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Diving into STEM Learning

"I learned how to solder!" bragged an elementary school student during the engineering presentation portion of the 2019 MATE Arizona Regional ROV (Remotely Operated Vehicle) competition organized by Arizona Project WET (APW). This year's challenge, Innovations for Inshore: ROV Operations in Rivers, Lakes, and Dams, was answered by 27 teams of 2nd-12th-grade students on Saturday, April 27 at the UA Campus Rec Center. The competition required students to demonstrate how the underwater robots they designed and built could perform a set of tasks in the pool. Additionally, teams provided engineering presentations discussing their ROV's design features and lessons learned, and a marketing display showcasing their robots. Judges consisted of 30 volunteers including engineering professionals, UA students, teachers, and high

school students. One judge remarked, "I was very impressed with the levels of creativity and dedication shown by students of all ages. The competition is a great way to get students involved in STEM."

The journey to this competition begins with teachers and coaches in APW's summer [Underwater Robotics and Engineering Design Academy](#). During this academy, participants develop an understanding of buoyancy, energy, electrical circuitry, soldering, and control systems while engaging in the engineering design and building of ROVs. They leave with tools, an ROV kit, and the skills and confidence to work with student teams. Students learn so much more than just soldering through APW's ROV program; they are becoming the next generation of problem solvers. Learn more about the MATE (Marine Advanced Technology Education) ROV competition on their [website](#).

WRRC NEWS

Enhance Your Yard and Your City with Desert Landscaping

On April 24, the WRRC hosted a full house for our final brown bag of the academic year, featuring Dr. Tanya Quist, Director of the UA Campus Arboretum and Associate Professor of Practice in Plant Sciences. Dr. Quist began by describing the importance of plants in the urban setting and how trees benefit society by adding to an area's economic prosperity, quality of life, and environmental health. For example, trees not only support wildlife, but they also improve air quality, protect soil from erosion, expand opportunities for recreation and community, and increase retail foot traffic and property values. She pointed out that Tucson's average canopy cover is only 8%, which falls far short of the 20% canopy cover that is the baseline target for desert cities. Using the newly improved Desert Landscaping Website, she illustrated how people can improve their yard plantings by planning thoughtfully, planting properly, and managing landscapes sustainably.

The prototype for this website was developed as a CDROM by the Water Resources Research Center in 1996. It was subsequently updated in 2005 and released as a website in 2016, before being taken over by the Campus Arboretum. Dr. Quist highlighted the many students that contributed to revising content and photographs on the site. She emphasized that special care must be taken in the desert in order to select the right tree for the right place and to implement sustainable maintenance practices to improve gardening success.



Dr. Tanya Quist

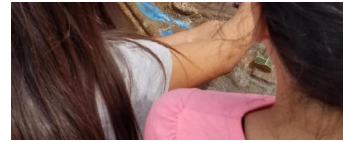
[Desert Landscaping Resources](#)
[Campus Arboretum](#)
[View Presentation via GotoWebinar](#)

Arizona Project WET Hosts Southern Gila Water Festival

Project WET hosted the 6th annual Southern Gila Water Festival, which took place on Thursday, May 2, in Globe. Nearly 360 4th graders participated through hands-on learning activities. Students learned about different aspects of the hydrological cycle, such as watersheds and groundwater, as well as water management and conservation. Before the festival, teachers attended a one-day



Arizona Project WET workshop to get lessons and other teaching material to supplement student learning and to prepare their students for the activities. Students were assessed both before and after the festival to gauge the effectiveness of the teaching curriculum and learning gains.

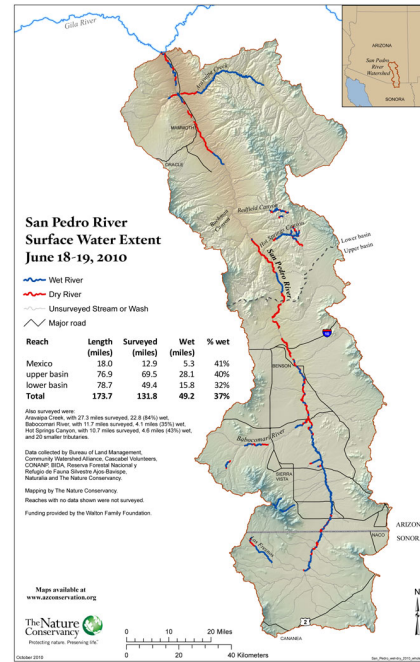


[More Festival Information](#)

Help Map San Pedro River Flow

On Saturday, June 15, The Nature Conservancy will host its annual [San Pedro River Wet-Dry Mapping](#). Citizen scientists will take to the river on what is typically the driest day of the year to document where surface water is present in the San Pedro River and add to a 20-year long dataset. On the same day, volunteers will map all the way from the river's headwaters in Sonora, Mexico, to its confluence with the Gila River in Pinal County, AZ, as well as many major tributaries. These are used by water managers and scientists to gauge the health of the river and compare year-to-year changes. To participate you must take part in a mandatory training event held on Friday, June 14.

Contact [Brooke Bushman](#) with any questions or for additional details.



Summer Wave Begins May 17

As another semester ends and we transition into summer, the Weekly Wave changes to a summer schedule. Following today's issue, the WRRC will once again switch over to the biweekly Summer Wave. The first Summer Wave of 2019 will appear on Friday, May 17. We will continue to bring you upcoming events, relevant stories, and announcements throughout the summer to keep you informed and up to date.

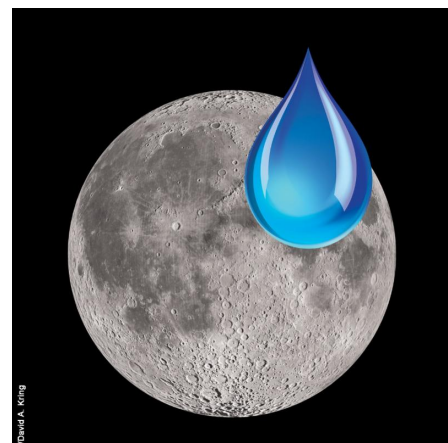


The Weekly Wave will resume on Friday, August 23. Have a safe and relaxing summer!

Meteor Showers Bring Moon Geysers

A research article originally published in Nature Geoscience suggested that extra water around the moon was released by tiny meteorite impacts after the moon passed through streams of cosmic dust. These results, spotted by a lunar orbiter, indicate that water is buried under the top layer of dust covering the moon's entire surface, as opposed to just craters.

Though initial samples of lunar soil that were taken during the Apollo missions did not show water, several space missions within the last ten years found evidence of water



deposits in the moon. UA planetary scientist Erik Asphaug was quoted in ScienceNews as saying that the finding is "plausible and certainly provocative."

Image source: <https://sservi.nasa.gov/articles/scientists-identify-source-of-the-moons-water/>

[ScienceNews Article](#)

ANNOUNCEMENTS

- [May 6 AHS Symposium - Abstract Submission Deadline Extended](#)
- [May 6 AWRA 2019 Annual Water Resources Conference - Abstracts Due](#)
- [May 6 WaterReuse Annual Awards for Excellence - Nominations Due](#)
- [May 10 Desert Horticulture Conference - Early Registration Closes](#)
- [May 13 GRAC Remediation Conference - Abstracts Due](#)
- [May 14 AHS Monthly Chapter Meeting - Mountain Block Recharge: Where and How Much Does It Matter?](#)
- [May 15 CAP Award for Water Research - Submission Deadline](#)
- [May 16 Agribusiness and Water Council Annual Meeting - Registration Open](#)
- [May 16 Part-time Restoration Coordinator RiversEdge West - Application Due](#)
- [May 20 Ground Water Protection Council Annual Forum - Abstracts Due](#)
- [May 28 AWRA Summer Conference - Early Registration Closes](#)
- [May 31 Renewable Natural Resources Foundation 2019 Awards Program - Nominations Due](#)
- [June 11 CUAHSI Water Data Services Workshop](#)
- [June 11-13 UCOWR/NIWR Annual Conference - Preliminary Program](#)
- [June 25 GSA Annual Meeting Session on the Upper Santa Cruz River - Call for Abstracts](#)
- [July 31 XVII World Water Congress - Call for Abstracts, Special Session & Side Events](#)
- [August 1-2 AZ Water Law Conference - Save the Date](#)

[Visit Our Website](#)