

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**



March 25, 2022 / Volume 10, Issue 11

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.](#)

[WRRRC Office Update](#)

[View as Webpage](#)

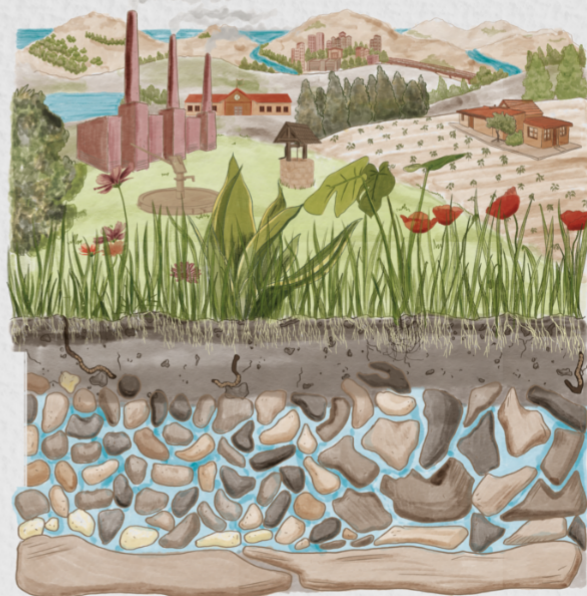
IN THIS ISSUE: World Water Day, UNESCO, Tohono O'odham, Groundwater, Lake Powell, San Pedro Basin



2022 Groundwater

**Groundwater:
making the
invisible visible**

Out of sight, under our feet, groundwater is a hidden treasure that enriches our lives. Our drinking water and sanitation, our food supply and natural environment - all these rely on groundwater.



**World Water Day 2022 – In Tucson
and Around the World**

March 22 is World Water Day, so designated by the United Nations in 1993. It is observed annually, here in Arizona and throughout the world, by stakeholders who gather to learn

about, honor, and celebrate water. This year's theme, *Groundwater, making the invisible visible*, focused attention on this hidden yet critical source of freshwater. In Tucson, the WRRRC participated in a World Water Day Teach-In hosted by Pima County District 5 and Supervisor Adelita Grijalva. WRRRC Director Sharon B. Megdal provided pre-recorded comments to set the stage for the event. WRRRC research program officer Susanna Eden gave a presentation on Pima County's drought-related water challenges and shared recommendations on what individuals and policymakers can do to mitigate drought impacts. Tucson Assistant City Manager Tim Thomure followed with a presentation on the Santa Cruz Heritage Project and its remarkable effects on community well-being, including riparian habitat restoration, groundwater recharge, economic attractiveness, and appreciation of our cultural heritage. Director Megdal was unable to attend the Teach-In, as she was celebrating World Water Day in Dubai, UAE, where she delivered a keynote speech on Managed Aquifer Recharge. Part II of Director Megdal's [*Reflections*](#) on World Water Day will be published next week.

[World Water Day Teach-In](#)
[UN World Water Day Resources](#)

EVENTS

WRRC Brown Bag Webinar: Looking Upstream: An Upper Basin Perspective

Date: March 29, 2022

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

Location: [Webinar Only](#)

Moderated by:

Jennifer Gimbel, *Interim Director and Senior Water Policy Scholar, Colorado Water Center*

Speakers:

Steve Wolff, *General Manager, Southwestern Water Conservation District*

Jim Lochhead, *CEO/Manager, Denver Water*



Brought to you by the WRRRC and the Colorado Water Center at Colorado State University, this panel will focus on an Upper Basin perspective of current Colorado River issues. The Upper Basin does not have the luxury of pulling water out of reservoirs to supply its water users. Climate change and the prior appropriation system control water uses and naturally limit water use. Panelists will discuss the Upper Basin Drought Contingency Plan and the methods being used to efficiently use water from the Colorado River.

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

WRRC Brown Bag Webinar: Public Interest, Indigenous Rights, and the Los Angeles Aqueduct

Date: April 7, 2022

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

Location: [Webinar Only](#)

Speaker:

Sophia Borgias, *Assistant Professor, School of Public Service, Boise State University*



This presentation offers a critical reassessment of the emblematic water conflict over the Los Angeles Aqueduct, one of the first large inter-basin water transfers in the American West. Based on three years of in-depth archival, ethnographic, and collaborative research, it examines how public, private, and Tribal interests have been weighed in decision-making about this water transfer over the course of more than a century of social, regulatory, and environmental change. In particular, it addresses gaps in previous histories of the Los Angeles Aqueduct by detailing the consequences it had for Indigenous land and water rights and demonstrating how that history continues to shape water conflicts in the region to this day.

[Register Here](#)

Upcoming Events

Apr 6: [Udall Center Workshop: State of the Art in Green Infrastructure Research & Practice: Reframing Stormwater from a Hazard to a Resource in Tucson, Arizona](#)

Apr 11: [Native Voices in STEM Spring 2022 Seminar Series: Environmental Justice](#); Tommy Rock, *PhD in Earth Science and Environmental Sustainability, Northern Arizona University*

Apr 19: [WRRC Brown Bag Webinar: Civil Society in the Binational Agreements of the Colorado River: Advocacy Meets Shuttle Diplomacy](#); Carlos A. de la Parra, *Chair of the Board, Restaremos el Colorado, AC*

Apr 27: WRRC Brown Bag Webinar: Sharon Nappier, *National Program Leader for Water Reuse, US Environmental Protection Agency - Office of Water*

May 3: Special Event: Counter Mapping; Jim Enote, *CEO, Colorado Plateau Foundation*

Jul 12-15: [WRRC 2022 Annual Conference: Arizona's Agricultural Outlook: Water, Climate, and Sustainability](#)



WRRC 2022 ANNUAL CONFERENCE

Arizona's Agricultural Outlook: Water, Climate, and Sustainability

MARK YOUR CALENDAR!

July 12 | In-person Event with Livestreaming

July 13-15 | Additional Virtual Programming

WATER RESOURCES RESEARCH CENTER

NEWS

Groundwater Focus of 2022 UN World Water Development Report

UNESCO has published the annual United Nations World Water Development Report this week. The report, “GROUNDWATER: Making the invisible visible,” aligns thematically with World Water Day, which was celebrated on Tuesday. As the title implies, the 2022 World Water Development Report focuses on groundwater resources, including its management, development, and governance. The report considers the challenges faced worldwide concerning groundwater, and the necessity of groundwater in daily life, the environment, and industry around the world. WRRRC Director Sharon B. Megdal is a contributing author on Chapter 8 of the report. UNESCO has also created a website that enables users to easily navigate the report’s various sections and offers plain-language summaries of the information within. In addition, the report website provides additional resources, including videos and an interactive world map that allows users to explore groundwater resources around the world. Supplemental resources include a PowerPoint presentation, social media kit, and posters. There is also an audiobook version of the report’s Executive Summary, available in English, Spanish, French, and Italian.



[Read the Report](#)

[Explore the Website](#)

Caretakers of the Land: A Story of Farming and Community in San Xavier

On March 16, [Arizona Humanities](#) hosted Jacelle Ramon-Sauberan for *Caretakers of the Land: A Story of Farming and Community in San Xavier*, a presentation as part of the ongoing Climate Conversations series. Jacelle is Tohono O’odham and a doctoral candidate in American Indian Studies with a minor in Journalism at the University of Arizona, where her research focuses on the history of land and water in the San Xavier District. The presentation began with a brief account of the Huhugam and Sobaipuri Indians to contextualize “how things once were” and to better understand how community actions have responded to external efforts to shape Tohono O’odham livelihoods. From the General Allotment Act of 1887 and the Southern Arizona Water Rights Settlements Act of 1986 to the creation of the San Xavier Cooperative Farm and proposed land development in the 1970’s and 80’s, the presentation is an oral history that dives deep into accounts of water and land decisions in southern Arizona. It provides an intimate perspective of lived experience and an understanding of how these events have been felt across generations. Her stories were an enlightening part of an ongoing conversation to explore environmental issues through the lens of history and human experience.



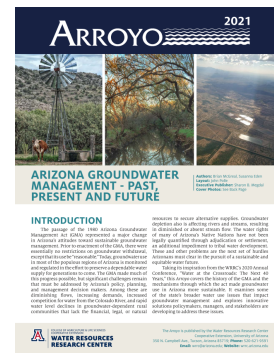
Image: A Tohono O’odham man irrigating fields for the local Tribal Farm Co-op on the San Xavier Reservation, April 1973

[Recorded Presentation](#)

WRRC Brown Bag Reprised for New Audience

A revised and updated version of the WRRC’s March 8, 2021 Brown Bag, presented by Brian McGreal and Susanna Eden, authors of the *Arroyo* on the same topic, was part of the “MCESD Virtual Training Spring 2022” program held, coincidentally, on World Water Day. The MCESD, Maricopa County Environmental Services Department, “ensures a safe and healthy Maricopa County through restaurant inspections, monitoring of drinking water,

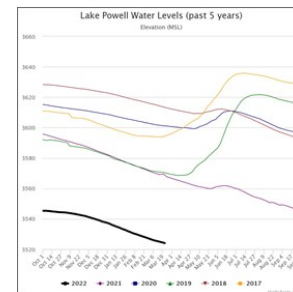
waste disposal, swimming pool inspections, and vector-borne disease control.” The invitation to present on the topic of groundwater management in Arizona was one of many similar invitations received by the WRRC, its director, and staff every year. The WRRC regards these invitations as valued opportunities to engage different segments of the community in learning about water. While Director Sharon B. Megdal was participating in an international water conference in Dubai, Eden and McGreal were sharing information on the past, present, and future of the 1980 Arizona Groundwater Management Act to 97 webinar participants.



[March 8, 2021 Brown Bag 2021 Arroyo](#)

Record Low Water Levels at Lake Powell

Due to ongoing drought conditions and a particularly dry winter season in the Upper Colorado River Basin, Lake Powell has dropped below 3,525 feet for the first time since the reservoir was first filled in the 60s. Although spring runoff is expected to temporarily reverse the decline, officials are concerned about what this means for the lake's long-term reliability as a supply of water and hydropower to the desert southwest. The Bureau of Reclamation published a [press release](#) on March 4, which explains the significance of the 3,525-foot benchmark. An elevation of 3,490 feet is considered the “minimum power pool” elevation – the lowest point at which there is enough water for Glen Canyon Dam’s turbines to safely generate power. The difference between the two elevations is a buffer of 35 feet, giving officials time to take action and prevent water levels from dropping below the minimum power pool. Past protective actions have included releasing water from Blue Mesa and Flaming Gorge reservoirs upstream and temporarily reducing monthly releases from Lake Powell. As climate change continues to impact annual precipitation and average temperature, states that rely on the Colorado River for water and hydropower will need to stay vigilant and proactive to protect critical elevations at Lake Powell.



[Press Release](#)

New Interactive Portal for Upper San Pedro Basin Water Data

A new online resource recently launched, making Upper San Pedro Basin water data easily available to everyone. The San Pedro River is a source of life in the desert. Though it often appears to be only a trickle, its water – both above and below ground – is vitally important to the surrounding communities and riparian ecosystems. The [San Pedro WHIP](#), or Web-based Hydrologic Information Portal, provides nearly real-time updates about surface and groundwater levels, river flow, spring water quality, and other “sustainability indicators.” For now, the data is limited to the US portion of the San Pedro and does not include its headwaters in Sonora. Visitors to the website can learn about water basics, read descriptions of the sustainability indicators, and interact with the main feature – a fully customizable map of the region, with data markers and graphs superimposed. Users can customize the data output by selecting their area of interest on the map, inputting a date range, and choosing which sustainability indicators they wish to learn about. The portal includes a useful [‘Quick Start Guide’](#) to help users navigate the tool. This project, which



has been years in the making, is the result of collaboration between local, state, and federal partners.

[San Pedro WHIP Quick Start Guide](#)

CORRECTION: The first meeting of the new Recharge & Recovery workgroup (WW 3-18-2022) is Tuesday, April 19.

WATER JOBS

UArizona Director, Cooperative Extension [Job Listing](#)

The University of Arizona seeks a strategic and innovative leader to be the next Director of the [UArizona Cooperative Extension System \(CES\)](#).

- Town of Prescott Valley [Senior Water Resources Manager](#)
- Arizona Institutes for Resilience [Program Coordinator, Indigenous Resilience Center \(IRC\)](#)
- US Forest Service [Natural Resource Specialist \(Internship\)](#)
- Town of Gilbert [Water and Energy Resources Planning Advisor](#)
- Watershed Management Group [Restoration Project Manager](#)
- University of Missouri [PhD Graduate Research Assistantship in Natural Resources: Human Dimensions & Water Resources](#)
- Montgomery & Associates [Hydrogeologist](#)

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

ANNOUNCEMENTS

- **Mar 28:** [11th International Symposium on Managed Aquifer Recharge – Online Registration Closes](#)
- **Mar 29:** [WRRC Brown Bag Webinar: Looking Upstream: An Upper Basin Perspective](#)
- **Mar 30:** [IAHR World Water Day 2022 Special Event: Webinar on Groundwater: Making the Invisible Visible](#)
- **Mar 31:** [Los Charros Foundation Scholarship – Application Deadline](#)
- **Mar 31:** [Sustainable Water Network Webinar: Opportunities and Options for Protecting and Restoring Free-flowing Rivers in Arizona](#)
- **Apr 1:** [EPA Environmental Justice Video Challenge for Students – Phase 1 Submissions Due](#)
- **Apr 4:** [Southwest Climate Adaptation Science Center \(SW CASC\) Natural Resources Workforce Development \(NRWD\) Fellowship – Application Deadline](#)
- **Apr 6:** [Udall Center Workshop: State of the Art in Green Infrastructure Research & Practice: Reframing Stormwater from a Hazard to a Resource in Tucson, Arizona](#)
- **Apr 7:** [WRRC Brown Bag Webinar: Public Interest, Indigenous Rights, and the Los Angeles Aqueduct](#)
- **Apr 7:** [International Beaver Day](#)
- **Apr 7:** [Watershed Management Group International Beaver Day Celebration: Beavers & Brews: Castoriando con Chelas](#)
- **Apr 8:** [2022 AHS Annual Symposium – Abstract Deadline Extended](#)
- **Apr 11:** [Native Voices in STEM Spring 2022 Seminar Series: Environmental Justice](#)

- **Apr 11:** [4th Annual Arizona Water Professionals Appreciation Week – Kick Off Event](#)
- **Apr 11-15:** [11th International Symposium on Managed Aquifer Recharge](#)
- **Apr 11-17:** [Arizona Water Professionals Appreciation Week](#)
- **Apr 12-14:** [AZ Water 95th Annual Conference & Exhibition](#)
- **Apr 15:** [Fall 2022 Agents of Change in Environmental Justice Fellowship – Application Deadline](#)
- **Apr 19:** [ADWR Recharge & Recovery Workgroup Meeting](#)
- **Apr 19:** [WRRC Brown Bag Webinar: *Civil Society in the Binational Agreements of the Colorado River: Advocacy Meets Shuttle Diplomacy*; Carlos A. de la Parra, Chair of the Board, Restauremos el Colorado, AC](#)
- **Apr 20:** [Spring 2022 UCOWR Roundtable Series: *Coastal Water Issues II*](#)
- **Apr 22:** [Earth Day 2022: *Invest in Our Planet*](#)
- **Apr 22:** [Earth Day 2022 Lower Salt River Cleanup](#)
- **Apr 25-27:** [AWRA 2022 Spring Conference: *Water Risk Under a Rapidly Changing World - Evaluation & Adaptation*](#)
- **Apr 27:** [WRRC Brown Bag Webinar: Sharon Nappier – Save the Date](#)
- **May 2:** [AWRA 2022 DEI Scholarship – Application Deadline](#)
- **May 3:** [Special Event: Counter Mapping; Jim Enote, CEO, Colorado Plateau Foundation – Save the Date](#)
- **May 11-12:** [The Third International Congress on Desert Economy: *Energy Economics between Deserts and Oceans*](#)
- **May 16:** [AWRA 2022 Annual Water Resources Conference – Abstract Deadline](#)
- **May 19-20:** [23rd Annual Law of the Colorado River Conference](#)
- **Jun 14-16:** [UCOWR/NIWR 2022 Annual Water Resources Conference](#)
- **Jun 19-24:** [Frontiers in Hydrology 2022: *Future of Water*](#)
- **Jun 21-24:** [Global Council for Science and the Environment \(GCSE\) 2022 Virtual Conference: *Biodiversity, Conservation Science, and Climate Change*](#)
- **Jul 12-15:** [WRRC 2022 Annual Conference: *Arizona's Agricultural Outlook: Water, Climate, and Sustainability*](#)
- **Aug 11-12:** [Arizona Water Law Conference](#)
- **Sep 11-14:** [AWWA 2022 Water Infrastructure Conference & Exposition](#)
- **Sep 11-15:** [IWA World Water Congress & Exhibition - *Water for Smart Liveable Cities*](#)
- **Sep 14-16:** [2022 AHS Annual Symposium](#)
- **Oct 6-8:** [SustainValencia2022; *Achieving Sustainable Groundwater Management: Promising Directions and Unresolved Challenges*](#)
- **Nov 7-9:** [AWRA 2022](#)

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

[Contact us here](#)