

# WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES  
COOPERATIVE EXTENSION

**WATER RESOURCES  
RESEARCH CENTER**



**Jan. 29, 2021 / Volume 9, Issue 4**

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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**IN THIS ISSUE:** Brown Bag Recap, Parched, ADEQ, APW, David Snider



**NASA-Navajo Nation Collaborate on  
New Drought Reporting Tool**

On January 20, 2021, the WRRRC hosted Dr. Amber McCullum, a researcher in the Earth Science Division at NASA, and Nikki Tulley, a PhD student in the Department of Environmental Science at UArizona, who co-presented “Collaborative Capacity Building and Sovereign Science with NASA and the Navajo Nation.” McCullum explained that NASA uses remote sensors on satellites to collect data, such as rainfall and vegetation, by detecting reflected energy from Earth. NASA has developed programs and trainings with various partners to empower communities by using satellite data. McCullum and Tulley collaborated last summer on NASA's [Navajo Nation Drought Project](#), which "aims to provide the Navajo people with useful data to better manage their water resources through the [Drought Severity Evaluation Tool \(DSET\)](#)." DSET is a web-based drought reporting tool that combines Navajo rain gauge data collected by Tribal members, NASA satellite and model data, and drought indices. Tulley provided a demonstration of DSET to show how it could help Navajo members and water managers make decisions based on local drought conditions data.

- [View the Recorded Webinar](#)
- [Navajo Nation DSET Video](#)
- [Nikki Tulley NASA Story](#)

## WRRRC EVENTS

### **Brown Bag: Recovery of Arizona Water Bank Credits to Mitigate Shortages on the Colorado River**

**Date:** Wednesday, Feb 3, 2021

**Time:** 12:00-1:15 p.m. MST

**Location:** [Webinar Only](#)

**Speakers:**

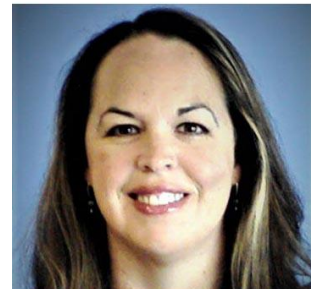
Rabi Gyawali, *Water Resource Engineer, Arizona Department of Water Resources (ADWR)*

Simone Kjolsrud, *Technical Administrator, Arizona Water Banking Authority (AWBA)*

Angie Lohse, *Senior Policy Analyst, Central Arizona Project (CAP)*

The Arizona Water Banking Authority has accrued over 3.8 MAF of credits to provide firming for Arizona water users during shortages on the Colorado River. Planning for future recovery of AWBA credits involves collaboration between the AWBA, ADWR, CAP, and stakeholders. In coordination with the Recovery Planning Advisory Group (RPAG), this interagency workgroup will release an update to the 2014 Joint Recovery Plan in early 2021.

This webinar will include a discussion of Colorado River shortage impacts, updated modeling, and an overview of the updated Recovery Plan document. The Recovery Plan includes projections for the likelihood, magnitude, and timing of future recovery needs and provides estimates of the recovery capacity required for AWBA firming. The updated Plan



also includes an operational timeline to identify critical decision points and key deadlines for recovery implementation.

## [Register for the Webinar](#)

### Upcoming Webinars

**Feb 16:** [Reaching Safe-Yield in the Phoenix AMA](#)

Jessica Fox, *Water Policy Advisor, AMWUA*

**Mar 11:** *Community Service and Environmental Justice as Essential Best Practices For the Clean Water Utility of the Future*

Andrew Kricun, *Managing Director, Moonshot Missions; Senior Fellow, US Water Alliance*

**Mar 31:** *The Internet of Water: Partnerships for Progress—Modernizing Water Data to Meet 21st Century Needs*

Peter Colohan, *Executive Director, Internet of Water, Nicholas Institute for Environmental Policy Solutions, Duke University*

**Apr 8:** *Binational Study of Water Desalination Opportunities in the Sea of Cortez*

Chuck Cullom, *Colorado River Programs Manager, Central Arizona Project*  
Lela Perkins, *Senior Water Resources Engineer, Jacobs Engineering Group*

**Apr 14:** *Update from Tucson Water on Reuse Projects*

John Kmiec, *Interim Director, Tucson Water*

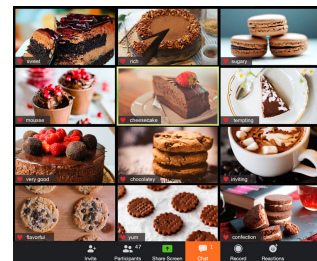


### 17<sup>th</sup> Annual WRRC Chocolate Fest

**Date:** Friday, Feb 12, 2021

**Time:** 3:30-5:00 p.m. MST

Don't miss the WRRC Chocolate Fest—this year held on Zoom. Prepare your favorite homemade chocolate treat to share virtually in this Chocolate Delight Show & Tell. You might just win a prize!



## [Register Today](#)

## NEWS

### Art Exhibit Examines Water in the Southwest

Tó éí ííńá át'é – Water is Life, in the Diné, or Navajo language. This truth is known to the Diné and throughout Arizona. A recent art exhibition, *Parched: The Art of Water in the Southwest*, explores the complexities and challenges of water in the face of climate change, informed by cultural and scientific inquiry. In early 2019, a group of Arizona-based artists took part in a week-long water “boot-camp” organized through a collaboration between the Flagstaff Arts Council, Coconino Plateau Watershed Partnership, Northern



Arizona University, and the Sierra Club Grand Canyon Chapter. According to exhibition materials, the artists, together with water experts and exhibition curator Julie Cornick, traced water from Northern Arizona down to the Central Valley, gaining “insight into our intricate relationship with water in our natural, cultural, and political landscapes.” From this experience, in the fall of 2020, the artists created works of art installed as an exhibition at the Coconino Center for the Arts in Flagstaff. In response to the COVID-19 pandemic, a film documentary was produced to offer an opportunity for the wider community to see the artwork and hear the voices of the artists, scientists, and community leaders who joined efforts to create the exhibition. The exhibit has now moved to the [Amerind Museum](#) in Dagoon, AZ, where it will open February 2 and run through January 16, 2022.

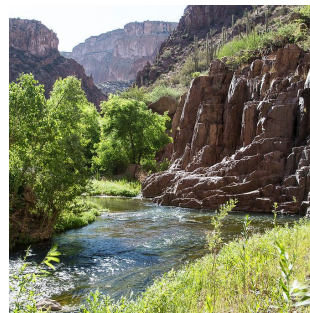
[View the Documentary](#)

[Read More about the Exhibition](#)

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## ADEQ Surface Water Protection Program

On December 15, 2020, the Arizona Department of Environmental Quality (ADEQ) held a stakeholder meeting with over 550 attendees to seek input on the Draft Surface Water Protection Program. Point source discharge of pollutants into Waters of the United States (WOTUS) is regulated under the Clean Water Act. However, the change in the federal definition of WOTUS on June 22, 2020 narrowed the protections for some Arizona waterways. This prompted ADEQ to develop the state Surface Water Protection Program, which would add protections to some waterways not protected under the new federal rule. The Draft Surface Water Protection Program Map is available online and highlights nearly 800 waterbodies currently listed under the program.



[Draft Surface Water Protection Program Map](#)

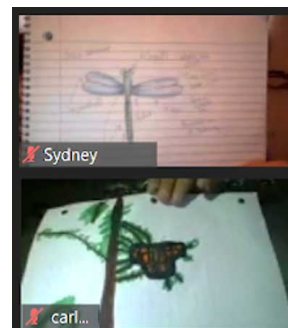
[More about Waters of Arizona and Surface Water Protection](#)

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## Dragonflies and Turtles and Ducks! Oh My!

One of the Arizona Project WET team’s favorite things to do (in non-pandemic times) is introducing youth to scientific practices in beautiful Arizona riparian areas. Although we can’t get out on field trips now, it is still important to build appreciation for natural resources and science observation skills in young people. To that end, the APW team developed the Virtual Discovery Program.



APW water educators have now virtually guided over 550 elementary and middle school students through the Sweetwater Wetlands in Tucson and the Hassayampa River Preserve, near Wickenburg, Arizona. In a one-hour virtual session that includes both live interaction and video clips that take students directly to the site, students learn about riparian areas and how to become better scientific observers. They are able to get an up-close and personal view of some riparian wildlife through videos and to practice making good scientific drawings of these mysterious creatures. It’s not quite the same as peeking

under leaves in search of insects in the field, but student drawings have made us smile every time!

## [APW](#)

### **David Snider Remembered for His Leadership in Water and More**

Early Friday, January 22, longtime WRRC friend David Snider passed away following heart surgery at Banner Desert Medical Center in Mesa. Well-known as a civic leader and long-serving public official, Snider contributed his time and energy to a long list of community organization efforts in Pinal County. He came to Casa Grande in 1977 to begin a 26-year tenure as library director. He was elected to the Pinal County Board of Supervisors in 2004 and served through 2012. For decades, his deep interest in water manifested itself in service and leadership on the Pinal AMA Groundwater Users Advisory Council, the Pinal County Local Drought Impact Group, the Pinal County Water Augmentation Authority, and the WRRC's External Advisory Committee. His impact was felt far beyond Pinal County, and his many friends in the water community were shocked and saddened by his death. WRRC Director Sharon B. Megdal praised David Snider as "a strong voice for sound water management and a steady supporter of the WRRC's work;" adding "I will miss his friendship and counsel."



*Photo: Lynn Ketchum*

## **WATER JOBS**

[Business Development Associate, SOURCE](#)

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

## **ANNOUNCEMENTS**

- **Jan 29:** [ADEQ Environmental Reviews & Certifications Five Year Rule Review - Survey Deadline](#)
- **Feb 1:** [AWRA 2021 Summer Conference \*Connecting Land and Water for Healthy Communities\* \(July 19-21\) Denver, CO - Special Session Submission Deadline](#)
- **Feb 2:** [InfoShare: Conservation Education in the Virtual Era \(Adult and Community Outreach\)](#)
- **Feb 4:** [Current Revolution: Nation in Transition Film Screening](#)
- **Feb 7:** [Fate of PFAS: From Groundwater to Tap Water - Abstract Deadline](#)
- **Feb 9:** [Internet of Water \(IOW\) De Nora Idea Challenge - Registration Deadline](#)
- **Feb 9:** [AHS Monthly Tucson Chapter Meeting](#)
- **Feb 10-Mar 10:** [ADWR 5MP Work Group Meetings - 5MP Municipal Subgroup Meeting, 5MP Turf Breakout Meeting, 5MP Safe-Yield Technical Subgroup Meeting](#)
- **Feb 10-Mar 24:** [UCOWR Winter 2021 Virtual Roundtable Series](#)
- **Feb 12:** [WRRC Chocolate Fest - Register via Zoom](#)
- **Feb 15:** [UCOWR/NIWR Annual Water Resources Conference - Abstract Deadline](#)
- **Feb 17-26:** [RiversEdge West 2021 Conference - \*Changing Rivers\*](#)

- **Feb 18-19:** [Family Farm Alliance 2021 Conference and Annual Meeting: \*Bridge Over Troubled Water\*](#)
- **Feb 19:** [Re-envisioning the Middle East Ecosystem: \*Desert Ecology and Environmental Diplomacy\*](#) – Registration Deadline
- **Feb 23-24:** [GRA Virtual Event: \*The Future of Water\*](#)
- **Feb 28:** [Indigenous Food, Energy, and Water Security and Sovereignty \(Indige- FEWSS\) Traineeship Program - Application Deadline](#)
- **Mar 1:** [2021 Babbitt Center Dissertation Fellowships - Application Deadline](#)
- **Mar 1:** [Arizona Growing Water Smart Workshop - \*Integrating Water and Land Use to Create Resilience\*](#) - Application Deadline Extended
- **Mar 3:** [Problematic Groundwater Contaminants: \*More than PFAS Forum\*](#) - Abstract Deadline
- **Mar 7-13:** [National Groundwater Awareness Week](#)
- **Mar 11-12:** [23rd Annual Law of the Colorado River Conference](#)
- **Mar 15-25:** [36th Annual WaterReuse Symposium: \*Resilience Redefined: health.economy.environment\*](#)
- **Mar 25-26:** [Santa Cruz River Research Days](#)
- **Mar 30-Apr 13:** [2021 AWRA Virtual Young Professional Workshop Series: \*Navigating Your Path From Student to Working Professional in the Time of COVID-19\*](#)
- **Apr 1:** [Special Issue of the Journal \*Water\* \(ISSN 2073-4441, IF 2.544\) - \*Advances in Transboundary Aquifer Assessment\*](#) - Manuscript Submission Deadline
- **Apr 1-Jul 1:** [Women in Water Scholarship - Applications Accepted](#)
- **Apr 6-8:** [AZ Water 2021 Annual Conference](#)
- **Apr 6-8:** [Virtual 2021 Southwest Adaptation Forum \(SWAF\)](#)
- **Apr 15-16:** [2021 Virtual Joint AWRA & National Capital Annual Water Symposium, \*Human Dimension to Resilient and Sustainable Water Management: Promoting Integrated Collaboration\*](#) - Registration Open
- **May 10-12:** [International Conference on Water Energy Food and Sustainability \(ICoWEFS 2021 - Leiria, Portugal\)](#)
- **May 18-19:** [The Third International Congress on Desert Economy: \*Energy Economics between Deserts and Oceans\*](#) (Dakhla, Morocco)
- **May 18-20:** [11th International Conference on Sustainable Water Resources Management: \*Effective Approaches for River Basins and Urban Catchments\*](#) (Milan, Italy)
- **Jun 13-16:** [ACE21 - Registration Open](#)
- **Jun 21-23:** [WEF SWI Stormwater Summit 2021](#)
- **Nov 1-3:** [AIWW 2021: \*Blue-Green Deals with Integrated Solutions\*](#)
- **Sep 15-17:** [Annual AHS Symposium – Save the Date](#)
- **Sept 2022:** [IWA World Water Congress & Exhibition - \*Water for Smart Liveable Cities\*](#) (Copenhagen)

Visit our Website