

WEEKLY WAVE



THE UNIVERSITY OF ARIZONA
COOPERATIVE EXTENSION

WATER RESOURCES RESEARCH CENTER



May 10, 2024 / Volume 12, Issue 19

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 60th anniversary of the Water Resources Research Center at the University of Arizona. Find out [more](#).

IN THIS ISSUE: Graduation, NVIS Recap, Future Of Ag and Food, APW, Bruce Billings, MIT Research

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**CONGRATULATIONS
2024
GRADUATES!**

Celebrating Our 2024 Graduates

Graduation time can be a bittersweet moment for us at the WRRC. On the one hand, we are so proud of the hard work and accomplishments of the graduating students who have

spent time with us here at the WRRC. On the other hand, we are always a bit sad to say goodbye. This year we bid farewell to WRRC Graduate Outreach Assistant Taylor Simmons, who has completed her master's degree in Environmental Health Sciences. She recently presented her thesis project, which was titled *Southern Arizona Healthy Stomach Project*, at the UArizona Graduate Center's annual Grad Slam, a university-wide competition designed to showcase the research and/or creative endeavors of graduate students. Grad Slam 2024 featured an intense selection process, whittling down the initial pool of over 75 contestants to a final group of six, which included Taylor. Her project investigated the concerning increase in stomach cancer rates among Hispanic populations. A recording of the final round of presentations should be posted soon. We are very proud of Taylor and look forward to seeing her again in her new position at Tucson Water, where she serves as an Environmental Scientist on the Water Quality & Operations team, helping with environmental compliance and regulations. Congratulations to Taylor and the entire 2024 graduating class!

[Grad Slam](#)

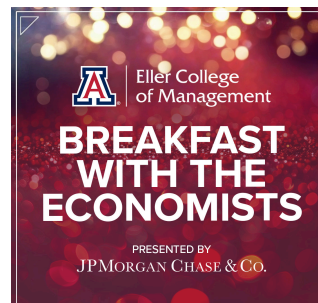
EVENTS

2024 Eller Breakfast With the Economists – A Discussion on Arizona's Economy and Water Resources

Date: Wednesday, Jun 5, 2024

Time: 8:00 am – 9:30 am Arizona Time

Location: Westin La Paloma Resort: 3800 E. Sunrise Drive,
Tucson, AZ 85718 (Grand Canyon Ballroom)



Speakers:

George W. Hammond, *Director, Economic and Business Research Center, and Research Professor, UArizona Eller College of Management*

Sharon B. Megdal, *Director, UArizona Water Resources Research Center*

At this year's Eller Breakfast With the Economist event, Eller's own [George W. Hammond](#) and WRRC Director [Sharon B. Megdal](#) will offer analysis and insights on what to expect for the state economy and Arizona water resources in the future. The Arizona economy continues to churn out solid gains, even as concerns about water sustainability surge. Both population and jobs rose at a pace faster than the US in 2023. Income also continued to rise, outpacing decelerating inflation. Housing affordability remained low with elevated house prices and increased mortgage interest rates. Housing permit activity declined last year but outperformed expectations. Where are the global, national, state, and local economies headed next? How will Arizona's water issues impact economic development and housing? Will restrictive monetary policy succeed in bringing inflation down without causing a recession? Will housing affordability continue to plummet? How much will manufacturing jobs rise? What role do local and state water policies play in all of this?

[Register Here](#) (Registration closes May 29, 2024)

[More Info](#)

Arizona Water Law Conference: In the Eye of the Storm

Dates: Aug 8–9, 2024

Location: [Hilton Scottsdale Resort & Villas](#)
6333 North Scottsdale Road, Scottsdale, AZ 85250



For over thirty years, CLE International's Arizona Water Law Conference has brought its attendees varying points of view on the critical issues facing Arizona and the West. With fresh conflicts brewing and new information continually surfacing, attendees will engage with speakers and colleagues, participate in discussions, and broaden their knowledge. Don't miss hearing from experts on important topics such as federal reserved rights, groundwater, development concerns and solutions, water quality, and much more. **Participants can Earn up to 13 Hours of MCLE Credit, Including One Hour of Ethics, or up to 13 Hours of Engineering Credit.**

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

Upcoming Events

- **Jun 27: [WRRC Water Webinar: Irrigation Efficiency Program: State Funded On-Farm Water Savings in Arizona \(Ethan Orr and Robert Masson\); 12–1:15 pm](#)**

NEWS

NVIS Seminar Focuses on Indigenous Burning Practice That Restores Ecosystems

Don Hankins, an environmental planning and conservation specialist, presented at the final Spring 2024 Native Voices in Stem (NVIS) seminar, and described his efforts to restore ecosystems through cultural burning practices. Cultural or Indigenous burning, which has been practiced for generations, is a method of land stewardship and management that promotes biodiversity. His research revealed that the absence of Indigenous fire practices in landscapes disrupts the ecosystem, resulting in declines in native animal species and increases in invasive plant species. In one instance, burning practiced by the Kaanju Ngaachi people in Australia when they returned to their land after 85 years of displacement, allowed the ecosystem to bounce back after only about five years. Ecosystem recovery included the return of the culturally significant Palm Cockatoo species. Hankins is a professor of Geography and Planning at California State University, Chico, and has completed research on fire and ecosystem remediation in Australia and California in riparian and woodland spaces. NVIS Seminars are cohosted by the Arizona Indigenous Resilience Center, the WRRC, and others. Seminars will resume in the fall.



[Don Hankins' Bio](#)
[NVIS Seminar Series](#)

Registration Open for Future of Agriculture and Food Production Reception

Organizers from the UA Initiative on the Future of Agriculture and Food Production in a Drying Climate are hosting an end-of-semester reception on May 13, 2024, to bring together researchers active in agriculture and food production. The event will be held from 4–6 pm in the Student Union Kachina Lounge, Room 325. Food and beverages will be provided and registration is required to attend. Those interested can also sign up to present a five-minute pitch on an idea, project, or topic of interest (slides optional).



- [Reception Registration](#)
- [Lightning Talk Sign-Up](#)
- [More Info](#)



A Wave of Gratitude

As the 2023–2024 academic year closes, Arizona Project WET (APW) would like to express its sincerest appreciation to the partners, sponsors, and participants who joined efforts in helping shape this into a remarkable outreach season. Further expanding its reach across the state, APW delivered 35 Arizona Water Festival field days with hundreds of community volunteers leading hands-on, fun, and meaningful water-centered activities to thousands of fourth-grade students. Adventure is on the horizon as APW continues its water stewardship journey with new partners, new programs, and steadfast supporters dedicated to experiential water education.



The changing tides have brought a year of transition and growth; the APW team bid farewell to several veterans and welcomed aboard a new captain and five new teammates. APW celebrates colleague Pamela Justice's two decades of enthusiastic dedication to Arizona water education and wishes her the best that retirement has to offer ... May the years ahead be filled with new endeavors and happy days! APW would also like to thank the Water Resources Research Center for their continued hospitality, generosity, and collaboration.

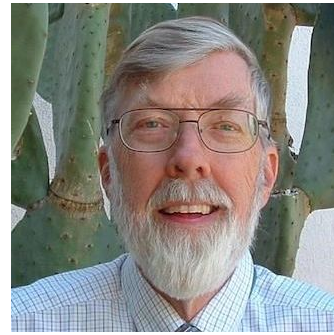
Happy Summer!

Alexia, Brian, Jordan, Kirstyn, Lance, Lisa, Lorie, Rachael, Sophie, and Stasi

WRRC Honors Long-time UArizona Water Economist Bruce Billings

The WRRC sadly acknowledges the passing of our friend and colleague, Dr. Richard Bruce Billings, who we learned passed away last month, and would like to express our sincere condolences to his family and loved ones. A graduate of the University of Arizona, Billings taught economics at the Eller College of Management for 35 years. His research

on water use resulted in two published books and numerous articles. Billings also served on Tucson's Citizens' Water Advisory Committee and was an active member of the local water community. A memorial service will be held in his honor at 11:00 am on Saturday, June 1, 2024, at the First United Methodist Church (915 E 4th St.) in Tucson.



[Read the Obituary](#)

Study Reveals That Light without Heat Can Evaporate Water

A research study from the Massachusetts Institute of Technology (MIT) reported a surprising discovery about evaporation. Researchers Guangxin Lv, Yaodong Tu, James H. Zhang, and Gang Chen found that light, even without heat, can cause water to evaporate. The water industry newsletter *Water Online* published an article by David L. Chandler of MIT News, in which several experts who were not involved in the research called the discovery revolutionary. The researchers performed fourteen different experiments to verify the existence of the newly named “photomolecular effect,” in which photons striking a water-air surface dislodge water molecules to be carried away in the air. This finding contradicts the previously accepted scientific consensus that heat is required for evaporation. The study suggests that light contributes to evaporation, not solely in the lab but significantly in nature. A photomolecular effect could be the missing link in some currently vexing questions about clouds and climate. The research also indicates new directions for water and energy technologies, with such practical applications as desalination and industrial drying.



- [Water Online Article](#)
- [Interesting Engineering Article](#)
- [Research Study](#)



The Summer Wave Returns May 24

We are transitioning from our *Weekly Wave* to *Summer Wave* schedule and this will be the last *Weekly Wave* for the spring semester. The first bi-weekly *Summer Wave* begins on May 24 and will continue throughout the summer months. We thank you for your continued interest in the WRRC's many publications, programs, outreach efforts, and research projects, along with other water-related news and announcements.

WATER JOBS & OTHER OPPORTUNITIES

- SRP [Water Resource Analyst](#)
- Watershed Management Group [Community Engagement and Education Project Manager](#)

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

NOTICES, PUBLICATIONS & MEDIA

From the WRRC

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](#)

Other Sources

Opportunity to Comment on the Sixth National Climate Assessment

The public is invited to submit comments on the proposed scope and themes for NCA6, nominate authors, and submit scientific and technical inputs. Submit comments and author nominations through the [USGCRP Public Contribution System](#) by 11:59 PM ET on **June 7, 2024**. Individuals can submit scientific/technical inputs on an ongoing basis. [Federal Register Notice](#)

ADEQ Call for Comments on AWQS Rulemaking Deadline Extended

ADEQ seeks statewide stakeholder input on a draft implementation rule, a draft implementation plan, and an initial permit amendment timeline for the Aquifer Water Quality Standards (AWQS) Rulemaking. This rulemaking includes the prospective establishment or adjustment of seven standards: arsenic, bromate, chlorite, microbiological contaminants, haloacetic acids, total trihalomethanes, and uranium. The deadline for informal comments has been extended to **May 20, 2024**. [More Info](#)

Lower Basin States Alternative FAQ from CAP

The Lower Basin States' Alternative for Post-2026 Colorado River Operations would help ensure the river system's health and sustainability for decades. [Read the FAQ](#)

Extended Deadlines for UCOWR/NIWR/AWRA Conference Abstract Submissions & Student Travel Awards

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, 2024**! 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, 2024**.

Arizona Climate-Smart Practices Program — Producer Listening Sessions

The [Arizona Climate-Smart Practices Program](#) (ACSPP) 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 on May 15 for producers in Pima, Yuma, Cochise, and Santa Cruz Counties. Session 2 will be held on

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](#)

CALENDAR ANNOUNCEMENTS

- **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:** [AHS Tucson Chapter Meeting](#)
- **May 14:** [USGCRP Webinar on NCA5 Spanish Translation](#)
- **May 15:** [AWRA Webinar: Building Capacity for Assessment and Prediction of Post-Wildfire Water Availability](#)
- **May 15:** [Sonoran Soirée: A Conservation Benefit](#)
- **May 20:** [ADEQ AWQS Rulemaking – Deadline to Submit Comments](#)
- **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:** [2024 Eller Breakfast with the Economists – A Discussion on Arizona’s Economy and Water Resources](#)
- **Jun 5:** [WaterReuse Arizona 2024 Scholarship – Application Deadline](#)
- **Jun 10–13:** [AWWA 2024 Annual Conference & Expo \(ACE24\): Transforming Our Water Future](#)
- **Jun 17–20:** [3rd International Groundwater-Agriculture Conference: Toward Sustainable Groundwater in Agriculture - Linking Science and Policy](#)
- **Jun 18:** [CAP University Virtual Learning: CAP 101](#)
- **Jun 27:** [WRRRC Water Webinar: Irrigation Efficiency Program: State Funded On-Farm Water Savings in Arizona \(Ethan Orr and Robert Masson\); 12–1:15 pm](#)
- **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 60th Anniversary Joint Water Resources Conference](#)

Do you have a story idea, water job announcement, or event to share?
[Contact us here](#)

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