THE UNIVERSITY OF ARIZONA
COOPERATIVE EXTENSION
WATER RESOURCES RESEARCH CENTER

ANNUAL REPORT 2023

Water Resources Research Center

wrrc.arizona.edu

THE UNIVERSITY OF ARIZONA
COOPERATIVE EXTENSION
WATER RESOURCES
RESEARCH CENTER

ANNUAL REPORT 2023

GREATER DEPTH, BROADER PERSPECTIVE FOR A CLEAR WATER FUTURE

We tackle key water policy and management issues, empower informed decision-making, and enrich understanding through engagement, education, and applied research.

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MESSAGE FROM THE DIRECTOR

Sharon B. Megdal

The Water Resources Research Center (WRRC) was busy in calendar year 2023. Through our Weekly/Summer Wave newsletters, county factsheets, webinars, annual conference, and programs described in this Annual Report, we connected with individuals and organizations throughout Arizona and beyond. Water RAPIDS continued its collaborations with rural communities. Through the Transboundary Aquifer Assessment Program, the WRRC continued to work binationally on characterizing groundwater along the shared border with Mexico. Preparing several county-level water factsheets provided us with opportunities to engage with additional Arizona communities in 2023. As always, the WRRC continues to be unwavering in its efforts to be a trusted source for reliable information and make its project information available to the public via our website, Weekly/Summer Wave, and other platforms. After perusing this Annual Report for calendar year 2023, I hope you will agree that, as Arizona and the region face unprecedented water challenges, the WRRC continues to fulfill its mission. Engagement and partnerships are key to our efforts. We welcome your continued engagement through participation in and support of our events and programs, subscription to our Weekly/Summer Wave, and ongoing suggestions and communications.

Sharon B Megdal

About the Director

WRRC Director Sharon B. Megdal oversees programs and operations of the WRRC and engages with multiple partners on projects that investigate water resource policy issues and inform a range of audiences. Publications, conference and workshop participation, and lectures have focused on approaches to water management in a drying climate. Strong demand for learning about managed aquifer recharge and potential opportunities to close the gap between water demand and supply in the Colorado River Basin kept Dr. Megdal busy with invited presentations, article writing, and interviews involving local and global media outlets. She once again taught her graduate course, Water Policy in Arizona and Semi-arid Regions. Service activities included serving on professional boards and organizing several conference programs. A detailed listing of her professional activities can be found **here**.

A member of the Extension faculty in the Department of Environmental Science, Dr. Megdal is the C.W. & Modene Neely Endowed Professor for Excellence in Agriculture and Life Sciences and University Distinguished Outreach Professor. She also holds numerous courtesy appointments in departments and colleges across campus.

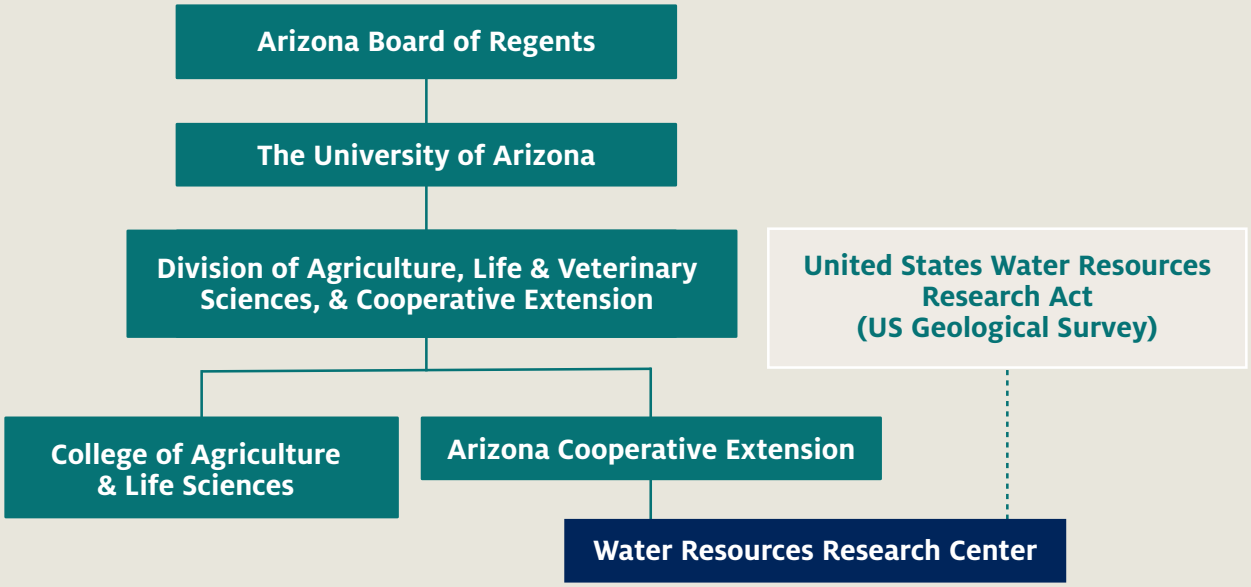
EXTERNAL ADVISORY COMMITTEE

The members of the committee and their affiliations as of December 2023 are listed below.

- Bradford, Shawn, *EPCOR Water USA, Inc.*
- Burman, Brenda, *Central Arizona Project (CAP)*
- Buschatzke, Tom, *Arizona Department of Water Resources (ADWR)*
- Campbell, Cynthia, *City of Phoenix*
- Collings, Bill, *Maricopa Consolidated DWID*
- Dadgar, Maria, *Inter Tribal Council of Arizona (ITCA)*
- Davis, Tom, *Yuma County Water Users' Association*
- Denby, Michael, *Arizona Public Service*
- Forrest, Alan, *AF Engineering*
- Groseta, Andy, *Groseta Ranches*
- Hauter, Jason, *Akin Gump Strauss Hauter & Feld LLP and Attorney for the Gila River Indian Community*
- Kmiec, John, *Tucson Water*
- Lacy, Michael, *Freeport-McMoRan*
- Leenhouts, Jim, *USGS Arizona Water Science Center*
- Matas, Randy, *Arizona Department of Environmental Quality (ADEQ)*
- McKenna, Juliet, *Montgomery & Associates*
- Meyers, Leslie, *Salt River Project*
- Olsen, Joe, *Metro Water*
- Porter, Sarah, *Kyl Center for Water Policy, Morrison Institute for Public Policy, ASU*
- Schneider, Fred, *Arizona Water Company*
- Schonek, Kimberly, *The Nature Conservancy*
- Smith, Alex, *Bureau of Reclamation*
- Take, John, *Stantec*
- Tenny, Warren, *AZ Municipal Water Users Association*
- Udall, Chris, *Agribusiness & Water Council of Arizona*
- Volpe, Kip, *The Estes Co.*
- Wegner, Dave, *Woolpert Engineering, Inc., National Academy of Sciences, Water Science Technology Board*
- Wilson, Sid, *Retired (Central Arizona Project)*
- Wong, Brian, *BKW Farms*
- Zamora, Francisco, *Sonoran Institute*

ORGANIZATION

The University of Arizona Water Resources Research Center is Arizona's federally authorized water institute pursuant to the Water Resources Research Act (WRRA), as administered by the US Geological Survey (USGS).

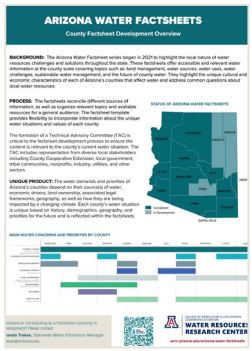


PROJECTS & PROGRAMS

(Note: Links to webpages are provided when available.)

In 2023, the WRRC was called upon more than ever before for information on Arizona water resources. Throughout the year, the WRRC's role in helping to facilitate water resources dialogue in Arizona and beyond has been reaffirmed through many research and engagement efforts.

Arizona Water Factsheets



The Arizona Water Factsheet initiative was in full swing throughout 2023. County-level factsheets were designed to answer common questions about water resources and foster understanding of the local nature of Arizona water resource challenges and solutions. The factsheets were developed through an iterative review process with local Technical Advisory Committees (TACs) and additional external reviewers from each county made up of municipal, nonprofit, Extension, county, state, and federal partners. The final product is an attractive 4-page (or expanded 8-page) information resource that includes text, maps, and figures to fill a gap in accessible and comprehensive water information at the county scale. Topics covered include land management, water sources, water demands, water challenges, sustainable water management, and the future of county water. Ten county factsheets were completed at the end of 2023, with factsheets for Mohave and Yavapai Counties released in the spring; Graham and Greenlee Counties in the summer; and Gila, La Paz, and Yuma Counties in the fall. All county water factsheets will be completed by the summer of 2024.

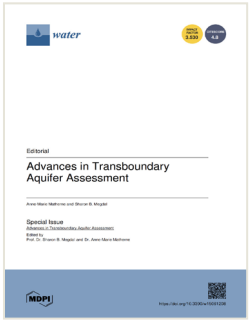
A **factsheet development status and overview document**, which explains the process and shows the status of the factsheets by county, is posted on the website. The factsheets have been well-received, posted on different local government websites, and used for outreach and engagement by the WRRC and partners. Building on the partnerships developed through the Arizona Water Factsheet initiative, the WRRC organized two special events in 2023, highlighting water issues important to local communities. Following the release of the Cochise County Factsheet in 2022, the WRRC re-engaged with members of the Technical Advisory Committee to dive into some hot-topic issues in Cochise County for a **Water Webinar** in March 2023. Then, in October, the WRRC partnered with Cochise County Cooperative Extension's Water Wise program to host ***Building Benson Water Resilience,*** an engaging discussion of water issues important to the City of Benson and the region, using the Cochise County Factsheet as a catalyst. These activities exemplify how, through the process of developing the factsheets, the WRRC has been able to engage with local communities to address questions about water resources. Similar events for other counties have been planned for 2024.

Transboundary Aquifer Assessment Program (TAAP)

Director Megdal continues to serve as the lead University of Arizona (UArizona) PI for the **Transboundary Aquifer Assessment Program**. During calendar year 2023, consultants Dr. Eylon Shamir and Dr. Elia Tapia continued to work with the WRRC and project partners. Completion of the Binational Study of the Transboundary Santa Cruz Aquifer has been a priority. In June 2023, Director Megdal hosted a meeting of representatives from USGS Headquarters and USGS Arizona Water Science Center, New Mexico State University, Texas A&M University, and the US Section of the International Boundary and Water Commission (IBWC). After the second day's morning field trip to the Nogales International Wastewater Treatment Plant in Santa Cruz County, an afternoon meeting was held with University of Sonora collaborators. Cross-border collaboration continued throughout the year, including a binational meeting held in late November to discuss continued collaboration, with a focus on hydrologic modeling and development of a binational, bilingual atlas of information.

The TAAP team continued to work on data collection and monitoring efforts for the transboundary San Pedro and Santa Cruz Aquifers, as well as an assessment of climate variability and the impact of water resources management on on groundwater availability. Consultant Dr. Elia Tapia worked with USGS personnel on conceptualizing a systematic approach to prioritization of additional transboundary aquifers for future study.

Postdoctoral researcher Dr. Mary-Belle Cruz Ayala, who accepted a position in Mexico in January 2023, drafted a report, entitled *A socio-economic characterization of selected US-Mexico borderland communities*. Stakeholder engagement continued, although progress on holding one or more binational workshop(s) has been slowed down due to scheduling challenges.



In addition to published papers on TAAP-funded studies, which can be found on our **TAAP webpage**, Director Megdal co-authored an **editorial paper** and co-edited a **book version** of a special issue of *Water* related to advances in transboundary aquifer assessment. Perhaps most notably, on October 25, 2023, Megdal testified at a congressional subcommittee hearing on a bill to extend and modify TAAP's authorizing legislation. Her October 27, 2023, ***Reflections*** essay includes that testimony.

Middle East Water

Director Megdal's **Middle East water** activities continued to center on her serving as one of two UArizona board members for the Kasser Joint Institute for Food, Energy, and Water Security (KJI), a unique partnership of UArizona, Jewish National Fund-USA, and the Arava Valley in the South of Israel. KJI's work includes working with the Makueni community on an agrivoltaics project in Kenya and testing a bamboo pergola in the Arava region. Additional efforts are focused on aquaponics, where the goal is to combine production of the fish feed with growing the fish. Director Megdal continues to include information about Israeli water policy and management in lectures, and she is also in regular contact with public sector, private sector, and academic water experts of the region. In September 2023, *The Conversation* published the co-authored article, "**What Arizona and other drought-ridden states can learn from Israel's pioneering water strategy**." This article shows well over 20,000 reads! In addition, during 2023, Director Megdal served on the Scientific Committee for the second *Water Resources Management and Sustainability: Solutions for Arid Regions* International Conference, hosted by the United Arab Emirates University in Dubai, in February 2024.

Multi-University Collaboration on Groundwater-Dependent Agriculture

The five-year **USDA- funded project**, "Sustaining Groundwater and Irrigated Agriculture in the Southwestern United States under a Changing Climate," began September 1, 2021. Led by UC-Davis, the small UArizona team includes Extension Soil Health faculty member Dr. Debankur Sanyal, graduate student Simone Williams, and WRRC Director Sharon B. Megdal. The team began research in January 2022, focusing on Pinal AMA agriculture. In late January 2023, the team hosted a stakeholder meeting to discuss the project's progress and plans. Information about that meeting can be found on the **project webpage**. As a member of the project's Executive Committee, Extension team, and groundwater team, Director Megdal has been involved in overseeing and coordinating the Arizona portion of the project and providing regular input on the project's activities and progress. Graduate Research Associate Simone Williams has focused on collecting and processing additional data for SWAT modeling calibration and validation (e.g., ET, cropping and irrigation practices, point source discharge, and water quality). Dr. Sanyal is working on research related to soil health and cover cropping. The UArizona team is actively collaborating with project team members from California and New Mexico. In addition to several presentations, "**Evaluating Forage Cover Crop Mixes for the Desert Southwest,**" by Sanyal et al., was published as an Arizona Cooperative Extension Publication.

Commission on the Future of Agriculture and Food Production in a Drying Climate: Initiated by UArizona President Dr. Robert C. Robbins in December 2022, the Commission was tasked with assessing critical threats to agriculture and food production, identifying solutions, and evaluating how the University can impact the future. The Commission, on which Director Megdal served, published its final **report** in September 2023, detailing recommendations for actions the university can take to build university infrastructure and strengthen engagement to realize solutions. The report outlines five recommended actions: 1) Create an Institute for Sustainable Food, Water and Agriculture Systems; 2) Create a Center for Soil Health; 3) Create technology and innovation hubs at the Maricopa, Yuma, and Campus Agricultural Centers, and Biosphere 2; 4) Expand partnerships with Tribal agriculture; and 5) Establish new and strengthen existing collaborations with institutions in arid regions around the world. Though the Commission's work is done, Director Megdal will continue to engage in follow-on efforts.

Water Research and Planning Innovations for Dryland Systems (Water RAPIDS)

The **Water RAPIDS** program works at regional, state, watershed, and local scales to build capacity within communities for water resources and watershed planning. Water RAPIDS fosters holistic approaches that integrate water planning with land use planning.

Drought Response Planning for Water Resilient Communities: By December 2023, the Water RAPIDS team had largely wrapped up efforts with the UArizona CLIMAS program, using current and emerging data to build more robust community drought preparedness and response plans that consider local watershed conditions and natural resources. Through this project, the WRRC team worked with three communities in southern Arizona to develop and demonstrate replicable methods for co-producing community-based climate adaptation and mitigation strategies. The team is developing publications to report the results of the multi-year effort. This project involved collaborations with UArizona College of Agriculture, Life and Environmental Sciences faculty and several graduate students.

Assisting the Town of Superior in Understanding Environmental Flows for Queen Creek: In 2023, the Water RAPIDS program continued to provide coordination and facilitation services in support of the Town of Superior and the Queen Creek Working Group, including the Queen Creek Restoration Project. Water RAPIDS staff coordinated an analysis of mining impacts in the region, encouraging a well-informed understanding of water issues amongst stakeholders. This year also saw development of a Green Stormwater Infrastructure Pilot Project in Coleman Alley to encourage recharge, capture runoff, reduce flooding, and irrigate native vegetation in a park-like environment. Finally, the WRRC is leading development of a proposal to the Bureau of Reclamation's WaterSMART Cooperative Watershed Management Program to develop the Queen Creek Working Group into a Watershed Group and to develop an integrated Watershed Restoration Plan.

Pinal County Water Hub: This pilot project was initiated in 2021 in partnership with Arizona Water Company and the Babbitt Center for Land and Water Policy to respond to projections of unmet water demands in the Pinal AMA. Phase 1 of this project was completed in 2023 with Casa Grande and Pinal County as additional partners. The resulting product, the Pinal County Water Hub, is a data platform, housed on ArcGIS Online, that introduces unprecedented analytical power and access to water data across utilities and governmental entities in Central Arizona. This data sharing and visualization platform addresses physical water availability challenges in Pinal County by improving and automating data transfer, helping partners to better answer questions like "How much growth do we have capacity to support?" and "Where will this growth occur in conjunction to water supplies and infrastructure?" This tool will assist communities in assessing and planning for current and future water demands by increasing access to and reliability of water delivery data from utilities aligned with accurate built environment information from local governments in Pinal County.

Diversifying Voices in Water Resources (DViWR)

Through **this initiative**, the WRRC has explored approaches to effectively include more diverse voices in water resources programs and dialogues, including at the annual conference. The initial phase of this effort focused on identifying trends and patterns related to diversity, equity, and inclusion (DEI) in water resources, with graduate student Simone Williams conducting a thorough literature review published in the April 2023 issue of the ***Journal of Contemporary Water Research and Education (JCWRE)***. This paper has since been named JCWRE Paper of the Year. The second phase involved the creation of a DEI outreach survey targeting directors or designated staff from the National Institutes for Water Resources (NIWR). NIWR members are the 54 federally authorized water resources research institutes, with the WRRC serving in this capacity for Arizona. The survey was released in September 2023 following Internal Review Board evaluation and closed in November 2023. Analysis is underway.

Water Resources Research Act Programs

The WRRC is the Water Resources Research Institute (WRRI) for Arizona, federally authorized under the Water Resources Research Act (WRRA). The WRRA base **104(b) funding** supports a portion of information transfer activities and a small competitive research grants program, which is open to research personnel at any of Arizona's state universities. A key criterion for these small grants is that the proposed project demonstrate significant student training. For this project year, two projects were selected for funding, one from UArizona Assistant Professor Dr. Laura Meredith, titled "Multifunctional Rainwater Harvesting Impacts on Soil Health," and one from Arizona State University Assistant Professor Dr. Jerome Clark, titled "Water Stories: Enhancing Arizona Water Knowledge with Indigenous Perspectives." Each project includes a graduate student as co-PI.

WRRA responsibilities include the highly competitive Section 104(g) National Competitive Grant Program. We solicit and submit to US Geological Survey proposals from researchers at any of Arizona's three state universities. The proposal submitted from Dr. Benjamin Ruddell, "Developing the Next Generation of U.S. Water Accounts: A Water Tower Methodology for Natural Capital Accounting," was one of seven grants that received funding in 2023.

OUTREACH, ENGAGEMENT & EDUCATION

The WRRC engages with partners, stakeholders, and the public throughout Arizona and beyond through multiple media platforms. The Communications team meets weekly to coordinate work on outreach activities and products. WRRC personnel routinely respond to requests for information and media interviews.

Weekly Wave e-News Digest

In 2023, 35 editions of the ***Weekly Wave*** and seven editions of the bi-monthly *Summer Wave* were published. Each edition included WRRC and water community news, events, publications, and announcements. Guest articles were also featured from collaborators around the state and region. In addition, the *Weekly Wave* publishes Director Megdal's *Reflections* essays. She authored seven ***Reflections*** in 2023, which are also posted on our website. At the end of 2023, the *Weekly Wave* distribution list included over 3,700 subscribers. Its reach is enhanced through posting on our website and further distribution by recipients.

Annual Conference

The WRRC's 2023 **annual conference**, *What Can We Do? Solutions to Arizona's Water Challenges*, was held July 11–12 at the UArizona Student Union, with free livestreaming. In recognition of the water challenges at the forefront of many people's minds, the conference agenda focused on solutions. The WRRC issued a Call for Solutions, inviting proposals for presentations and posters, from which WRRC staff and the Conference Advisory Committee developed an engaging two-day program. The Conference attracted over 300 in-person registrants and over 600 for the Zoom livestream, one of the largest audiences to date. Feedback received during and after the conference indicated a well-organized program featuring diverse perspectives and solutions. Two key themes emerged from speakers' descriptions of programs and processes for moving forward: partnerships and inclusivity. Many spoke to the cooperation and consultation required to get feasible solutions on the table and the buy-in needed for implementation. The WRRC 2023 conference agenda and session recordings can be found on the **conference website**, along with bios for the 58 speakers and moderators, information about conference sponsors, and archived materials from past WRRC conferences. Director Megdal's *Reflections* essay on conference takeaways is available **here**.

WRRC 2024 ANNUAL CONFERENCE

IMPLEMENTING WATER SOLUTIONS THROUGH PARTNERSHIPS

Arroyo

In 2023, the ***Arroyo***, WRRC's annual publication on a single topic of timely interest to Arizona, focused on the theme of WRRC's 2022 annual conference, *Arizona's Agricultural Outlook: Water, Climate, and Sustainability*. A new format was designed that included not only a synopsis of the information and perspectives shared during the conference, but also a series of standalone factsheets on specific topics related to water and agriculture. UArizona graduate student Luke Presson wrote the initial drafts using conference recordings, presentations, and supplemental materials. After internal review, the next draft received external reviews from conference advisors and speakers and was revised in accordance with their comments. External reviewers are listed in the acknowledgements.

In early June 2023, the completed *Arroyo* was sent to 10,058 email subscribers, and 570 print copies were mailed out to readers, including libraries, schools, firms, agencies, and nonprofits, and additional copies have been distributed through multiple organizations and conferences. Support for the 2023 *Arroyo* was provided by the Southern Arizona Water Users

Association and Bridgestone through their *Arroyo* level conference sponsorships. Work on the 2023 *Arroyo* began in Fall 2023.

WRRC Water Webinars

In 2023, the WRRC continued to deliver the **Water Webinar** (formerly Brown Bag Seminar) Series, attracting diverse audiences to presentations on a range of water topics. Throughout the year, the WRRC hosted 22 webinars featuring state, national, and international experts. An average of 148 people attended each of our Water Webinars, up from 141 in 2022, with an average of 223 registrants per event. Subject to speaker permission, the WRRC website posts webinar recordings and copies of the slide presentations for each Water Webinar.

In addition to Water Webinars, the WRRC hosted or co-hosted several special events including two book signings and part of the **Fall 2024 ENVS Colloquium series**. The WRRC also co-sponsored the **Native Voices in STEM** seminar series, a collaboration with the UArizona **Indigenous Resilience Center**. These seminars feature Native scientists, engineers, activists, community members, and leaders sharing their personal and professional journeys.

Public Events, Presentations, and Outreach

WRRC staff and students make many oral and poster presentations to academic, professional, civic, and community groups locally, nationally, and internationally throughout the year. In 2023 the WRRC delivered a total of 52 presentations (see Appendix). Director Megdal gave numerous presentations at events such as Stockholm World Water Week, the United Nations Water Conference, the Women in Water Diplomacy Network, the UArizona College of Law Environmental Breakfast Club, and the Colorado River Water Users Association Annual Conference. Director Megdal also presented testimony to the US House of Representatives Subcommittee on Water, Wildlife and Fisheries on reauthorization of the United States.-Mexico Transboundary Aquifer Assessment Program. Graduate Outreach Assistant Taylor Simmons gave a talk at a United Nations COP28 side event in Dubai. In 2023, Director Megdal and other WRRC staff participated in more than 75 interviews with news organizations to comment on the future of the Colorado River and other water management issues. WRRC staff and students produced 21 new academic papers, essays, and other publications.

International Connections

In addition to the many local and regional outreach efforts in which the WRRC routinely engages, 2023 featured several international programs. In March, Director Megdal helped organize a delegation of United Nations (UN) Water Conference attendees and co-organized an official side event, The Role of Indigenous People in Governing Shared Waters. The WRRC hosted a **special Water Webinar** featuring members of the

delegation and special guests in a discussion looking back at their experiences at the conference. Prior to the formal three-day UN Conference, several members of the delegation participated in the March 21 **Water Diplomacy Symposium**, convened by the Women in Water Diplomacy Network in partnership with the WRRC and others. In August, Director Megdal attended **Stockholm World Water Week** (WWW), an annual international water conference organized by the Stockholm International Water Institute. With the theme, *Seeds of Change: Innovative Solutions for a Water-Wise World*, the program focused in part on Indigenous water knowledge, experiences, and communities. Director Megdal contributed to the program by co-convening and moderating a session on the Colorado River Basin titled "Indigenous Voices in Water Governance." Read more about the conference and this session in Megdal's September 2023 ***Reflections*** essay.

WRRC Website and Communications

The WRRC maintains a robust **website** featuring news, events, and programs, as well as many publications and other resources, such as recorded Water Webinars. Social media employed in 2023 included **LinkedIn**, X — formerly Twitter (**@AZWRRC**), **Facebook**, and Instagram (**@uazwrrc**), to share program updates and events and highlight publications. X has become the WRRC's primary social media platform.

Each year, the WRRC hosts a **Photo Contest** and uses the submitted photographs in various ways, including in the annual report, in the *Arroyo* and other publications, and on the website. The 2023 Photo Contest theme was *Water Scarcity & Extreme Weather*. Winning photographs were selected by a team of judges, consisting primarily of WRRC staff, and announced at the Annual WRRC Chocolate Fest in February. All submitted photographs are maintained in a gallery on the website.

AFFILIATED PROGRAMS

Water, Environment, and Energy Solutions Initiative (WEES)

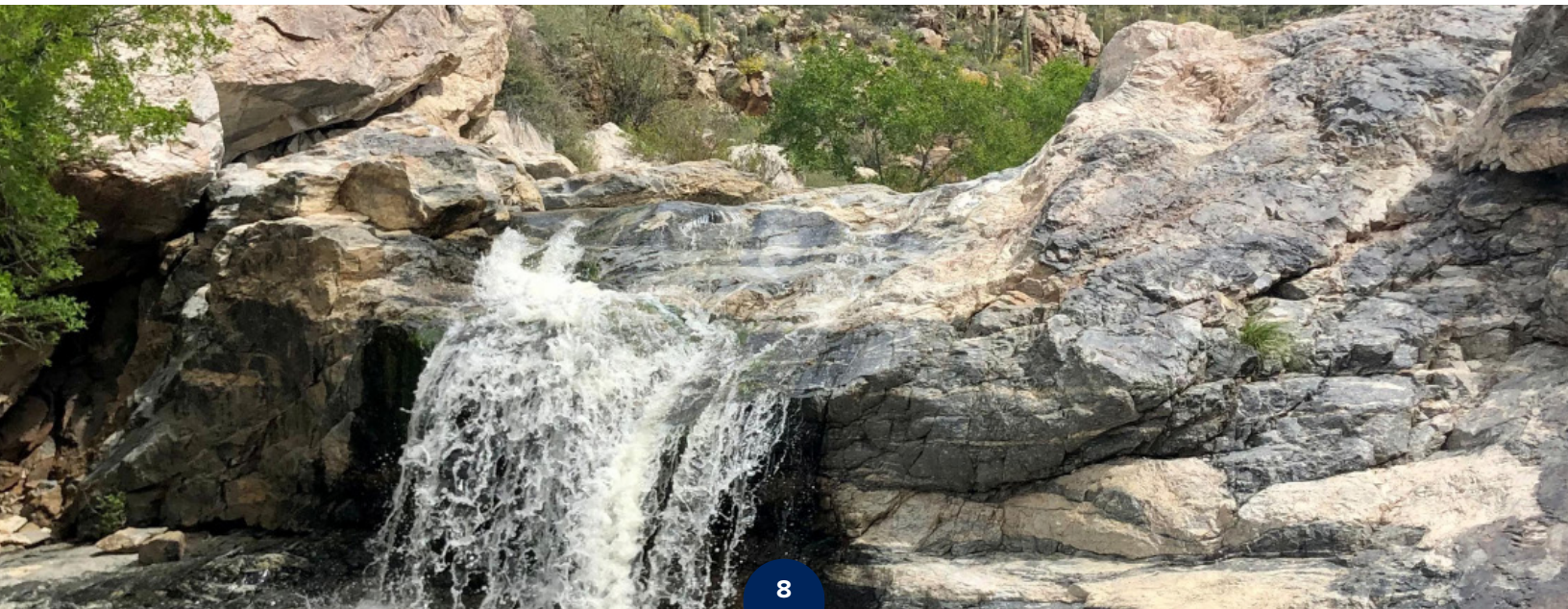
The WRRC has received significant funding each year from the Technology and Research Initiative Fund (TRIF). **The Water, Environmental and Energy Solutions (WEES)** initiative invests TRIF dollars in cutting-edge research, cross-campus collaborations, and innovative partnerships that promote fresh ideas, technologies, and effective resource management practices. Since 2021, control over TRIF funding is now with Arizona Legislature, which initiated a new approach to distributing TRIF monies. The WRRC is grateful for continued TRIF funding through the UArizona Senior Vice President of Research and Innovation.

Arizona Project WET

As an extension program physically housed in the WRRC, **Arizona Project WET** (APW) aims to bring attention to water-use practices that affect availability, dependability, access, and sustainability. The program engages teachers, students, and community members to support water stewardship while imbuing science, technology, engineering, art, and mathematics (STEAM) learning with real-world relevancy. APW's mission is "to meet the needs of our community by using relevant, research-based educational strategies and techniques in helping people develop knowledge and skills that equip them to take action for water stewardship." Hosting both school-

site and place-based modules, APW emphasizes learner outcomes in experiential, environmental education programming. They kept the knowledge flowing in 2023 by:

- deepening water-related content knowledge for 2,919 adults through educator professional development workshops, volunteer trainings, and community appearances;
- bringing real-life water content to more than 19,389 youngsters in classroom, festival, and field programs;
- facilitating engagement with over 53 municipalities, water providers, and partners who supported our programs through their generous efforts.



PERSONNEL

In 2023, the WRRC had several staffing changes. We welcomed three new administrative staff members: Business Manager Jennifer Rascón and Accountant Nicholas Propp in the business center shared by the Department of Environmental Science (ENVS) and WRRC, and Dionne Johnson, the new Human Resources Administrator for ENVS/WRRC. For the first time, the WRRC also welcomed AmeriCorps members, with Austin Bauer and Courtney Lee joining to assist with communications and outreach for a term of service beginning in October.

Human Resources Associate Linda Heffernan retired at the end of June. Accountant Becky Murguia left the ENVS/WRRC Business Center in August and Leslie Bonilla, our former business manager, transitioned to a position in another department in July. Systems Administrator Martin Picazzo left to pursue another opportunity in December. Post-doctoral researcher Mary-Belle Cruz Ayala left the WRRC in January, 2023, to start a position with the state government in her home of La Paz, Baja California Sur, Mexico. In August, Water RAPIDS Program Director Ashley Hullinger, who moved to Pennsylvania in 2022, accepted the position of Water Program Specialist with the Chesapeake Bay Watershed Protection Division at the Pennsylvania Department of Environmental Protection. While we miss her regular contributions to our programs, we are grateful she continues to be engaged with us as a Designated Campus Colleague. In December, Program Manager Michael Seronde accepted an analyst position at an energy consulting firm.

At the end of 2023, two recruitments were in progress, both of which were completed in 2024. The first was for the WRRC Associate Director and Extension Specialist position, which involved a search committee and bringing three out-of-state candidates to campus. Dr. Jamie McEvoy, who was an Associate Professor in the Geography Department at Montana State University was selected. The second recruitment was for an Extension Professional position. Garland Speight, who completed his MS in Water, Society, and Policy at UArizona in December 2023, was selected. WRRC hosted student workers and AmeriCorps members as listed below.

To learn about our staff, please visit the WRRC **Personnel Directory**. Selected staff contact information is as follows:

For anything and everything: Sharon Megdal, **smegdal@arizona.edu**

Annual Conference, 104 Program, Research Projects: Jamie McEvoy, **jmcevoy@arizona.edu**

Communications, Water Webinars, *Weekly Wave*, Annual Conference: Jessie Hampton, **jessiehampton@arizona.edu**

Graphics, Website, Photo Contest, *Weekly Wave*, Annual Conference: John Polle, **jpolle@arizona.edu**

Admin Support, *Weekly Wave*, Annual Conference: Rose Veneklasen, **trvene@arizona.edu**

STAFF (2023)

Sharon B. Megdal
Director

Mary-Belle Cruz Ayala
Postdoctoral Researcher

Susanna Eden
Research Program Officer

Jessie Hampton
Communications Coordinator

Ashley Hullinger
Program Director

Valerisa Joe-Gaddy
Postdoctoral Researcher

John Polle
Media Specialist

Michael Seronde
Program Manager

Amanda Trakas
Statewide Water Information Manager

Rose Veneklasen
Administrative Associate

Business Office Personnel

Leslie Bonilla
Accountant

Dionne Johnson
Human Resources Generalist II

Becky Murguia
Accountant I

Martin Picazzo
Systems Administrator

Nicholas Propp
Accountant

Jennifer Rascon
Business Manager

Kevin Teres
Manager, Finance and Administration

AmeriCorps

Austin Bauer
Communications and Outreach Assistant

Courtney Lee
Communications and Outreach Assistant

Students

Catherine Hill
Student Communications Assistant

Luke Presson
Graduate Outreach Assistant

Taylor Simmons
Graduate Outreach Assistant

Garland Speight
Graduate Research Assistant

Simone Williams
Graduate Research Associate

WEEKLY WAVE

The *Weekly Wave* e-news digest is distributed on Fridays and contains WRRC news, events, and much more.

wrrc.arizona.edu/subscribe

FINANCIAL SUMMARY

The process for producing the Financial Summary portion of the Annual Report is being revised. The 2023 Financial Summary will be posted on the WRRC website when available.

THE UNIVERSITY OF ARIZONA
COOPERATIVE EXTENSION
WATER RESOURCES RESEARCH CENTER

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Photos

Front cover: Kristofer Drozd - Black River Reflection, Thompson Trail, AZ, 2021
Table of contents: Chuck Dries - Sun Reflection
1. Wendy Islas – Reflections, Coyote Buttes North, UT/AZ border, 2018
3. Sargun Bhatia – Watson Lake, Prescott, AZ
6. Wilzave Quilesguzman – Reflections in the Wetland, Phoenix, AZ, 2023
8. Brenda Sanchez – Blues, Lake Powell, AZ, 2019
8. Noah Cannold – Arizona Water Abundance, Tucson, AZ, 2023
9. Wilzave Quilesguzman – Hope in Water Management, Phoenix, AZ, 2023
Back Cover: Kim Holmes – Fall Reflections on Oak Creek, Sedona, AZ, 2023

All photos were submissions to the **2023 WRRC Photo Contest.**