



**November, 2008, Newsletter**

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**Viewpoint: Calm Waters**

The last month has been a wild ride along the cliff's edge in the financial world. Long-held understandings of how money flows and what things are worth have dissipated almost overnight. Huge chunks of government money have been thrown about with abandon as the regulatory structure tries to adjust to shifting reality. In our hydrologic world, in contrast, the waters are calm.

The body of law that governs Arizona water is zealously guarded by those most concerned with the resource. The Colorado River Compact, the Groundwater Management Act, the Environmental Quality Act, and the various Federal laws affecting the environment, along with court decisions and agency rules, provide us with a stable regulatory framework in which change is non-precipitous and usually only accomplished with stakeholder input. ADWR is suggesting incremental extensions of authority across Arizona in the areas of adequate water supplies and illegal surface water diversions. New contaminant issues such as trace pharmaceuticals arise for ADEQ as old concerns lessen. But these concerns are not huge changes. They are not panicked regulatory responses to imminent chaos, which is where Wall Street is. We can acknowledge flaws (such as the lack of hydrologic reality incorporated into the division of surface water and groundwater law), but the rules have worked relatively well to secure rights to water supplies and protect water from contamination. While the burden of compliance with ADEQ and ADWR can often seem onerous, consulting firms labor diligently to ensure their clients do not run afoul of the relevant laws. We are all better off for having these agencies.

Imagine the lack of a stable legal framework in the semi-arid Southwest. Wells would be drilled in any location in haphazard fashion, groundwater levels would drop precipitously from over-pumping, surface water would never make it very far downstream, and contaminants would be commonplace with no hope of cleanups. Our water supplies would not be sustainable or safe to drink. Hydrologists and long-term sustainability would be ignored in favor of quick exploitation based on ignorance. I think we owe considerable thanks to those who worked over the years to develop our regulatory structures and for the agencies that protect our water resources. After all, Wall Street has shown us that in the absence of good regulatory controls, nightmares can become real.

Alan Dulaney,

AHS Corporate Board President, 2008

**2009 Membership Dues**

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.

---Nick Melcher, Executive Director

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### Phoenix Chapter

#### **November Dinner Meeting Announcement**

Our next dinner meeting will be held November 18th when Matt Beversdorf, Andy Fisher, and Karen Martini from ADWR-GIS Section will discuss their Groundwater Site Inventory web application. ADWR's Hydrology Division maintains the Arizona Groundwater Site Inventory (GWSI) database. In order to ensure a long-term, sufficient, and secure water supply for the State, ADWR continues to improve its methods to provide reliable and detailed groundwater data to the public and stakeholders.

On October 1, 2008, ADWR released its interactive web application that allows the user to search, download, and map the GWSI Data. To provide this tool, ADWR uses the latest in Web and GIS technologies to develop a simple, easy to use, but most importantly, useful website for ADWR's staff, other agencies, and the public.

Matt, Andy, and Karen will demonstrate this application at the November Meeting. You can check it out yourself at <http://arcims.azwater.gov/gwsi/waterresourcedata.aspx>.

Please join us Nov. 18th at El Penasco at Mill & Broadway in Tempe. Hope to see you there! Note this is the THIRD Tuesday rather than the usual 2nd Tuesday to avoid Veteran's Day.

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

Speakers: Matt Beversdorf, Andy Fisher, & Karen Martini - ADWR – Groundwater Site Inventory (GWSI) web application

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 Beth Proffitt at [bproffitt@caslab.com](mailto:bproffitt@caslab.com) or 602-437-0330.

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#### **Field Trip to Global Water Center, Operations Control Center, and Water Recycling Facility, Sat. Nov. 15, 2008, 9 – 10:30 am**

Please join us for a guided tour of the Global Water Resources state-of-the-art Global Water Center in Maricopa, Arizona. Global Water Resources is an Arizona-based water utility known for its leadership in water conservation through recycling and reuse. The Global Water Center is the first Leadership in Energy and Environmental Design (LEED®) Silver Certified utility facility in Pinal County. Ultimately, the Global Water Center will serve over 100,000 homes, care for over 300,000 customers, and create over 100 jobs for the city of Maricopa. Currently, the Center educates thousands on the benefits of water recycling and has hosted both local and international conferences on long-term water sustainability. Along with those exceedingly positive effects, perhaps the most notable impact is what the Center does not do... It does not use one drop of drinkable water to flush toilets, water plants and grass, or fill a water feature. The Center uses 80% less drinkable water than a traditionally constructed building of the same size. It does not

consume nearly as much power as a typical building. Taking maximum advantage of natural light and high-efficiency heating and AC, the Center uses only two-thirds the electricity of an average commercial structure. It does however, have countertops, concrete form walls, ceiling tiles, carpet, asphalt paving, and metal parking canopies all constructed from recycled materials. And at least 50% of construction, demolition and land clearing waste was recycled or salvaged, effectively diverting it from landfills.



Contact Ted Lehman at [ted@jefuller.com](mailto:ted@jefuller.com) or 480-222-5709 if you are interested in attending. He will be organizing a carpool from his office in south Tempe (8400 S. Kyrene Road) for interested persons. The tour starts at the Global Water Center at 9 am, so we'll plan to leave Tempe about 8:15 am to make sure we arrive with time to meet our tour hosts. You are also welcome to meet us at the Global Water Center. Hope to see you there!

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

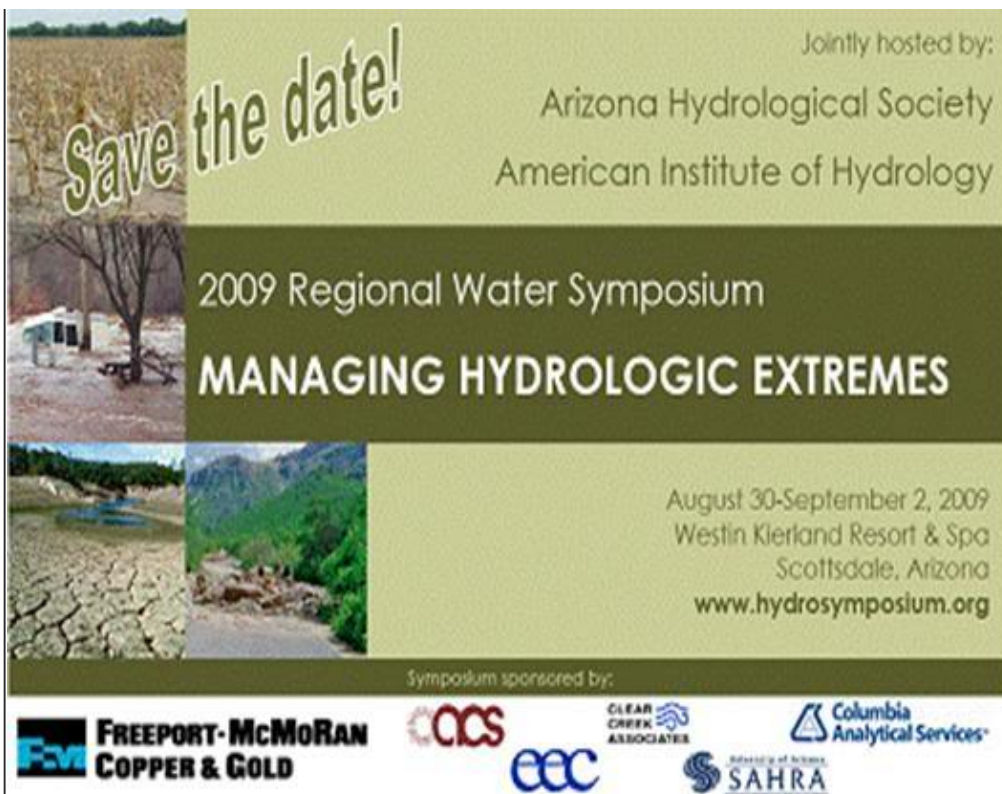
Now that the 2008 Symposium is in the books, it's time to get serious about the 2009 Annual Symposium. The event, "Managing Hydrologic Extremes", will be held at The Westin Kierland Resort & Spa August 30 through September 2., 2009 in Scottsdale. The event will be a joint symposium with the 2009 national conference of the American Institute of Hydrology (AIH). Thanks to our volunteers we already have seven sponsors and a couple strong leads in the wings! Our thanks to:

- Freeport McMoRan,
- ACS,
- Clear Creek Associates,
- Columbia Analytical Services,
- EEC,
- E.L. Montgomery & Associates
- & SAHRA.

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

If you are interested in getting your name out early and let everyone know you are supporting another outstanding AHS event, 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 will be available soon at our website, [www.azhydrosoc.org](http://www.azhydrosoc.org) or [www.hydrosymposium.org](http://www.hydrosymposium.org) .




Save the date!

Jointly hosted by:  
Arizona Hydrological Society  
American Institute of Hydrology

2009 Regional Water Symposium  
**MANAGING HYDROLOGIC EXTREMES**

August 30-September 2, 2009  
Westin Kierland Resort & Spa  
Scottsdale, Arizona  
[www.hydrosymposium.org](http://www.hydrosymposium.org)

Symposium sponsored by:



### **Planning for 2009 Symposium continues, Nov 12th at JEF Tempe**

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 Wednesday Nov 12th at 5 PM at the Tempe offices of JE Fuller (8400 S. Kyrene Road, #201). If you are interested in helping with the planning process or just listening in, please contact Ted Lehman at [ted@jefuller.com](mailto:ted@jefuller.com) or 480-222-5709, Lee-Anna Walker at [LeeAnna.Walker@arcadis-us.com](mailto:LeeAnna.Walker@arcadis-us.com), Christie O'Day at [coday@acstempe.com](mailto:coday@acstempe.com) or 480-894-5477 or 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.

### **Zuni Basin Fossil Field Trip Rescheduled**

The planned October field trip to northeastern Arizona to examine real life dinosaur fossils was rescheduled. Our tour guide, Doug Wolfe, Renaissance Environmental Management, L.L.C., informs me the cancellation was probably fortuitous. Show Low got an inch of rain, and Springerville had about ¾ inch. On top of the wet weather, 50 mph winds and temperatures in the 20s at night... Doug proffered, "we'd have been frozen little mud-puppies."

Sooo, we WILL try again, but a new date has not been set. We will of course keep you all informed.

Thanks again to Doug Wolfe for volunteering to share this great field experience with AHS. We look forward to the field trip, whenever it gets rescheduled.

### **AHS Foundation Fundraising**

The AHS Foundation would like to remind you that they are a 100% charitable organization. You can fully deduct you contribution on your tax return. The AHSF exists to promote hydrological societies, water education, and water science in Arizona and the arid southwest. We are setting up an online mechanism to collect donations to the Foundation at [www.azhydrosoc.org](http://www.azhydrosoc.org). These donations go to support AHS scholarships, internships, and build an endowment to ensure their perpetual funding. AHSF is a very efficient giving vehicle as we have no paid staff and very low operating expenses. So, as you are approach the end of 2008 and begin to think about you tax obligations, please consider a tax-deductible donation to

the AHS Foundation.

## **Event Calendar**

- November 15 – Field Trip to Global Water Center, Maricopa, AZ, 9-10:30 am.
- November 18 – Third Tuesday meeting to avoid Veteran's Day – Matt Beversdorf, ADWR, ADWR Groundwater Data web application, check out the Beta version now:  
[http://arcims.azwater.gov/gwsi\\_web93/SearchGWSI.aspx](http://arcims.azwater.gov/gwsi_web93/SearchGWSI.aspx)
- December 9 – Jolene Tallsalt Robertson, Navajo Nation, water resource projects in the Navajo Nation
- January 27- Nick Melcher, Lunch Hour Presentation "Communicating Science to Policy-makers", in collaboration with the University of Arizona, Cooperative Extension Service, at their facility, 4341 East Broadway, Phoenix, Arizona, 85010. Please RSVP Ted Lehman, JE Fuller/ Hydrology & Geomorphology, Inc, 8400 S. Kyrene Road, Suite 201, Tempe, AZ 85284, 480-222-5709, ted@jefuller.com
- February – Keith Ross, Hydro Geo Chem, Using Passive Soil Gas Surveys for Preliminary Source Identification (The Bull's-eye Approach)
- Aug. 30- Sept. 2, 2009 – Managing Hydrologic Extremes, Joint Symposium of AHS & AIH, Westin Kierland Resort & Spa, Scottsdale, AZ

## **Tucson Chapter**

### **Tucson Chapter October Meeting Summary**

Ralph Marra and Wally Wilson, of Tucson water, spoke at the October meeting.

Tucson Water staff presented the Utility's 2008 Update to Water Plan: 2000-2050; the latter was originally issued in 2004. The focus of the update was to re-evaluate future water demand based on new projections and revised assumptions and to reassess critical planning variables which could impact meeting that demand.

Citizens of Tucson had long relied on the use of groundwater to meet their water needs. The plan is to continue to shift the City of Tucson away from its historical reliance on mining groundwater through the increasing use of renewable supplies such as Colorado River Water, Central Arizona Groundwater Replenishment District water, effluent, and potential future additional sources as well as by expanding its conservation/ demand management programs.

The 2008 update accounts for anticipated changes in population and therefore to demand projections through 2050. The 2008 update also notes increases in the City's CAP allocation, expanded reclaimed water facilities, local and regional drought effects and possible shortage declaration on the Colorado River in the near to mid terms, potential for climate change in the longer term, and many other uncertainties. What became clear is the priority Tucson Water places on continuous planning and why the maximization of flexibility is so highly prized when contending with change and future uncertainties.

To view the Tucson Water Plan: 2000 – 2050 in its entirety, visit:

<http://www.ci.tucson.az.us/water/waterplan.htm>

To view the 2008 Update to the Tucson Water Plan: 2000 – 2050, visit:

<http://www.ci.tucson.az.us/water/waterplan-2008.htm>

Thanks to Ralph Marra and Wally Wilson for taking the time to present to us!

## **November Meeting Announcement**

Title: Reclamation's Project Implementation Process

Speakers: Deborah Tosline, Bureau of Reclamation

Date: Tuesday, November 18th, 2008

Time: Join us at 6:00 pm for the social half hour. Food and drinks are provided. Speaker to begin at 6:30 pm.

Where: The offices of Errol L. Montgomery and Associates

1550 E Prince Rd

Tucson, AZ 85716

This presentation will briefly describe Reclamation's history, authorization, planning, partnerships, project implementation and examples in southern Arizona.

Bio: Deborah Tosline has worked as a hydrologist and program manager with the U.S. Bureau of Reclamation from 2005 helping to plan and manage water resource projects in southern Arizona. Prior to that, Deborah worked at Tucson Water after receiving a B.S. in Ecology in 2002. She worked as a hydrogeologist on groundwater contamination projects in private industry for twelve years and at ADWR for three years in the Basic Data Unit and then the Remedial Action Division. Deborah began her career training as a student worker with the USGS in 1979 and received a B.S. in Geology in 1982.

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## **Hydrology and Water Resources November Seminar Schedule**

Nov. 5th, 2008 – David S. Kosson, Vanderbilt University, in Nashville, TN – Topic to be announced

Nov. 12th, 2008 - Hohammed Mahmoud, UA Dept. of Hydrology and Water Resources - Scenario Development for the Verde River Watershed: A Water Management Perspective

Nov. 19th, 2008 – Chris Castro, UA Atmospheric Sciences – Topic to be announced

Nov. 26th, 2008 – No Seminar – Thanksgiving Break

For more information, please visit the Hydrology and Water Resources website

<http://hwr.arizona.edu/calendar/Seminars/Seminars%202008/HWR%20-%20Fall%202007%20Schedule%20-%202.htm>

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## **WRRC Brown Bag Seminars: November 2008 Schedule**

Information for additional seminars can be found on the WRRC web site: [www.cals.arizona.edu/azwater](http://www.cals.arizona.edu/azwater)

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

Friday, November 14, Noon to 1:30

Title: Tucson Water's Clearwater Program, Past and Future

Wally Wilson has 20 years experience as a hydrogeologist performing all levels of environmental investigations and remediation involving groundwater, surface water and soils. Mr. Wilson combines extensive experience in regulatory compliance in half a dozen western states with strong knowledge of Arizona environmental laws and permits. He has been an integral part of Tucson Water's long range planning process and water resources development for the past 5½ years. Mr. Wilson is currently the Lead Hydrologist overseeing the Recharge and Special Projects Unit. This group of hydrologists monitors and optimizes the Utility's four major recharge and recovery projects which provide the City with both renewable drinking water and reclaimed water for non-potable use.

## **Hein: Water-service refusal a prudent course of action**

By Tony Davis

*Arizona Daily Star*

Tucson, Arizona | Published: 10.26.2008

State law requires that Tucson-area developers prove an assured 100-year water supply. But many water-policy professionals have looked askance at the idea of using water to manage growth. To them, water policy is supposed to treat growth as a given.

Tucson City Manager Mike Hein has flipped that attitude on its side, with his recent practice of refusing to serve developments outside the city's water-service area.

Imposed last December, his policy will last at least until a city-county committee finishes a long-term water and wastewater study next year.

<http://www.azstarnet.com/allheadlines/264205.php>

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## **UA water study to evaluate 'hot spots' on border**

Effort on both sides of the line to have new slant

By Tony Davis

*Arizona Daily Star*

Tucson, Arizona | Published: 10.23.2008

Another grant, another study of water, growth and climate change in the Southwest?

Not exactly, say University of Arizona researchers who will soon launch a \$300,000 study involving water management in numerous, growing "hot spots" within the Arizona-Mexico border region, including Tucson.

Instead of studying how global warming might affect the region's temperatures and rainfall, which has been done, the researchers will try to encourage local water officials to consider global warming and other climate-change issues in making short- and long-term plans and decisions.

<http://www.azstarnet.com/allheadlines/263769.php>

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## **Four projects denied city water service**

Developers upset Tucson Water limited to current coverage areas

By Tony Davis

*Arizona Daily Star*

Tucson, Arizona | Published: 10.21.2008

advertisement

A city water policy that had been described as "trick-or-treat" for new developers has been replaced by a tougher stance in which City Hall has denied service to four projects in unincorporated areas.

The new policy denies water to developments outside existing city service areas. It triggered a recent legal claim for \$46.25 million by the developer of a saguaro-rich property in the Tucson Mountain foothills.

<http://www.azstarnet.com/allheadlines/263399.php>

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## **City green step is nation's 1st**

Council mandates rainwater-harvesting for commercial developments in 2010

By Rob O'Dell

*Arizona Daily Star*

Tucson, Arizona | Published: 10.15.2008

Tucson became the first city in the country to require commercial developments to harvest rainwater, as the City Council voted unanimously Tuesday for the mandate. The regulations don't take effect until June 1, 2010. They'll require that 50 percent of a development's landscaping water come from rainfall. The council voted 6-0 with member Regina Romero absent.

<http://www.azstarnet.com/allheadlines/262484.php>

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## **Metro Water asking for rate increase**

By Lourdes Medrano

*Arizona Daily Star*

Tucson, Arizona | Published: 10.09.2008

Metro Water has scheduled a public hearing for Oct. 20 to give its customers a chance to have their say about proposed rate increases.

The company is asking for a 4 percent rate increase that Metro Water's board of directors will vote on at the 6 p.m. meeting, which will be held in its district headquarters, 6265 N. La Cañada Drive.

<http://www.azstarnet.com/allheadlines/261299.php>

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## **Marana, county still at odds over wastewater**

By Erica Meltzer

*Arizona Daily Star*

Tucson, Arizona | Published: 10.09.2008

Officials from Pima County and Tucson say it's premature for Marana to start creating its own wastewater agency because the town hasn't identified how that will affect effluent that belongs to Tucson.

For their part, Marana officials object to the county's plans to expand and rehabilitate its wastewater system because those plans don't acknowledge the town's intention to go into the sewer business.

<http://www.azstarnet.com/allheadlines/261568.php>

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## **Developer, his firms to pay \$1M for ruining 5 miles of Santa Cruz**

By Howard Fischer

*Capitol Media Services*

Tucson, Arizona | Published: 10.08.2008

A Scottsdale developer and his companies have agreed to pay another \$1 million in connection with his role in bulldozing, filling and diverting about five miles of the Santa Cruz River in Pinal County.

The deal, announced Tuesday, settles a lawsuit filed against George H. Johnson after his firms bladed about 2,000 acres in of privately owned land in 2003 to create what was to be La Osa Ranch, a community north of Marana. The work, according to the lawsuit, severely damaged what had been an area with rich vegetation, including one of the few extensive mesquite forests remaining in Arizona's Sonoran Desert region.

<http://www.azstarnet.com/allheadlines/261372.php>

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## **Vote set on county aid for desert water stations**

By Erica Meltzer



Every year Pima County gives \$25,000 to Humane Borders to help pay for water stations in the desert — a move the Board of Supervisors is poised to approve again today.

Humane Borders maintains 80 water stations, most consisting of a single 65-gallon water barrel fitted with a spigot and a 30-foot-high flag to alert illegal immigrants, along the most heavily trafficked corridors. The county expenditure represents about 14 percent of the program's \$180,000 annual cost.

<http://www.azstarnet.com/allheadlines/261162.php>

### Flagstaff Chapter

#### **2008 Summer Monsoon Summary:**

During the 2008 summer monsoon the rain seemed to pour daily...it felt like it was at least a normal monsoon if not above average. Some of us in northern Arizona were surprised to hear it was a below average monsoon. We decided to take a closer look at how the 2008 monsoon compares with NOAA climate records from the Flagstaff Pulliam Airport.

The 2008 summer season, from June 21 to September 20, saw a total of 5.45 inches: 0.02 inches in June, 2.35 inches for July, 2.40 inches in August, and 0.68 inches during the first 20 days of September. The average during the summer months is 7.04 inches (1971-2000). While the 2008 summer monsoon seemed wetter than the past several years, there really has not been a severely dry summer since 1991 (Table 1). 1998 was the last real wet summer, in which 11.79 inches was received during the summer months.

TABLE 1. SUMMER (JUNE 21 - SEPTEMBER 20)

Average = 7.04" (1971-2000)

Wettest		Driest	
Amount	Year	Amount	Year
16.29"	1986	2.28"	1978
13.81"	1904	2.76"	1944
11.79"	1998	2.85"	1991
11.56"	1970	3.12"	1973
11.48"	1927	3.22"	1957
11.34"	1990	3.33"	1979

11.14"	1919	3.51"	1900
10.32"	1909	3.54"	1926
10.11"	1951	3.58"	1948
10.02"	1911	3.80"	1942

(<http://www.wrh.noaa.gov/wrh/techMemos/273.pdf>)

TABLE 2. ANNUAL  
PRECIPITATION TOTALS

1998	27.37"
1999	15.79"
2000	15.40"
2001	17.60"
2002	12.89"
2003	17.91"
2004	23.61"
2005	24.01"
2006	15.59"
2007	17.46"
2008	13.39" (10/24/08)

(<http://www.wrh.noaa.gov/wrh/techMemos/273.pdf>)

In closing, precipitation received during the 2008 monsoonal season was slightly below the 30 year normal period by about 1.5 inches. Northern Arizona has received a total of 13.39 inches in 2008, which looks to be right on track with annual total precipitation received during the last 10 years (Table 2) as long as the

winter months bring a couple more inches of precipitation!

**AHS Field Trip to Zuni Area cancelled:**

The field trip to the Zuni area of eastern Arizona and western New Mexico, lead by Doug Wolfe and organized by Ted Lehman and Erin Young, has been postponed until the Spring – stay tuned for information on this trip!

**Flagstaff Chapter Donates to Flagstaff Make A Splash Event:**

The Flagstaff Chapter donated money this year towards the annual Flagstaff Make a Splash event put together by the City of Flagstaff and Arizona Project WET. Make a Splash promotes K-12 (in 2008 the day was focused on fourth graders) water education by setting up several stations that community volunteers present to the students. The event takes place outdoor at Thorpe Park each year; luckily September 31, 2008 was a gorgeous day!

Flagstaff fourth grade students participate in the "Make a Splash Event" sponsored by AHS Flagstaff Chapter (see photo below).





Sponsors: "Flagstaff Make a Splash Event".

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.**