

ARIZONA HYDROLOGICAL SOCIETY

August, 2007

Viewpoint: ISMAR2007: The World of Recharge

Pump it down, pump it up.

The 6th International Symposium on Managed Aquifer Recharge is coming soon. On October 28, 2007, experts from around the world will gather at the Pointe South Mountain Resort in Tempe, Arizona, to attend workshops and hear presentations on recharge problems and solutions. The venue is spectacular and the program is dynamite. This is a major event, and AHS is proud to be a sponsor.

Pump it down.

Aquifer storage and recovery isn't all that easy. ASR wells aren't like other wells, and there are aspects to site characterization and geochemical considerations that you may not have thought about. On Sunday, October 28, four workshops will offer insights from the best and brightest scientists working in the recharge arena (many of them AHS members). You shouldn't let these excellent training opportunities pass you by; their like may not be seen again for years.

Recharge isn't done in a vacuum. The regulatory framework and the overall position of water storage in water management differ from Egypt to Europe to Australia to Mexico, and Monday presenters will talk about each. The hydrology of water storage also differs from region to region, and illuminating case studies will be presented.

Storing water underground almost always produces some sort of geochemical reaction. Think about the new arsenic standard and how it relates to recharge—others have. And increasingly the public is concerned about the introduction and longevity of viruses and bacteria in the subsurface. Several papers deal with the geochemical and pathogenic effects of aquifer recharge. You need to hear these presentations on Tuesday to learn how people around the world are dealing with these often debilitating issues.

Pump it up.

Want to know what a recharge site looks like? Wednesday's field trip will

whisk you out to several underground storage facilities in the East Salt River Valley where leaders will give short talks on each site. What a mid-conference break! Then back to technical sessions on Thursday on a variety of topics. Friday offers three major optional field trips to round out an incredible week.

Pump it down.

The International Symposium on Managed Aquifer Recharge moves around the globe. Last time it was in Berlin, and before that Australia. Now it's Arizona's turn in the spotlight. I urge everyone to get signed up for an unforgettable international experience, replete with contacts and excellent training opportunities. Go to the ISMAR Website at www.ismar2007.org and sign up now. And call Pointe South Mountain at (877) 800-4888 to reserve your room at an excellent resort rate. Tell them you're with ISMAR.

Pump it up!

Alan Dulaney
AHS President 2007



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Update on 2007 Annual AHS Symposium

Sustainable Water, Unlimited Growth, Quality of Life



**2007 Regional Water Symposium
OFFERS A VARIETY OF WORKSHOPS
TO MEET YOUR PROFESSIONAL EDUCATION NEEDS
Aug. 29–Sept. 1, 2007
Westin La Paloma Resort & Spa
Tucson, Arizona
Thursday, August 29, 2007**

2007 Symposium Update

Still haven't decided whether or not to register for the symposium? In previous newsletters, we've written about optional workshops and field trips, and the great venue with its luxurious but *low-priced* rooms and wonderful food. We've also mentioned all the generous sponsors and exhibitors we have signed up, such that this symposium's vendor show will be AHS's largest ever. But since the program is ultimately what matters most, here are some highlights, in case you haven't yet checked out the website.

The symposium will have a total of 28 technical sessions over the course of two days and an unprecedented 50 poster presentations.

One track of seven consecutive sessions will address the symposium theme of "Sustainable Water, Unlimited Growth, and Quality of Life: Can We Have It All?" Of those sessions, three will be devoted exclusively to

moderated discussions where we'll ask the hard questions like, "Do physical limits to our water supply exist?" "Why *can't* we say no to development?" "How can we work with The Slow Gears of Regulatory Change?" and "How can environmental needs and values be better incorporated into water planning?" The track will conclude with a special panel discussion to address the hypothetical—yet not unlikely—scenario of the Colorado River at 10 million acre-foot average discharge and 50 million users.

The symposium also offers a good dose of technical presentations, including four consecutive sessions on riparian-related topics and two on energy-water issues along the U.S.-Mexico border area. Additional sessions cover such topics as urban runoff/recharge, regional and local-scale water quality concerns, water re-use approaches, artificial recharge, GIS tools for water resource planning, and complex data management tools.

For those more into water policy and planning, there will be a session to compare water policies across the Southwest states, and one specifically focusing on Arizona. In addition, you can learn about innovative approaches to development and regional water planning, and trends in residential water use and rainwater harvesting.

Visit <http://www.watersymposium.org> to see who all will be discussing these and other topics. And then register—soon! Rates go up after July 13. Also note that the hotel's room block is limited, so if you need a room, reserve it soon as well.

Gary Burchard and
Betsy Woodhouse
Symposium Co-Chairs

**Register at www.watersymposium.org/reg.
Reserve your room online for only \$109/night (\$83 government rate*) at
www.watersymposium.org/accommodations**

Rates are good 3 days before and after the symposium.

***Government employees must make reservations by phone: 520.742.6000, ask for x7845 to get the "Water Symposium Rate"**

2007 Annual AHS Symposium cont.

Fundraising Update for the Annual Symposium
Please see the list for current sponsors for the Symposium. There are only four booths left so if you are planning on signing up do it now. To sign up please go to the Symposium AHS website at www.watersymposium.com or contact me at (520) 575-8100 or mblock@metrowater.com.

On the behalf of the Symposium Planning Committee, I would like to again thank all of our donors for your incredible generosity and support for a successful 2007 Symposium.

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JOBS

GREAT NEWS!

The JOBS web page has been moved to the Public area of the AHS website. To see the latest JOB postings visit:
www.azhydrosoc.org

ISMAR6

International Symposium on Managed Aquifer Recharge



ISMAR6: The Sixth Annual International Symposium on Managed Aquifer Recharge

October 28 – November 2, 2007 • Phoenix, Arizona, USA

You are invited to attend the 6th Biennial International Symposium on Managed Aquifer Recharge — the world's preeminent conference devoted entirely to aquifer recharge. This event is being organized by the [Arizona Hydrological Society \(AHS\)](#) in partnership with [IAH](#), [ASCE / EWRI](#), and [UNESCO](#). It will be held in Phoenix, Arizona, a well-known research and development center for managed aquifer recharge.

The Program

This year's program includes 3 days of [technical and poster sessions](#), an IAH-MAR plenary, four exciting [workshops](#), a "meet and greet" reception, and two informative field trips to learn about innovative aquifer recharge projects in the [East Salt River Valley in the Phoenix area and in the Las Vegas Valley in Nevada](#).

After the conference, you can take advantage of your time in the beautiful Southwest to join a [sightseeing tour](#). Choose from the Grand Canyon, the Tucson / Sonoran Desert area, and the Sedona area.

Location & venue

ISMAR6 will be held at the Pointe South Mountain Resort in Phoenix, Arizona.

You can enjoy a range of outdoor activities and world-class amenities amid abundant wildlife, picturesque sunsets, and inspirational landscapes.

In addition to the many activities associated with the conference, we have also just added a post conference field trip to **Las Vegas, Nevada** where participants will be able to see the many recharge facilities constructed by the Las Vegas Valley Water District. These include state-of-the-art ASR wells and water treatment infrastructure. The field trip will be on Saturday, November 3 from 9am to 4:30pm. To sign up, please contact Barbara Murphy at bmurphy@clearcreekassociates.com. You can view the details of the field trip to Las Vegas on the ISMAR6 website.

DO NOT MISS OUT ON THIS OPPORTUNITY TO PARTICIPATE IN AN INTERNATIONAL CONFERENCE IN OUR VERY OWN BACKYARD!

AHS Newsletter Articles

Anyone wishing to submit articles of interest to AHS members may do so by emailing your article to jgmerideth@aol.com. Deadline is the 15th of the month prior to publication.

The AHS Editorial team reserves the right to publish or not publish your article.

PHOENIX CHAPTER NEWS

July Meeting Summary

On July 10, Lisa Spahr of EEC in Phoenix was the guest speaker for the Phoenix Chapter meeting. Lisa gave a presentation about the status of Phase 1 Municipal Separate Storm Sewer Systems Arizona Pollutant Discharge Elimination System (or MS4 AZPDES for short) permits in Arizona. This issue is still being worked out between the major parties involved; currently ADEQ and the Arizona's eight Phase 1 MS4 permit holders (aka the MS4 Coalition). Ms. Spahr began her presentation providing the regulatory background behind this issue. The EPA is authorized under the Clean Water Act to directly implement the National Pollutant Discharge Elimination System (NPDES) permit program. EPA, however, may authorize States, Territories, or Tribes to implement all or parts of the national program. On December 5, 2002, Arizona applied for and received primacy to issue PDES permits, now called AZPDES. Because of legal battles, how Arizona conducts their AZPDES permits were still up in the air. During the time period between 2002 and 2007, Phase 1 MS4s in Arizona were operating under expired permits from the EPA. Just recently, June 25, 2007, the Supreme Court upheld EPA's delegation of permitting authority to the states.

Now ADEQ is under great pressure to issue new permits to the Phase 1 MS4 permit holders. In March, ADEQ issued the first draft Phase I MS4 permit to the City of Phoenix. ADOT's draft Phase I permit was sent in April. Draft permits for the remaining Phase I communities are expected by the end of FY 2008.

The coalition of Phase 1 MS4's still has issues with how ADEQ plans to implement their permits and is in dialogue with ADEQ to work out these issues. There is much at stake here because these permits are in effect for 5 years, and decisions made now can make huge differences in costs of implementation for both sides. Some of the issues being discussed are the permitting process and timing, terminology used, monitoring requirements, sampling location assumptions, and the lack of flexibility with BMPs. Negotiations are ongoing between the Phase 1 MS4s and ADEQ. Their next meeting is scheduled for July 25, 2007.

More information about AZPDES permits can be

found at ADEQ's website at <http://www.azdeq.gov/environ/water/permits/azpdes.html> (On DEQ's website, a Phase 1 MS4 is referred to as a Large MS4).

The Phoenix Chapter would like to thank Lisa for sharing her time and knowledge with our group. We'll have to have her back once the negotiations have been finalized!



Call for Chapter Board Nominations for 2008

It may seem a little premature, but in fact it's not. Election season is just around the corner.

The Phoenix Chapter is seeking nominations for Chapter Board representatives for 2008. All offices are up for grabs – President, Vice President, Treasurer, Secretary, two Chapter Board positions, and two Corporate Board positions. There are no special requirements of board membership except you must be an AHS member (if you're not, that's easily rectified!) and have a willingness to provide input and give something back to the Society. The Chapter Board normally meets monthly except Aug. & Sept. in advance of the chapter dinner meetings. Board members can expect to spend about 4 to 8 hours a month preparing for and participating in board meetings and other chapter activities. The Chapter President and Corporate Board members also meet quarterly with the Corporate Board members from Tucson and Flagstaff. Those meetings are held for four hours on Saturdays – once in Flagstaff (July), once in Tucson (Jan.) and twice in Phoenix (April & Oct.). Participation in the Chapter Board is a great way to learn more about the Society and help chart our path forward. Nominations can be made to current Chapter President, Ted Lehman, at ted@jefuller.com or 480-222-5709. I look forward to hearing from you!

Phoenix Chapter continued

Mark your calendar for October 9, 2007

Andy Laurenzi is Sonoran Institute's Land and Water Policy Program Director, and manages the Phoenix office. Andy's prior experience includes serving as the Environmental Director of the Town of Marana, Arizona; and seventeen years with The Nature Conservancy in Arizona. During his tenure at TNC his duties ranged from Public Lands Protection Planner to Regional Conservation Manager for Southern Arizona. Andy oversaw the Conservancy's government relations and public policy activities and worked first hand on issues surrounding state trust land management for over a decade.

Sustainable Water Management: Meeting the Needs of People and Nature:

Growth across the arid West has brought many challenges, not the least of which is reconciling the water needs of current and future residents, agriculture, and industry with the preservation of the region's remaining rivers and streams. Through the generous support of the Nina Mason Pulliam Charitable Trust and Kenney Foundation, the Sonoran Institute convened a team of water experts in Arizona to discuss the issue of Sustainable Water Management focusing on three case study watersheds in Arizona: the Upper San Pedro, upper and middle Verde and upper Santa Cruz rivers. This report is an outgrowth of those discussions.

Please Note
No August or
September
Meeting

2007 Event Calendar

August – no meeting
September – no meeting
October 9th – Andy Laurenzi, Sonoran Sustainable Water Management Report
November – Lori LaPlat, Geomatrix – Percholorate Talk
December – Tim Fitzpatrick, Laboratory Data Consultants
January – Kick-off meeting
February – Paul Westerhoff – ASU, Endocrine disruptor talk

Phoenix Chapter Officers

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FLAGSTAFF CHAPTER NEWS

The Flagstaff Chapter is planning a fall field trip to visit the City of Flagstaff water wells of the Inner Basin. Not only home to several City of Flagstaff wells, the basin is full of aspen trees and towering ponderosa pine, high country wildlife, and lush native vegetation. The basin is situated within an eroded stratovolcano and is surrounded by the highest peaks in Arizona. This setting, coupled with fall colors and stimulating conversation will make for a delightful day. Certainly one trip you won't want to miss! Stay tuned for more information.

The Flagstaff Chapter has decided, after much discussion, to join the 2008 AHS Annual Symposium with the 2008 AIPG Annual Meeting. The Flagstaff Chapter is very excited about combining these meetings and will remain an equal force in planning the AHS Symposium. We feel this merger will expose AHS to a much larger group of professionals that stem from around the nation and around the world. In addition, AIPG offers some amazing field trip opportunities that AHS would otherwise not offer.

The Flagstaff Chapter continues to have monthly meetings through the summer. The August meeting date, time, and location is TBA.

Flagstaff Chapter Officers

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Call for Abstracts

Due Date Extended to July 27, 2007

DESERT REMEDIAL ACTION TECHNOLOGIES WORKSHOP



October 2-4, 2007

Phoenix, AZ

Workshop Sponsors



Desert Remedial Action Technologies Workshop (D-RAT):

Abstract Submission:

Content: All abstracts should be no more than 1 page in length and include content consistent with the technical program scope. A maximum ½ page biography should accompany all abstracts.

Format: All abstracts should not exceed one standard page in length. All abstracts must be presented in English in Microsoft Word format.

Submission: Use the form included with this call for abstracts when submitting abstracts.

Confirmation of Receipt: Confirmation of receipt of the abstract will be done by e-mail within one week of submittal. Electronic submission is preferred.

Review: Abstracts received by the due date will be reviewed for currency, technical merit and relevance to the workshop.

Notification of Acceptance: Notification of acceptance decision will be mailed by *August 10, 2007*.

Proceedings: Acceptance letters will include directions on providing abstracts and presentation materials to be available online to the attendees at the workshop. The anticipated deadline for slides and finalized abstracts is August 31, 2007. Electronic submission is preferred.

Inquiries: All inquiries regarding submission and content of abstracts should be addressed to Mary Aycock, Aycock.Mary@epa.gov, (415) 972-3289. Additional workshop information will be available in a forthcoming website.

Announcements

Arizona surveyors question who can use sub-meter GPS

The Arizona Professional Land Surveyors released a white paper last week entitled the "Geospatial Debate" which addresses the question of whether only licensed surveyors and engineers should be allowed to use sub-meter resolution GPS units for collecting data and making maps and other products. APLS is considering what recommendations to make to the Arizona State Board of Technical Registration. It is available online at http://sco.az.gov/WhitePaper_v6.pdf. I am also attaching a copy.

I urge you to read their paper and be prepared to weigh in on the professional/public debate and with the SBTR as needed. This could have a big impact on the earth sciences.

M. Lee Allison, PhD, PG
State Geologist & Director
Arizona Geological Survey

How to visit the AHS Members Only area:

- Go to: www.azhydrosoc.org
- Located on the far right side of your screen click on Members Only
- Type in your username and password:
Your username is the first initial of your first name and then your last name (ie Flo Waters would be FWaters). Your password is your zip code (that we have on file for you).

Once there you have access to documents that are not available on the public site.

REMEMBER you must be a currently paid member of AHS to have access.

WRRRC BROWN BAG SEMINAR

Monday, August 13, 2007

12:00 to 1:15 pm at the Water Resources Research Center, 350 N. Campbell, University of Arizona, Tucson AZ

☐ Climate Change Issues: How We Are Reacting to Them Both Environmentally and In Policymaking ☐

Dr. Mark Howden, Senior Principal Research Scientist with CSIRO (the Commonwealth Scientific and Industrial Research Organization) Sustainable Ecosystems in Australia

Dr. Howden leads a team of researchers working with stakeholders to transform agricultural industries and regions in the face of emerging economic, environmental and social drivers. CSIRO is Australia's national science agency and one of the largest and most diverse research agencies in the world

Dr. Howden's current research activities include:

- managing natural resource issues in a variable and changing climate
- adapting Australian farming systems to climate change - a participatory approach
- enabling natural resource management decision makers to make better use of climate science

He is also interested in seeing how academic organizations work across disciplines and link with non-academic institutions to address real-world problems.

More information about Dr. Howden is available on line at <http://www.csiro.au/people/Mark.Howden.html>.

All seminars are held at the Sol Resnick Conference Room, Water Resources Research Center, University of Arizona, 350 N. Campbell Ave. Tucson AZ

Announcement

Hidrología, Uso y Manejo del Agua en Zonas Áridas



(For US interested parties: for more information and confirm attendance, please contact: Mario Castaneda, GateWay Community College 602-286-8663; Castaneda@gatewaycc.edu



Drinking Water Treatment Plant

Universidad de Baja California Sur



Binational Water Forum La Paz, B.C.S., México

Hotel Los Arcos
La Paz, B.C.S, Mexico
<http://www.losarcos.com/>
(There is a special rate for attendees)

October 18-20, 2007
(Please confirm by August 31, 2007)

COST : \$200 Dlls
(\$100 Dlls for presenters)
(includes the attendance certificate, copy of the presentation materials, light refreshments, and a field trip to a wastewater treatment plant in La Paz and a desalting plant at Los Cabos).

Participating Agencies and Institutions:

BCS State Congress Water Commission

Drinking Water Municipalities from La Paz, Los Cabos, Loreto, Comondú, and Mulegé

University of Baja California Sur: Department of Hydrology, Use and Water Management in Arid Zones.

Confederación Nacional Agronómica de México

Arizona Water Institute

Arizona Water Pollution Control Association

FORUM OBJECTIVES

Arizona (USA) and Baja California Sur (México) are experiencing drought-related problems. The objectives of this forum are to:

- Share experiences between Arizona and Baja California Sur on water quantity-quality problems
- Strengthen the collaboration efforts between Arizona and Baja California Sur to address those water shortage issues.

The forum will focus on these four areas:

- ◆ Reclaimed water reuse
- ◆ Sewage sludge reuse in agriculture and biogas production
- ◆ Management, treatment, use, and training on water-wastewater
- ◆ Sustainable water management and use in rural and coastal regions

The forum is for drinking water and wastewater agencies, institutions, academics, researchers, industry and the general public engaging in finding solutions to these water-related issues.

(Simultaneous translation will be provided)

For more information about the City of La Paz, México and the different city attractions, please visit:

<http://www.vivalapaz.com/>

TUCSON CHAPTER NEWS

Tucson Chapter meeting

September 11 2007

Errol L. Montgomery & Associates, 1550 E. Prince Road on.

Social half-hour at 7:00, speaker at 7:30

David M. Meko, Biographical Sketch

Dr. Meko is an Associate Research Professor at the Laboratory of Tree-Ring Research at the University of Arizona. He has a B.S. in Meteorology from Penn State, and an M.S. in Atmospheric Sciences and Ph.D. in Hydrology and Water Resources from the University of Arizona. He teaches a course in time series analysis through the Geosciences Department, and conducts various research projects applying tree rings to study hydroclimatic variations. His main research interest is statistical modeling of the hydrologic signal in tree rings. He has applied this modeling in the western United States to streamflow reconstructions on the Gila, Salt-Verde, Sacramento and Colorado Rivers. His current work is interdisciplinary, and focuses on making paleoclimatic information relevant to water management. Ongoing studies are supported by the Salt River Project, the U.S. Bureau of Reclamation, and the California Department of Water Resources

Abstract

Medieval Drought in the Upper Colorado River Basin

Tree-ring reconstructions for the Colorado River at Lees Ferry, Arizona, have consistently indicated that the modern gaged flow record is unrepresentative of the past few centuries both in the long-term mean annual flow and the severity of extended hydrologic droughts. Information on past droughts can be considered most reliable for the past 500 years, when tree-ring site coverage is relatively dense. This relatively "recent" part of the tree-ring record identifies the late 1500s as the most severe multi-year drought, and emphasizes the spatial coherence of droughts and wet periods over the Upper Colorado River Basin. Tree ring samples from logs, stumps, and dead standing tree have recently been analyzed in an attempt to extend the tree-ring record of the Colorado River back to the period known as the Medieval Climate Anomaly (MCA), roughly A.D. 900-1300, which other paleoclimatic evidence points to as a time of exceptional swings in moisture conditions over the Southwest. The singular multi-decadal event identified by the new analysis is persistent drought in the mid-1100s: thirteen consecutive years were below the modern gaged mean, and no very high annual flows occurred over an interval of six decades. If such a drought were to occur today the results would likely be devastating to water supplies in the Southwest. Key sources of uncertainty in the extended tree-ring record are low site coverage and sample replication in the tree-ring network, as well as limitations imposed by

tree-ring data processing on the lowest discernible frequencies of climate variation.

Please Note NO August Tucson Meeting

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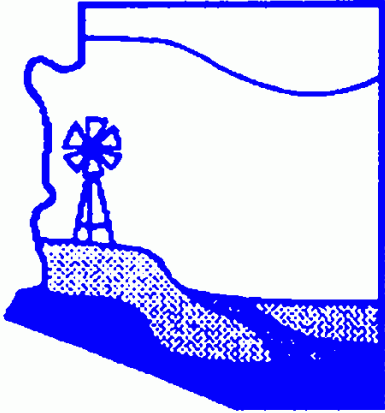
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MEMBERSHIP APPLICATION



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ARIZONA HYDROLOGICAL SOCIETY c/o Jeanie Merideth Association Manager
PMB #139; 3305 N. Swan Rd #109, Tucson, AZ 85712
Membership Application (Dues: 1 year \$40, \$15 for students)

Name: _____ Position: _____

Company: _____ Email: _____

Mailing Address: _____

Work Phone: _____ Home Phone: _____ Fax: _____

In addition to my dues, I am enclosing

\$ _____ Herman Bouwer Intern Scholarship fund (Phoenix),
\$ _____ Leonard C. Halpenny Intern Scholarship fund (Tucson),
\$ _____ for the SARSEF Scholarship fund,
and/or \$ _____ for the state-wide AHS General Scholarship fund.

Total amount enclosed: \$ _____

Chapter Affiliation:

_____ Tucson

_____ Phoenix

_____ Flagstaff