

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION
**WATER RESOURCES
RESEARCH CENTER**

November 15, 2019 / Volume 7, Issue 29

The Water Resource 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

In this issue: [Economic Impact](#) / [Dr. Megdal](#) / [APW](#) / [Cobre Valley](#) / [Fissure Maps](#)



WRRC Annual Conference - Agenda is Coming Together

The Water Resources Research Center's March 27, 2020 Annual Conference, *Water at the Crossroads: The Next 40 Years*, is coming together as speakers are starting to confirm their participation in either presentation or moderated discussion panels. The conference panels will focus on how our water resources are changing, what pressures water-use sectors face now and in the future, what types of choices are being made around the State, and how we can best achieve long-term resilience. One of our morning panels, entitled "Drawing the Water Map", will cover a broad range of topics to set the stage for the day's conversation. Confirmed speakers

include ADWR Director Tom Buschatzke, who will speak about Arizona Water Management, Director of Water Rights and Contracts at Salt River Project Chuck Podolak, who will address groundwater/surface water connections, and President of Smart Water Group LLC Ben Perlman, who will discuss a variety technologies being used in the water industry. We have also invited speakers to present about water quality and the water/food/energy nexus as part of this session.

A summary agenda, showing the overall scope and flow of the conference can be found on our website [Here](#).

WRRC EVENTS



The banner features a signpost with three directional signs. The top sign points right and reads 'WRRC ANNUAL CONFERENCE 2020 WATER AT THE CROSSROADS: The Next 40 Years'. The middle sign points left and reads '1980 GROUNDWATER MANAGEMENT ACT'. The bottom sign points left and reads 'SAVE the DATE FRIDAY, MARCH 27, 2020 UNIVERSITY OF ARIZONA WATER RESOURCES RESEARCH CENTER Black Canyon Conference Center 9440 N 25th Ave, Phoenix, AZ 85021'. The website 'wrrc.arizona.edu' is at the bottom right.

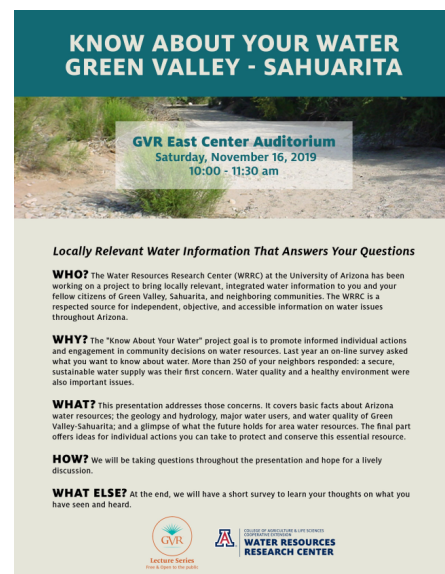
WRRC Event - Know About Your Water Green Valley-Sahuarita

November 16, 2019

Time/Location: 10:00 - 11:30 a.m., Green Valley Recreation (GVR) East Campus, 7 South Abrego Dr., Green Valley, AZ

Everything you wanted to know about water resources in the Green Valley-Sahuarita area will be touched on in these interactive presentations. The culmination of a project funded by the Freeport McMoRan Community Investment Program, this presentation offers neutral, independent information on water supplies, uses, and quality, as well as community and individual actions to conserve and augment water resources in the region.

November 16 Event



The flyer has a teal header with the title 'KNOW ABOUT YOUR WATER GREEN VALLEY - SAHUARITA'. Below is a photo of a desert landscape with a text box: 'GVR East Center Auditorium Saturday, November 16, 2019 10:00 - 11:30 am'. The text includes: 'Locally Relevant Water Information That Answers Your Questions', 'WHO? The Water Resources Research Center (WRRC) at the University of Arizona has been working on a project to bring locally relevant, integrated water information to you and your fellow citizens of Green Valley, Sahuarita, and neighboring communities. The WRRC is a respected source for independent, objective, and accessible information on water issues throughout Arizona.', 'WHY? The "Know About Your Water" project goal is to promote informed individual actions and engagement in community decisions on water resources. Last year an on-line survey asked what you want to know about water. More than 250 of your neighbors responded: a secure, sustainable water supply was their first concern. Water quality and a healthy environment were also important issues.', 'WHAT? This presentation addresses those concerns. It covers basic facts about Arizona water resources; the geology and hydrology, major water users, and water quality of Green Valley-Sahuarita; and a glimpse of what the future holds for area water resources. The final part offers ideas for individual actions you can take to protect and conserve this essential resource.', 'HOW? We will be taking questions throughout the presentation and hope for a lively discussion.', 'WHAT ELSE? At the end, we will have a short survey to learn your thoughts on what you have seen and heard.' Logos for GVR and WRRC are at the bottom.

Heat Mitigation Through Green Infrastructure

November 19, 2019

Speaker:

Betsy Wilkening, Education Program Coordinator, Arizona Project WET; Ladd Keith, Assistant Professor of Planning and Chair, Sustainable Built Environments; Nicole Iroz-Elardo, PhD, Assistant Research Professor, Planning Degree Program; Kirk Dimond, Assistant Professor, Landscape Architecture; Penelope Cottrell-Crawford, Graduate Student, Landscape



Time/Location: 12:00 - 1:15 p.m., WRRRC Sol Resnick Conference Room (350 N. Campbell Ave.)

This year, Tucson, the 3rd fastest warming city in the U.S., experienced its 2nd hottest summer on record and 11th straight summer ranked in the top ten hottest. Urban infrastructure-buildings, pavement, etc.-exacerbates extreme heat risk. Arizona Project WET (APW) and Watershed Management Group (WVG) started the Recharge the Rain (RtR) project in Tucson in 2017 to build community resilience to local climate impacts. The RtR project has worked with middle and high school teachers and their students to design, install, and monitor school rain gardens to harvest the rain and sustain native shade trees. Researchers from the College of Architecture, Planning & Landscape Architecture coproduced a heat monitoring protocol used to compare the efficacy of these landscapes to conventional landscaping in terms of heat reduction at the microscale. Preliminary results will be discussed along with plans to continue monitoring at the schools.

[Register for Brown Bag Webinar](#)

Integrated Hydrologic Modeling at the Continental Scale; Scientific Advances and Research Needs

December 4, 2019

Speaker: Laura Condon, PhD, Assistant Professor, University of Arizona, Department of Hydrology and Atmospheric Sciences

Time/Location: 12:00 - 1:15 p.m., WRRRC Sol Resnick Conference Room (350 N. Campbell Ave.)



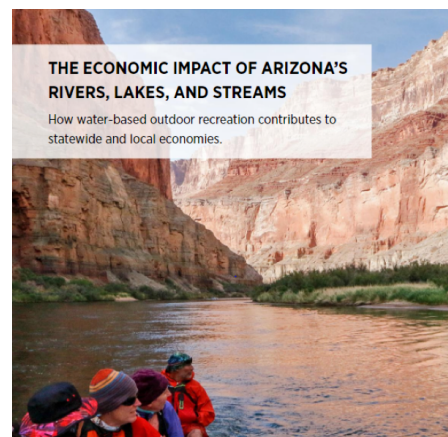
Connections between groundwater depth, surface runoff, and plant water use are well established. Still, much of the work to explore these connections has been completed on the catchment scale, and groundwater-surface water interactions are largely excluded or greatly simplified in continental and global modeling efforts. This is an identified research gap, as increasingly studies are finding that groundwater representations are needed to correctly capture low-frequency variability and extreme events in large models.

[Register for Brown Bag Webinar](#)

WRRRC NEWS

The Economic Impact of Arizona's Waterways Presented at WRRRC Brown Bag

Last week's Brown Bag focused how water-based outdoor recreation contributes to the state and local economies. To further its mission to conserve and protect the waterways we care about, Audubon wanted to make the economic case for why the demise of the state's waterways due to drought, diversions, and a changing climate would be devastating for Arizona. Haley Paul, Policy Manager for Audubon Arizona, shared the methodology and findings of



THE ECONOMIC IMPACT OF ARIZONA'S RIVERS, LAKES, AND STREAMS

How water-based outdoor recreation contributes to statewide and local economies.

the organization's recent report, which quantified the economic output of recreation along Arizona's waterways. Economic contributions to the state include: \$13.5 billion of economic output, 114,000 jobs supported, \$7.1 billion contributed to Arizona's GDP, and \$1.8 billion generated in tax revenues. The online report includes a technical report, an executive summary, and an analysis of economic impacts.



[Online Report](#)

WRRC Director Speaking at Numerous Conferences this Fall

WRRC Director Sharon B. Megdal has had a busy few weeks contributing to conferences and sharing her thoughts on how water plays a role in science diplomacy, the importance of process, and the Lower Colorado River Drought Contingency Plan. On October 25th, Megdal presented a talk entitled "Academia's Role in Science Diplomacy-Connecting Regions: Bridging through Water" at the Conference on Sustainable Development for the Americas: Science, Health and Engineering Policy and Diplomacy, hosted by the University of Arizona. On October 30th, she participated in the Closing Reflections Panel at Colorado River Conversations: Integrating Science and Identifying Solutions hosted by the Center for Climate Adaptation Science and Solutions at UArizona. In that panel, she shared remarks about the importance of process and particularly about the importance of TREC: Trust, Respect-research, Engagement-education, Consultation-communication-cooperation-compromise, and Youth. Then, on November 5th, Megdal spoke at the American Water Resources Association annual conference in Salt Lake City, presenting "Getting to Yes in Arizona on the Lower Colorado River Drought Contingency Plan." Next, Megdal travels to Tel Aviv, Israel to participate in the Water Technology and Environmental Control (WATEC) conference. Stay tuned for more about that event in future Weekly Waves.



Building Capacity in Arizona's Largest Metropolitan Area



With a deep passion for environmental sustainability, APW's four AmeriCorps members are expanding programmatic capacity in Maricopa County and giving back to their community.

Nathaniel "Nat" Tilden graduated from ASU with a BA in Political Science. While there, he interned for Defend Our Future, rallying college students to act on climate change. He has worked in the construction trade since high school.

Kristen Morale is a graduate of NAU with a BS degree in Environmental Sustainability. She served as the chair of the NAU Green Fund, where she managed the committee and budget for sustainability projects.

Raul "Chris" Bustamante is a graduate of ASU with a BS in Psychology & MA in Education Policy (program evaluation and statistics). He is currently an office clerk for a law firm in Tempe. He says community service is in his DNA and has helped him develop deeper empathy for others.



Bailey Harper is a graduate of UArizona with a BS in Natural Resources emphasizing Wildlife Conservation and Management. She is a full-time AmeriCorps member with The Nature Conservancy (TNC) but serves APW, through a much-appreciated in-kind sponsorship from TNC. Help us welcome our best and brightest hailing from all three of our state Universities!

More information about [APW](#)

Looking Back at Four Years in the Cobre Valley

As we set out on a new phase of work in the Cobre Valley, the Water RAPIDS team at the WRRC took a moment to review our collaborative watershed planning efforts in the Globe-Miami area over the last four years. We then challenged ourselves to summarize those efforts and milestones in two pages - no easy task. The exercise was eye-opening. Oftentimes, grant projects can end before long-term goals can be realized. In the Cobre Valley, we are privileged to go from a Community Assets Assessment, providing water management recommendations in 2016, to implementing those recommendations with our partners in the region. Through funding from the US Bureau of Reclamation and a strong collaborative relationship with Gila County Cooperative Extension, we brought together diverse stakeholders and leaders for two successful water forums that helped inform their discussions and decisions. We also connected UA resources and expertise to the communities of Globe and Miami. Looking forward, the WRRC will continue these efforts with the Cobre Valley Watershed Partnership, which we helped to establish, to complete an ecosystem services study and develop in-depth answers to questions such as how might regional ecosystem services be affected by drought? And, how might local community and industry support increase the resilience of the region?



Follow our Progress Through the Weekly Wave and our [Webpage](#).

[Project Summary](#)

New Earth Fissure Maps from Arizona Geological Survey

Across south-central and southeastern Arizona, earth fissures can be a hazard to infrastructure, livestock, and people. Over the past year, the Arizona Geological Survey (AZGS) has worked to update and revise its maps of earth fissures as part of an ongoing earth fissure study. J.P. Cook, Earth Fissure Program Manager, has published 12 newly revised maps to the AZGS repository. In addition to downloadable GIS or Google Earth shapefiles, the updates include written descriptions of the revisions to previous versions of the maps. The AZGS also produces a web-based "Natural Hazards in Arizona" map. This interactive tool provides interesting data on fissures, earthquakes, floods, landslides, and other natural geological hazards in an easy to navigate map format.



The updated fissure maps are available from the [AZGS repository](#).

Fissure in a parking lot near Apache Junction, Pinal County, AZ. Courtesy of <https://azgs.arizona.edu>

[Hazards Map](#)

ANNOUNCEMENTS

- [Job Opportunity: Arizona Municipal Water Users Association](#)
- [Job Opportunity: Arizona Department of Water Resources](#)
- [ADWR Pinal County Groundwater Model Update](#)
- [November 15-16 - Climate 2020: Seven Generations for Arizona - Registration Open](#)
- [November 17 - The Arizona-Sonora Desert Museum and the Loft Cinema Present The Colorado, a Documentary Film from Murat Eyuboglu](#)
- [December 2 - AZ Agribusiness Roundtable - Registration Open](#)
- [December 3 - Governor's Water Augmentation, Innovation and Conservation Council - Save the Date](#)
- [January 3 Multi-State Salinity Coalition 2020 Student Scholarship Program - Applications Due](#)
- [January 24 - 2020 UCOWR/NIWR Conference - Abstracts Due](#)
- [June 14 - 17 - ACE20 - Registration is Open](#)





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