



FEBRUARY 2012 NEWSLETTER

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VIEWPOINT: SUCCESS IN 2012

When we began 2011, the Arizona Hydrological Society was looking at a budget with a

terrifying deficit of about \$23,000. We all knew that an organization like AHS could not sustain such deficits for very long and survive. So we looked for ways to cut spending. After trimming several expenses and cutting back on scholarship amounts, and with the benefit of a very successful Annual Symposium in Flagstaff, we wound up at the end of the year just shy of \$4,000 in the black. Yep—we conquered our deficit. And we didn't raise dues.

Now the New Year has arrived, and our 2012 budget envisions expenses exceeding income by about \$5,000. But this is not as bad as it seems. Many of the budget line items are set at their maximums, even though we know that in any given year those maximums will never be reached. The actual expenditures will likely be less, just as in 2011. Plus we are looking at a very exciting Annual Symposium this year. After the tough symposia years of 2009 and 2010, we set the income expectations for the Annual Symposium fairly low, and I feel certain the final income figure will be larger. So I am pretty confident that AHS will have a successful year.

Our three Chapters are the true bastions of AHS, and the source of our successes. It is within our Chapters that we achieve maximum networking and learn the most about what is going on within our profession. Our Chapters are behind every successful effort AHS has accomplished. I urge you to attend your Chapter meetings and become more involved in the workings of your Chapter. Given the easy atmosphere of our meetings, this will be an easy New Year's resolution to keep.

At the January Corporate Board meeting, a new Board President was elected—Mike Hulst—along with a new Vice-President—Charlie Ester. Marla Odom remains Secretary and Beth Proffitt continues as Treasurer. Mike will be the new author for these Viewpoints. I have done it for five years now, and seen highs and lows and quite a few changes. I thoroughly enjoyed my extremely interesting time as Corporate Board President. But it is time for new blood. We can never allow AHS to grow stale. And as you participate in your Chapter, contributing your energy and expertise, you insure that AHS will remain fresh and strong for many decades to come. Thanks!

Alan Dulaney,

Outgoing AHS Corporate Board President, 2011

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GOVERNMENT GOINGS-ON

January is here, and so too is the Arizona Legislature. As the new session gets underway, we can already see that the Senate will be more active than the House in terms of water-related legislation. But that ratio could change—already almost 2200 bills have been dropped. That's more January precipitation in the Arizona Legislature than on the Arizona landscape.

Representative Karen Fann introduced House Bill 2363 to set up a study committee to look at macro-harvesting of runoff. Tucson a few years back enacted a city ordinance on rainwater harvesting on a micro scale, and we heard about that ordinance from its author, Rodney Glassman, at the 2010 Annual Symposium. But macro-harvesting envisions collection of runoff that otherwise would be lost to evaporation as a new legal type of water to be used for the Prescott AMA. The storer would get 50% of the total rainfall captured and stored before reaching a channel, drainage way or navigable waterway.

To my mind there are already too many legal categories of water. Most make perfect legal sense from the viewpoint of certain entities and interests, but hydrologically all this splitting of sources obscures the basic facts of water in Arizona. The unfortunate division between surface water and groundwater is the best known example, and the resulting ambiguity concerning

“sub-flow” demonstrates how unworkable dividing up the interconnected nature of water in a semi-arid environment can be. I am not certain how one would go about lopping off a chunk of water like runoff and not expect any adverse impacts on other aspects of the water supply. Legally this bill might make sense (for some parties) but hydrologically it doesn't.

Senator Antenori of Tucson has introduced Senate Bill 1319, which requires the Arizona Corporation Commission to regulate the fees charged by a municipal water provider to users outside the municipal limits. I am guessing the target is Tucson Water. This is blatantly unconstitutional (Article XV), and Senator Antenori likely knows that. It is not outside the realm of possibility that this bill will go quiet for much of the session, only to be amended and emerge again at the last minute as something entirely different. Stay tuned.

Alan Dulaney

City of Peoria

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AHS MEMBERSHIP 2012 RENEWAL REMINDER

It's already Chinese New Year and if you haven't renewed your AHS membership please do so! Thank you to all our members who already renewed.

Also, please remember that membership dues are included in both full registration and a one day registration fees for the AHS Annual Symposium so if you attended the 2011 Symposium, your dues are paid through 2012.

Membership dues can to be renewed online at: http://www.azhydrosoc.org/join_ahs.html

Or by mailed to:

Arizona Hydrological Society
P.O. Box 1882
Higley, AZ 85236

Thank you for your continued support of the Arizona Hydrological Society!

PHOENIX CHAPTER NEWS

Phoenix Chapter February Dinner Meeting

The next Phoenix chapter dinner meeting will be held **on Tuesday, February 21, 2012**, at SunUp Brewing Co., in midtown Phoenix (on the north side of Camelback Road, just east of Central Avenue). **Please note that this meeting is a week later than our normal day because of Valentine's Day!**

Location: [SunUp Brewery](#)
322 E. Camelback Road
Phoenix, AZ 85012

Event: **Preliminary Results and Discussion of the ADWR
Water Level Data Information Survey and a Brief**

Presentation on Recent (circa 1990 to mid/late 2000's) Groundwater Conditions in Arizona

Frank Corkhill, Chief Hydrologist, Arizona Department of Water Resources

Happy Hour & Dinner:	5:30 PM – 7:00 PM
Program:	7:00 PM – 8:00 PM
Cost:	\$15 member, \$20 non-member, \$5 student

RSVP with Kirk Creswick at kcreswick@eecphx.com or 602-248-7702.

Hope to see you there!

Frank Corkhill of ADWR will give a presentation at the February Phoenix Chapter meeting on the Preliminary Results and Discussion of the ADWR Water Level Data Information Survey. He will also discuss recent ground water conditions in Arizona.

Frank Corkhill has been the Chief Hydrologist at the Arizona Department of Water Resources (ADWR) for the last 5 years. Prior to that time he was the supervisor of the ADWR-Technical Support section and a groundwater modeler for about 19 years. Mr. Corkhill's work at ADWR has included the supervision of many hydrologists working on technical reviews of various well construction and groundwater related permits, groundwater modeling projects and water level and geophysical data collection activities. He has authored and co-authored numerous groundwater modeling and basic data reports and reviews. Prior to working at ADWR, Mr. Corkhill spent several years working in the geophysical well logging and seismic exploration business in the western United States. He is a graduate of Arizona State University, with a B.S. in Geology.

Abstract

In an effort to focus groundwater level data collection activities within areas of the state that are considered to be of the highest priority and interest, ADWR conducted an on-line survey to evaluate the feasibility of collecting supplemental water-level data from collaborative monitoring partners to assist with ADWR's groundwater Level Monitoring program. The program would be comprised of individuals and organizations that may collect water level data, but are not required to report that data to ADWR, and would be willing to report and share that data with the public. Existing data sharing cooperators include the USGS, USBOR, and Tucson Water, among others. The Department is developing an online data submittal portal that will facilitate annual reporting by designated water providers, Community Water Systems (CWS) and permitted recharge facilities. The Department is also working to develop new online database tools and services that will provide enhanced public access and querying capabilities to select and download reported water level data. The ADWR survey was completed in late 2011, and preliminary results will be available soon.

Future Event Calendar (see also calendar on www.azhydrosoc.org)

- March 13, 2012: Nello's in Tempe, 1860 E. Southern Avenue, topic to be announced.

- April and beyond – maybe you? Please contact [Tom Walker](#), Phoenix Chapter Vice President, if you would like to give us a presentation or if you know anyone else who could use an audience.

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

The Symposium Planning committee is in full swing! Thanks to Summer Waters, we held our last planning meeting at the UA COOP Extension Office in Phoenix on Jan. 26.

Where were you?

Symposium Chair, Ted Lehman, has a goal to get every AHS member involved in this year's symposium in some capacity – organize a field trip, teach a workshop, moderate a session, give a talk, exhibit your firm, sponsor a student or teacher, or just show up and see what your colleagues have been up to recently!

The place and date for the next planning meeting have not yet been set, but look to the AHS website or email or call Mr. Lehman to find out! Ted can be reached at ted@jefuller.com or 480-222-5709.

Looking forward to your participation. Check out the developing symposium at <http://www.azhydrosoc.org/2012symposium.html>.

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TUCSON CHAPTER NEWS

Please join us for the next Tucson Chapter meeting, **Tuesday, February 21, 2012, at 6PM** when **Claire Zugmeyer**, Sonoran Institute Ecological Research Specialist, presents on conservation programs in the Arizona's Sonoran desert sections of the National Landscape Conservation System. **Pizza will be served.**

Location: Montgomery and Associates
1550 East Prince Road
Tucson, AZ

Social half hour: 6:00 PM

Program: 6:30 PM

Please note that is meeting will on the THIRD Tuesday, not the usual second Tuesday of the month!

Claire Zugmeyer will be presenting a lecture on two science based conservation programs (The Living River report: Santa Cruz River, and Conserve to Enhance) residing in Arizona's Sonoran desert section of the National Landscape Conservation System.

Claire Zugmeyer is an Ecological Research Specialist for the Sonoran Institute who has worked on the Institute's Santa Cruz River Initiative for over 4 years and has led the production of

recent Living River reports (2009 and 2010 water years). She completed a Masters in Wildlife and Fisheries Biology at the University of Arizona in 2007, a B.S. in Ecology, Behavior, and Evolution at the University of California, Los Angeles, and has worked on a variety of projects focusing on birds, mammals, fish and amphibians.

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WRRRC BROWN BAG - WED. FEBRUARY 8 - CHOICES AND TRADEOFFS: DECIDING THE FUTURE OF OUR REGION

Unless otherwise noted, all seminars are held at the Sol Resnick Conference Room, Water Resources Research Center, 350 N. Campbell Ave., Tucson.

If you have any questions, contact Jane Cripps at jcripps@cals.arizona.edu or 520-621-2526

Wednesday, February 8

Time: 12:00 – 1:30 pm

Speaker: Patrick Hartley and Camila Thorndike, Imagine Greater Tucson

Title: Choices and Tradeoffs: Deciding the Future of Our Region – An Interactive Presentation

Imagine Greater Tucson (IGT) is a community-based effort dedicated to protecting and enhancing our quality of life in the greater Tucson region. Our goal is to involve the people in the Greater Tucson Region in creating a shared vision for our region's future, and develop strategies to realize this vision.

Working from community conversations held in 2010 and the compilation of existing trends, Imagine Greater Tucson found that **growth projections are at odds with 66 overall "Shared Regional Values"**. Last spring, more than 600 people attended mapping workshops to share their vision for what they want the future of the region to look like based on these values. Several key themes emerged from the public workshops that supported: (1) More infill and density near urban centers, (2) An interest in mixed-use developments that promote a lifestyle of more bicycling and walking opportunities to work, schools, and amenities and (3) Conservation of our desert environment.

Now is a critical time to participate in IGT. Using keypad polling technology, participants in the **highly interactive presentation** at the WRRRC will share views on a preferred future for the region, how it should grow, and what is important to consider regarding land use. This phase only lasts until **February 29th**, so be sure to attend! The information gathered will be used to develop a community vision for local jurisdictions to consider incorporating into their respective general or comprehensive plans.

For more information or to take the online survey in advance, visit www.imaginegreatertucson.org.

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FLAGSTAFF CHAPTER NEWS

The next Flagstaff Chapter meeting will be held on Wednesday, February 15, 2012 from 6 to 8 PM at:

Peabody Investments Corp.
Suite 110
3001 W Shamrell Blvd

BIRDSALL-DREISS DISTINGUISHED LECTURER FOR 2012

On March 7 at 4:00 in Room 103 of Frier Hall (Geology Building) at NAU, the Arizona Hydrological Society and the Hydrogeology Division of the Geological Society of America is co-sponsoring the Birdsall-Dreiss Distinguished Lecturer for 2012. There will be a reception to follow at a location and time to be determined later.

Water Cycle Change and the Human Fingerprint on the Water Landscape of the 21st Century: Observations from a Decade of GRACE

Jay Famiglietti

UC Center for Hydrologic Modeling

Department of Earth System Science

University of California, Irvine

Over the last decade, satellite observations of Earth's water cycle from NASA's GRACE (Gravity Recovery and Climate Experiment) mission, have provided an unprecedented view of global hydrological change and freshwater availability. Since its launch, the mission has helped to confirm that precipitation, evaporation and continental discharge rates are increasing, that the mid-latitudes are drying while the high and low latitudes are moistening, and that the hydrologic extremes of flooding and drought are becoming even more extreme. Importantly, GRACE has exposed the human fingerprint of water management practices such as groundwater use and reservoir storage, which raises many important issues for climate, water, food and economic security. Moreover, the GRACE mission has enabled us to peer beneath Earth's surface and characterize the worldwide depletion of groundwater aquifers, raising significant concerns about the potential for heightened conflict over transboundary water resources. In this talk I review the basics of how the GRACE mission observes terrestrial and global hydrology, what new information the mission has provided since its launch in 2002, and the implications for the future of water availability and sustainable water resources management.

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FLAGSTAFF CHAPTER OFFICER SLATE FINALIZED!

A big THANK YOU to Mike Tomlinson, write in candidate, for taking the helm of the Flagstaff Chapter!

President: **Michael Tomlinson**, University of Hawaii

Vice-President: **Paul Whitefield**, National Park Service

Treasurer: **Dana Downs-Heimes**, CH2M Hill

Secretary: **John Cochran**, Peabody Investments Corporation

Flagstaff Chapter Member-at-large: **Erin Young**, Fluid Solutions

Flagstaff Chapter Corporate Board Member (2011-2012): **Charlie Ester**, SRP

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What's on your BUCKET LIST???

Be sure it includes the AHS
2012 COLORADO RIVER TRIP!!!!

Only six spaces left!

Guided by Wayne Ranney

Geologist &

Author of "Carving Grand Canyon"



See Wayne's blog for most recent
Colorado River trip:

<http://earthly-musings.blogspot.com>

Dates: June 10 to 16, 2012 (7 days
and 6 nights) with a mandatory
orientation meeting in Flagstaff on the
evening of June 9.

Total Cost: \$2,395 per person,
Flagstaff to Flagstaff inclusive



Includes: All boating equipment and
guides, all food, use of waterproof bags
and ammo cans, tent, sleeping pad, and
transportation to and from the river from
Flagstaff

Type of Trip: A two-boat, motorized
"Geology Charter Trip" from Lees Ferry to
Peirce Ferry at Lake Mead.

With lots of cool day hikes!!!

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Outfitter: [Canyoners](#), Flagstaff, AZ

Booking Procedure: Call the Canyoners
office directly at 928-526-0924 and tell
them specifically that you are: "**Referred
to Canyoners by Wayne Ranney for the
June 10th Geology Rafting Trip With the
Arizona Hydrological Society.**" After
making your deposit, please send an email
to: wayneranney@earthlink.net. Wayne
will send further updates about gear,
expectations, and pre-trip reading.

Balance: A final bill will be mailed to you on
or about February 10, 2012 and the balance
of \$1,895 per person is due to Canyoners
on or before March 10, 2012

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Note: All payments will be made directly to Canyoneers. You will receive all official correspondence from Canyoneers in preparation for the trip but Wayne Ranney will be sending personal e-mails to all members of our group in advance of the trip in addition. These e-mails will contain important pre-trip information in about 6 week intervals.

Other details: Individuals may take only one river trip per year in Grand Canyon. Canyoneers solicits a \$7 donation (\$1 per day) for the Grand Canyon Conservation Fund. Should you choose opt out of this solicitation, the \$7 will not be required. **Please note that Canyoneers reserves the right to promote this trip in their regular advertising venues and there is no guarantee that the trip will fill exclusively with AHS members, friends and family.**

Please call or write to Wayne Ranney if you have any questions:

928-779-1596 or wayneranney@earthlink.net

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Please join your AHS friends and colleagues in what promises to be a memorable trip!!! There are only six slots left!

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HYDRO-NEWS

ARIZONA GEOLOGICAL SOCIETY MEETING

AFGHANISTAN: GOLD RUSH IN A WAR ZONE

Stephen G. Peters
USGS

Sheraton Four Points Hotel Wildcat Room
1900 East Speedway (SE corner of Campbell and Speedway)
Tucson

Lecture at 8:00 PM
Tuesday, February 7, 2011

[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.

Special Meal Deal for Students! Dinner is *FREE* for students who make a reservation online at the website below. Please bring a student ID with you.

SCHEDULE: CASH BAR @ 6:00 PM, DINNER @ 7.00 PM, TALK @ 8:00 PM. WITH RESERVATION: MEMBER = \$24.00, GUEST = \$27.00. 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

Afghanistan contains a number of unexploited gold deposits and gold districts. Many of these deposits and districts have been known since the time of Alexander the Great or Ghenghis Khan. The USGS joined the reconstruction effort in Afghanistan and began to compile data and information about mineral deposits and other natural resources in the country <http://www.nytimes.com/2010/06/14/world/asia/14minerals.html> . In 2009 the Department of Defense (DoD) Task Force for Business Stability Operations engaged the USGS to help identify and develop favorable mineral sites to stabilize the country, increase its security, and provide new jobs from an emerging mineral industry. Gold deposits show great promise.



The Task Force provided field support for USGS scientists to visit, map and sample known mineralized areas. This support included military transportation, planning and security. The rationale for this work is to provide the country of Afghanistan with enough revenue to fund a standing army so that the NATO troops can be replaced. Much of the USGS data for prospective deposits and districts have been compiled into tender packages by the Afghan Ministry of Mines. Chinese, Indian, and South African firms have already begun mineral development in several areas in Afghanistan (<http://bigpeace.com/jbradley/2011/12/30/china-claims-afghan-mineral-resources-while-us-counts-down-to-withdrawal/>). The opportunity for investors is that a single company can acquire an entire ore district and develop it without inheriting existing land or environmental issues.

There are a number of different types of gold deposits in Afghanistan. Pluton-related gold deposits in Afghanistan mainly are porphyry-copper related, polymetallic, gold-quartz veins. In addition, orogenic lode gold occurrences associated with metamorphic rocks are present in the north. Extensive gold placer deposits are present in northern Takhar Province. Pluton-related gold deposits are best represented by the Zarkashan porphyry-skarn deposit. The Zarkashan copper-(gold) deposit contains gold and copper mineralization in skarn and shattered zones (Table 1). Several auriferous zones were delineated by Soviet workers; their width varying from 1 to 15 m and extension reaching 600 m. The zones enclose ore bodies of commercial value, which appear as lenses and nests 1.5 to 50 m in length and 0.5 to 3.8 m in thickness. The gold content varies between several tenths of a gram to 10 g per metric ton. The zones were evaluated by tunneling to a depth of 80 m. The probable and possible reserves are 7.7 metric tons of gold. The tenor of gold in the Zarkashan mine area and at Zardak were confirmed in 2010 by the USGS and DoD. [Link to table](#). The best example of an orogenic or metamorphic gold deposit is in Badakhshan Province at the Vekadur deposit, which is one of the larger

gold occurrences in Afghanistan. Calculated resources are 958.3 kg Au averaging 4.1 g/t Au. Brecciated rocks grade 46.7 g/t silver and contain arsenopyrite, galena, chalcopyrite, and scheelite. The geometry of the deposit is amenable to open pit mining. The area also contains outcrops of Cenozoic conglomerate that may have potential for gold placer deposits. For more information, see: <http://afghanistan.cr.usgs.gov/minerals> and <http://mapdss2.er.usgs.gov/openview/welcome.html>. (Note from V.P. Bob Kamilli: The second website listed above is particularly cool. Check it out!)

Dr. Peters can be reached at speters@usgs.gov.

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NEW FIELD TRIP SERIES – AGS CENTENNIAL TOURS

The Arizona Geological Society announces the start of **Arizona Centennial Field Trips** to celebrate 100 years of science and engineering contributions to the development of our state. Scheduled throughout Arizona, the tours will be collaborative with other professional organizations such as SME, MFSW, AHS, AIPG, and AEG. Several fun, interesting, low-cost tours are in the works now. We're soliciting your input on trips including field mapping & mine geology, processing plants, geology hikes, and other ideas. If you can lead a trip or coordinate a trip, please contact Cori Hoag, AGS Councilor at choag@srk.com.

Arizona Centennial Field Trip #1 – Freeport-McMoRan Safford Operations

Join AGS on a special tour of the Safford hydrometallurgical and acid plant operations on **Saturday, February 18th** in Safford, Arizona. Staff from FMI's SX/EW, hydromet, and environmental departments will host this exciting opportunity to see the processing facilities including Arizona's first sulfur-burning acid plant. The plant produces sulfuric acid for use in Safford's leaching operations.

Location: Carpool locations will be established from Phoenix and Tucson (approx. 2 hr drive from Tucson). (*Directions for carpool locations and to the FMI Safford Operations Contractor Parking lot will be provided upon trip reservation*)

Schedule:

9:30-10am – Arrive at Contractor Parking Lot and sign in.

10-11:30 am – Depart in FMI vans to Admin Building. Introductions, watch required 20-minute site-safety video. Staff will provide an overview of Safford operations and provide an opportunity for Q & A discussions.

11:30-Noon – Box lunch will be provided with water/sodas.

Noon-3PM – Tour in FMI-provided passenger vans. Stops include pit and leach pad overlooks, a drive through the crushing facility, Solvent-extraction/electrowinning facility, and acid plant.

Requirements: Tour is available to those over age 12. Please bring your own PPE to the best extent possible including hard hat, safety goggles, reflective vest, and steel-toed or closed-toed sturdy walking shoes. No shorts, tank tops, open-toed shoes or private vehicle use allowed on tour. Individuals with pacemakers will not be allowed to enter the EW plant.

Group Size: Limit 40, NO FEE. A backup list will be maintained in case of cancellations.

Reservations: Contact Cori Hoag at choag@srk.com or log on to <http://www.arizonageologicalsoc.org/field-trips/feb2012-field-trip> to sign up. Please provide your name and contact information.

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AIPG ARIZONA SECTION ANNUAL DINNER AND MEETING INVITATION, FEBRUARY 10

The AIPG would like to invite AHS members to join us for our annual dinner and meeting. The details are summarized below. More detailed info and directions are included in the AIPG Arizona Section newsletter, click [here](#) for the newsletter.

AIPG Arizona Section Social Hour and Dinner and Talk

Viscount Suite Hotel, 4855 East Broadway, Tucson, AZ

Friday, February 10th, 2012

6:00 pm Social Hour

7:00 pm Dinner

8:00 pm Presentation by Steve Reynolds

A social hour, dinner and presentation have been planned for Friday, February 10, 2012 at the Viscount Suite Hotel (located near Broadway and Swan in central Tucson). The AIPG National Executive Board will join us since they will be in Tucson for a meeting that day. The social hour will start at 6:00 pm with no-host cocktails (appetizers will be provided) with dinner at 7:00 pm. Following dinner, Dr. Stephen Reynolds, Professor of Geology at Arizona State University, has kindly agreed to give a talk entitled "Geologic Scenery of the Southwest".

As many of you know, Steve is a very dynamic speaker and an authority on Arizona geology. Steve spent 10 years directing the geologic framework and mapping program at the Arizona Geological Survey and then joined the ASU Geology Department in 1991. During the past 20 years, he and his colleagues completed geologic maps for more than twenty previously unmapped mountain ranges in Arizona. He has completed more than 100 published geologic maps, articles, and reports, including the most recent Geologic Map of Arizona, and he coedited Geologic Evolution of Arizona, an 866-page treatise on Arizona geology. He received his Ph.D. from the University of Arizona in 1982, and has worked for the U.S. Geological Survey and several mineral, energy, and environmental companies.

Cost of the dinner is \$35 per person which includes the Mexican dinner buffet and chips with salsa and chile con queso. A vegetarian option is available upon advanced request (at time of RSVP). You may pay by check (made payable to AIPG Arizona Section) or by cash at the dinner.

Please RSVP for the dinner no later than Monday, February 6th to:

Erick Weiland, 520-229-6491 (office), 520-730-7036 (cell), or erick_weiland@fmi.com

Erick Weiland

2012 Treasurer, AIPG Arizona Section
Freeport McMoRan Copper and Gold
6840 N. Oracle Road, Suite 140
Tucson, AZ 85704
520-229-6491(o)/520-730-7036 (m)
Erick.Weiland@fmi.com

AIPG Arizona Section Business Meeting

Arizona Geological Survey, 416 W. Congress St., Suite 100, Tucson

Saturday, February 11th at 9:00 am

The AIPG AZ Section business meeting will be held at 9:00 AM on Saturday, February 11, 2012, in the Arizona Geological Survey office at 416 W. Congress St., Suite 100, Tucson. The AIPG Executive Director, Bill Siok, and AIPG National President, Barbara Murphy, will present an update of AIPG at the national level. We plan to have presentations on geologic issues in Arizona and at the national level at Saturday's meeting. Lee Allison will give an update on the Arizona Geological Survey. Erick Weiland will update us on the Arizona Board of Technical Registration. Several other State and Federal agency representatives will also give presentations. Please contact [Julie Hamilton](mailto:Julie.Hamilton@arizona.gov) if you have any topics you would like to have addressed or you would like to speak about. This will also be the time we discuss upcoming activities for 2012 so we need your input.

Coffee, juice, and pastries will be provided before the meeting so please come early to visit with other AIPG members and guests.

Additional information:

2012 Tucson Gem and Mineral Show

Following the annual business meeting, we encourage you to go over to the Tucson Gem and Mineral Show (TGMS) at the Tucson Convention Center. As part of the State of Arizona's centennial celebration, this year's theme for the TGMS is *Minerals of Arizona*. There are an estimated 250 retail dealers plus over 200 special exhibits sharing the Exhibition Hall and the arena areas of the Tucson Convention Center (TCC).

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ARIDLID 2012 CONFERENCE: GREEN INFRASTRUCTURE AND LOW IMPACT DEVELOPMENT IN ARID ENVIRONMENTS



March 27-29, 2012

Tucson, Arizona

[AridLID.org](http://www.aridlid.org)

Registration: Early registration is now open! To register and for all information, go to:

http://www.aridlid.org/?page_id=277

Abstracts: We are accepting abstracts for speakers and "poster-plus" presentations through October 31! Go to: http://www.aridlid.org/wp-content/uploads/2011/06/AridLID_call_for_abstracts.pdf

Sponsorship opportunities are available. Download the Call for Sponsors at: http://www.aridlid.org/wp-content/uploads/2011/10/AridLID_call_for_sponsors.pdf

Confirmed Keynote Speakers:

Benjamin Grumbles, President, Clean Water America Alliance

Andy Lipkis, Founder and President, TreePeople

Conference Highlight: Developing a Southwestern Research Agenda for GI and LID

On the second day of the conference, we'll engage in a series of presentations and facilitated break-outs to develop an agenda of research needs and opportunities specific to the arid southwestern U.S. We'll identify areas for collaboration, and seek to answer this question: what are unique questions about Southwestern GI/LID that cannot be answered by research from other regions? This session, co-sponsored by the University of Arizona's Water, Environmental and Energy Solutions (WEES) Initiative, will include staff of the US EPA's Office of Research and Development Green Infrastructure program.

About the conference:

For the past two years, the AridLID Workshops held in Albuquerque, New Mexico have built a growing discussion and exposition of Green Infrastructure (GI) and Low Impact Development (LID) practices that are appropriate to the unique climates of the southwestern U.S. In 2012, we are holding the conference in Tucson, Arizona, with the twin goals of sharing best practices and building professional networks across a wider swath of the region, and of developing a clearer Southwestern vision and voice in the growing national discussion on GI/LID.

For more information, visit [AridLID.org](http://www.aridlid.org).

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2012 SOUTHWEST WILDFIRE HYDROLOGY AND HAZARDS WORKSHOP - CALL FOR ABSTRACTS

The University of Arizona is hosting the 2012 Southwest Wildfire Hydrology and Hazards Workshop this coming April 2 – 5, 2012. There is a strong contingent of land management and other government agencies involved in the planning for this conference, so it is a good opportunity for agencies and academics to share results and prepare for research and early-warning response to the upcoming fire season in the Southwestern U.S. We are particularly interested in increasing the dialogue among academic researchers (including students!) and the various government agencies that are tasked with responding to wildfires. As many post-fire researchers are aware, this coordination is often difficult in the short time available after landscape-altering fires, and as such we hope to use this workshop to make new connections among the various research entities.

Please consider joining us at the University of Arizona's Biosphere 2 for this workshop, you can find more information here: <http://register.b2science.org>

Feel free to contact me with any questions. The workshop is limited to about 80 participants, so please register soon.

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POLL: ARIZONA CAN GUARD NATURE, CREATE JOBS

by *Shaun McKinnon* - Jan. 30, 2012 09:44 PM
The Arizona Republic

Most Arizonans believe the state can protect water, air and other natural resources without hurting the economy and oppose efforts to weaken protections, according to a poll released Monday by Colorado College for its "State of the Rockies" report.

The positions revealed by the poll put Arizonans at odds with many of their elected officials in Phoenix and Washington, D.C., where lawmakers are trying to dilute the influence of state and federal laws that regulate natural resources.

Polling firms, one that does work primarily for Republican interests and one that conducts research for Democrats, interviewed 400 people in each of six Intermountain states: Arizona, New Mexico, Montana, Utah, Wyoming and Colorado.

Here are some highlights from the Arizona survey:

78 percent of those surveyed said it's possible to protect land and water and have a strong economy with good jobs without having to choose one over the other.

50 percent of Arizonans, the highest percentage among the states, said the state should do more to protect water, air, wildlife and other natural resources. Of the rest, 39 percent said the state is doing enough and just 7 percent said the state should do less.

Read more: <http://www.azcentral.com/arizonarepublic/local/articles/2012/01/30/20120130poll-arizona-can-guard-nature-create-jobs.html#ixzz1l6XXlrX2>

PROJECT TO PUT WATER IN VOLCANO TO MAKE POWER

by **Jeff Barnard** - Jan. 14, 2012 09:41 AM
Associated Press

Geothermal energy developers plan to pump 24 million gallons of water into the side of a dormant volcano in Central Oregon this summer to demonstrate new technology they hope will give a boost to a green energy sector that has yet to live up to its promise.

They hope the water comes back to the surface fast enough and hot enough to create cheap, clean electricity that isn't dependent on sunny skies or stiff breezes -- without shaking the earth and rattling the nerves of nearby residents.

Renewable energy has been held back by cheap natural gas, weak demand for power and waning political concern over global warming. Efforts to use the earth's heat to generate power, known as geothermal energy, have been further hampered by technical problems and worries that tapping it can cause earthquakes.

Even so, the federal government, Google and other investors are interested enough to bet \$43 million on the Oregon project. They are helping AltaRock Energy, Inc. of Seattle and Davenport Newberry Holdings LLC of Stamford, Conn., demonstrate whether the next level in geothermal power development can work on the flanks of Newberry Volcano, located about 20 miles south of Bend, Ore.

"We know the heat is there," said Susan Petty, president of AltaRock. "The big issue is can we circulate enough water through the system to make it economic."

Read more: <http://www.azcentral.com/news/articles/2012/01/14/20120114PNI0114-wir-orgeon-geothermal-volcano-power.html#ixzz1l6Ya16wh>

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MAN GETS PROBATION IN GILBERT WATER-PLANT EXPLOSION PLOT

by **Anna Gunderson** - Jan. 12, 2012 02:13 PM
The Arizona Republic-12 News Breaking News Team

An employee who pleaded guilty to shutting down parts of a Gilbert wastewater plant in an attempt to blow it up last spring received four years probation Thursday.

- [Look back: Massive Gilbert explosion was suspect's goal, police say](#)

Robert Olson, 44, pleaded guilty to one count of burglary and one count of criminal damage. Olson shut down Greenfield Water Reclamation Plant, near Greenfield and Germann roads, on April 1, 2011.

Read more: <http://www.azcentral.com/community/gilbert/articles/2012/01/12/20120112gilbert-water-plant-sabotage-case-man-pleads-guilty-abrk.html#ixzz1l6Z5rjcE>

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REMEMBERING MCFARLAND AND WILMER

by **Jack L. August Jr.** - Jan. 28, 2012 03:22 PM

Viewpoints – Arizona Republic

The following is adapted from a keynote address by Jack L. August Jr. last Tuesday at a Tucson

conference titled "Urbanization, Uncertainty and Water: Planning for Arizona's Second Hundred Years." The conference was organized by the Water Resources Research Center at the University of Arizona in collaboration with Arizona State University's Morrison Institute for Public Policy.

On the evening of March 17, 1957, Phoenix attorney Mark Wilmer answered the phone just as he, his wife and four children were sitting down to dinner.

On the line was Gov. Ernest McFarland, who, after brief pleasantries, told Wilmer that the Arizona Bar Association and virtually everyone else in the legal community recommended that Wilmer take over the monumental *Arizona vs. California* case pending before the U.S. Supreme Court.

Wilmer listened, said he would, of course, meet with the governor in his office at 10 the following morning and hung up the phone.

His family sensed something significant had transpired. Wilmer turned to them, then muttered, "I might be doing the biggest thing in history, or else I might get run out of town."

McFarland cut his legal teeth in water and irrigated agriculture. By the time he called Wilmer to his office, Arizona had presented its case in full before the special master appointed by the Supreme Court, and McFarland concluded correctly that Arizona was "in a hell of a mess."

State leaders were frantic: The long-held dream of a Central Arizona Project, channeling the state's rightful share of Colorado River water to the population centers and agricultural reaches inland, seemed to be slipping away just like the Supreme Court case.

Read more:

<http://www.azcentral.com/arizonarepublic/viewpoints/articles/2012/01/24/20120124remember-ernest-mcfarland-and-mark-wilmer.html#ixzz1I6aB8UX7>

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GAINS SEEN ON AREA'S WATER GOALS

Groundwater table up in urban core, but levels still falling in other spots

[Tony Davis Arizona Daily Star](#) | Posted: Monday, January 30, 2012 12:00 am

Under a state groundwater law that may be the toughest in the nation, fast-growing urban areas like Tucson have to make sure that by 2025 they're not pumping out more groundwater than is being recharged.

Thirty years after that law took effect, metro Tucson is succeeding - and failing - at meeting the Groundwater Management Act's goals.

A map released as part of a federal study of Arizona's aquifers shows large patches of blue that indicate the groundwater table is rising in Tucson's urban core.

Tucson Water has significantly reduced groundwater pumping there since it started using renewable Central Arizona Project water from the Colorado River.

At Speedway and Swan Road, for instance, the water table has risen nearly 50 feet since 2000, Tucson Water says.

Outside the city, the blue areas on the U.S. Geological Survey map include several large, artificial groundwater-recharge basins dug south of Tucson and in the Avra Valley and Marana areas.

That's where CAP water from the Colorado River is being placed on the ground and allowed to sink into the aquifer.

As a result, after decades of running up big deficits, in several recent years the Tucson area had a groundwater surplus- although not enough to meet requirements known as "safe yield" under the state groundwater law.

Read more: http://azstarnet.com/news/science/environment/gains-seen-on-area-s-water-goals/article_80fd8805-ca1e-5217-aecc-549c77450d4d.html#ixzz1l6g8npvt

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WATERBLOGGED BY SHAUN MCKINNON, ARIZONA REPUBLIC

[Salazar talks mining, solar, outdoors](#)

Wednesday, January 11, 2012 at 05:55 PM

Interior Secretary **Ken Salazar** stopped in Arizona Wednesday, not to take a victory lap after signing a [20-year moratorium](#) on new mining near the **Grand Canyon**, but to visit the site of a new solar energy plant near **Gila Bend**.

He visited the *Arizona Republic's* editorial board (where he did offer a thanks for the paper's [endorsement](#) of his mining ban) and held forth on several issues. Some of what Salazar had to say:

The decision to halt new mining activities on 1 million acres of public lands near the Grand Canyon was carefully considered, Salazar said, and made with the understanding that uranium resources couldn't be ignored.

"We may have reached a different decision if these 1 million acres contained the only uranium reserves in the United States," he said.

The 20-year "time out" from mining is a good approach and "the right decision," one he feels good in making.

He acknowledged that Republican critics called the decision a job killer, but "I think it's a job creator." National parks draw millions of tourists, who spend money. Sen. **John McCain**, R-Ariz., and others had argued that the ore extraction would take place out of public sight and with lower-profile operations than in the past, but Salazar said there were larger concerns.

Read more: <http://www.azcentral.com/members/Blog/ShawnMcKinnon/152711>

[Water supply forecast: Drier by the month](#)

Friday, January 6, 2012 at 03:00 PM

Early snowpack surveys in the **Rocky Mountains** had [hinted strongly](#) at the dry conditions across the **Colorado River** basin and the season's first official [water forecast](#) confirmed it on Friday: Unless the weather changes abruptly, water managers won't get their wished-for back-to-back wet winters.

The [Colorado Basin River Forecast Center](#) is projecting that inflow into **Lake Powell** this spring -- essentially the melted snow on the upper river -- will total 71 percent of average. If [the forecast](#) holds,



the spring runoff will be less than half last year's, when April-July inflow totaled 163 percent of average. Inflow into Lake Powell is typically a reliable indicator of conditions on the upper river.

The forecast center's [report](#), available [here](#), shows below-average snowpack over much of Colorado and **Utah**. December conditions were better in **Arizona**, but the forecast still projects below-average runoff on the **Salt** and **Verde** rivers this spring. **Utah** is looking at some of the driest conditions in the basin.

Read more:

<http://www.azcentral.com/members/Blog/ShawnMcKinnon/152322>

[Wet here, dry there ... what the heck, La Niña?](#)

It's early still in the winter snowpack season and a lot could change still this month and next, but there are some trends on the watersheds and they're not what you might expect.

First, **La Niña** remains a factor in the equatorial Pacific. Forecasters say they expect the phenomenon -- a cooling of ocean temperatures -- to persist until at least spring. In a typical La Niña-type year, storms tend to veer northward, leaving the **Southwest** drier than normal. That's what happened last year, another La Niña winter: Near-record snowfall accumulated in some areas of the **Colorado River** watershed, while in **Arizona**, rivers produced less than half the average runoff for the year.

This year, the water tables are turned: Snowpack in the high **Rocky Mountains** is well below average, while accumulations in Arizona approach twice the average in some areas.

The **Denver Post** [reported last week](#) that across **Colorado**, snowpack is at 73 percent of normal for late December. The measurements were the fourth-driest in the past 30 years, according to the **Post**.

Mike Gillespie, snow survey chief for the **Natural Resources Conservation Service**, told the paper that "It's pretty evident that this is one of the drier years. It's not looking like a good start at all to the year."

Read more:

<http://www.azcentral.com/members/Blog/ShawnMcKinnon/152021>



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. Please remember that your 2012 membership was included in the 2011 Symposium registration fee!

The AHS Newsletter is edited by Christie O'Day, AHS Executive Director. Thank you to everyone who has contributed content for the newsletter – it's what helps make our newsletter a valuable resource to our members!