

## April 2009 Newsletter

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## **Viewpoint: Communicating Science**

Science can be defined as an organized body of knowledge of general truths and facts concerning natural phenomena and the material world derived from observation and experimentation. Underlying the practice of science is the scientific method, and an important part of the scientific method, along with the formation of concepts and hypotheses to be evaluated, is communication. The exchange of ideas and information is vital to the progress of science. The scientist who never writes a paper, never tells another soul what he or she is observing or testing, is not truly a scientist because no contribution to the organized body of knowledge is ever made. We are all responsible for adding to our body of knowledge concerning hydrology and water resources; it is the only way that knowledge is refined, expanded, and advanced.

Scientists write research papers and present talks on projects. Scientists discuss their ideas and the concepts of other scientists. Scientists and other water professionals comment on new developments in water policy. Scientists communicate, because science cannot flourish without communication. One of the best ways to communicate with other scientists is in the context of a symposium, where project observations are presented, new concepts discussed, and people encounter new ideas. Scientists need such meetings to do science.

The upcoming AHS Annual Symposium, a joint meeting with the American Institute of Hydrology, is your opportunity to communicate. Many professionals have been working so hard for so long over the past few years that they have not had a chance to gather their observations and thoughts into a presentation. But now is the time to sit down and write up your project results or comment on water policy. We all want to hear what you have been doing in hydrology, and what you think about subjects like drought, climate change, floods, environmental response, and other natural phenomena. This year's theme of -Managing Hydrologic Extremes- is much broader than you might at first suppose. It doesn't take very long to prepare that abstract and send it in. The deadline for abstracts for the 2009 Annual Symposium has now been extended. And this year the Annual Symposium will produce a real book, a bound compendium of professional presentations. The Symposium Website (another communications tool) is now up and running at [www.hydrosymposium.org](http://www.hydrosymposium.org) . We invite you to join us and be a part of the event.

The Arizona Hydrological Society is counting on you to communicate.

Alan Dulaney,

AHS Corporate Board President, 2009

Many of you have already heard the sad news that the Society's Executive Director, Nick Melcher, passed away on April 9, 2009, of complications due to a staph infection. Nick served on the Corporate Board as a representative of the Tucson Chapter, and stepped up to take on the task of Executive Director last year when we needed him most. Nick had many plans for his retirement, not the least of which was staying active in AHS.

Jon Hoffman, Director of the Arizona Water Science Center and Nick's close friend, shared these words:

At a youthful age of 58, Nick retired in 2007 after 34 years with the USGS; 13 of those years were served as Director of the Arizona Water Science Center. He began his career as a staff hydrologist in Montana, later became subdistrict office chief in Kentucky and district chief in Iowa before coming to Arizona. In Arizona, Nick was lauded for having one of the strongest Data Programs in the country and for having developed one of the broadest and most innovative ground-water programs in the USGS. Nick managed his office as effectively and efficiently as any Water Science Center in the country. He took an Arizona office in deep financial trouble and turned it into a highly performing organization with soaring morale.

Nick's memorial will be held Friday, April 17, 5:00 PM, at Reid Park in Tucson.



## Submit your 2009 Symposium Abstract Now!

Abstract Deadline Extended to April 30, 2009.

**\$99 hotel rate through May 31, 2009**

Book online at [Hydrosymposium.org](http://Hydrosymposium.org)



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## Arizona Hydrological Society 2009 Annual Scholarship Announcement

The Arizona Hydrological Society (AHS) and the AHS Foundation will award three \$3,000.00 student Scholarships in 2009. The purpose of the award is to encourage full time students in hydrology, hydrogeology, or any other water resources related fields at any Arizona university, or college to excel in their area of study. Any junior, senior or graduate student who fits into this category is qualified to apply for the Scholarship. Applications for the Scholarship must be submitted to Dr. Aregai Tecele at the address below by April 30, 2009. The Scholarship will be awarded during the Annual Symposium of the Society that will be held during August 30 - September 2, 2009 at the Westin Kierland Resort & Spa, Scottsdale, Arizona.

The Scholarship award will be based upon the following criteria:

1. Grade Point Average based on at least two full-year courses work
  2. Strength of Recommendation letters (at least one)
  3. Application letter describing the applicant's interests and career goals in hydrology and water resources
  4. Background in hydrology and water resources related activities (provided in the applicant's resume), and
  5. Degree of need explaining the need & how the scholarship would help meet the need.
- The

Scholarship application must include at least the following documents to be considered:

1. Application letter
2. Official transcripts (graduate & undergraduate for graduate applicants)
3. Confidential recommendation letters (at least one)

Mail all Scholarship applications for consideration by April 30, 2009 to:

**Professor Aregai Tecle  
Northern Arizona University  
School of Forestry  
P. O. Box 15018  
Flagstaff, AZ 86011-5018**

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## **Phoenix Chapter**

### **April Dinner Meeting**

Our next dinner meeting will be held Wednesday (yes Wednesday), April 15th when Stan Leake, USGS will give a talk he did recently for the Tucson Chapter. Stan will discuss the use of models to map the potential capture of surface water by groundwater withdrawals. This talk drew a great audience in Tucson. It's sure to attract a good crowd in Tempe.

Please join us April 15<sup>th</sup> at El Penasco at Mill & Broadway in Tempe. Hope to see you there!

Location: El Penasco Mexican Kitchen  
19 E. Broadway Road  
Tempe, AZ 85282

Speaker: Stan Leake, USGS Use of Models to Map Potential Capture of Surface Water by Ground-Water Withdrawals Abused

Chapter Board Meeting: 5:00 PM - 5:40 PM

Happy Hour & Dinner: 5:45 PM - 7:00 PM

Dinner Speaker: 7:00 PM - 8:00 PM

Cost: \$15 member, \$20 non-member, \$5 student

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

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### **March Meeting Summary**

Thanks to Abe Springer and Steve Flora for sharing information on their work to classify springs in Arizona.

Where are they located? 50% of them are actually mapped. Arizona, though one of the most arid states, has the highest number of documented springs. For Steve's thesis, he has inventoried 160 springs in the middle Verde to Horseshoe area for physical, biological and cultural classification.

Sixteen springs were monitored for a year using classification systems dating to 1919 (Bryan). Meizner added 11 characteristics to the system in 1923. In 1994, Alfaeo and Wallace expanded the classification criteria to add ecological and cultural elements. The system of classification is in ongoing development.

Geomorphological considerations include the rock body defined by porosity and permeability. Rock types for 75 springs in the Colorado Plateau are primarily sandstone, mudstone, siltstone, granite and conglomerate. The emergence environment of the spring, the sphere of discharge, flow consistency (and variability), and the ecosystem are various additional ways in which springs are classified. Most of the springs found in the Verde are of the hill-slope type.

If the water temperature is 37.8- C, it is considered a hot spring. The chemistry of the water is also important for biology ecosystems. Many of our springs are in biogeographic isolation. A gusset is the most interesting and diverse type. There are not enough people studying the insects living near these springs to link water quality to the biological indicators.

There is a spring snail which indicates a permanent source of water. There are 42 endemic snails in Nevada. Most springs are obliterated or ecologically impaired, sometimes with piping. Many of the National Parks springs are gone. These biological hot-spots are highly threatened and might also be considered sacred by some cultures. They are distinctly different than riparian systems. There is work going on to develop a spring database for interactive use in the future similar to the antweb.org site.

The Phoenix Chapter would like to thank Abe and Steve for sharing there work with us last month. We-d especially like to thank Abe for coming all the way down the hill from Flagstaff! Hope you enjoyed that spring training game!

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## **AzSEF**

The Phoenix Chapter is proud to announce the award of another \$400 to deserving students at the 2009 Arizona Science and Engineering Fair which took place March 23rd at the Phoenix Convention Center. Paul Plato, Clear Creek Associates, Gary Hoffman, EEC, and Peter Godfrey, Fluid Solutions, spent the afternoon interviewing and reviewing poster boards from elementary, junior, and senior high school students looking for worthy projects related to hydrology, water, and earth sciences.

This year's honored students were:

### **Senior Division**

1st Place - \$100

John Lacson, "The Effect of Various Types of Light on the Dissolved Oxygen of Tempe Town Lake"

2nd Place - \$50

Alexandra Adams, "Effects of Rising Sea Levels on Salt Content in a Freshwater River Upstream from an Estuary"

Honorable Mention

Jean-Luc Cavnar-Lewandowski, "Soil Displacement: A Problem or Not?"

### **Junior Division**

1st Place - \$50

Kyle Chapman, "Flash Floods! A Hydrologic Study of the Use of Physical Impediments to Reduce Water Flow Speed During Flash Floods"

1st Place - \$50

Denay Lewis, "NaCl Solubility Along the Gila River of New Mexico and Arizona"

1st Place - \$50

Tiana Blackwater, "NaCl Salinity of Soils Along the New Mexico Headwaters of the Gila River into Arizona"

2nd Place - \$25

Taylor Anderson, "Desedimentation of Colorado River Beaches"

2nd Place - \$25

Logan Mahan, "Soil and H<sub>2</sub>O"

### **Elementary Division**

1st Place - \$50

Julia MacKinlay, "Rockin- and Rollin- - 5-Miles of Erosion"

Honorable Mention

Julie Warne, "Levees Hold Back"

Honorable Mention

Uma Vrudhula, "Investigation of Non-Ion Exchange Methods for Softening Water"

Honorable Mention

Michael Gerdes, "Sand Liquefaction"

Honorable Mention

Sarah Francisco, "Healthy Water/Healthy Kids"

The Phoenix Chapter would like to thank Paul, Gary, and Peter for their time and tough decision-making at this great event. We-d also like to thank Central Arizona Project for their continued support of these awards.

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### **2009 AHS Annual Symposium Sponsors Sought**

The 2009 Symposium, -Managing Hydrologic Extremes-, will be held at The Westin Kierland Resort & Spa August 30 through September 2, 2009 in Scottsdale. The event will be a joint symposium with the 2009 national conference of the American Institute of Hydrology (AIH). Thanks to our volunteers we already have several pledged sponsors! Our thanks to:



- Freeport McMoRan Copper & Gold
- ACS
- ACZ Laboratories
- Central Arizona Project
- Clear Creek Associates
- Columbia Analytical Services
- EEC
- E.L. Montgomery & Associates
- Golder & Associates
- Southwest Hydrology
- TAM International.

We look forward to helping you help us promote your firms and the 2009 Symposium. Please contact Mike

Hulst, EEC, at 602-248-7702 or [mhulst@eecphx.com](mailto:mhulst@eecphx.com) or Keith Ross, Hydro Geo Chem, at 480-421-1501 or [keithr@hgcinc.com](mailto:keithr@hgcinc.com) and ask for a sponsorship package.

More information is also available at our Symposium website, <http://www.hydrosymposium.org> . Check it out! I think you-ll be impressed.

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### **Planning for 2009 Symposium continues, April 23, at Hydro Geo Chem**

Planning for the 2009 AHS Symposium continues and we will be meeting regularly to hammer out details of program, speakers, sponsorship, marketing, proceedings, workshops, field trips, etc. The next planning meeting is scheduled for Thursday, April 23<sup>rd</sup> at 5 PM at the offices of Hydro Geo Chem (6370 E. Thomas Rd, Ste 200Scottsdale, AZ). We have a great group already, but we can definitely use more help. If you are interested in helping with the planning process or just listening in, please contact Keith Ross at [keithr@hgcinc.com](mailto:keithr@hgcinc.com) or 480-421-1501. We-d love to have you and we can really use your help.

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### **Herman Bouwer Internship Hosts Sought**

Applications for the 10th Herman Bouwer Internship have been received and are currently under review. So that means it's now time to find our intern hosts!

The Phoenix Chapter of the Arizona Hydrological Society is seeking interested employers from government, private industry, and environmental consulting firms to participate as a host to the 2009 Herman Bouwer Intern Scholar. The selected student recipient of this award will be in pursuit of a college degree in hydrology, geology, environmental science, civil engineering, environmental engineering, or a related field of study. This program is entering its tenth year of existence in the Phoenix area and will be selecting the 2009 Intern Scholar on April 20, 2009. The awarded student will have the opportunity to complete 320 hours of service between the dates May 1 and August 31 with at least three government or private industry organizations in the environmental, geological, or water resources field of study. The selected student will be required to complete a minimum of 40 hours of service at each organization. Part of the 320 hours of service will include the opportunity for the student to obtain their HAZWOPER training for entrance on hazardous waste sites. The scholarship program also provides a monetary award to the student of \$4,800 FULLY funded by the Arizona Hydrological Society.

This is an excellent opportunity for government or private industry organizations to try out a potential employee. Participating host organizations reserve the right to have the scholarship recipient sign a liability and confidentiality waiver. The Herman Bouwer Intern Scholarship Recipient will have the opportunity to choose from a list of interested government or private industry organizations that are in line with the student's career goals. For this reason, the Intern Scholarship Committee wants any interested organization to respond by completing the Employer Interest Survey Form available on the AHS website ([http://www.azhydrosoc.org/internship\\_Bouwer.html](http://www.azhydrosoc.org/internship_Bouwer.html)) and e-mailing it to us at [emily.stevenson@amec.com](mailto:emily.stevenson@amec.com) by **April 24, 2009**.

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### **UA Coop Extension, Maricopa County Brown Bag Water Speaker Series**

The Brown Bag Water Speaker Series continues on Wednesday, April 29, with "Water Planning in Arizona," a presentation by Sharon Megdal, Director, The University of Arizona Water Resources Research Center. The presentation is Noon-1:30 p.m. at The University of Arizona Cooperative Extension, Maricopa County, Palo Verde Room at 4341 E. Broadway, Phoenix. Free and open to the public. Bring your lunch. There will be time for questions and answers. Please RSVP to Nancy Crocker at 602-827-8200 ext. 335 or [NCrocker@cals.arizona.edu](mailto:NCrocker@cals.arizona.edu).

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**Event Calendar (see also calendar on <http://www.azhydrosoc.org>)**

- Wednesday, April 15<sup>th</sup> - Stan Leake, USGS, Use of Models to Map Potential Capture of Surface Water by Ground-Water Withdrawals
- April 23 - 2009 Symposium Planning Meeting, Hydro Geo Chem. 5 PM
- April 24, noon - Sharon Megdal, UA WRCC, -Water Planning in Arizona-, UA Coop Extension Brown Bag Water Series, noon -1:30 pm
- April 27 - 30 - Parameter Estimation (PEST) Workshop, ADWR
- June - Greg Zekoff, Boart Longyear, -New Developments in Sonic Technology-
- **Aug. 30- Sept. 2, 2009 - *Managing Hydrologic Extremes*, Joint Symposium of AHS & AIH, Westin Kierland Resort & Spa, Scottsdale, AZ**

## Tucson Chapter

### **April Meeting Announcement**

**Location:** Offices of Errol L. Montgomery and Associates, Inc  
1550 E Prince Rd  
Tucson, AZ 85719

Tuesday, April 14th 2009, 6:00 pm  
Social half-hour begins at 6:00 pm; Talk begins at 6:30  
Food and beverages provided

**Speaker:** Matt Garcia, Arizona Water Institute

### **Abstract:**

The Arizona Hydrologic Information System (AHIS; <http://www.AZh2o.org/>) provides a comprehensive framework for knowledge management and information discovery using data related to physiographic surveys, hydrologic observations, and water resources monitoring and assessment throughout the State of Arizona. The development of AHIS is a state-wide, collaborative effort led by the Arizona Water Institute (AWI) and involving three state universities (the University of Arizona, Arizona State University, and Northern Arizona University), three state administrative departments (the Arizona Departments of Water Resources, Environmental Quality, and Commerce), numerous federal agencies (e.g., the USGS, the Bureau of Reclamation, the Bureau of Land Management, and the National Weather Service), regional water and power providers (e.g., the Central Arizona Project, the Salt River Project, and local water utilities), county and municipal organizations throughout the state, tribal authorities, private consultants, nongovernmental organizations, and volunteer observer networks. Our goal for AHIS is to bring together the information held and provided by these entities regarding all aspects of water availability, quality, and use so that (1) these data can be more widely disseminated to the user community, (2) the combination of multiple data sources and types may lead to the development of new information by correlation and analysis, and (3) the combined wealth of data may be of greater use to stakeholders and decision-makers in the water-related community of practice. The approach to AHIS development remains inherently multi-disciplinary and attempts to address the needs of dataset and information collectors, providers and consumers in numerous water-related fields from scientific, engineering and societal perspectives. It is intended that the data clearinghouse and analytical tools to be made available in AHIS will provide invaluable support to governmental agencies and affiliated policymakers, tribal organizations and groups, private firms and consulting services, and academic research and technology development for hydrology- and water-related planning, education and outreach within Arizona and throughout the arid and semi-arid Southwest.

### **Biography:**

Matthew Garcia is the Project Manager for the Arizona Hydrologic Information System (AHIS) effort at the Arizona Water Institute and is also affiliated with SAHRA at the University of Arizona. Matthew's background is in Atmospheric Science (M.S. at Colorado State University, 1999) and Hydrology (M.S. in

civil engineering, also CSU, 2003). Prior to joining AWI, Matthew worked for four years in the Hydrological Sciences Branch at NASA Goddard Space Flight Center (GSFC) on several projects, including software for the spatial interpolation of precipitation for land surface modeling applications in the NASA-GSFC Land Information System (LIS). Matthew's research interests range from detailed physical modeling of land surface hydrological processes, especially the more accurate representation of precipitation forcing and runoff and routing processes, to global issues in water resources and hydrologic modeling, including media coverage of these issues and the scientific and societal bases of advancement on the problems of water scarcity and allocation.

### **March Meeting Summary**

*by Marla Odom*

*Errol L. Montgomery & Associates, Inc.*

On March 10, the AHS Tucson Chapter hosted a formal dinner meeting at the Four Points Sheraton Tucson University Plaza Hotel. The guest dinner speaker was Dr. Robert Webb, USGS, who gave a presentation to 27 attendees on repeat photography used to determine long-term time series ecosystem change at specific stream locations.

The Desert Laboratory Collection of Repeat Photography has been in existence for over 50 years, with 5,925 camera stations in the southwest, 3,058 of which are in Arizona. They have conducted the most repeat photography ever done for a single project. A collection of over 3,000 replicate images was used to determine gains and losses in riparian vegetation in the southwest, and Dr. Webb highlighted results for Escalante River in Utah, and the Gila, San Pedro, and Santa Cruz Rivers in Arizona.

Dr. Webb explained that it is commonly said that we have lost about 90 percent of the woody riparian vegetation in Arizona over time, and that this statement turns out to be the "perfect myth" because it can neither be confirmed or denied. However, some broad statements can be made about riparian vegetation in the southwest using repeat photography and the historical record. Written observations began in 1540 with accounts of Spanish explorers, and written historical documentation has been ongoing throughout since that time. Photography started in 1863, and land surveys began in the 1870's.

Many reaches have shown gains in riparian vegetation, and the places with the largest declines are typically associated with groundwater overdraft in large alluvial basins. Overall, there is an increase in woody riparian vegetation because there was a general downcutting period from 1862 to 1909, then a widening of streambeds from 1891 to 1940. A period of drought from 1940 to 1975 led to aggradation, and then there was a renewed widening from 1976 to 1995 (or to present in some places). In general, there has been renewed aggradation from 1996 through 2007. These changes in widening and aggradation have led to aggraded terraces on which woody vegetation has been able to successfully establish.

One dominant riparian species that has established is the invasive Tamarisk. Dr. Webb detailed some negative myths about Tamarisk:

- 1.) "Tamarisk wastes water more than native riparian species" - Tamarisk does not use more water than most native species.
- 2.) "Tamarisk is biologically sterile" - Tamarisk in fact, has lots of wildlife, and has become the new territory for some wildlife, including the endangered Southwestern Willow Flycatcher. It establishes on bare soils and tends to provide the conditions that other riparian species need in order to establish themselves. There is strong evidence that once established, native species dominate and choke out Tamarisk. Tamarisk has been largely viewed as a negative species, and eradication projects have been attempted in various areas. These projects have been largely unsuccessful because without maintenance, Tamarisk immediately returns. Additionally, eradicating Tamarisk is an ongoing debate between two environmental factions, one of which wants only native riparian vegetation, and one which wants to preserve endangered wildlife habitat.

In areas of riparian vegetation loss, large declines in groundwater levels due to pumping have been dropped below rooting depths of riparian plants, or drop off too quickly for plant roots to keep up. Often all surface water has been diverted or lost to pumping. Riparian vegetation loss is also often found along



reservoirs, where water levels rise and fall.

Dr. Webb also detailed channel improvement efforts and vegetation change at the Congress Street Bridge on the Santa Cruz River. Repeat surveys and aerial photos show that since soil cementing was utilized, riparian vegetation has slowly built up in the channel and has decreased the flood capacity of the channel. This was a reach with substantial losses in riparian vegetation due to overdraft of the aquifer, but the channel is currently aggrading because of sedimentation associated with newly established riparian vegetation. This example, and the failed Tamarisk eradication efforts demonstrate that restoration efforts have to figure out the fine balance between effective flood control features and public desire to have riparian vegetation.

Dr. Webb, Stanly Leake, and Raymond Turner were all available to talk and sign copies of the following books, which were co-authored with Dr. Webb: *The Ribbon of Green, Change in Riparian Vegetation in the Southwestern United States*; *The Changing Mile Revisited, An Ecological Study of Vegetation Change with Time in the Lower Mile of an Arid and Semiarid Region* Many thanks to Dr. Webb for his interesting and informative presentation, and to all of our dinner guest for their participation.

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### **2009 Halpenny Intern Selection**

We received 10 applications from well qualified candidates this year. Interviews will be held on April 9th, and the winner will be announced by the end of the month.

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### **2010 Symposium Planning Committee**

Its official. The 2010 AHS Symposium will be held at the Westin - La Paloma.

Thanks to Howard Grahn, of Montgomery and Associates, for volunteering to be the Treasurer for the symposium. If you would like to get involved with planning, please contact Kate Duke of Montgomery and Associates ([kduke@elmontgomery.com](mailto:kduke@elmontgomery.com)) or Jeff Gawad of Montgomery and Associates ([jgawad@elmontgomery.com](mailto:jgawad@elmontgomery.com)). Any help is greatly appreciated! Thanks!

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### **2009 Walk for Water Event**



To sign up for this event, or to make a donation please visit:

<http://www.firstgiving.com/process/raisemoney/default.asp?did=2692&skip=home>

Select -Carry 5-University of Arizona-

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### **Hydrology and Water Resources April 2009 Seminar Schedule**

**Date:** 4/8/2009

**Location:** Harshbarger Building, Room 206

**Title:** TBA

**Speaker:** Mark Person, New Mexico Tech University

**Date:** 4/15/2009 - TBA

**Date:** 4/22/2009

**Location:** Harshbarger Building, Room 206

**Title:** Darcy Lecture: Environmental Tracers in Modern Hydrogeology: Reducing Uncertainty in Groundwater Flow Estimation

**Speaker:** Peter Cook

**Date:** 4/29/2009 - TBA

*All seminars are held from 4 - 5 pm*

For more information: [Seminar Webpage](#)

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## **Tucson HydroNews**

### **Council will consider higher taxes and fees**

By Andrea Kelly  
Arizona Daily Star  
Tucson, Arizona | Published: 03.14.2009

To bring in more money for its ailing budget, the city may raise taxes on water bills and boost the cost of a round of golf in coming months.

Among other proposals, the City Council will consider raising some taxes and user fees to bring in \$20 million to make up deficits in some programs and offset dwindling sales-tax collections.

State and city sales taxes are both down more than 13 percent this year compared with last year, according to a city sales-tax analysis.

Increasing the public-utility tax from 2 percent to 3 percent could bring in as much as \$3.4 million, according to a city report. That tax is levied on Tucson Water and would affect Tucson Electric Power as well, said Silvia Amparano, interim city finance director.

<http://www.azstarnet.com/allheadlines/284291.php>

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### **Home builders sue over 'navigable' Santa Cruz River**

Builders seek to block Santa Cruz designation  
By Erica Meltzer  
Arizona Daily Star  
Tucson, Arizona | Published: 03.28.2009

State and national home builders groups are suing the federal government over its decision to declare the Santa Cruz River a traditional navigable water of the United States.

The designation last year by the Environmental Protection Agency affords the river the highest level of protection under the Clean Water Act.

The Southern Arizona Home Builders Association, the Home Builders Association of Central Arizona and the National Association of Home Builders filed a lawsuit Monday in U.S. District Court in Washington, D.C., seeking an injunction against the Environmental Protection Agency and the U.S. Army Corps of Engineers.

The EPA declared two portions of the Santa Cruz River -one stretching from Tubac to Continental Road and the other from the Roger Road sewage- treatment plant to the county line - navigable in December, after taking on the river as a "special case."

## Flagstaff Chapter

### **April Flagstaff Chapter Meeting**

Date 4-8-2009

Place: Casa Bonita restaurant located at 1551 S. Milton

Time: 6-8 pm

### **Field Trip announcement:**

Please join the Flagstaff Chapter and Doug Wolfe for an amazing opportunity to visit spectacular sites of the Zuni Basin. We will meet in Springerville, AZ Friday, May 1, and depart early Saturday morning for sites within a 60 sq mi area of Springerville. Doug will lead us to locations from which we will paint a picture of life during the Cretaceous, discussing the sedimentology, paleontology, hydrology, geomorphology and volcanology of the area.

Due to permitting issues and accessibility, all participants will be escorted from Springerville to the sites in vans or support vehicles. There will be no tag-a-long vehicles allowed. We will be at elevations between 7,000 and 8,000 feet and will hike some rugged terrain (up to several one mile long hikes from the vehicles). Expect temperatures as high as 80F and as low as perhaps 45F after dusk. More information and details will be sent out as a separate announcement in early April.

Participants may pay for a room at the Reeds Motor Lodge in Springerville at a special room rate of about \$50 per night (field trip special prices are not yet known), or can join campers for car camping (no facilities). Springerville has grocery stores, at least one coffee house, and several bars. The Flagstaff Chapter will provide transportation from Flagstaff, dinner for all participants on Saturday night, and lunches and beverages for the field trip Saturday and Sunday. Space is limited so sign up early. Cost is \$40 per person, which must be collected as a non-refundable deposit to hold your space. The deposit will be refunded provided a replacement is. Contact Erin Young at (928) 606-8422 or [eyoung@flusol.com](mailto:eyoung@flusol.com) for more information and to reserve a spot!

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

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

Your membership may be renewed for 2009 by credit card through the AHS website at <http://www.azhydrosoc.org/> or by mailing a check to the Arizona Hydrological Society, PO Box 32898, Tucson, Arizona, 85751. Dues remain at \$45.00 year for regular membership and \$15.00 for students. Thank you all for a great 2008 and for your continuing support in 2009. For those who attended the 2008 Flagstaff Symposium, be reminded that membership dues for 2009 were included in the registration fee.