



## OCTOBER 2010 NEWSLETTER

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### VIEWPOINT: SHADES OF TUCSON

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The AHS Annual Symposium in Tucson has come and gone, and was a great event. Excellent papers were presented, and much networking was accomplished. Our plenary speakers nailed their topics with exciting talks, and the ambiance at the La Paloma Resort was superb. We enjoyed smooth jazz on Wednesday courtesy of Allison Jones (Clear

Creek Associates) and the Assumptions, and the Vadose Zone really rocked on Thursday night. I had no idea that Mike Caporaso (WestLand Resources) was that skilled on lead guitar. It's really fantastic when you discover the hidden talents of our members. Many thanks to our Planning Committee. Photos will soon be up on the AHS Website, [www.azhdrosoc.org](http://www.azhdrosoc.org). I hope you were able to attend.



We did not make money on the event. Attendance was down for a Tucson symposium, although there were 250 total attendees. We incurred expenses for unrented room-nights at the hotel, and while we saved in other areas and enjoyed excellent meals, the total revenue fell short of total expenses by about \$12,000. But the Symposium was well worth the cost, and met the needs of the members. AHS is a non-profit organization, and that pretty

much sums up this event. We have enough funds to survive the occasional loss in an Annual Symposium, and future years look bright. We will recover in 2011 and 2012. Planning is well underway for both the Flagstaff event next September, in which the small but mighty Flagstaff Chapter will bring in a taste of extra-terrestrial hydrology (wouldn't it be fun to do the water budget for Mars?). The Phoenix Chapter already has a venue for the 2012 Annual Symposium (no hotel involved), where we will get back to basics.

For many of us, this year has been hard to survive. That is why attendance was down. Yet water in a semi-arid setting does not lose its value over time, and those who study the resource will thrive. Your Society will continue to offer workshops, field trips, Annual Symposia, and monthly Chapter meetings, with the goal of educating hydrologists and providing networking opportunities for all.

Alan Dulaney,

AHS Corporate Board President, 2010

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## GOVERNMENT GOINGS-ON

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Taken from a Corps of Engineers fact sheet, this makes clear how often the Corps deals with permits. "Since the Rivers and Harbors Act of 1899, the Corps has had authority to regulate, through permits, construction in navigable waterways. In the Clean Water Act of 1972, this authority was broadened to include dredging and fill activities in all "waters of the United States," including many – but not all – wetlands. In FY 2009, the Corps decided 71,260 permit cases, granting nearly 50,000 permits, imposing modifications at 2,780 projects, denying 260, having nearly 10,000 withdrawn by the applicant, and determining in over 10,000 cases that no permit was necessary." That's a lot, but it could be even more, which may or may not be a good thing.

In the U.S. Congress, H.R. 5088, the "America's Commitment to Clean Water Act," was introduced in April and assigned to committee, where it remains submerged. One intent of the bill was to take out the legally confusing concept of navigable waters in favor of an

expanded definition of waters of the United States. Another intent was to restore EPA and Corps of Engineers jurisdiction to what it was prior to the 2001 Supreme Court decision that rendered authorities less clear. It was never clear that the bill would address concerns in the semi-arid Southwest about what streams would require permits and which wetlands would be protected. Several objections to the bill have been brought forward. There seems little chance that the bill will go forward to a vote in this session of Congress.

Virtually all environmental legislation is now stalled in Congress. Elections are fast approaching, and the consensus is that Republicans will take many seats in the Senate, and probably control of the House of Representatives. Either way, passing any environmental legislation will become very difficult for the Obama administration. Yet they remain committed to their environmental sustainability initiatives.

What is the current administration to do? Working with the Republicans to achieve bi-partisan support of the President's environmental initiatives seems less and less likely to be successful. But every President has the option of Executive Orders, plus the ability to have agencies write rules. Rule-making is frequent, and not as subject to political pressure as legislation. Executive Orders are totally free of Congressional oversight. However, all presidents should know that what is done in one administration in such a manner can be just as easily undone by the next administration.

After November 2, be alert for a slew of new rules and Executive Orders. This isn't the way it was meant to work, but in an era of increasing political polarization, it may be all that is left.

Alan Dulaney,

AHS Corporate Board President, 2010

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## AHS FOUNDATION NEWS

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The AHS Foundation would like to recognize Montgomery Associates for its recent generous donation to the Foundation scholarship fund. Not only did Montgomery Associates repeat its annual \$5,000 contribution, but the company offered an employee donation match, which generated an additional \$600. Total corporate and personal donations to the Foundation for 2010 to date now exceed \$14,000. The Foundation thanks the principals and employees of Montgomery Associates, as well as everyone else who has contributed to our charitable endeavors and goals.

In 2010, the Foundation again split the costs of the three internships and three scholarships with AHS, for total charitable outlays of \$8,800. This equals 88 percent of this year's cash flow, a very high charitable giving/operations ratio. We expect this ratio to grow even higher as we stabilize our accounting and legal status, and as the investment environment for our endowment fund improves.

Also you can now visit the new [AHS Foundation Web page](#) and make online donations.

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## AHS CORPORATE BOARD OCTOBER MEETING

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The AHS Corporate Board will meet for the third quarter meeting in Phoenix at the EEC

offices near 16<sup>th</sup> Street and Northern on October 16<sup>th</sup>, 2010. Please RSVP to Mike Hulst, Corporate Vice President and Phoenix Chapter President, at [mhulst@eecphx.com](mailto:mhulst@eecphx.com). Many thanks to Mike and EEC for hosting the meeting.

## AHS CALL FOR NEW OFFICERS

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If you haven't already guessed, AHS exists due to the continued effort of many dedicated volunteers. Please consider becoming more involved in your professional society and run for a chapter officer, board member, or corporate board member position. We are always looking for new ideas, fresh approaches, and new blood. I can personally attest that AHS board meetings are seldom boring and usually fun and informative. The three chapters are accepting new board member candidates through the end of October. Slates will then be developed and voted on during November with all ballots being due by November 30th.

Interested members should contact their chapter president:

Phoenix Chapter – [Mike Hulst](#), EEC

Tucson Chapter – [Damian Gosch](#), University of Arizona

Flagstaff Chapter – [Brad Hill](#), City of Flagstaff

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## PHOENIX CHAPTER NEWS

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Our next dinner meeting will be **October 12<sup>th</sup>**, 2010, at the SunUp Brewery near downtown Phoenix to have a beverage, share business cards, and talk water.

<b>Location:</b>	<a href="#">SunUp Brewery</a> 322 E. Camelback Road Phoenix, AZ 85012
<b>Event:</b>	<i>Implications of extreme heat and drought on electricity consumption and water shortages in Phoenix</i> , David A. Sampson Ph.D., Decision Center, ASU Global Institute of Sustainability
<b>Chapter Board Meeting:</b>	4:30 PM – 5:30 PM
<b>Happy Hour &amp; Dinner:</b>	5:30 PM – 7:00 PM
<b>Presentation:</b>	7:00 PM – 8:00 PM
<b>Cost:</b>	\$15 member, \$20 non-member, \$5 student

RSVP with Kirk Creswick at [kcreswick@eecphx.com](mailto:kcreswick@eecphx.com) or 602-248-7702.

Hope to see you there!

## 2012 Symposium Planning Underway

The Desert Willow Conference Center at the Cotton Center in Phoenix has tentatively been selected as the venue for the 2012 Symposium. Details will be provided as they develop. If you have any strong opinions on locations or are interested in helping out with the early stages of the planning for 2012, please contact 2012 symposium planning chair, Ted Lehman, at [ted@jefuller.com](mailto:ted@jefuller.com) or 480-222-5709.

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## Future Event Calendar (see also calendar on [www.azhydrosoc.org](http://www.azhydrosoc.org))

- Officer Elections! Get your AHS groove on and contribute your voice and ideas to the society! Voting starts in November.
- November 9<sup>th</sup> – Jeff Trembly, Mogollon Environmental Services, “Heresy: Water Conservation may not be an unassailable societal good in the Valley of the Sun.” Location to be announced.
- December Dinner meeting – How ‘bout you? Contact [Keith Ross](#) if you’re interested in speaking!
- January Kick-off meeting – Join the Phoenix chapters annual planning meeting and help shape the direction of your society! Date and location to be announced.

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## MY EXPERIENCE AS THE 2010 HERMAN BOUWER INTERN SCHOLARSHIP RECIPIENT

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### by Matt Monte

Locked gates, underground vaults, government agents, technical drawings, a secure command center, and deep holes in the desert may sound like a new action novel, but these are just a few of the experiences that I encountered while working as a Herman Bower Intern. My name is Matt Monte and I was selected by the Arizona Hydrological Society Phoenix Chapter to be the 2010 Herman Bower Intern Scholarship recipient. This unique opportunity of working with three different Phoenix area organizations has provided me with an experience that cannot be replaced.

The intern experience consisted of working for two weeks each at a state agency, a private consulting firm, and a federally established state district. The Arizona Department of Water Resources (ADWR), AMEC Earth and Environmental, and the Central Arizona Water Conservation District (better known as Central Arizona Project, or CAP) were my welcoming hosts.

My time at ADWR was spent gaining familiarity with the different roles the department plays. I was exposed to groundwater permitting, groundwater modeling of the AMAs, well applications and impact studies, the Assured Water Supply requirements, the National Flood Insurance Program, Dam Safety and Inspections, and international water issues. I was able to spend two days with the field services team installing and calibrating remote transducers across the state and completing gravimetric loops within the Prescott AMA. I spent a separate field day with AAWS & Recharge Permitting inspecting a new Underground Storage Facility in the Southeast Valley. During my time at ADWR I learned of the different requirements that are in place to protect the waters of Arizona.

AMEC Earth and Environmental provided me with valuable field experience from the view of a consultant. Consultants play a unique role by having to answer to both clients and regulatory agencies. I participated in seismic studies of area dams, test pits for future construction, and an environmental litigation investigation. I worked with the environmental team on a Superfund and a voluntary municipal cleanup site conducting soil vapor gas sampling, along with well drilling and development. Working with AMEC allowed me to experience multiple field tasks similar to what is required from an entry-level hydrologist. AMEC also provided me with the true Arizona experience of logging soil samples on the Loop 303 and swinging a sledge hammer in 115 degree heat.

CAP provided an overview of their operations and the role they play delivering Colorado River water. It takes a staff of approximately 400 to manage and operate the 336 miles of canal. While at CAP I was able to observe the inner workings of Waddell Dam, two pumping stations, and multiple recharge facilities. I discussed with Planning the challenges and benefits of recharging within the AMAs. Multiple days were spent traveling along the canal discussing maintenance, subsidence, and environmental issues. I received a full description of Colorado River issues and their international implications. I was able to attend a board meeting and a public work study session that discussed how intertwined power and water are in Arizona. Finally, I received insight into the confusing world of the CAGR and discussed the potential benefits and obstacles of Project Add Water. CAP taught me just how important an often overlooked "ditch" impacts the state.

While the scope and role of each organization I visited is very different, each relies on the other to accomplish its mission. Coordination between these different groups allows for sustainable development to occur in Arizona.

The internship provided me an opportunity to speak with many professionals who are currently working in the field of hydrology. From a student's standpoint, their advice and knowledge is priceless. The professionals I spoke with have vast backgrounds of experience and have taken multiple routes to get where they are today. Even in today's challenging economy they maintain a positive attitude, and they are committed to the importance of hydrology in Arizona. With their advice I feel confident in my goal to attain a degree in Geology from Arizona State University and challenge myself to pursue a career in hydrology.

I would like to thank the Arizona Hydrological Society for this honor. Thank you to Steve Acquafredda for his guidance and assistance throughout the internship process. Thank you to Dave Christiana, Wes Hipke, Brian Conway, Paul Ivanich, Tracy Carpenter, Tito Comparan, Andy Krutz, Craig Brown, Scott Miller, Maureen Towne, and the entire staff of ADWR for an unforgettable experience. To the staff of AMEC, especially Naida Causevic, Ed Latimer, Jay Vanlandingham, Mike Rucker, Emily Corkery, Ed Nemecek, Shanda Wagner, and Chris Courtney, thank you for an incredible opportunity. Thank you to Dee Fuerst, Cliff Neal, Tim Gorey, Jeni Martin, Al Graves, Tom Curry, Larry Dozier, Terri Sue Rossi, Tom Harbor, Chuck Cullom, Placido dos Santos, and the entire staff of CAP for sharing their time and talents with me.

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## TUCSON CHAPTER NEWS

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### August Meeting Announcement

The October Tucson chapter meeting will be held at the [University of Arizona's Department of Hydrology & Water Resources](#). Please contact [Damian Gosch](#) for details.

## TUCSON NATIONAL WEATHER SERVICE TOUR

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*Write up by: Shane T Clark (University of Arizona: Watershed Hydrology)*

On the evening of June 8<sup>th</sup> **Erik Pytlak, Science and Operations Officer** gave a thirty minute presentation to the Arizona Hydrological Society at their main office. The presentation entailed a brief overview of what the NWS Tucson office primarily does and how they perform their duties. The Tucson office provides all kinds of warnings and advisories to include: storm advisories, flood, fire, thunderstorm, and climate information to Pima, Southeast Pinal, Santa Cruz, Cochise, Graham, and Greenlee counties. The NWS performs these functions by using various data sources such as Doppler radar, weather balloons (radiosondes) are absolutely critical to forecasting, and model predictors which runs dozens of simulations, each with different resolutions. The facility has 23.5 Terabytes of Ram and provides up to 4km resolution forecasting. Forecasting for the NWS is getting much more accurate and is trending toward probabilistic forecasting (x% chance of temp below freezing).

Erik continued the presentation with an overview of monsoonal features. A monsoon is a *seasonal* change in both upper and lower level winds from the polar westerlies to tropical easterlies. The official monsoon season in the Southwest U.S. is June 15-September 30. Multiple models are now forecasting a rapid flip to La Niña by late summer. Erik spoke briefly about how soil moisture in the plains states sometimes correlates with below average monsoon rainfall. The wet/cool conditions over the Plains can make it more difficult for the monsoon high to move north from Mexico, and remain east or north of Arizona.

The official NWS forecast for July – September is:

- 40-55% chance of above average temperatures (even hotter than usual)
- Equal chances for above or below average rainfall over the entire season
- On time, or slightly late moisture arrival is more likely than an early arrival
- Considerable uncertainty later this summer due to conflicting soil and water temperature trends

Special Thanks to Erik Pytlak for facilitating this tour and providing AHS the opportunity to visit, learn, and explore.

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## FLAGSTAFF CHAPTER NEWS

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The next Flagstaff Chapter meeting will be on **Wednesday, October 13, 2010**, 6pm, at Peabody Energy, 3001 W. Shamrell Blvd., Suite 110 (west side of Pulliam airport). The guest speaker will be Michael Tomlinson, School of Ocean and Earth Science and Technology (SOEST), University of Hawaii at Manoa (UHM), Honolulu, Hawaii.

### **Monitoring in the Ahupuaa**

Michael Tomlinson

School of Ocean and Earth Science and Technology (SOEST),

University of Hawaii at Manoa (UHM)

Honolulu, Hawaii

The ancient Hawaiian concept of the ahupuaa is analogous to the modern concept of a watershed but extends natural resource stewardship from the mountain summit to the

outer edge of the offshore reef system. For the last 12 years, Mike Tomlinson has monitored the hydrology and water quality of ahupuaa on the island of Oahu, Hawaii, first as a graduate student at UHM, as a Hydrologist for the USGS on the NAWQA Program, and finally as a staff oceanographer with the UHM Pacific Islands Ocean Observing System (PacIOOS). During his last 2 years as an oceanographer on PacIOOS, his work has been conducted from Flagstaff, AZ, where he processes and analyzes data, produces data products, and collaborates on manuscripts all via the Internet.

This presentation will describe the UHM watershed monitoring program employing automated stations to monitor streamflow and water quality with flowmeters, multiparameter water quality sondes, and robotic water samplers; manual trace metals clean sampling; and Mike's thesis research completed in 2004 on passive samplers that employ diffusive gradients in thin films (DGTs) to obtain time-integrated trace element concentrations in both fresh and salt water. This presentation will also describe the use of surrogates to estimate other water quality variables (e.g., turbidity to estimate suspended sediment concentration) and the need for high-resolution time-series data in rapidly changing aquatic systems.

The NAWQA portion of the presentation will concentrate more on the analyses of the data collected during the NAWQA Program to answer specific questions such as what controls the geochemistry of the fresh water and sediments of Oahu. Geostatistical techniques such as enrichment factors, ion ratios, and principal component analysis will be described.

Finally, the presentation will end with a discussion of the PacIOOS Program (part of the nationwide Integrated Ocean Observing System) which, since its inception, has provided UHM with the unprecedented opportunity to extend continuous environmental monitoring, recently restricted primarily to land-based installations, into the nearshore ocean: in other words – the entire ahupuaa. This network of land- and ocean-based environmental monitoring stations provides a unique opportunity to study the effects of storms, other natural phenomena, and accidental pollutant releases on the nearshore waters of Oahu, Hawaii. The ocean-based PacIOOS network consists of water quality, wave, and ocean current sensors mounted near the shore, on buoys, and on the seafloor, and supplemented with manual sampling. This presentation will show that even storm runoff from a relatively small, partially urbanized watershed can profoundly affect the coastal ocean for periods ranging from only a few days to more than a month. It also will show that antecedent conditions are important, and that an understanding of lag times between rainfall and changes in nearshore water quality can contribute to an effective early warning system to protect the people using Hawaii's popular recreational beaches. The presentation will close with a discussion of some of the challenges presented when integrating large quantities of data from diverse sources collected at disparate time intervals (from 4 to 30 minutes), some problems encountered and possible solutions, and suggestions for future monitoring efforts.

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Please visit the Flagstaff chapter online and check out the cool slide show Erin Young made for the web page from Mike Tomlinson's wonderful photos from the Flagstaff chapter's field trip, Rocks, Stops, and Hops. Mike combined the photos with cool Google Earth images and geologic maps – 285 images total! Thanks Mike!

Check it out at <http://www.azhydrosoc.org/flagstaff.html#MormonLake>

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### ARIZONA GEOLOGICAL SOCIETY: SPECIAL LUNCHTIME BROWN BAG TALK

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#### ***Extreme natural weathering, erosion, and debris-flow hazards in scar areas developed on mineralized rocks near Questa, New Mexico***

Geoff Plumlee  
U.S. Geological Survey

Tuesday, October 5, 12:10 PM  
Room 353  
Environment and Natural Resources Building  
University of Arizona

#### **Abstract**

Prominent erosional scars on hillslopes along the Red River Valley near Questa, New Mexico, have steep, denuded slopes and associated down-gradient debris fans. The scars developed naturally on stockwork-veined, quartz-sericite-pyrite (QSP)-altered volcanic rocks proximal to porphyry-molybdenum deposits, including those mined at Chevron Mining's (formerly MolyCorp) Questa mine. Downcutting of the Red River, following development of the Rio Grande rift to the west, initiated scar formation. Mineralized rocks in the scars decompose chemically (by pyrite oxidation and acid weathering) and physically (by freeze-thaw action and volume expansion from secondary gypsum formation) to produce a weathered veneer of sand- to pebble-size fragments of unweathered rock in a matrix of secondary gypsum, clays, and jarosite. Unoxidized QSP-altered bedrock crops out in steep scar gully bottoms, indicating that the weathered veneer is at most 3-30 m thick. Acidic (pH 2.6 to 4.4), metal-rich waters develop in the weathered veneer and near-surface bedrock of the scars. Carbonates in the unweathered, QSP-altered bedrock are sufficient to neutralize acid in deeper ground waters, which have near-neutral pH (5.7 to 7.6) and lower metal contents. The scars grow along steep headwalls by slope failure of the weathered veneer. Gypsum and other evaporative salts cement the weathered veneer during dry periods and short thunderstorms. Prolonged wet periods (snowmelt or multi-day rainfall) are needed to dissolve the salts and allow loosened weathered material to accumulate in scar gullies. Runoff from thunderstorms flushes accumulated loose material from the scar gullies onto debris fans downstream. The debris fans record repeated cycles of rapid erosion, transport, and deposition of weathered and unweathered mineralized sediments. Scar sediment is transported as debris flows, which commonly reach a highway along the Red River and have led to at least one motorist fatality in the past. Detailed temporal studies of sediment erosion, transport, and accumulation in the scars and associated debris fans, linked to coincident rainfall, snowfall, and runoff measurements, are needed to better understand and predict potential debris-flow hazards.

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### ARIZONA GEOLOGICAL SOCIETY MEETING, TUESDAY, OCTOBER 5, 2010

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#### ***Earth Science in Environmental Disaster Response and Planning***

Geoff Plumlee  
U.S. Geological Survey

Sheraton Four Points Hotel Conference Center  
1900 East Speedway (SE corner of Campbell and Speedway)  
Tucson

Lecture at 8:00 PM  
Tuesday, October 5, 2010

Reservations are required for the dinner. Admission to the talk only is free. Please also note that

although there is limited surface parking around the hotel, there is ample parking in the garage beneath the hotel.

SCHEDULE: CASH BAR @ 6:00 PM, DINNER @ 7.00 PM, TALK @ 8:00 PM. WITH RESERVATION: MEMBER = \$24.00, GUEST = \$27.00, STUDENT = \$10.00 If you do not have a reservation, an extra \$3.00 will be charged. Also, without reservations you may not get dinner. To make dinner reservations please call the AGS answering machine at (520) 663-5295 or reserve online at <http://www.arizonaageologicalsoc.org/meeting-information/dinner-reservations> by 5:00 P.M. on the Friday before the meeting. Leave name, number of attendees, and whether a vegetarian or low-salt meal is required. This number can also be used for field-trip reservations and leaving messages for Society officers. Please cancel your reservation via the answering machine if you find that you will be unable to attend.

### Abstract

Disasters pose a variety of direct threats to human safety and health, such as injuries or fatalities caused by building collapse or fire. However, disasters can also release hazardous materials into the environment that may pose both short- and longer-term environmental and health threats. The U.S. Geological Survey (USGS) has helped assess potentially hazardous materials produced by a number of natural and anthropogenic disasters, such as: dusts from the 2001 World Trade Center collapse; flood waters sediments from hurricane Katrina; ash and burned soils from 2007–2009 southern California wildfires; ash from numerous volcanic eruptions; and mud from the ongoing LUSI mud volcano eruption in East Java. These studies have demonstrated that earth scientists can play important roles in helping emergency responders and public health experts assess environmental and environmental-health hazards of disasters.

The USGS has also taken a lead role in the development of multi-disciplinary scenarios to model plausible physical, economic, and other consequences of future natural disasters. Recent examples include the 2008 Great Southern California ShakeOut scenario that modeled a geologically plausible 7.8 magnitude earthquake along the southern San Andreas fault (<http://urbanearth.gps.caltech.edu/scenario08/>) and the ongoing ARkStorm scenario that is modeling the impacts of a meteorologically plausible weeks-long winter storm affecting the western coast of the United States (<http://urbanearth.gps.caltech.edu/winter-storm/>). USGS scientists are working with expert collaborators and stakeholders from diverse disciplines to estimate plausible environmental and environmental-health impacts of the ShakeOut and ARkStorm scenarios. Helping to understand the potential sources, types, environmental behavior, and health implications of hazardous materials predicted to result from these disaster scenarios will enhance planning for, mitigation of, and hence resilience to, environmental and health consequences of future disasters.

Dr. Plumlee can be reached at [gplumlee@usgs.gov](mailto:gplumlee@usgs.gov)

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## **WESTCAS FALL CONFERENCE: “SUSTAINABLE WATER: A YEAR LATER---WHAT’S NEW?”**

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WESTCAS Fall Conference  
October 27-29, 2010  
Westward Look Resort  
Tucson, AZ

### **“Sustainable Water: A Year Later---What’s New?”**

The 2010 WESTCAS Fall Conference will return to the Westward Look to continue the WESTCAS focus on water/wastewater sustainability in the Arid West through discussions of current

regulatory, legislative, and policy issues. The Conference will feature significant presentations regarding the impact and implications of the latest round of stormwater permits; a new sustainable water infrastructure paradigm; current federal regulatory/legislative initiatives; and the latest developments with contaminants of emerging concern.

To make your sleeping room reservation, please call the Westward Look Resort at 1-800-722-2500 and ask for a room in the WESTCAS block. Room rates are \$109.00 plus tax and daily resort fee.

Click [here to view the 2010 Fall Conference brochure complete with registration form](#). While you will be able to register on-line within the next few days at [www.westcas.org](http://www.westcas.org), you can also download [the form](#) and e-mail it to [westcas@mindspring.com](mailto:westcas@mindspring.com) or fax it to 770-424-9468. We look forward to seeing you in Tucson!



**Western Coalition of Arid States**

*"The Voice of Water Quality in the Arid West"*

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## **JOURNAL OF ENVIRONMENTAL MANAGEMENT ARIZONA OFFERS NEW PROGRAM -- EMTV**

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The Journal of Environmental Management Arizona (JEM) has been working to expand the mission of the Journal (that is, to provide current, practical information to environmental, health & safety professionals) to include not only print and photo, but now to include on-line video. To this end they now offer a new website, [www.EnvironmentalManagement.TV](http://www.EnvironmentalManagement.TV), which will air online video Weekly Reports, including environmental information, technical info, and special guest interviews. Their special guest for the first week was Director Ben Grumbles of ADEQ. Weekly Reports are brief (5 to 7 minute) videos and are archived and viewable at the new website.

In addition to Weekly Reports, they also have several environmental professionals hosting "Channels". Channels are like columns in the Journal, except they are periodic video programs, instead of in print. They also plan on creating educational and training related videos over the next few months.

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## **OSHA SEEKS YOUR INPUT ON IDENTIFYING THE TOP CHEMICALS OF CONCERN**

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Setting and enforcing Permissible Exposure Limits (PELs) have been fundamental components of OSHA's approach to preventing occupational illnesses and injuries since the Agency was established in 1970 by the Occupational Safety and Health Act. Unfortunately, most of OSHA's PELs that were adopted when the Agency was first created have remained unchanged. Meanwhile, science has moved forward and health data indicate hazards below the levels permitted by many OSHA PELs. Like the occupational health community at large, OSHA realizes the inadequacy of many of its PELs and is seeking creative solutions, both long term and short term, to address this inadequacy.

As an initial step, OSHA is looking for your input to help the Agency identify the chemicals of concern on which we can focus our initial efforts beyond those which OSHA is already addressing

through ongoing rulemaking. We welcome you to nominate those chemicals for which the existing PEL is particularly inadequate or for which OSHA has no standard at all, and that are putting workers at risk for occupational illness. When nominating a particular chemical, please include the criteria you used for selecting that chemical for nomination (e.g., the OSHA PEL is inadequate, there is widespread use of the chemical and potential worker exposure). Please submit your nominations and criteria using the form on the OSHA website, <http://www.osha.gov/pelforum.html>.

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## TEMPE TOWN LAKE REPAIRS ARE ON SCHEDULE, OFFICIALS SAY

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by **Derek Quizon** - Sept. 18, 2010 07:28 AM  
*The Arizona Republic*

The reconstruction of the Tempe Town Lake dam is on schedule, according to city officials, and water will begin filling the lake by Oct. 8.

There is still some uncertainty in the air, though - officials have not determined when exactly construction of the new dam bladders will be complete or how quickly the lake can be filled in accordance with state safety standards.

Three of the four dam bladders have been brought in and are at various stages of completion, said city spokeswoman Kris Baxter.

Bladder No. 1 was rolled out Monday. It was the last of the three bladders to be brought in. Bladder 2 was the one that burst in late July and Bridgestone officials determined Bladder 3 needed to be replaced before the others.

The city is tracking progress on the repairs at its website. According to an update posted this week, bladder No. 3 is about 85 percent complete, bladder No. 2 is about 70 percent complete and bladder No. 1 is about 10 percent complete.

It takes about six weeks to fill a bladder, according to the city's website, although Baxter said she is still unsure of when all three bladders will be ready.

"It's a moving target," she said. "(Crews) are working simultaneously on everything."

Read more: <http://www.azcentral.com/news/articles/2010/09/17/20100917tempe-town-lake-repairs-on-schedule.html#ixzz10ewK5dGo>

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## CLEANUP PLANNED FOR URANIUM SITES ON INDIAN LAND

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by **Shaun McKinnon** – Sept 14, 2010 12:00 AM  
*The Arizona Republic*

A mining company and a federal agency agreed Monday to spend about \$2.5 million on efforts to clean up two uranium-contaminated sites on the Navajo and Hopi reservations, where tribal leaders have pressed the government for years to take action.

The projects at both locations represent incremental progress in a decades-long attempt to repair the environmental damage left by more than 500 Cold War-era uranium mines, most long since abandoned, across Arizona, New Mexico and Utah.

The old operations, with their history of pollution-sickened residents, have become a rallying point for tribes and environmental groups opposed to new uranium mines near the Grand Canyon. Tribal officials welcomed the planned cleanup work Monday but referred to the agreements as

"first steps."

At the first site, near Gallup, N.M., Canadian mine operator Rio Algom Mining will build fences to keep people and animals away from uranium waste and pave a road to reduce the contaminated dust tracked away from the old mine site.

Work at the second site, a landfill at Tuba City, won't initially result in any on-the-ground cleanup, but it will produce by 2012 an analysis of how much uranium from mining operations has seeped into the water and ground, as well as a plan to remove the soil and other waste that pose the most serious threats to people in the area.

Read more: <http://www.azcentral.com/news/articles/2010/09/14/20100914arizona-indian-reservations-uranium-clean-up.html#ixzz10tZMllgj>

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## GRAND CANYON'S FUTURE AT 'GRAVE RISK,' REPORT SAYS

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by **Shaun McKinnon** - Aug. 24, 2010 12:00 AM  
The Arizona Republic

Haze blurs the skies over the Grand Canyon, tour planes break the backcountry silence, uranium mines are making a comeback near the Canyon's rim and the Colorado River has lost its muddy mojo.

Add to those threats a perpetually underfunded budget and the picture that emerges is a national park where efforts to protect resources are increasingly compromised, a conservation group said Monday.

In an 80-page "State of the Parks" report, the National Parks Conservation Association analyzed the most serious threats to the Grand Canyon. Some come from outside the park, such as air pollution that blankets the region and future mining operations that could contaminate water flowing downstream into the Canyon. Some threats come from within, such as the popular but noisy air tours that draw complaints from visitors backpacking into the Canyon's more remote corners.

Most of the issues raised would require significant amounts of money to fix, changes in state and federal policies, concessions by private businesses, or all of those, but the association said if the problems are left unchecked, the very nature of the park could change forever. Future visitors could find the most majestic views obscured, and habitats for native species could vanish.

Read more: <http://www.azcentral.com/news/articles/2010/08/24/20100824grand-canyon-future-at-risk.html#ixzz10tXEH8O6>

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## US APPROVES NEW 8-MILE LINE GIVING ROSEMONT CAP ACCESS

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[Tony Davis](#), August 2, 2010 12:00 am

[Arizona Daily Star](#)

The federal government has approved an eight-mile pipeline to bring Central Arizona Project water to the Green Valley area, to give the proposed Rosemont Mine an alternative to pumping groundwater.

But although the pipeline was once promoted as a boon for water-thirsty Green Valley, the mining company may be the main - if not only - user of the water for up to 20 years.



That's partly because an agreement between the private water company that has proposed the line and Rosemont Copper gives the mining company priority use of the water belonging to the Community Water Co. of Green Valley, unless the water company needs it. The water company won't be ready to use the CAP - mainly for economic reasons - for 15 to 20 years, about the time that the mine is slated to cease operations, according to the water company's board chairman. The water company's efforts to bring other water companies and water users into the pipeline deal also haven't succeeded so far.

Rosemont has pledged to pay for the pipeline and will buy the water company's CAP supply like a typical customer. If only Rosemont used

the pipeline, it would keep the Green Valley area's chronic groundwater overdraft from getting worse. But it wouldn't lessen the overdraft caused by existing pumping by farms, other mines and other water companies serving homes and businesses.

Read more: [http://azstarnet.com/news/science/environment/article\\_2eebd791-199e-55d7-8a98-1babff70d672.html](http://azstarnet.com/news/science/environment/article_2eebd791-199e-55d7-8a98-1babff70d672.html)

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## **WATERBLOGGED BY SHAUN MCKINNON, ARIZONA REPUBLIC**

### **Arizona's sustainable water goals 'almost impossible' to reach without new strategies**

Tuesday, September 14, 2010 at 04:35 PM

In the back pages of a [new report](#) about **Prescott's** future water supplies, the **Arizona Department of Water Resources** warns, in unmistakably clear terms, that, under the agency's current authorities, the state will fail to meet its sustainable water resource goals without changes in the way water is managed.

The conclusions are significant and should be required reading for policy makers at every level of government, from city councils on up to the Legislature. One phrase in particular is important: The current structure will not only result in unmet goals, it "may over time move us farther away."

The 1980 **Groundwater Management Act** was built around a basic goal: safe yield. That means using no more groundwater than can be replaced, either through natural or artificial recharge. For most of the [active management areas](#) created by the law -- there are five now, in **Phoenix, Tucson, Prescott, Pinal County** and **Santa Cruz County** -- that meant using more renewable water resources and limiting groundwater pumping.

The deadline for achieving safe yield was 2025, a heady 45 years in the future.

Read More at <http://www.azcentral.com/members/Blog/ShawnMcKinnon/98464>

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## Monsoon rains as hit-and-miss as ever

Monday, August 30, 2010 at 11:28 AM

One of the few consistent traits of Arizona's monsoon is its inconsistent behavior.

Rain gauges can produce wildly different results within just a few miles of one another. On Saturday, for example, parts of Phoenix's central and east valley were hammered, while the sun shone on my westside neighborhood.

With that in mind, here are some seasonal rainfall totals from around the state, starting from June through Sunday, as reported by the National Weather Service. The proviso "your results may vary" has never been truer, by the way.

- Flagstaff: 9.59 inches, a little more than 4 inches above normal
- Winslow: 1.79 inches, not quite an inch below normal. Winslow, by the way, is 57 miles east and downhill from Flagstaff.
- Phoenix: 2.35 inches, half an inch or so above normal, and considerably below what rain gauges on the northeastern and southeastern fringes of the metro area.
- Yuma: 0.61 of an inch, about a tenth of an inch below normal, which wouldn't be bad, except the entire 0.61 of an inch fell last Thursday.
- Tucson: 4.75 inches, which is just a splash above normal.
- Douglas: 8.27 inches, about two and a quarter inches above normal.
- Elsewhere, Nogales measured 7.89 inches, Safford posted 3.34 inches, Casa Grande received 1.93 inches and Blythe, Calif., barely measured 0.03 of an inch.

For most of the locations, June was dry; almost all the rain fell in July and August, which is about normal for the Arizona monsoon.

The official monsoon season continues through Sept. 30, but the monsoon could pack up and leave almost any time in September. In Phoenix, the air was noticeably drier this morning and there's almost no rain in the forecast for now.

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## Lake Mead 1983: Photos tell wet story

Thursday, August 12, 2010 at 02:15 PM

I wrote a story for the newspaper today looking at steps being taken to keep Lake Mead from sinking below the elevation that will trigger water rationing for Arizona and Nevada.

We illustrated it with photos of the reservoir at Hoover Dam in 1983, when it reached its highest level ever (1,225.85 feet above sea level) and from 2009, as it approached 54-year lows. If you were anywhere in the West back in '83, you remember how storms in the Rocky Mountains filled the Colorado River and sent water gushing through the streets of Salt Lake City.

Wet barely began to describe the conditions that year.

Just for your enjoyment, here are some more photos of Lake Mead from 1983, courtesy of the U.S. Bureau of Reclamation. You'll see aerials of the lake, as well as close-up shots of water gushing into the spillways.

View pictures at Shaun's blog site,

<http://www.azcentral.com/members/Blog/ShawnMcKinnon/92737>

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For associated links and other timely water blogs on Shaun McKinnon's Arizona Republic site – **Waterblogged** visit <http://www.azcentral.com/members/Blog/ShawnMcKinnon>.

## ADDITIONAL INFORMATION

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*For more information about the Arizona Hydrological Society, or to view current job listings and announcements, please visit our regularly updated web site at:*

<http://www.azhydrosoc.org/>

*Membership may be renewed by credit card through the AHS website or by mailing a check to the Arizona Hydrological Society, c/o Christie O'Day, 3317 S. Higley Road, Suite #114, Box 120, Gilbert, Arizona 85297. Dues remain at \$45.00 year for regular membership and \$15.00 for students. Hope to see you at 2010 AHS Symposium! Your 2011 membership is included in the registration fee.*

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