



COLLEGE OF AGRICULTURE & LIFE SCIENCES  
COOPERATIVE EXTENSION

**WATER RESOURCES  
RESEARCH CENTER**

**June 14, 2018 / Volume 6, Issue 3**

The [Water Resources Research Center](#) - a research and [Extension](#) unit of the [College of Agriculture and Life Sciences](#)

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## **Special Seminar Diversification of South Africa's Water Supplies Under Conditions of Drought**

Earlier this year, Cape Town, South Africa, was on the brink of a water disaster. The country's traditional water supplies, primarily rainfall, had become more variable, less available, and were under severe stress from continued drought. Join us on Friday, June 15, for a special seminar by Shafick Adams, Executive Manager in charge of Water Resource Management and Ecosystems for the Water Research Commission in Pretoria, South Africa. He will offer a broad overview of the challenges and opportunities faced when working to diversify South Africa's water supplies. Mr. Adams will be joined by several other members of South Africa's Water Research Commission who will be available to answer questions at the presentation. The delegation will include Dr. Stanley Liphadzi, Group Executive R&D, Dr. Valerie Naidoo, Executive Manager: Business

Development and Innovations, and Dr. Manjusha Sunil, Program Manager Water Technologies Demonstration. Don't miss this exciting presentation and discussion for up-to-date information about South Africa's water resource options and for the inside story on efforts underway to adjust the country's water management trajectory.

WRRC, Sol Resnick Conference Room, 350 N. Campbell Ave., Tucson, AZ

Shafick Adams , Water Research Commission, Pretoria, South Africa

06/15/2018 - 9:30am to 10:30am

**Please note special time**

For more information, click [here](#).

## WRRC EVENTS

### Special Seminar: Food, Water, and Energy in the Arava Valley: Turning Disadvantage to Advantage in the Hyper-arid Climate of the Region

**July 18, 2018**

**Time/Location:** 8:30 a.m. - 10:00 a.m. / WRRC Sol Resnick Conference Room (350 N. Campbell Ave.)

**Please note special time.**

*Light refreshments will be served.*

#### Speakers:

David Lehrer, *Director, Arava Institute for Environmental Studies*

Dorit Davidovich Banet, *CEO, Eilat-Eilat Renewable Energy Initiative*

The Arava Valley is a sparsely populated region in southern Israel. Its hyper-arid climate produces less than one inch of rain a year and its temperatures reach 115° to 120° F in the summer. For over 60 years, Israelis have successfully grown crops in this extreme climate, making the Arava Valley a major exporter of fruits and vegetables world wide. Recently, the residents of the Arava Valley have harnessed the region's plentiful solar radiation with a collection of distributed private solar power fields, which provide 100% of the daytime energy needs to the city of Eilat and the villages in the Arava Valley.



Arava Valley Photo by batya ben zvi via the Public Domain

### [RSVP if Attending in Person](#)



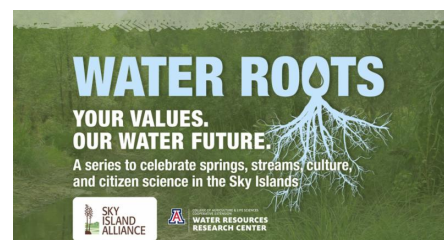
If you can't make the seminar on July 18, you can join us [here](#).

## OTHER EVENTS

### Water Roots - Water Beats: Reflections in Water and Music

**June 28, 2018**

**Time/Location:** 6:30 p.m. / Public Brewhouse, 209



**Speaker:** Claire Zucker, Associate Director, Water Resources Research Center

Music and art have the power to both inspire and mirror - to motivate action and to show where we have traveled. This Water Roots presentation will be a fun evening of music and water combined. Musical elements will illustrate how traditional tunes and songs provide insights on the human relationship with water and land. On the flip side, the presentation will highlight community investments and exploration of new scientific horizons have changed our understanding and management of water.

### [More Information](#)

## WRRC NEWS

### WRRC Director Presents at Two Water Conferences

WRRC Director, Sharon B. Megdal attended the World Bank-OECD Workshop, "Facilitating Policy Change towards Sustainable Water Use in Agriculture", May 29-30, in Washington, DC. During the first session, Dr. Megdal presented, "Core Drivers in the Western United States". On the second day of the conference, she and other water professionals participated in the wrap-up panel, "Implications for Changing Agricultural Water Policies". Last week, Dr. Megdal attended University of Colorado's Martz Summer Water Conference on groundwater use and management, held in Boulder, CO. She presented, "Dealing with a 'Secret, Occult and Concealed' Resource: The Governance Conundrum". She also participated as a panelist during the closing discussion, "Envisioning the Future of Groundwater Management".



### New Publications Available

Two new publications co-authored by WRRC researchers are now available. The first, written by UA's Jessica Dery, Channah Rock, and WRRC's Jean McLain, along with UNLV's Daniel Gerrity, is entitled "Common Terms in Water Recycling And Agricultural Irrigation." Published in April, this publication is a glossary of the common terms and concepts used in water reuse and agriculture, technologies and processes, policy and laws, and current regulations in Arizona.



The second publication by WRRC researchers and other UA colleagues, is about state-level groundwater governance and management practices in the U.S. The article, "Critical Issues Affecting Groundwater Quality Governance and Management in the United States," was published in the journal *Water*. States are largely responsible for groundwater governance (i.e., making laws, policies, and regulations) and management (i.e., implementation of laws, policies, and regulations), which results in diverse strategies and practices. The authors surveyed a water quality professional from each state to better understand commonalities and differences. Written by WRRC Research Analyst Jacob Petersen-Perlman, WRRC Director Sharon B. Megdal, UA's Andrea K. Gerlak, Adriana A. Zuniga-Teran, Robert G. Varady, and Granite Ridge Groundwater's Mike Wireman, the article is based on a report, "State-level Groundwater Governance and Management in the U.S.: Summary of Survey Results of Groundwater Quality Strategies and Practices." The report was funded by the Ground Water Research and Education Foundation and is available on the WRRC website.

[Link to the Glossary.](#)

## A Tale of Two Cities



What do Amman, Jordan and Tucson, Arizona have in common? Water conservation is taught in school in both these locations! APW is the water education provider used by nearly all water

departments and companies in Arizona. Here in UA's hometown, we have our most in-depth and widespread program sponsored by Tucson Water (TW). Our week-long Tucson STEM Academy engaged 26 5th-12th grade teachers in learning about TW's system just last week. An entire day of the academy was devoted to investigating and reverse engineering a faucet aerator, performing an outdoor irrigation audit, and auditing a faucet and replacing aerators. Teachers worked through the measurements and math so that they can engage their own students in quantifying water savings. Last school year, Tucson students drove a projected water savings of 372,066 gal/year. Amman, like Tucson, believes that water conservation education is an investment in their future.



For more information on Amman, Jordan water conservation, click [here](#).

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## SWES Laboratories Host Tours for the Class of 2023

On Wednesday, June 6, several laboratories in the Department of Soil, Water and Environmental Science hosted tours for Arizona high school students accepted into the Class of 2023. These tours introduced students to the research projects and methods used in the labs, and to research opportunities available to undergraduate students. Jean McLain's Water Quality laboratory hosted a tour for 25 students, who viewed equipment used to perform DNA analysis via PCR and quantitative PCR, learned of different agars used to quantify culturable bacteria in water, and used GloGerm® gel and black light to visualize bacteria on their hands. McLain lab manager Victoria Obergh told of her path to SWES for graduate school after being "bitten by the research bug" as an undergraduate. The incoming students were surprised to find that the advanced laboratory methods used to analyze soil and water are much the same methods as those used in modern medical science and were excited to discover that their generation will be using these methods to address food insecurity and environmental sustainability issues.



## Have You Heard? Microplastics Found in Antarctica

It's official - microplastics are in water just about everywhere on Earth. Thanks to a news tip from Circle of Blue, we know that a three-month Greenpeace research project sent researchers to take seawater



samples from remote areas off the continent of Antarctica. Analysis of samples revealed that all eight of the tested samples contained microplastics; seven contained one or more microplastic fibers per liter. (A liter equals slightly more than one quart.) The researchers also sampled Antarctic snow for polyfluorinated alkylated substances, or PFAS. Analytical results confirmed the presence of these persistent hazardous chemicals in seven of the nine tested samples. Detectable concentrations of PFAS were found in freshly fallen snow and at locations where there were no potential local sources for these chemicals. The global spread of these pollutants appears to occur by long distance transport on oceanic and atmospheric currents.



Photo: roliczone.blogspot.com

## [Read the Report](#)

[Circle of Blue](#) is an online source for global water news.

# ANNOUNCEMENTS

- [Smart Home Water Guide Available in English and Spanish](#)
- [Report Released: Contribution of Agriculture to the Maricopa County and Gila River Indian Community Economies](#)
- [June 15 - WaterNow's Project Accelerator, Round Two - Applications Due](#)
- [June 15 WaterReuse AZ 2018 Scholarship - Applications Due](#)
- [June 15-17 Sonoran Institute Celebrating Return of Gila Topminnow to Santa Cruz River](#)
- [June 25 GRA's First Annual Western Groundwater Congress - Super Early Registration Ends](#)
- [June 26-28 UCOWR/NIWR Annual Water Resources Conference - Program Posted](#)
- [June 28 ADWR/CAP Briefing on Colorado River Drought Contingency Plan](#)
- [June 29 Texas Desal Conference Poster Contest and Scholarship Opportunity - Applications Due](#)
- [June 29 MSSC Student Scholarship Program - Applications Due](#)
- [July 9-11 AWRA Summer Conference: The Science, Management, and Governance of Transboundary Groundwater - Preliminary Program](#)
- [July 30 Lake Tahoe Basin, Sciences, & Research Scholarship - Applications Due](#)
- [August 2-3, 2018 Arizona Water Law Conference - Registration Now Open](#)
- [August 24 CAZMEX Consortium for Arizona-Mexico Arid Environments - Call for Proposals](#)
- [September 12 BARD Research Grant Proposals - Applications Due](#)

- [September 26 Innovations at the Nexus of Food, Energy, and Water Systems \(INFEWS\) - NIFA Grant Applications Due](#)
- [December 6 Mine Water Management Symposium Scholarship - Applications Due](#)

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