

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**



October 29, 2021 / Volume 9, Issue 32

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. [Subscribe to the Weekly Wave.](#)

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MAR 5, IDWW, New Book, APW, Webinar, Dubai Expo, Photo Contest



Photo credits:
Mary-Belle Cruz Ayala,
Sharon B. Megdal,
David Eduardo Morales,
and Michael Seronde

Field Trip to GRIC's MAR 5 Site Enlightens Attendees

On October 22, 2021, the Gila River Indian Community hosted over 60 people at the Managed Aquifer Recharge Site #5 (MAR 5) and Gila River Interpretive Trail. This opportunity was offered to those who attended the WRRC's 2021 Annual Conference, *Tribal Water Resilience in a Changing Environment*. As noted in the Interpretive Trail pamphlet received by all, "MAR 5 is a water recharge project that operates as a storage system, and serves as the first portion of the Community's 'Return to the River' program." Attendees were honored with a welcome from Governor Stephen Roe Lewis (pictured above), who spoke to the site's importance as a nexus of culture, history, spirituality, and science. He underscored the connection of the site to the life's work and vision of his late father, Rodney Blaine Lewis, to whose legacy the conference was dedicated. After breaking into smaller groups, participants learned about the history of the Gila River and the Community's farming, how plants at the site provide materials used for traditional basket weaving, the Community's flora and fauna, and the Pima-Maricopa Irrigation Project (P-MIP). We thank P-MIP Director David DeJong for facilitating this meaningful and interactive site visit; Governor Lewis and the Community and staff experts (Henrietta Lopez, Yolanda Elias, Kristina Morago, and Sam Rector) for welcoming us and sharing their knowledge and insights; the Gila River Indian Community for its care in screening attendees according to Community COVID-19 protocols; WRRC Program Manager Michael Seronde for facilitating registration and communications; and all attendees for participating.

- [WRRC Conference](#)
- [Rodney Blaine Lewis](#)
- [MAR 5 Interpretive Trail](#)
- [P-MIP](#)

EVENTS

Special Event: After the Fire Public Meeting

Date: Oct 29-30, 2021

Time: October 29, 1:00 pm – 5:00 pm and October 30, 9:00 am – 1:00 pm Arizona Times

Location: [Bullion Plaza Cultural Center & Museum](#); [Zoom](#)

Speaker(s): Various natural resource managers and community leaders, See [agenda](#) for more details



This year, the Telegraph and Mescal Fires impacted hundreds of lives and charred over 250,000 acres of land in central Arizona. The fires burned across Pinal and Gila Counties and San Carlos Apache Reservation, damaging dozens of structures, and causing evacuations of multiple communities. Following containment, the record monsoon season triggered floods and debris flows that threatened property and lives. Despite these hardships, natural disasters have a way of binding communities together, creating opportunities for collaboration toward recovery and resilience. On October 29 and 30, the public is invited to Bullion Plaza Cultural Center & Museum in Miami, AZ to hear from natural resource managers and community leaders about the short and long-term impacts

of the fires on the landscape and watershed. The Cobre Valley Watershed Partnership is hosting this event in collaboration with Bullion Plaza Cultural Center & Museum, US Forest Service, the WRRRC, and UArizona Cooperative Extension.

[Read More](#)

104(b) Grant Program – Student Research Presentations

Date: Wednesday, Nov 10, 2021

Time: 12:00 - 1:15 pm Arizona Time

Location: [Webinar Only](#)

Speakers:

Sarah E. Abney, *PhD Candidate, Dept. of Environmental Science, W.E.S.T. Center*

Ammon F. Cadogan, *Water Resources Engineer, Craftwater Engineering*



Method Optimization for Reduction Analysis of Microplastics in Wastewater

Contamination of our environment from microplastics (1 mm to 5 mm in size) is gaining public attention due to their emergence as an environmental and potential human health threat. Microplastics have been detected in surface waters and treated wastewater effluents. The study's goal is to provide the first low-cost, high-volume microplastic filtering method and information on mass balance of microplastics in wastewater treatment plants to inform the use of Soil Aquifer Treatment. This study was conducted at the Water & Energy Sustainable Technology (WEST) Center in collaboration with the Pima County Reclamation Department.

Measuring River Discharge with Drones

The accurate measurement of river discharge during flooding events has long been a challenging and dangerous task in the Southwestern US where flows are often flashy and have a high sediment concentration. Small unmanned aerial systems (sUAS) can be deployed to access unsafe field sites and measure flow remotely. Using the sUAS footage along with Large Scale Image Velocimetry techniques can yield detailed surface velocity distribution. This research aims to improve the estimation of the velocity index by incorporating turbulence properties (e.g., energy dissipation rate) measured at the surface, channel roughness, and channel geometric properties.

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

Upcoming WRRRC Events

Nov 17: [Water Solutions for Our Warmer World – Episode 6: Biodiversity, Water, and Climate Change in the Southwest](#)

Nov 19: [Brown Bag Webinar: Making Sense of the COP26 Climate Talks – Reporting Back from the Field](#)

Betsy Wilkening, *President, Polar Educators*

Kristen Poppleton, *Senior Director of Programs, Climate Generation*

Dec 6: [Brown Bag Webinar: The Evolution of the Water Sector in Israel: The Role of Mekorot, the National Water Company of Israel](#)

Diego Berger, PhD, *Coordinator of International Projects, Mekorot*

NEWS

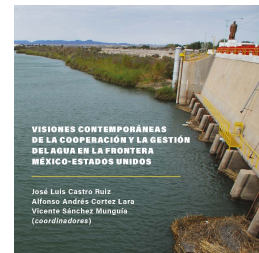
Emerging Leaders “Imagine a Day Without Water”



On Thursday, October 21, the WRRC celebrated the 7th annual “Imagine a Day Without Water” with a panel of five emerging water leaders at UArizona: Mary-Belle Cruz Ayala, post-doctoral researcher at the WRRC; Taylor McHugh, MA student, Landscape Architecture; David Eduardo Morales, MS student, Hydrology; Nikki Tulley, PhD candidate, Environmental Sciences; and Simone Williams, PhD student, Arid Lands Resource Sciences. This special webinar featured a 19-minute Netflix video, “EXPLAINED: The World’s Water Crisis.” After the video, the panelists were invited to reflect on its message and share their personal stories in the context of imagining a day without water. McHugh mentioned that “the treatment of [water] reflects how we value it,” an important point built on by other panelists who expanded the concept of water’s value beyond economics.

[Read More](#)

New Book on US-Mexico Water Management Cooperation Available



El Colegio de la Frontera Norte has issued a new book, *Visiones contemporáneas de la cooperación y la gestión del agua en la frontera Mexico-Estados Unidos* (Contemporary visions for cooperation and water management on the Mexico-US border), edited by José Luis Castro Ruiz, Alfonso Andrés Cortez Lara, and Vicente Sánchez Munguía. This collection of papers by scholars from Mexico and the US, with content in both Spanish and English, contains a chapter by Mary-Belle Cruz Ayala, a post-doctoral researcher at the WRRC, and others on the overuse of groundwater in northwestern Mexico and the implementation of Managed Aquifer Recharge (MAR) for mitigating climate change impacts. The book ranges geographically from Baja California to the Rio Bravo/Rio Grande region, encompassing the binational water framework, water security and climate change, transboundary groundwater, and local governance. It is an excellent summary of successful examples of collaboration between Mexico and the US, as well as the challenges faced when conducting binational projects.

[Read More](#)



Better Together – Bringing In-person Water Festivals Back to Your Communities

APW is thrilled to be out in communities across the state of Arizona, delivering Water Festivals in person once again! APW sends a sincere “thank you” to all parties involved in making this possible. While things are anything but normal, with the support of loyal sponsors and dedicated teachers, and assistance from many committed community volunteers, APW can get back to interactively providing hands-on educational learning activities and celebrating science along with water stewardship with fourth graders. APW loves instilling a deeper understanding of water in many enthusiastic students during this fun field day event! Although this year continues to present challenges, APW has risen to the occasion, offering flexible and innovative ideas to adapt to the diverse needs of our communities. APW kicked off its first water festival of the school year in Flagstaff on September 28th and successfully delivered festivals in Marana and North Peoria, as well as a unique program for Verde Valley. They are currently working on the 15th Annual Chandler Water Festival for next week. APW truly values the opportunity to bring this outdoor educational experience to fourth graders across the state and is dedicated to creating many more successful water festivals throughout the remaining academic year.



Image: North Peoria Water Festival, Tim Eiden

Webinar Addresses Climate Impacts on Water Infrastructure

Water Solutions for Our Warmer World is a six-part public webinar series hosted by the Arizona Institutes for Resilience, the Udall Center for Studies in Public Policy, and the WRRRC. The series offers analyses and recommendations on the emerging challenges related to the broad range of climate change impacts on water.

Episode 5: *Water and Infrastructure: Building for the Future* aired live from 4:00 to 5:30 PM on Wednesday, October 20. Moderator Courtney Crosson, a licensed architect and UArizona assistant professor, kept the discussion lively among the distinguished panelists. Green infrastructure was featured in a conversation that ranged widely across the spectrum of relevant concepts. Cathleen Kelly, a senior fellow for Energy and Environment at the Center for American Progress who specializes in US and international climate and sustainable development policy, spoke urgently about the need for the US Congress to act on pending infrastructure legislation. Kelly emphasized that the issues the two pending bills address have been deferred and ignored too long, creating a perilous situation.



[Read More](#)

International Conference on Water in Arid Regions Accepting Abstracts

The international conference “Water Resources Management and Sustainability: Solutions for Arid Regions” will be held March 22-24, 2022, as part of Dubai’s EXPO 2020. WRRRC Director Sharon B. Megdal is a member of the conference’s Scientific Committee. To be held in conjunction with observance of World Water Day (March 22), the conference will address a wide range of topics on water resources and include free workshops on AI and GIS/Remote Sensing applications. Conference organizers, the National Water and Energy Center, UAE University, in collaboration with the South Australian Goyder Institute for Water Research and the South Australian Department for Environment and Water, are inviting presentation abstracts. The [call for abstracts](#) is open until December 1, 2021. Papers are invited that relate to a broad set of conference themes from Socio-Economic Water Studies and Water



Resources Sustainability to Advanced Technologies in Water Resources Management and Karst and Coastal Zone Management and Water Resources, among others. Accepted full-length papers will be considered for publication in the book series *Water Science and Technology Library*, published by Springer. Extended abstracts will be included in the conference proceedings.

[Additional Info](#) [Inquiries](#)

WRRC 2021 Photo Contest: Aridity, Shortage, and Resilience



Thanks to all who have submitted photos to our 2021 photo contest. For those who haven't yet submitted anything, there's still time to show us what you've got! The main submission criterion is that photos must feature water. With the exception of photos in the special category: *Water in Arid/Semi-Arid Lands Beyond Arizona*, all photos must be taken in Arizona. Arizona photo categories include *Best in Show*, *Water in Nature*, *Water in the Built Environment*, and *Water is Life* (e.g., people, pets, agriculture). Use the contest theme, *Aridity, Shortage, and Resilience*, to fuel your imagination. We look forward to seeing your submissions!

[Submit Your Photos Today!](#)

WATER JOBS

- Global Water Resources [Water Resources Specialist](#)
- Colorado State University [Colorado Water Center Director](#)
- ADEQ [Environmental Technician Water Quality - Drinking Water \(Temporary\)](#)
- Montgomery & Associates [Mid-Level Hydrogeologist](#)
- University of Wisconsin-Milwaukee [Assistant Professor, Climate and Watershed Science](#)
- USDA [Postdoctoral Researchers in Water Resources and Climate Change; and Water Management and Economics](#)
- UArizona [Assistant Director, Water Project \(Extended Temporary Employment\)](#)
- Pima County NRPR [Program Coordinator \(Invasive Species Program\)](#)
- GWPC [Executive Director](#)

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

ANNOUNCEMENTS

- **Oct 29-30:** [After the Fire Public Meeting](#)
- **Oct 31:** [AWRA 2022 Spring Conference – Call for Topical Sessions Deadline](#)
- **Nov 1-5:** [AIWW 2021: Connect & Act to Make Water Work](#)
- **Nov 8-10:** [AWRA 2021 Annual Water Resources Conference](#)
- **Nov 9:** [AHS Tucson Monthly Chapter Meeting](#)
- **Nov 9:** [Arizona Association of Women in Water & Agriculture: Wine, Women & Water](#)

- **Nov 10:** [Arizona Association of Women in Water & Agriculture: Annual Meeting & Networking Conference](#)
- **Nov 10:** [UCOWR Fall 2021 Virtual Roundtable Series: *Communicating Agricultural Irrigation Research to Stakeholders*](#)
- **Nov 10:** [WRRRC Brown Bag Webinar: 104\(b\) Grant Program – Student Research Presentations](#)
- **Nov 10:** [ADEQ Five Year Rule Review Survey Deadline](#)
- **Nov 12:** [EPA Accepting Nominations for Board of Scientific Counselors – Deadline](#)
- **Nov 15:** [Arizona Growing Water Smart Workshop – Application Deadline](#)
- **Nov 17:** [Water Solutions for Our Warmer World – Episode 6: *Biodiversity, Water, and Climate Change in the Southwest*](#)
- **Nov 18:** [A Meeting of Sacred Waters \(*Te Huinga Wai Tapu*\)](#)
- **Nov 19:** [Brown Bag Webinar: *Making Sense of the COP26 Climate Talks – Reporting Back from the Field*](#)
- **Nov 20:** [17th Annual Research Insights in Semiarid Ecosystems \(RISE\) Symposium](#)
- **Dec 1:** [Expo 2020 Dubai: *Water Resources Management and Sustainability: Solutions for Arid Regions* – Call for Abstracts Deadline](#)
- **Dec 6:** [WRRRC Brown Bag Webinar: *The Evolution of the Water Sector in Israel: The Role of Mekorot, the National Water Company of Israel*](#)
- **Dec 7-8:** [2021 NGWA Groundwater Summit](#)
- **Dec 9:** [UCOWR Fall 2021 Virtual Roundtable Series: *Remote Sensing and Consumptive Use Measurement*](#)
- **Dec 13-17:** [AGU Fall Meeting Session H057: *Groundwater Response to Climate Change and Variability*](#)
- **Dec 17:** [WRRRC 2021 Photo Contest: *Aridity, Shortage, and Resilience* – Submission Deadline](#)
- **Feb 10-11, 2022:** [CLE International's 10th Annual Tribal Water Law Conference](#)
- **Feb 23-24, 2022:** [The Third International Congress on Desert Economy: *Energy Economics between Deserts and Oceans* \(Dakhla, Morocco\)](#)
- **Mar 1-3, 2022:** [Arizona Growing Water Smart Workshop](#)
- **Mar 8-10, 2022:** [GCSE 2022 Virtual Conference](#)
- **Mar 22, 2022:** [World Water Day 2022](#)
- **Mar 22-24, 2022:** [Expo 2020 Dubai, *Water Resources Management and Sustainability: Solutions for Arid Regions*](#)
- **Apr 11-15, 2022:** [11th International Symposium on Managed Aquifer Recharge](#)
- **Apr 24-27, 2022:** [AWRA 2022 Spring Conference: *Water Risk Under a Rapidly Changing World - Evaluation & Adaptation*](#)
- **Jun 14-16, 2022:** [UCOWR/NIWR 2022 Annual Water Resources Conference](#)
- **Sep 11-15, 2022:** [IWA World Water Congress & Exhibition - *Water for Smart Liveable Cities* \(Copenhagen\)](#)
- **Sep 14-16, 2022:** [2022 AHS Annual Symposium – Save the Date](#)

PUBLICATIONS & MEDIA

10 Across Podcast: [The Future of Water is Here: Are We Ready?](#)

10 Across Podcast: [Addressing Historical Inequities in our National Infrastructure, Then and Now](#)

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

[Contact us here](#)

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