



Aqua Clara

Recruitment Week 2009

Our second annual Graduate Program of Hydrologic Sciences Recruitment Week will be taking place this semester from March 5-8th. Students coming from all over the country will have weekend full of activity. This year's activities are being coordinated by Britt Johnson, who has done an amazing job of making everything run smoothly and everyone feel welcome!



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SAIWI



Water scarcity and water quality are two challenges facing many rural populations in the U.S. and abroad. The Student Association for International Water Issues (SAIWI) is a group of students promoting access to safe and secure water sources through direct participation in rural communities. Student members work with faculty, community leaders, and other non-profit organizations to implement projects that address local needs. Projects in 2008 included water contamination testing and training in the Navajo Nation and ground water harvesting and management in Ghana and Cameroon. An educational program in Uganda and water conservation in northern Nevada are planned for 2009. Events held in Reno are an African Dinner on April 4 and a showing of the award-winning documentary FLOW on April 6. More information about scheduled events and membership can be found www.saiwi.org.



(Top and bottom) SAIWI volunteers. Cameroon, 2009.



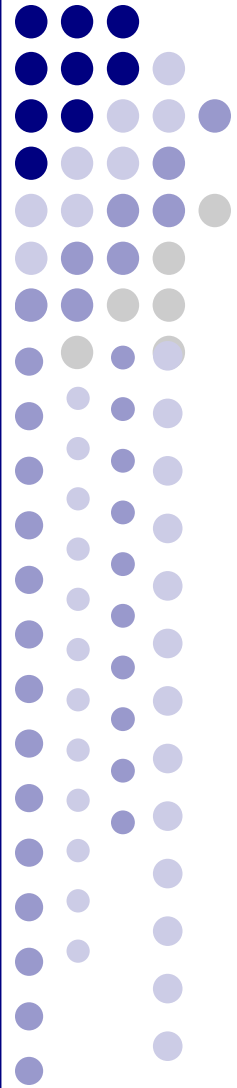
(Top) Children from a village in Ghana. (Right) Delivering of fresh water. Ghana, 2008.



Miles Becker,
Co- President

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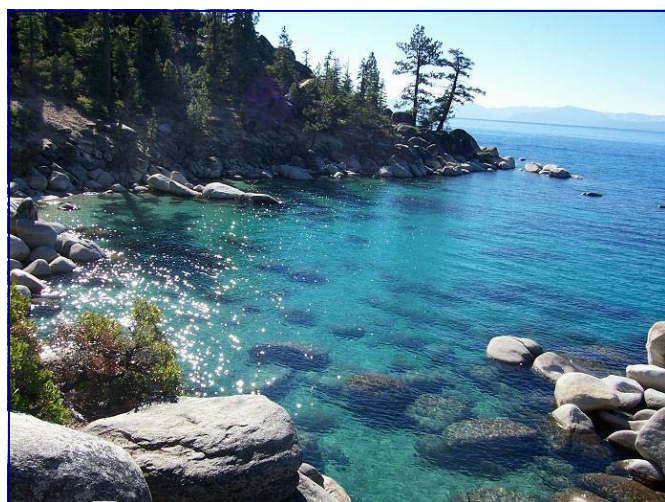
Director's Corner

Welcome to Spring Semester! I would like to take a moment to remind everyone that our annual recruitment fair is scheduled for March 6 – 7, and encourage program-wide participation. We've got a great set of recruits who are eager to see what the GPHS is all about! On Friday the students will be taken on tours of UNR and DRI campuses, and meet with our faculty members. The day will end with students attending the colloquium in which Dr. Jeffrey Dozier will be speaking on "The hydrologic cycle and the color of snow." Following the seminar I encourage all of our faculty and students to introduce yourselves to the prospective students at the social. On Saturday, the recruits will have the option of attending either a snow hydrology workshop at the Sagehen Research Center, or try snowshoeing in Tahoe Meadows. We will wrap the day up with an informal dinner and presentation which will be co-hosted by the SAIWI organization. This event is an important component of the recruitment process, so please make an effort to interact with the prospective students. Students can assist by hosting the prospective students and faculty can contribute significantly by meeting with the prospective students.

By now most of you have heard about the potential budget cuts to the University System. Although

final budgets will not be determined until the State budget is finalized, it is clear that our Program will face cuts. I have had numerous discussions with UNR administration regarding our future budget and it is evident that UNR does not wish to destroy the core mission of the institution or our program. I have been told that they will do everything in their power ensure that students' education is not interrupted. With that said, we will have to become a more efficient program and recognize that less money will be available for things like travel reimbursement to conferences. My goal is to ensure that GPHS courses are taught and funding for teaching assistants and program officers remains in place. I welcome any ideas you may have on how to make the program more efficient. I am confident that the program will continue to grow and thrive despite these tough times because of its great students and faculty.

-Greg Pohll



Lake Tahoe

Hydro Department: Important Dates

- **Friday, Feb. 27, 2009**

Ph.D. Qual/Comp Practice Session
noon-1:30 p.m. / Location: DRI Visualization Building (Room 115) / Dr. Pohll

- **Friday, March 13, 2009**

Ph.D. Qual/Comp Practice Session
noon-1 p.m. / Location: DRI - Viz Building / Dr. Earman

- **Thursday, March 26, 2009**

Faculty Meeting
4 p.m.-5 p.m. / Location: Reno - DRI Stout A; Las Vegas - Rm 182



Spring 2009 Recruitment Week

(continued from page 1)

In order to make this recruitment week a success current students must be involved. We greatly encourage all current students and faculty to join in this week-

ends activities and help our prospective students learn all the area and the university has to offer them. Special thanks to all the students who are hosting incoming students this weekend and all those who have helped organize this weekend's events.

Recruitment Weekend Schedule

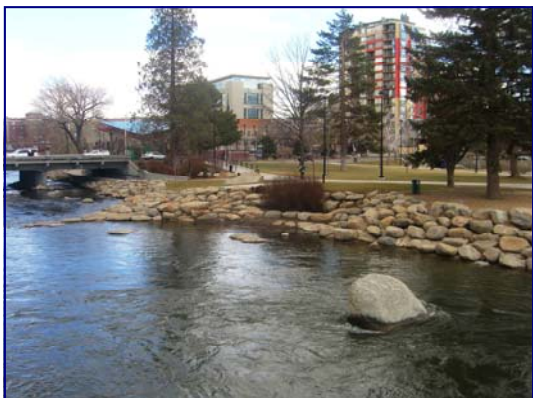
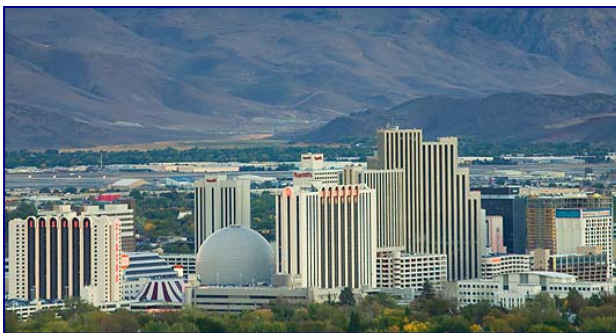
Friday, March 6th, 2009

8:00 AM Meet at DRI
 8:15 - 8:30 AM Greg Pohll - Brief
 Introduction of GPHS
 8:30 - 9:30 AM DRI Tour
 9:30 - 11:45 AM DRI Faculty Meetings
 11:45 - 12:00 PM Travel to UNR
 12:00 - 1:00 PM Lunch at the Joe
 1:00 - 1:30 PM Campus tour by UNR
 tour guide
 1:30 - 2:00 PM Laboratory tours

2:00 - 3:45 PM UNR Faculty Meetings
 4:00 - 5:00 PM Colloquium
 5:00 - 6:30 PM GPHS Social
 6:30 PM + Students travel back to
 host houses

Saturday, March 7th, 2009

8:00 AM Meet at DRI
 8:15 - 3:00 PM Local area field trips
 3:00 - 5:00 PM Free time
 5:00 - 8:00 PM SAIWI Social Dinner



Incoming students; visit these excellent websites that can show you more of what the Reno-Tahoe area has to offer:

www.reno.com

www.cityofreno.com

www.visitrenotahoe.com

<http://reno.travelnevada.com>

Photos: (far left) Downtown Reno; (left) JCSU, UNR Campus; (bottom left) Wingfield Park, Truckee River, Downtown Reno.

Spring 2009 Colloquium Series



Seminars will be from 4:00 – 5:00 in the Wells Fargo auditorium (first floor) of the Mathewson-IGT Knowledge Center, unless otherwise listed.

- January 26, 2009** (Monday): Robert Glennon, Ph.D. – University of Arizona
Tales of French Fries and Bottled Water: The Environmental Consequences of Groundwater Pumping
- February 6, 2009** (Friday) Social in JCSU 324—Wayne Huber, Ph.D. – Oregon State University
Progress on Restoration of the Everglades
- February 20, 2009** (Friday) Social in JCSU 323—Christopher Daly, Ph.D. – Oregon State University
The PRISM Approach to Mapping Climate in Complex Regions
- March 6th, 2009** (Friday) Social in JCSU 324 - Jeffrey Dozier, Ph.D – UC Santa Barbara
The Hydrologic Cycle and the Color of Snow
- March 27, 2009** (Friday) Social in JCSU 423—Jose Salas, Ph.D. – Colorado State University
Long Range Forecasting of Streamflows Using Hydro-Climatic Information
- April 10, 2009** (Friday) David Benson, Ph.D. – Colorado School of Mines
Simulating Chemical Reactions with Particle Tracking: The Lost Physics

Nevada Water Resources Association

NWRA conference— February 2009

The 2009 Nevada Water Resources Association annual conference went off smoothly, it seemed to me, a poster presenter and attendee. The conference was held at the Peppermill casino in Reno, and it was attended by hundreds of Nevada water professionals and students. Being part of the hydrology program, I was happy to have a number

of fellow students also attending and presenting. We all benefited from the interactions with water resource professionals that took place over the 3 day event. With opportunities for both scholarship awards and poster competition cash prizes, the NWRA conference was a rewarding experience that I recommend to all water resource students.

Julian Scott

Several students from the GPHS received special recognitions during this conference:

Claire Mahannah Scholarship - Nicholas Grant

NWRA Scholarship - Harmony Farnsworth

First Place Poster Award - Julian Scott

Second Place Poster Award - Harmony Farnsworth

Third Place Poster Award - Margaret Shanfield

First Place 5K NWRA Run— Julian Scott



(Left) Harmony Farnsworth
(Top) Nicholas Grant

American Geophysical Union

December 2008

This year the fall meeting of the American Geophysical Union (AGU) took place December 14-19 at the Moscone Center in rainy San Francisco. Despite the well-timed, heavy snowfall that made travel over the pass an adventure (both on the way there and back!) the meeting hosted thousands of presenters, who discussed topics ranging from planetary science, to biogeochemistry, hydrology, science education and policy. Over the five day meeting, scientists attended oral presentations and poster sessions in 2 hour periods. The approximately 100 oral presentations per



day were divided into themed sections with 4 to 8 scientists.

The poster presentations brought domestic and international faculty researchers and graduate students together to display their findings on many topics.

UNR was well represented this year at AGU, with several student's from the Graduate Program of Hydrologic Sciences attending and presenting in the event. The students were given the chance to discuss their latest research with fellow scientists, network with faculty from other institutions, and be exposed to new ideas. Those who attended the 2008 fall meeting all spoke highly of their experience at the conference and many came back with a new perspective on their research.

By: Margaet Shanfield
& Christianna Peterson



Photo: (from left to right): Margaret Shanafield, Cornelia Barth, Ramon Naranjo, Seshadri Rajagopal, and Jason Assam enjoy an evening of Moroccan food during

American Water Resources Association

AWRA- The UNR student chapter of the American Water Resources Association has two new co-presidents of AWRA, Paul Garvin and Kelley Sterle. There are several activities scheduled for this semester, anyone interested in these activities or for more information about the chapter you may contact kelsterle@gmail.com or pfgarvin@yahoo.com.

Tour at Ormat's Steamboat Complex geothermal power plant on March 11 at 3:30 pm.

Judge the Western Nevada Regional Science & Engineering Fair on March 26-28, 2009 at the Lawlor EventsCenter, UNR.



AWRA Ski Trip

Recent Publications

All publications cited are authored or co-authored by faculty, students and/or staff of the Program of Hydrologic Sciences. Paper copies can be found at the Mathewson- IGT Knowledge center on campus, or digitally through the university's online e-journal service.

- Caldwell, T. G., Young, M. H., Zhu, J., and McDonald, E. V. 2008. *Spatial Structure of Hydraulic Properties from Canopy to Interspace in the Mojave Desert*, Geophysical Research Letters, 35.
- Caldwell, T.G., E.V. McDonald and M.H. Young. 2009. *The seedbed microclimate and active revegetation of disturbed lands in the Mojave Desert*. J. Arid Env. In press.
- Devitt, D.A., M.H. Young, M. Baghzouz, and B.M. Bird. 2008. *Surface temperature, heat loading, and spectral reflectance of artificial turfgrass*. Journal of Turfgrass and Sports Surface Science, 83:68-82.
- Garcia, C.A., Andraski, B.J., Stonestrom, D.A., Cooper, C.A., Johnson, M.J., Michel, R.L., and Wheatcraft, S.W., 2009, *Transport of tritium contamination from the shallow unsaturated zone to the atmosphere in an arid environment: Va dose Zone Journal* (in press, to be published May 2009).
- Garcia, C.A., Johnson, M.J., Andraski, B.J., Halford, K.J., and Mayers, C.J., 2008, *Portable chamber measurements of evapotranspiration at the Amargosa Desert Research Site near Beatty, Nye County, Nevada, 2003–06*: U.S. Geological Survey Scientific Investigations Report 2008–5135, 10 p. Available on the World Wide Web only (<http://pubs.usgs.gov/sir/2008/5135/>)
- Kavouras, I.G., V. Etyemezian, G. Nikolich, M.H. Young, J. Gillies, D.S. Shafer. 2009. *A New technique for characterizing the efficacy of fugitive dust suppressants*. J. Air Waste Mgmt. Assoc. Accepted.
- McGuire, P.E.; Andraski, B.J., and Archibald, Ryan, 2009, *Case study of a full-scale evapotranspiration cover*: Journal of Geotechnical and Geoenvironmental Engineering (in press, to be published March 2009).
- Pan, F., Ye, M., Zhu, J., Wu, Y.-S., Hu, B. X., and Yu, Z. 2008. *Incorporating Layer- and Local-Scale Heterogeneities in Numerical Simulation of Unsaturated Flow and Tracer Transport*, Journal of Contaminant Hydrology.
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- Wang, X-P., Y. Cui, Y.-X. Pan, X.-R. Li, Z. Yu, M.H. Young. 2008. *Effects of rainfall characteristics on infiltration and redistribution patterns in revegetation-stabilized desert ecosystems*. J. Hydrology. 358:134–143.
- Yin, J., M. H. Young, and Z. Yu. 2008. *Effects of paleoclimate and time-varying canopy structures on paleowater fluxes*. J. Geophys. Res.- Atmospheres. 113.
- Young, M.H., T.G. Caldwell, D.G. Meadows, L.F. Fenstermaker. 2009. *Variability of soil physical and hydraulic properties at the Mojave Global Change Facility, Nevada: Implications for water budget and evapotranspiration*. J. Arid Env. Accepted.
- Young, M.H., G.S. Campbell, J. Yin. 2008. *Correcting dual-probe heat-pulse readings for ambient temperature fluctuations*. Vadose Zone J. 7:22–30.
- Young, M. H., Moran, E. A., Yu, Z., Zhu, J., and Smith, D. M. 2009. *Reducing Saturated Hydraulic Conductivity of Soil with Polyacrylamide*, Soil Science Society of America Journal, 73.
- Zhu, J. 2008. *Equivalent Parallel and Perpendicular Unsaturated Hydraulic Conductivities: Arithmetic Mean or Harmonic Mean*. Soil Science Society of America Journal, 72, 1226-1233.
- Zhu, J., and Sun, D. 2009. *Effective Soil Hydraulic Parameters for Transient Flows in Heterogeneous Soils*, Vadose Zone Journal, 8.
- Zhu, J., and M. H. Young. 2009. *Sensitivity of Unlined Canal Seepage to Hydraulic Properties of Polyacrylamide (PAM) Treated Soil*, Soil Science Society of America Journal, 73.

