

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**



March 24, 2023 / Volume 11, Issue 12

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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World Water Day, WRRC Website, Seminar Recap, APW, EPA, Where Are They Now?



The 2023 UN Water Conference – Uniting the World for Water

This week in New York, the United Nations held their first UN Water Conference since 1977. The main outcomes of the conference will include a summary of its proceedings and the Water Action Agenda — a “collection of all water-related voluntary commitments to accelerate progress” towards the Sustainable Development Goals set out in the Water Action Agenda as part of the UN’s 2030 Agenda for Sustainable Development.

Sustainable Development Goal 6 (SDG 6) — Clean Water and Sanitation — is a worldwide commitment to achieving universal access to safely managed water and sanitation by 2030. According to UN World Water Day 2023 resources, the latest estimates show that “governments must work on average four times faster” to meet SDG 6 on schedule. The key building blocks of the Water Action Agenda are: 1) commitment to action, 2) sustained and scalable implementation, and 3) follow-up and review processes. The Water Action Agenda seeks to “mobilize action across countries, sectors and stakeholders to meet the global water and sanitation related goals and targets.” Voluntary commitments will continue to be added to the Water Action agenda through the end of the Water Action Decade via the [Be the Change](#) campaign organized by UN Water.

Image: GRIC Governor Stephen Roe Lewis, WRRRC Director Sharon B. Megdal, CRIT Farm Manager Josh Moore, Universidad de Sonora Professor Elia Tapia, UArizona Professor and Udall Center Director Andrea K. Gerlak, CRIT Chairwoman Amelia Flores

[Read More](#)

EVENTS

WRRRC Special Event: Impressions and Takeaways from the UN 2023 Water Conference

Date: Tuesday, March 28, 2023
Time: 4:00 pm – 5:00 pm Arizona Time
Location: [Webinar Only](#)

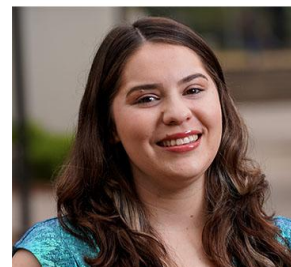
Speakers:

Andrea K. Gerlak, *Director, Udall Center for Studies in Public Policy and Professor, School of Geography, Development and Environment, UArizona*

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

Wilzave Quiles Guzmán, *MS Student, School of Natural Resources and the Environment, UArizona*

The UN 2023 Water Conference, scheduled for March 22–24, 2023, will bring together over 6,500 people from across the globe. Only the second UN water conference (the first was held in 1977 in Argentina), the three-day event is co-hosted by the Kingdom of the Netherlands and the Republic of Tajikistan. The many sessions and side events at the conference will showcase the global momentum for addressing the broad challenges surrounding water, particularly efforts to further achievement of UN Sustainable Development Goal 6, “Ensure access to water and sanitation for all.” Join UArizona delegates Professor Andrea K. Gerlak, WRRRC Director Sharon B. Megdal, and Graduate Student Wilzave Quiles Guzmán for a special webinar discussion.



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

WRRC Seminar Series: Harnessing the Power of Geophysical Imaging to Recharge California's Groundwater



Date: Wednesday, March 29, 2023
Time: 12:00 pm – 1:15 pm Arizona Time
Location: [Webinar Only](#)

Speaker:

Rosemary Knight, *George L. Harrington Professor of Earth Sciences, Professor of Geophysics, Stanford University*

It is time for a new way of thinking about water management in California. Rather than treating floods and droughts as two independent problems, there is growing support for a form of managed aquifer recharge (MAR), flood-MAR: capturing and storing, underground, the floodwaters so that they recharge the groundwater depleted during times of drought. This WRRC Seminar presentation will discuss the use of geophysical imaging methods to support the search for optimal locations for recharge. The team's focus is identifying the sites that have the desirable geologic attribute: interconnected pathways of coarse-grained materials that can maximize the quantity and rate of recharge. With a state-wide investment in the acquisition of airborne geophysical data, and with access to a recently developed towed geophysical system, the team has developed the computational workflows needed to use geophysical imaging for both regional scale and local scale assessment. Through a web-based application – fastpath – workflows are being made available for use. By advancing the adoption of geophysics, the team is contributing in a foundational way to furthering sustainable groundwater management.

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

Upcoming WRRC Events

Apr 5 at 12:00 pm: [NVIS Seminar Series: Tribal Hoop House Project in Northern NV](#)

Apr 12 at 12:00 pm: WRRC Seminar Series: JAWRA Featured Collection Authors Panel – Save the Date!

Apr 19 at 12:00 pm: [WRRC Seminar Series: Golf Course Water Usage: Effective Policy and Effective Water Efficiency Strategies](#)

May 3 at 12:00 pm: [NVIS Seminar Series: Indigeponics: Indigenizing Controlled Environment Agriculture and Off-Grid CEA Greenhouse for Food Production](#)

May 17 at 12:00 pm: WRRC Seminar Series: Green Infrastructure in Tucson, AZ – Save the Date!

External Events

May 18-19: [CLE International's Law of the Colorado River 23rd Annual Conference: The Next Century of River Policy](#)

Aug 3-4: [31st Annual Arizona Water Law Conference](#)

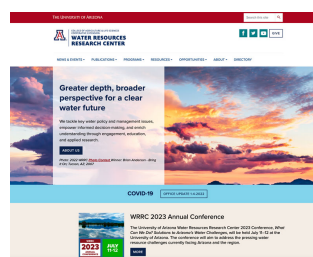
MARK YOUR CALENDARS!



NEWS

A Fresh Face on the WRRC Website

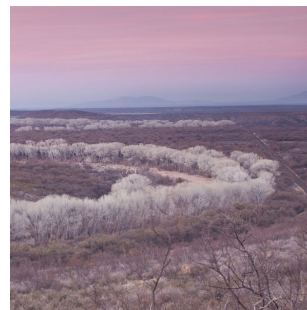
Have you noticed something different about our [website](#)? That's because it's been updated! In late February, the WRRC migrated its website to the latest version of Arizona Quickstart, the web content management platform preferred by many of the University's departments, centers, and colleges. The migration included streamlining the navigation structure, content, and design of the site and updating the search features. The new site employs a mobile-first theme with an emphasis on making content accessible to all users. This migration was the culmination of a year of collaboration between the Arizona Experiment Station Communications & Cyber Technologies (CCT) web development team and WRRC staff. Some highlights include the publications search, the program landing pages, and the photo contest section. Take a look around and let us know what you think!



[WRRC Website](#)
[CCT Web Development Team](#)

Water Challenges and Solutions in Cochise County

On Thursday, March 16, the WRRC hosted a webinar presentation titled "Water in Cochise County: Challenges and Solutions." This followed the 2022 release of the Cochise County Water Factsheet produced by the WRRC in partnership with Cochise County Cooperative Extension. The webinar featured three speakers involved in the development of the Cochise County Water Factsheet: Mark Apel, Environmental Projects Coordinator for Cochise County Engineering and Natural Resources; Mary Ann Capeheart, former Coordinator of the Cochise County Cooperative Extension's Water Wise Program; and Taylor Simmons, WRRC Outreach Assistant and Environmental Health Sciences graduate student. The presentations began with a brief background on the Factsheet project from Simmons. Capeheart then provided an overview of water use in Cochise County, focusing primarily on the Willcox and Douglas basins. She discussed groundwater dependence in the area and ongoing problems with land subsidence. She also addressed the recent initiatives seeking to establish Actively Managed Aquifers (AMAs) in Douglas and Willcox; the Douglas AMA passed, while the Willcox one did not. Apel followed with a presentation



on water in the San Pedro basin, emphasizing the work of the Cochise Conservation & Recharge Network. He discussed efforts to increase water availability to meet current and future water demands in the region. Apel highlighted several projects aiming to recharge the aquifer using stormwater or effluent, as well as efforts to conserve water through the retirement of historic pumping and precluding future water use in undeveloped areas. The presentations were followed by an open Q&A. The recording of this webinar is available to view on the WRRC website.

Image: Bob Wick, San Pedro Riparian National Conservation Area

- [View the Recording](#)
- [Event Info](#)
- [Cochise County Water Factsheet](#)
- [Arizona Water Factsheets](#)



TUSD Students Enjoy First Water Festival

Every Arizona Water Festival is something to celebrate, and last week was a great opportunity to celebrate water conservation education efforts in Tucson! Tucson Water has been investing in water education through Arizona Project WET (APW) for well over a decade, and last week APW hosted the first Arizona Water Festival for schools in the Tucson Unified School District. KGUN 9 came out to report on the event, where 256 students from 5 schools on Tucson's east side learned about water from a team of enthusiastic and passionate volunteers. Besides the students, Udall Park was full of pickleball players and walkers who also learned about water conservation and how Tucson Water has been investing in growing young water stewards for years.



Image: Joshua Ruddick

[KGUN 9 News Story](#)

EPA Proposes Federal PFAS Regulation

On Tuesday, March 14, US Environmental Protection Agency (EPA) Administrator Michael Regan announced that the agency had taken the first step to control toxic “forever chemicals” in drinking water. The proposed regulation sets legally enforceable limits on 6 per- and polyfluoroalkyl substances (PFAS), a class of chemicals that have been used in a wide variety of products for more than 70 years and can now be found in soil and water sources across the globe. The EPA acted after scientific studies showed long-term exposure to these substances in amounts so small as to be virtually undetectable can cause severe health issues, including high cholesterol, kidney cancer, and thyroid, reproductive, and developmental problems. The proposed drinking water standard for two of the chemicals, PFOA and PFOS, was set at four parts per trillion. Any mixture containing one or more of the four other chemicals, PFNA, PFHxS, PFBS, and GenX (relatively recent substitutes for PFOA

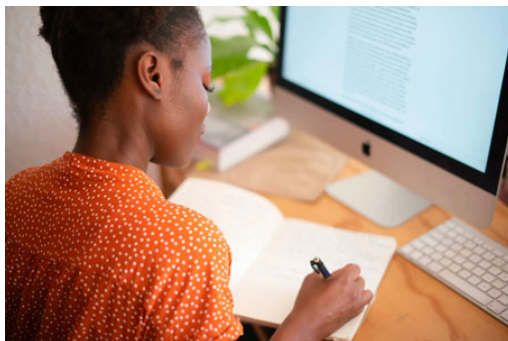


and PFOS in consumer products), would be regulated using a hazard index calculation, as defined in the proposed rule. Under the proposed rule, water systems would be responsible for monitoring, and if PFAS are detected, administrators would have to inform their customers and find ways to limit or eliminate exposure. While applauded by public health experts, there are concerns about the costs to utilities and predictions of the significant rate increase to cover them. The chemicals are notoriously difficult to remove, and treatment technology is costly. In addition, the industry has raised questions about the science EPA relied on, and more litigation over the chemicals' health effects is expected.

[Read More](#)

Where Are They Now? Former WRRRC Research Assistant Now Works for EPA

Nate Delano worked as a research assistant and analyst for the WRRRC from 2013 to 2016, while pursuing his master's in Water, Society, and Policy. After graduation, he was awarded a Presidential Management Fellowship and began working for the Environmental Protection Agency (EPA). After stints with the Agency in New York and Denver, he is happy to be back in Tucson, working remotely for EPA's Region 9 office. His work involves implementation of the Safe Drinking Water Act for public water systems on the Tohono O'odham and San Carlos Apache Reservations. In addition, he works with Tribal governments and the Indian Health Service to develop and implement water and wastewater infrastructure projects for Tribes, work that has taken on new importance with the 2021 passage of the Bipartisan Infrastructure Law. Nate also performs emergency response work for EPA, deploying most recently to the train derailment in East Palestine, OH. Of his time at the WRRRC, Nate says, "(The WRRRC) gave me a fantastic foundation in stakeholder engagement and working effectively with tribal governments on water issues. I'll always be grateful for that time and training."



WRRRC 104 GRANTS

Water Scarcity and Availability • Water-Related Hazards and Climate Variability • Water Quality Water Policy, Planning, and Socioeconomics Ecosystem and Drainage Basin Functions • Water Technology and Innovation • Workforce Development and Water Literacy.

[MORE INFO](#)

WATER JOBS

WRRRC TAAP Research Analyst

The WRRRC is currently hiring for the position of Research Analyst for its Transboundary Aquifer Assessment Program (TAAP). This newly created position will involve project research focused on investigating the socio-economic dimensions of transboundary aquifers in the US and Mexico and the impact of contrasting modes of governance in shared groundwater resources, writing journal articles and reports, giving presentations, and identifying opportunities for collaboration and organizing meetings with partners in the US and Mexico. [More Info](#)

WRRC Student Communications and Outreach Assistant (Hourly)

The WRRC is seeking a student employee with interest and experience in writing about water and/or environmental topics to assist with outreach communication. Applicants are encouraged to visit the WRRC website for more information on WRRC programs and activities. Accepting applications until the position is filled. [More Info](#)

- Babbitt Center for Land and Water Policy [Program Manager](#)
- City of Avondale [Water Resources Manager](#)
- US Bureau of Reclamation [Binational Program Intern – Resource Assistant Internship Program](#)

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

ANNOUNCEMENTS

- **Mar 28:** [WRRC Special Event: Impressions and Takeaways from the UN 2023 Water Conference](#)
- **Mar 28:** [Bureau of Reclamation FY 2023 Environmental Water Resources Projects Grant – Application Deadline](#)
- **Mar 29:** [Desert Laboratory Lecture – Indigenous Ingenuity: What Can We Learn?](#)
- **Mar 29:** [104\(g\) Grant Program – Proposal Submission Deadline EXTENDED!](#)
- **Mar 29:** [Santa Cruz Watershed Collaborative \(SCWC\) Spring 2023 Forum – Field Day](#)
- **Mar 29:** [WRRC Seminar Series: Harnessing the Power of Geophysical Imaging to Recharge California's Groundwater](#)
- **Mar 30:** [CAP Board Meeting](#)
- **Mar 30:** [EPA WaterSense Outdoor Webinar](#)
- **Mar 30:** [UArizona ALVSCE Research Poster Forum](#)
- **Mar 31:** [2023 AHS Symposium – Call for Abstracts Deadline EXTENDED!](#)
- **Mar 31:** [Arizona Hydrological Society 2023 Intern Scholarships – Application Deadlines: Bouwer / Phoenix | Halpenny / Tucson | Avery / Flagstaff](#)
- **Apr 1:** [ADWR Water Awareness Month 2023 Kick-off Festival](#)
- **Apr 3:** [UArizona Shades of Urban Greening Symposium](#)
- **Apr 3:** [CEC Youth Innovation Challenge: Water Solutions for Sustainable Development – Submission Deadline](#)
- **Apr 3:** [Rodney Blaine Lewis Scholars Award – Application Deadline](#)
- **Apr 5:** [NVIS Seminar Series: Tribal Hoop House Project in northern NV – Reginald Premo](#)
- **Apr 6:** [Santa Cruz Watershed Collaborative \(SCWC\) Spring 2023 Forum – Conference Day](#)
- **Apr 7:** [2023-2024 NRWD Fellowship – Application Deadline](#)
- **Apr 8:** [Friends of Sonoita Creek Annual Meeting: Watershed Restoration Ecology](#)
- **Apr 12:** [WRRC Seminar Series: JAWRA Featured Collection Authors Panel – Save the Date!](#)
- **Apr 13:** [Desert Laboratory Lecture – Sonoran Desert Plants in a Changing Climate: What Do Long-Term Data Tell Us?](#)
- **Apr 13:** [CAP Stakeholder Rate Briefing](#)
- **Apr 15:** [Rio Reimagined Earth Day Salt River Cleanup](#)
- **Apr 15:** [City of Glendale Water Awareness Day](#)
- **Apr 17-20:** [90th Annual Western Snow Conference](#)
- **Apr 19:** [WRRC Seminar Series: Golf Course Water Usage: Effective Policy and Effective Water Efficiency Strategies](#)
- **Apr 20-21:** [Santa Cruz River Research Days](#)
- **Apr 23-25:** [American Society of Irrigation Consultants 2023 National Conference](#)

- **Apr 24-25:** [NGWA Conference: Managed Aquifer Recharge: Unleashing Resiliency, Protecting Groundwater Quality Conference](#)
- **May 3:** [NVIS Seminar Series: Indigeponics: Indigenizing Controlled Environment Agriculture and Off-Grid CEA Greenhouse for Food Production](#)
- **May 5:** [32nd Desert Horticulture Conference](#)
- **May 7-10:** [National Association of Environmental Professionals \(NAEP\) 2023 Conference](#)
- **May 8-11:** [Water for Food Global Conference: Cultivating Innovation: Solutions for a Changing World](#)
- **May 9-10:** [2023 Corridors, Connectivity, and Crossings Conference](#)
- **May 9-11:** [96th Annual AZ Water Conference & Exhibition](#)
- **May 17:** [WRRRC Seminar Series: Green Infrastructure in Tucson, AZ – Save the Date!](#)
- **May 18-19:** [CLE International's Law of the Colorado River 23rd Annual Conference: The Next Century of River Policy](#)
- **May 19:** [NAMWUA Water Utility Leadership Forum \(WULF\)](#)
- **May 23-25:** [Rural Water Association of Arizona 2023 Annual Spring Conference](#)
- **May 31:** [US Water Prize 2023 – Application Deadline](#)
- **May 31:** [NWRI Fellowship Program 2023-24 – Application Deadline](#)
- **Jun 13-15:** [UCOWR/NIWR 2023 Annual Water Resources Conference](#)
- **Jun 15-16:** [2023 Next Generation Water Summit](#)
- **Jul 11-12:** [WRRRC 2023 Annual Conference: What Can We Do? Solutions to Arizona's Water Challenges](#)
- **Jul 17-19:** [AWRA 2023 Summer Conference: Connecting Land & Water for Healthy Communities](#)
- **Jul 23-25:** [Arizona Water Reuse 2023 Symposium](#)
- **Aug 3-4:** [31st Annual Arizona Water Law Conference](#)
- **Sep 13-16:** [Arizona Hydrological Society 35th Annual Symposium](#)
- **Nov 6-8:** [AWRA 2023 Annual Water Resources Conference](#)

PUBLICATIONS & MEDIA

Three New Publications from WRRRC Director Sharon B. Megdal

- Bernat, Rebecca F. A., Sharon B. Megdal, Susanna Eden, and Laura A. Bakkensen. 2023. "Stakeholder Opinions on the Issues of the Central Arizona Groundwater Replenishment District and Policy Alternatives" *Water* 15, no. 6: 1166. <https://doi.org/10.3390/w15061166>
- Matherne, Anne-Marie, and Sharon B. Megdal. 2023. "Advances in Transboundary Aquifer Assessment" *Water* 15, no. 6: 1208. <https://doi.org/10.3390/w15061208>
- Megdal, Sharon B. 2023. "Increasing the visibility of transboundary groundwater" *PLOS Water* 2, no. 3: e0000113. <https://doi.org/10.1371/journal.pwat.0000113>

Western Water Article: "Testing at the Source: California Readies a Groundbreaking Hunt to Check for Microplastics in Drinking Water"

Tiny pieces of plastic shed from food wrappers, grocery bags, clothing, cigarette butts, tires and paint are invading the environment and every facet of daily life. Researchers know the plastic particles have even made it into municipal water supplies, but very little data exists about the scope of microplastic contamination in drinking water. After years of planning, California this year is embarking on a first-of-its-kind data-gathering mission to illuminate how prevalent microplastics are in the state's largest drinking water sources and help regulators determine whether they are a public health threat. [More Info](#)

UArizona Cooperative Extension Publication: Water Irrigation Efficiency Program
Ethan Orr, Robert Masson, and Stephanie Brennan [More Info](#)

2023 World Water Development Report

Annual report from the United Nations, produced by the UNESCO World Water Assessment Programme. This year's report focuses on partnerships and cooperation in water management and development and their role in achieving progress towards Sustainable Development Goal 6. [More Info](#)

OTHER NOTICES

US Water Prize 2023

Awarded on an annual basis, the US Water Prize celebrates outstanding achievement in the advancement of sustainable, integrated, and inclusive solutions to our nation's water challenges. It is the preeminent national recognition program for exemplary efforts to secure a sustainable water future for all. The deadline to apply is Wednesday, May 31 at 8:00 pm ET. [More Info](#)

Water Awareness Month Festival 2023

Join ADWR for a fun day of celebrating the importance of water in our daily lives! Featuring fun activities, giveaways, food, music, and useful information from over 25 organizations throughout the State! Date & Time: Saturday, April 1, from 10am-2pm
Location: Wesley Bolin Plaza, Downtown Phoenix This event is FREE and open to all!
Feel free to reach out to Némesis Ortiz-Declet (nortizdeclet@azwater.gov) with any questions. [More Info](#)

Apply Now for the 2023-2024 NRWD Fellowship!

The Southwest Climate Adaptation Science Center (SW CASC) Natural Resources Workforce Development (NRWD) Fellowship is now recruiting for the 2023-2024 cohort! Those selected will make up a team of 7 scientists who will work together over the course of twelve months, beginning October 2023. The program is for currently enrolled graduate students in research-based thesis or dissertation-granting programs at the [seven SW CASC consortium institutions](#): Colorado State University; Desert Research Institute; Scripps Institution of Oceanography at University of California, San Diego; University of California, Davis; University of California, Los Angeles; Utah State University; and the University of Arizona. One applicant from each institution will be selected to take part in this cohort. [More Info](#)

Haury Program Spring 2023 Graduate Student Native Pathway Awards

The Haury Program invites applications for its Spring 2023 Native Pathway Awards, supporting UArizona graduate student research in the areas of Tribal water sustainability and Native American and Indigenous resilience. Successful proposals may receive up to \$20,000 per student and will be evaluated until funds are exhausted. [More Info](#)

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

[Contact us here](#)



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