Program — **Today is the Last Chance to Submit!****

Faculty and research personnel at any of Arizona's three public universities are invited to submit research proposals to the WRRC for competitive federal 104(g) grants of up to \$310,000. Grant funds are provided by the Water Resources Research Act through the US Geological Survey (USGS). For more information, visit the web page below or email Jessie Hampton ([jessiehampton@arizona.edu](mailto:jessiehampton@arizona.edu)).

#### [104\(g\) Grant Info](#) (Proposal Deadline: **May 3, 2024**)

#### **Invitation to Participate in Cooperative Extension Listening Sessions**

The University of Arizona Cooperative Extension needs your help! Extension is seeking public input to help guide future work throughout the state. Eight listening sessions will be held across the state, with food provided. Dates and locations are listed on the [Extension website](#), with several coming up in April. Six sessions will be open to the public and two are reserved for UArizona campus collaborators. These are regional events, and we hope you will attend to share your thoughts and hear the perspectives of others. [More Info](#)

#### **Colorado River Governance Q&A**

With federal guidelines set to expire in 2026, policymakers and interest groups are hustling to set a course for the Colorado River's policy future. Here's what four UArizona experts, including WRRC Director Sharon B. Megdal, had to say about the current state of governance on the river. [Read the Q&A](#)

### Other Sources

#### **Abstract Submissions & Student Travel Awards for UCOWR/NIWR/AWRA Conference**

The deadline has been extended to submit an abstract for the joint UCOWR/NIWR/AWRA [conference](#) from September 30–October 2, 2024, in St. Louis, Missouri. [Submit your abstract](#) no later than May 13! Additionally, NIWR is sponsoring travel awards for students to attend. Please note that **students are no longer required to submit an abstract** to qualify for the travel award. Two awardees per NIWR region will be chosen randomly, with travel awards ranging from \$1,200 to \$2,500. Visit the [submission form](#) for more details and to enter the drawing. The travel award application deadline has been extended to Friday, May 31.

#### **CAP Student Research Paper Award**

Submissions are still open for the CAP Award for Water Research, which is available to graduate and undergraduate students at any college, university, or trade school in the

State of Arizona. The research should focus on issues of interest to CAP or Arizona water users. Priority will be given to Colorado River issues. Winning papers will be published on the CAP website and recipients may present their research during a public CAP board meeting. The first-place winner will receive \$1000, and second place will receive \$500. The deadline for submissions is June 1. [More Info](#)

### **Arizona Climate-Smart Practices Program — Producer Listening Sessions**

The [Arizona Climate-Smart Practices Program](#) (ACSP) was designed to encourage growers in Arizona to adopt climate-smart agriculture and forestry practices that will allow for abundant agriculture while using practices that conserve water, promote healthy soil, and mitigate climate change. Two upcoming in-person regional listening sessions will be held so farmers and ranchers can provide feedback for this statewide effort and discuss best practices for climate-smart production. Session 1 will be held May 15 for producers in Pima, Yuma, Cochise, and Santa Cruz Counties. Session 2 will be held May 22 for producers in Maricopa, La Paz, Graham, Greenlee, and Pinal Counties. Producers will be compensated with a \$50 gift card for their time and energy. [More Info](#)

### **March 2024 Short-Term & Long-Term Drought Status Report**

The Arizona Department of Water Resources (ADWR) Arizona Drought Monitoring Technical Committee has published the March 2024 Short-Term and Long-Term Drought Status Report. [View the Report](#)

### **NASA Report: New Global Accounting of Earth's Rivers**

A study led by NASA researchers provides new estimates of how much water courses through Earth's rivers, the rates at which it flows into the ocean, and how much both of those figures have fluctuated over time — crucial information for understanding the planet's water cycle and managing its freshwater supplies. The results also highlight regions depleted by heavy water use, including the Colorado River basin in the United States, the Amazon basin in South America, and the Orange River basin in southern Africa. The [NASA news article](#) and the [published study](#) are both available online.

### **Spanish Translation of the Fifth National Climate Assessment Now Available**

The US Global Change Research Program (USGCRP) [has announced](#) the availability of all chapters of the Fifth National Climate Assessment (NCA5) [in Spanish](#). This marks the first time that the entire National Climate Assessment has been translated into Spanish. In addition, on May 14, USGCRP is hosting a Spanish-language webinar to share about the NCA5 Spanish translation and to share opportunities to participate in the [Sixth National Climate Assessment](#) (NCA6). [Register here](#) to attend La Evaluación Nacional del Clima: Resumen de Resultados y Oportunidades Para Participar.

## CALENDAR ANNOUNCEMENTS

- **May 3:** [104\(g\) Grant Proposal Deadline](#) – Today is the Last Chance to Submit!
- **May 4:** [WVG River Run Network Program's 7<sup>th</sup> Annual Tanque Verde Flow & Feast](#)
- **May 6:** [NSS National Conference: Innovation, Implementation, and Workforce Development for Sustainability – Contribution Submission Deadline](#) – Extended!
- **May 6–7:** [Law of the Colorado River Annual Conference: Planning for Post-2026 Operations in a Drought-Stressed Basin](#)
- **May 7:** [Kyl Center Webinar: Two New Arizona Water Blueprint Tools](#)
- **May 7:** [NVIS Spring 2024 Seminar: ?Elettek Waali? \(I'm Reading Country\); 12–1 pm MST](#) – Co-sponsored by the WRRRC
- **May 7–8:** [Rural Water Association of Arizona 2024 Annual Spring Conference](#)
- **May 8:** [Arizona Project WET 2023–24 TUSD Water Festival 3](#)

- **May 9:** [WRRC Water Webinar: Addressing Transboundary Water Issues in the AZ–Sonora Border Region: The Arizona Perspective](#)
- **May 9:** [Arizona Project WET 2023–24 White Mountain Apache Tribe Water Festival 3](#)
- **May 11:** [Sierra Club Webinar: The Past and Future Management of the Colorado River](#)
- **May 13:** [AWRA/UCOWR/NIWR 60th Anniversary Joint Water Resources Conference – Abstract Deadline – Extended!](#)
- **May 14:** [USGCRP Webinar on NCA5 Spanish Translation](#)
- **May 15:** [Sonoran Soirée: A Conservation Benefit](#)
- **May 22:** [AAWWA Colorado River Update](#)
- **May 31:** [NIWR/UCOWR Travel Award Program 2024 Application Deadline – Extended!](#)
- **Jun 1:** [2024 Central Arizona Project Award for Water Research — Abstract Deadline](#)
- **Jun 3:** [US Bureau of Reclamation Water Conservation Field Services Program Funding Opportunity – Application Deadline](#)
- **Jun 5:** [WaterReuse Arizona 2024 Scholarship – Application Deadline](#)
- **Jun 10–13:** [AWWA 2024 Annual Conference & Expo \(ACE24\): Transforming Our Water Future](#)
- **Jun 17–20:** [3<sup>rd</sup> International Groundwater-Agriculture Conference: Toward Sustainable Groundwater in Agriculture - Linking Science and Policy](#)
- **Jun 18:** [CAP University Virtual Learning: CAP 101](#)
- **Jul 28–30:** [2024 Arizona Water Reuse Symposium](#)
- **Aug 8–9:** [Arizona Water Law Conference: In the Eye of the Storm](#)
- **Aug 15:** [Agricultural Water Management Journal Special Issue: Water Scarcity Solutions for Irrigated Agriculture in the Warming Western US – Manuscript Submission Deadline](#)
- **Sep 9–12:** [NSS National Conference: Innovation, Implementation, and Workforce Development for Sustainability](#)
- **Sep 30–Oct 2:** [AWRA/UCOWR/NIWR 60<sup>th</sup> Anniversary Joint Water Resources Conference](#)

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

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