

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

WATER RESOURCES RESEARCH CENTER



November 5, 2021 / Volume 9, Issue 33

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: Yaqui Valley, Brown Bag Recap, USBR, APW, Wildfires, IALC



Arizona Group Learns About Agriculture

in Yaqui River Valley

Over the course of five days at the end of October, WRRRC Program Manager Michael Seronde and his peers in Class 30 of Project CENTRL traveled to Ciudad Obregón in Sonora, Mexico to learn about the economic and political resources of the Yaqui River Valley and to gain perspective on issues of shared importance in AZ. Project CENTRL is a program of the Arizona Center for Rural Leadership, a non-profit public-private partnership with the UArizona's Cooperative Extension. The trip to Mexico is part of Project CENTRL's year-long leadership seminar series designed to equip emerging leaders with the tools necessary to serve their communities.

[Read More](#)

EVENTS

Arizona Association of Women in Water & Agriculture Networking Mixer and Annual Meeting

Date: November 9-10, 2021

Time: Nov 9, 6:30-8:00 pm; Nov 10, 12:30-4:30 pm

Location: [Crowne Plaza Phoenix Chandler Golf Resort](#)



The Agribusiness & Water Council of Arizona (ABWC) is proud to announce the "Arizona Association of Women in Water & Agriculture." This new organization is designed to support, promote, celebrate, and inspire women with careers and interest in water and agriculture through education, networking, and fellowship.

On Tuesday, November 9, enjoy the "Wine, Women & Water" Cocktails & Networking Mixer from 6:30-8 pm.

The 1st Annual Meeting & Networking Conference of the Arizona Association of Women in Water & Agriculture (AAWWA) will take place on Wednesday, November 10, from 12:30-4:30 pm. Spend an afternoon being inspired by women in the water industry, visit the vendor market, silent auction prizes, refreshments, and network with women from not only AZ but the southwestern US. The launch of this new organization and its 1st Annual Meeting will kick off with a message from Christine Arbogast, president of the National Water Resources Association and president of the Women in Water Scholarship Fund. WRRRC Director Sharon B. Megdal will participate in the event as a panelist and moderator for the "Women Leaders in Arizona Panel." Registration at the ABWC Member rate is available for all UArizona faculty and staff.

[Register Here](#)

[Agenda and Information](#)

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 WRRC 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*

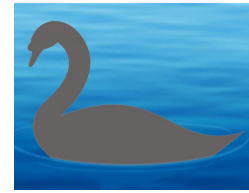
Dec 6: [Brown Bag Webinar: The Evolution of the Water Sector in Israel: The Role of Mekorot, the National Water Company of Israel](#)

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

NEWS

**For Long-term Planning, Examine
Your Assumptions**

On Tuesday, October 26, the WRRC held *The Case for Better Planning*, a Brown Bag webinar featuring Richard N. Morrison, a retired attorney and co-founder of the Morrison Institute for Public Policy. Morrison makes the case that in the water world, so-called “black swan” events, or unpredictable events that have disproportional consequences, should actually be considered “grey swans.” Using a mix of personal anecdotes and knowledge acquired throughout his career, Morrison explains how some “black swan” events were not wholly unexpected and could have been predicted; the moral of the story being that we can always do a better job of planning, and we should endeavor to do so. Morrison underscored his presentation with what he described as the subtitle to his presentation: “Examine your assumptions when you undertake a long-range plan. Make sure your assumptions are defensible.” In his presentation, Morrison provided two examples of “grey swan” events in detail: the current debate over state funding to rehabilitate Pinal County wells, and studies from the 1990s predicting that Central Arizona Project water would not be economically viable for Arizona farmers. After sharing his first example, Morrison answered many questions from the audience, expanding upon and adding context for his example. Following his second example, WRRC Director Sharon B. Megdal continued a moderated discussion with the audience.



[View the Recording](#)

New US Climate Normals Data Produce Drier Forecasts

The US National Oceanic and Atmospheric Administration has updated the 30-year averages, referred to as the “US Climate Normals,” used by the US Bureau of Reclamation for its forecasts. Previously, the 30-year averages spanned 1981 to 2010. These were the data used for the Tier 1 water shortage declaration issued in August of this year. The updated data set spans 1991 to 2020, eliminating the comparatively wet 1980s and including the 22-year drought the Southwest has been experiencing since 2000. Reclamation’s October inflow forecasts, which use the new normals, show the median 2022 inflow into Lake Powell as 800,000 acre-feet less than the inflow projected using the 1981-2010 data set. Reclamation’s October forecast for Lake Powell’s 2022 end-of-year water level was 8 feet lower than the September forecast. New projections indicate that by July of next year, Lake Powell’s elevation could fall below minimum power pool, the level of water needed to keep the Glen Canyon Dam turbines running. The new end-of-year elevation forecast for Lake Mead is less than one foot above the threshold for a Tier 2 water shortage. Because the revised US Climate Normals take changing climate into account, they may produce more accurate predictions, which paint a dire picture of the future of water in the Colorado River Basin.



Image: Glen Canyon Dam, USBR

[Read the Denver Channel News Article](#)



**Meet APW’s New Maricopa County
AmeriCorps Members**

Every school year, APW brings aboard members of the UArizona Wildcat Corps AmeriCorps program for one year of service to help deliver water education programs in the community. This year APW is excited to invite eight AmeriCorps members to join them in developing and delivering innovative water education to communities. Four new Tucson members were introduced two weeks ago; now please join APW in welcoming four new Phoenix Metropolitan members to its team.



[Read More](#)

UArizona Researchers Host Wildfire Sessions at GSA Conference

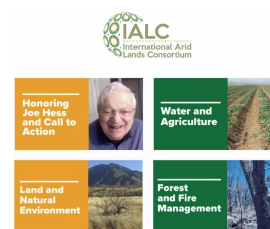
On October 12, Ann Youberg, from the UArizona Arizona Geological Survey and Luke McGuire from the UArizona Department of Geosciences joined Francis Rengers of the US Geological Survey in hosting sessions on “Advances in Wildfire-Related Earth Surface Processes” at the 2021 Geological Society of America (GSA) Annual Meeting in Portland, Oregon. Youberg and McGuire presented research that addressed recent wildfires in AZ and the impact of those fires on local communities and ecosystems. In a presentation on the successive fires in the Santa Catalina Mountains outside Tucson, Youberg described her research on the Aspen, Bighorn, Bullock, and Burro burn scars to document, through a record of hydrologic and geomorphic change, the damage to and recovery of the land. This study is ongoing. McGuire’s presentation focused on changes to soil properties resulting from the Pinal and Telegraph wildfires in central Arizona. McGuire found that when the land has less time to recover between fires, it may be more likely to experience extreme responses to rainstorms, such as debris flows. The analyses done by these researchers will continue to improve the management of the local environment.



[Recordings and Agenda](#)

Posted Videos Highlight Arid Lands Conference Insights

On May 24-26, 2021, the International Arid Lands Consortium (IALC) held a three-day virtual conference, *Addressing the Environmental Challenges of Arid Lands*, featuring insightful presentations and in-depth panel discussions on the topics of Water and Agriculture, Land and Natural Environment, and Forests and Fire. The IALC has posted a series of 6- to 7-minute videos that highlight key insights shared by conference participants on those topics. An additional 5-minute video presents IALC’s Call to Action to address these pressing challenges. The videos, along with recordings of the full conference, are available on the [IALC website](#).



WATER JOBS

- 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

- **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:** [WRRC 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:** [WRRC 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:** [WRRC 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 25-27, 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](#)

Visit our Website