

AUGUST 2012 NEWSLETTER

CONTENTS

Viewpoint: HELP!!!

Government Goings-On

2012 AHS Water Symposium: Confluences – 25 years bringing water, people, and ideas together

Phoenix chapter news

Tucson chapter news

Flagstaff chapter news

Hydro-news

Arizona Geological Society Meetings

Geology and Development of the Rosemont Copper Deposit

Water Use by Single-Family Residences in the Tucson Water Service Area in 2009 & 2010

Navajo council rejects water rights settlement

Vast aquifer found in Namibia could last for centuries

Navajo-Hopi water deal collapses

Fountain Hills Sanitary District signs lease for groundwater rights

First-Ever Colorado River Day Celebrated

Waterblogged by Shaun McKinnon, Arizona Republic

Rising temps shrink snowpack in Utah

Job Board

Additional Information

VIEWPOINT: HELP!!!

As I prepare for my corporate point of view I am taking in the opening ceremony for the 2012 Olympics and I am blown away at all the people that worked so tirelessly on that program. Did you know that most of those dancers (if you watched) were volunteers? I thought what an awesome undertaking to pull all those folks together to put on one heck of a show. Being that the Olympics are in London this year it seemed fitting that during the opening ceremony they showcased the rich history and culture of Great Britain that the world has been privileged to enjoy. One of the tributes was the musical history and you guessed it they played a few Beatles tunes. Now I know no matter how old you are you know who the Beatles are.....right? The song that sticks in my head is Help; not only do I really like this tune but it also is the theme for this corporate point of view installment.

Help... I would like to make a call for help out the membership to register for this year's Symposium. The Phoenix Chapter is hosting the Annual Symposium this year at the Desert Willow Conference Center (DWCC) from September 18th -21st and we would like as much participation as possible. Registration is now open for the Symposium at the web site, http://azhvdrosoc.org/2012Symposium.

Help... us drum up support for Meet and Greet Session that will be held the evening of September 18th at the DWCC. The Meet and Greet program will be taking place of our traditional ice breaker. As I have talked about in the past, we would like to give back to the profession and be a part of the community regarding water related issues. We have invested time and resources into this session to bring out the professionals to network and see what AHS is doing. The flyer has been posted on the Symposium web site so please print it out and post it in your place of work. Please reach out to students and faculty so they can come out and see what AHS is doing and what we are all about. Now I know that I mentioned that it is Free, but even though the event is free we asked that you RSVP and you can find out all that information on the flyer.

Help..., we have been getting that from our wonderful sponsors but we still have room for exhibitors, break and workshop sponsors. Thank you to all of our sponsors we appreciate your support and I look forward to seeing you at the Symposium.

Mike Hulst

AHS Corporate Board President

Top of the Document

GOVERNMENT GOINGS-ON

The front page story of the Arizona Republic on July 24 lamented the collapse of the proposed Navajo-Hopi water rights settlement

(http://www.azcentral.com/news/articles/2012/07/20/20120720navajo-hopi-water-deal-collapses.html#comments). This would have been a major component of the overall Little Colorado River settlement. It also would have been Senator Jon Kyl's final achievement in the area of water rights. The proposed settlement died with a vote of the Navajo Tribal Council in early July followed by a vote of the Hopi Tribal Council a couple of weeks later; both councils declined to approve the enabling legislation that Kyl had sponsored in the Senate to make the settlement happen, effectively killing it. And that is a very big deal.

The sticking point appeared to be the lease for the Navajo Generating Station (NGS) and water, air emissions, and other associated environmental impacts from coal mining. Both tribes had significant numbers of people opposing inclusion of NGS in Kyl's legislation, and neither council felt that the deal met their goals.

What the article misses is the direction in which many tribal members are moving. There is a growing concern with the environment that is being expressed politically—in 2010 Linda Lovejoy, the environmental candidate for the Presidency of the Navajo Nation, won 47% of the vote. Beginning with the sad legacy of uranium mining on the Reservation, many Native Americans have become convinced over the years that the economic interests of non-Reservation entities run opposite to their interests. The tribes are becoming more assertive in water negotiations. Most recently I have seen assertions of tribal concerns with a definite environmental slant come to the fore in meetings of the Water Resources Development Commission. Native Americans will not be ignored, and they won't be bought off when it comes to water. This is unpleasant news for many water buffalos sitting in water negotiations, who all share the same implicit assumption that water is solely for economic development and growth. The "environment" is

usually a poor step-child at these gatherings.

Senator Kyl didn't see this coming either, and he is a veteran of the politics of water who deserves respect. The emergence of tribal concerns over water as part of a renewed emphasis on the environment—and their willingness to say no—seems likely to change many future negotiations involving Native Americans. It could alter the character of water settlements in Arizona for decades to come.

Alan Dulaney

City of Peoria

Top of the Document

2012 AHS WATER SYMPOSIUM: CONFLUENCES – 25 YEARS BRINGING WATER, PEOPLE, AND IDEAS TOGETHER

The 2012 AHS Annual Symposium draws near and the program comes together. The Symposium Planning Committee recently completed the technical program. Thanks to all who submitted talks and posters. We are thrilled by the excellent response. The full program will soon be available for review on the website (http://www.azhydrosoc.org/2012symposium.html).

In addition to the informative technical sessions on Wed. & Thurs., we have four excellent workshops planned on Tuesday, a great plenary program lined up on both Wednesday & Thursday mornings, and a series of great field trips to choose from on Friday.

We've gone to great lengths to make this year's event information packed and affordable. Full early registration is only \$255. Workshops for symposium attendees are only \$35 each. Check them out on our <u>website</u> and get yourself registered!

While we're making great progress and things are coming together nicely, we are still looking for:

Sponsors & Exhibitors - Sponsorship fundraising has been very successful so far, but we need additional support. To date we've reached about 50% of our goal. Please help us get the remaining half! Thanks so far to:

- · Platinum Level Sponsor Freeport McMoRan Copper & Gold
- Gold Level Sponsor Montgomery & Associates
- · Silver Level Sponsor Schlumberger
- · Awards lunch sponsor Central Arizona Project
- · Break Sponsors ACS, Atwell, Zonge International
- · Premium Exhibitors Golder Associates, US Bureau of Reclamation, & Zonge International
- Exhibitors Aquatic Informatics, Bill Johnson Equipment Company, Boart Longyear, Groundwater Environmental Services, Hydrogeophysics, Intermountain Environmental, TAM International, & the UA Water Sustainability Program.

Please join these groups in support and participation in this year's Symposium. More information on sponsorship benefits & options are available on our website at http://azhydrosoc.org/2012Symposium/sponsors.html. Or give our Fundraising Chair & Society President, Mike Hulst, a call at 602-248-7702 ext, 318, or drop him an email at mhulst@eecphx.com. Thank you!

Student Registration Sponsors – This year we have started a new program to provide Symposium registration scholarships to students. The idea is to bring in more student participation to the Symposium, and make it easier for deserving students to attend. Student sponsorship donations are to the AHS Foundation and qualify as tax deductible charitable

donations. David Sampson is heading up the student recruitment and review of applications for these registration scholarships.

Teacher's Workshop Sponsors – This year we are also looking for sponsors to support the Teacher's Workshop. Since 2003, Arizona Project WET has conducted teacher professional development workshops at the AHS Symposia. Funding has grown tight, so this year AHS Foundation is soliciting pledges of financial support for Project WET at this year's Symposium. We are looking for a minimum of \$1500 to make this year's Teacher's Workshop a reality. To encourage your support, Mogollon Environmental Services will fund a drawing for donors with a grand prize of a \$150 gift certificate to the restaurant of the winner's choice, and two second place prizes consisting of hand-thrown coffee mugs, because it is not a pledge drive without coffee mugs. So e-mail your pledge today to Jeff Trembly: jeff@mogollonenv.com and get eligible for these prizes!



Silent Auction/Raffle Items – We need your donations! We're looking for items to include in our silent auction/raffles during the Symposium. So far we have a number of interesting items from irrigation controllers, to fossils, to historic maps and signed books. If you have some items you'd like to donate, please contact Vicki Mills, at vmills@asu.edu or Ted Lehman, at ted@jefuller.com or 480-222-5709. Donations go to the AHS Foundation and as such qualify as charitable tax deductions. All proceeds from the raffles/auctions will go to the AHS Foundation. We have a great bundle of goodies so far, but we need more! Give generously!

If you have any questions about the Symposium, please email or call Mr. Lehman at ted@jefuller.com or 480-222-5709.

We're looking forward to your participation in this year's Symposium.

Top of the Document

PHOENIX CHAPTER NEWS

Phoenix Chapter's Dinner Meetings will resume October 9, 2012

The Phoenix is observing our summer hiatus and focusing our energy of the 2012 AHS Water Symposium in September. The Symposium Planning Committee's next meeting will be Thursday, August 2, 5 PM, at the Boulders in Tempe.

Wine Tasting Wrap-Up

The Phoenix Chapter held their 2nd Annual Wine Tasting fundraiser for the Herman Bouwer Intern/Scholarship Program. We had a good turnout, good conversation and also tasted some great wines. The event rose over \$1,000 for the scholarship program. We would like to extend a big thank you to our event sponsors Southwest Exploration Services, Inc., Terroir Wine Pub, Beeman Drilling, Accutest, and all the attendees for making this a great success.

- Ø August and September 2012: Our summer hiatus!
- Ø **September 18-21, 2012**: The annual AHS Water Symposium hosted by the Phoenix Chapter at the Desert Willow Conference Center, 4340 East Cotton Center Boulevard Phoenix, AZ 85040.
- Ø **October and beyond** maybe you or a colleague? Please contact <u>Tom Walker</u>, Phoenix Chapter Vice President, if you would like to give us a presentation or if you know anyone else who could use an audience.

Top of the Document

TUCSON CHAPTER NEWS

Metro Water has registered for a NGWA sponsored half hour webcast and interested AHS members are invited to attend. The webinar will be shown in the Metro Water board room on Wednesday, **August 15**, at **10:00** am **Arizona time**.

Wellfield Development Challenges and Implementation

Join us for a members-only brownbag webinar on August 15 at 1p.m. ET

Robert Gray, PG, is a senior hydrogeologist with Daniel B. Stephens & Associates Inc. He has more than 35 years of professional experience in the mining, environmental, and water resource development industries including wellfield and well design, water resource and well impact studies, site instrumentation, and groundwater flow modeling. Attend this webinar to learn about the challenges encountered and solutions implemented as Gray shares his experiences and reviews employed methodology for constructing a new wellfield in the Ogallala of the Texas Panhandle (awarded the NGWA Outstanding Groundwater Project for Water Supply in 2011) and expanding an existing wellfield in the Pecos Valley alluvium in west Texas. The two projects combined resulted in new production capacity exceeding 50 million gallons per day.

Visit our events <u>page</u> to learn more, and click <u>here</u> to register! This webinar is free for members, but space is limited. After registering you will receive a confirmation email containing information about joining the Webinar. Be sure to check out all of our upcoming brownbag webinars <u>here</u>.

Participants may earn **0.05 CEUs** by attending this brown bag Webinar.

The regular Tucson Chapter Meetings will resume October 9, 2012. In the mean time, please join us at the symposium in Phoenix for the annual AHS Water Symposium, September 18-21, at the Desert Willow Conference Center, 4340 East Cotton Center Boulevard.

Top of the Document

FLAGSTAFF CHAPTER NEWS

Please contact Mike Tomlison or Dana Downs-Heimes about upcoming events in Flagstaff.

Top of the Document

ARIZONA GEOLOGICAL SOCIETY MEETINGS

Geology and Development of the Rosemont Copper Deposit

Jeff Cornoyer, Rosemont Copper

Sheraton Tucson Hotel & Suites 5151 E. Grant Road, Tucson (Just east of the northeast corner of Grant Road and Rosemont)

Lecture at 8:00 PM Tuesday, August 7, 2012

Reservations are required for the dinner. Admission to the talk only is free.

SCHEDULE: Social hour starts at 6:00 PM; dinner starts at 7:00 PM; The talk starts at 8:00 PM.

WITH RESERVATION: MEMBER = \$24.00, GUEST = \$27.00, STUDENTS = \$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.arizonageologicalsoc.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.

A reminder of a new AGS policy: You will be invoiced for the cost of the dinner if you make reservations for the dinner meetings and do not show up. Dinner reservations must be cancelled by phone or email by the Friday prior to the dinner meeting. If you are unable to attend because of illness or a true emergency, we will consider waiving the dinner cost on a case-by-case basis. We will continue to try to accommodate walk-ins whenever possible.

Abstract

Rosemont Copper Company will set a high standard for sustainable mining practices, including using solar power, consuming less than half the water as traditional mines with filtered tailings, and reclaiming the site as permanent open space by revegetating with concurrent reclamation throughout the life of the mine. Rosemont Copper has completed feasibility engineering and is in the process of final engineering and permitting leading to the development of the Rosemont copper-molybdenum-silver deposit, with final permits expected in December 2012. The deposit is located approximately 25 miles southeast of Tucson, Arizona, on the east flank of the Santa Rita Mountains. Mining in the area predates the turn of the 20th century, and in 1879 U.S. Congress declared the area the Rosemont-Helvetia Mining District. At the time, mining was limited high grade veins from underground workings. More recent interest has been focused on the development of lower grade, broadly distributed mineralization amenable to open pit mining. Original drilling and geologic work was conducted by Anaconda and its Anamax joint venture, with subsequent work by ASARCO. Rosemont Copper Company purchased the property in 2005 and has continued to evaluate the deposit and its potential for development. The Rosemont deposit consists of copper-molybdenum-silver mineralized skarns related to a quartz-monzonite porphyry intrusive. Host rocks to the intrusion consist of Paleozoic and Mesozoic carbonate and clastic sediments. Surrounding the intrusive contact, the carbonates and clastics were metasomatically altered to various calcillicate skarns and hornfels. Mineralization associated with the intrusion and host rock alteration consists of broadly distributed disseminations and veinlets of sulfides, primarily bornite and chalcopyrite. Following the mineralization event, the deposit was subjected to faulting. Interestingly, the complex faulting in the deposit area has left only minor scattered remnants of the intrusive stock for a "rootless" intrusion, leading to much debate over time. Erosion has sculpted the current configuration of the deposit area, accompanied by near surface weathering and oxidization, which has resulted in a small amount of oxide

mineralization in the clastic Mesozoic cover.

Rosemont Copper Company has conducted extensive resource drilling and metallurgical test work, leading up to a Feasibility Study in 2007 that demonstrated positive economic viability. Since that time further work by Rosemont was used to complete an Updated Feasibility Study in 2009. In early 2012, a drilling program was completed for an additional 2012 Feasibility Study update and expanded the Rosemont resource and reserve. The updated mineral reserve includes 266 diamond drillholes totaling 342,707 feet with 667.2 million tons of sulfide ore averaging 0.44% copper, 0.015% molybdenum, and 0.12 ounces per ton silver. Total resource contains 919.3 million tons of 0.41% copper, 0.014% molybdenum, 0.11 ounces per silver and 63.4 million tons of oxide ore averaging 0.17% copper. The project is planned as an open pit mine to provide 90,000 plus tons per day of sulfide ore to a crushing-grinding-flotation facility to produce both a copper and molybdenum concentrate, with average production of 243 plus million pounds of copper for a 21 life of mine. Rosemont Copper Company is continuing with detailed engineering and permitting of the project with an anticipated production startup in early 2013. The Rosemont mine will be a significant U.S. copper producer and will have a positive economic impact of over \$19 billion dollars into the Arizona economy over the life of the mine, provide 2100 local jobs and create over \$128 million per year of county, state, and federal tax revenue.

BIOGRAPHY- Jeff Cornoyer

Jeff joined the Rosemont team in 2006 and has a degree in geological sciences from Arizona State University. He has been instrumental in drilling management and planning, drill core logging, geologic mapping, database management and resource modeling. Jeff is looking forward to seeing and helping the project progress into an operating mine. In addition to Jeff's involvement with AGS, Jeff is the current Program & Sponsor Chair for the Tucson SME, Program Chair for the 2012 Arizona SME Conference, and a Trustee of the American Institute of Professional Geologists Foundation.

Top of the Document

WATER USE BY SINGLE-FAMILY RESIDENCES IN THE TUCSON WATER SERVICE AREA IN 2009 & 2010

Residential water use study by Akitsu Kimoto, Evan Canfield, and Tom Arnold from Tucson Water as baseline information for demand management for the City/County Water Study has been released. The study looked at water use for 70,000 residences in the Tucson Water service area using monthly water use data from 2009 & 2010, as well as data on the parcels from the Pima County Assessor's office and occupancy from the 2010 census.

http://tucsonpimawaterstudy.com/

Click here for full report.

Top of the Document

WRRC: WATER FOR THE ENVIRONMENT BULLETINS

The Water Resources Research Center (WRRC) is happy to announce that all four regional bulletins on environmental flows and water demands are now available on our website at:

http://wrrc.arizona.edu/Water-for-the-Environment. Hard copies or a pdf e-mailed directly to you are available by request. The series of bulletins covers the entire state in four regions: Central, Southeastern, North/Northeastern Arizona, and the Colorado River.

These bulletins provide a concise introduction to the current knowledge about environmental water demands in each region, outline gaps in that understanding, and illustrate how environmental demands can be considered in the context of other regional water demands. If you are interested in learning more about how the WRRC can help your organization apply this information to your water planning or management process, or are interested in a general presentation about environmental water demand in Arizona do not hesitate to contact Kelly Mott Lacroix.

Kelly Mott Lacroix Research Analyst Water Resources Research Center University of Arizona 350 N Campbell Ave. Tucson, AZ 85719 520-621-3826 klacroix@email.arizona.edu]

Top of the Document

NAVAJO COUNCIL REJECTS WATER RIGHTS SETTLEMENT

by Felicia Fonseca - Jul. 6, 2012 08:49 AM

Associated Press

FLAGSTAFF - Navajo lawmakers have rejected a settlement to recognize the tribe's water rights from the Little Colorado River basin, likely sending the tribe and its Hopi neighbor back to court to resolve their claims.

The Tribal Council voted 15-6 against the settlement Thursday during a special session in Window Rock. The vote also puts a stop to legislation in Congress to move the settlement forward because it needed the blessing of both the Navajo and Hopi tribes.

"I think it's a missed opportunity," said Jared King, a spokesman for the Navajo Nation. "These things don't come by very often. It's disappointing."

Critics saw the settlement as an attack on their aboriginal rights and tilted toward corporate interests. They urged lawmakers to vote it down and continue fighting in court. A case in Apache County had been on hold while the tribes and 30 other entities worked out a settlement decades in the making. Aside from Zuni Pueblo, no other Arizona tribe has acquired rights to the Little Colorado River.

Under the settlement, the tribes would have waived further claims to the river basin if the federal government funded more than \$300 million in groundwater delivery projects. U.S. Sen. Jon Kyl, R-Ariz., had said the settlement would address the water needs of the reservations and provide certainty of the state's water supply for off-reservation communities.

Read more: http://www.azcentral.com/news/20120705PNI0706-wir-arizona-navajo-water-rights-settlement-rejected.html#ixzz226vVHtFH

Top of the Document

VAST AQUIFER FOUND IN NAMIBIA COULD LAST FOR CENTURIES

By Matt McGrath Science reporter, BBC World Service

20 July 2012 Last updated at 05:15 ET

A newly discovered water source in Namibia could have a major impact on development in the driest country in sub-Saharan Africa.

Estimates suggest the aquifer could supply the north of the country for 400 years at current rates of consumption.

Scientists say the water is up to 10,000 years old but is cleaner to drink than many modern sources.

Pressure from the aguifer means the water is cheap to

extract

However, there are concerns that unauthorized drilling could threaten the new supply.

Huge resource

For the people of northern Namibia water is something that they either have too much of or too little.

The 800,000 people who live in the area depend for their drinking water on a 40-year-old canal that brings the scarce resource across the border from Angola.

Continue reading the main story

BGR

Top of the Document

NAVAJO-HOPI WATER DEAL COLLAPSES

Kyl unable to close deal before retiring

by **Shaun McKinnon** - Jul. 23, 2012 11:30 PM The Republic | azcentral.com

The collapse of a long-sought Navajo-Hopi water settlement this month represents a lost opportunity for the tribes to secure reliable water supplies and for Sen. Jon Kyl to close one last tribal deal before he leaves office in January.

Navajo lawmakers voted July 5 to reject the agreement and Kyl's enabling legislation, which would have authorized funding for water-delivery projects. The Hopi Tribal Council on June 21 narrowly approved the settlement but voted down Kyl's bill, a necessary component of the deal. The settlement required the approval of both tribes to move forward.



A sign posted outside a water-rights conference at Rocky Ridge Boarding School in Rocky Ridge, Arizona.

PHOTO BY: Mark Henle/The Republic

Support for the agreement eroded after Kyl introduced the bill in February. Opponents framed the deal as unfair to the tribes, claiming its central component awarded groundwater that already belonged to the reservation communities.

They also seized on a provision that offered the Navajos extra water if tribal leaders agreed to extend the

land lease for a power plant near Page.

The tribes could still try to salvage pieces of the settlement, but time has nearly run out to reintroduce it in Congress, where attention is focused almost exclusively on the election.

Once Kyl retires, the tribes will lose their strongest and most knowledgeable advocate and the driving force behind many of the state's key water deals. Without a settlement, the tribes' claims to water would be decided in court, an option that would offer no guarantee of water and no promise of federal assistance to build pipelines, leaving thousands of people with a future of hauling water across the sprawling reservations.

"It's very disappointing," said Kyl, R-Ariz. "They have a water right, and they should get it. We have a responsibility to try to get it to them. I would have liked to be able to do that for the people I represent. I'm afraid this might have been their last chance."

The Navajos and Hopis represent the largest unsettled tribal water- rights case in Arizona. The failed agreement would have satisfied claims on the Little Colorado River and resolved disputes over groundwater aquifers beneath the two reservations. Claims on the main-stem Colorado remain mired in negotiations over funding and the availability of water.

Read more: http://www.azcentral.com/news/articles/2012/07/20/20120720navajo-hopi-water-deal-collapses.html#comments#ixzz226mr3okR

Top of the Document

FOUNTAIN HILLS SANITARY DISTRICT SIGNS LEASE FOR GROUNDWATER RIGHTS

by **Edward Gately -** Jul. 25, 2012 The Republic | azcentral.com

A potential shortage of reclaimed, or effluent, water in Fountain Hills has been averted through a groundwater-rights lease with a Scottsdale homeowners association.

Three of the town's four golf courses had been bracing for financial hard times from a possible shortage of the water they use for irrigation. The Fountain Hills Sanitary District, a separate entity from the town, has contracts to sell the water to Sunridge Canyon Golf Club, Eagle Mountain Golf Club and FireRock Country Club for irrigation.

Ron Huber, the district's manager, said the Scottsdale Ranch Community Association has agreed to a non-agricultural groundwater-right lease that will prevent a shortage for 24 months. Scottsdale Ranch is a master-planned community along Shea Boulevard east of the Pima Freeway.

"They have a water right and they're not using it right now so they are going to lease a portion to us," Huber said. "It's for 400 acre-feet of water, which is enough to avert the shortage. It's \$110 per acre-foot of water -- the amount of water that would cover an acre of land 1 foot deep -- so it works out to \$44,000."

The lease will be paid through the rate golf courses are charged for treatment and delivery of reclaimed water, Huber said. Fountain Hills residents won't be covering that cost, he said.

Read more: http://www.azcentral.com/arizonarepublic/local/articles/2012/07/25/20120725fountain-hills-sanitary-district-signs-lease-groundwater-rights.html#ixzz21wy13A1V

Top of the Document

FIRST-EVER COLORADO RIVER DAY CELEBRATED

Doug Ramsey, Public News Service - AZ

July 26, 2012

PHOENIX, Ariz. - It was 91 years ago this week that the "Grand" River was renamed the "Colorado." States that rely on the Colorado for drinking water and economic benefits marked the occasion on

Wednesday by celebrating the first-ever Colorado River Day.

Phoenix city councilman Bill Gates says water from the Colorado is like electricity for most folks: They don't think much about where it comes from and pretty much take it for granted.

"We need to recognize the importance of this river to not only the whole state of Arizona but to the City of Phoenix in particular, because the CAP - the Central Arizona Project - is such an important source of water."

Demands on the Colorado River now far exceed its supply. The aim of Colorado River Day is to promote conservation, to bring the river back into balance and to keep its water affordable for those who depend on it.

Click here to read more...

Top of the Document

WATERBLOGGED BY SHAUN MCKINNON, ARIZONA REPUBLIC

Greenzone: Less snow in Utah, a green divide

Friday, July 13, 2012 at 03:51 PM

Rising temps shrink snowpack in Utah

Rising temperatures are turning snow into rain in the **Utah** mountains, <u>a new study</u> has concluded, a change that could leave reservoirs with less water for use during the warm and dry months each year.

Researchers at **Utah State University's** <u>Utah Climate Center</u> found that, over the past 50 years, the proportion of precipitation falling as snow during the winter months decreased by 9 percent. The change was a result of more rain and slightly less snow, according to the study, <u>reported Friday by The Salt Lake Tribune</u>.

Snowpack helps store water at higher elevations during colder months and then releases the runoff gradually, allowing water to accumulate in rivers and reservoirs. Rain can evaporate more quickly, leaving less water for the reservoirs and allowing the ground to dry up faster.

Read more: http://www.azcentral.com/members/Blog/ShaunMcKinnon/166491

Where is the monsoon? Here and there

Dark clouds piled up over **Flagstaff** Saturday and as the afternoon wore on, bands of virga smudged the horizon, confirming the increase in moisture. Rain was imminent, surely.

And then it wasn't. By sunset, the clouds had broken up and, aside from a moment earlier when those of us wandering the streets downtown peered in the sky, asking each other if that was a raindrop, maybe it was, maybe finally, the monsoon fizzled once again.

On a more typical July day up north, thundershowers dampen the afternoons routinely, but this year, the pattern has yet to establish itself. Since the June 15 start of the monsoon, the **National Weather Service** in Flagstaff has recorded just 0.01 of an inch of rain, compared to more than half an inch at this time last year.

On Sunday, rain actually fell, but only a trace was recorded. So where is the monsoon? The weather

service in Flagstaff produced this graphic and discussion, which notes that much of the moisture from the southwest has been driven into far eastern Arizona and New Mexico, leaving the northern high country dry and nearly fourtenths of an inch behind the average for July.

Read more:



http://www.azcentral.com/members/Blog/ShaunMcKinnon/166131

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

Top of the Document

JOB BOARD

Check these jobs out on the AHS Jobs web page:

- Business Planning & Government Programs Analyst CAP
- · ESH trainers Workplace Safety Specialists
- · Hydrologist HydroSystems Inc.
- · <u>Hydrogeologist HydroSystems Inc.</u>

Top of the Document

ADDITIONAL INFORMATION

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, P.O. Box 1882, Higley, AZ 85236. Dues remain at \$45.00 year for regular membership and \$15.00 for students.

The AHS Newsletter is edited by <u>Christie O'Day</u>, AHS Executive Director. THANK YOU TO OUR MEMBERS FOR SENDING ME INTERESTING CONTENT FOR THE MONTHLY NEWSLETTER!