

International Association of Hydrogeologists U.S. National Chapter Newsletter

Vol. 36, no. 1/2: October, 2007

Editors: Colin J. Booth, Northern Illinois University
And Todd Halihan, Oklahoma State University.



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IAH/US NATIONAL CHAPTER: EXECUTIVE COMMITTEE 2005-2008

Chairman	John M. (Jack) Sharp jmsharp@mail.utexas.edu	University of Texas at Austin 512-471-3317
Secretary-Treasurer:	Todd Halihan halihan@okstate.edu	Oklahoma State Univ. 405-744-6358
Past-Chair:	Leonard F. Konikow (USGS)	lkonikow@usgs.gov
Director:	Colin J. Booth (Northern Illinois Univ.)	colin@geol.niu.edu
Director:	Victor Heilweil (USGS)	heilweil@usgs.gov
Director:	Noel Krothe (Indiana University)	krothen@indiana.edu
Director:	Michael Wireman (US EPA)	Wireman.Mike@epamail.epa.gov

EDITORS' NOTE

Welcome to the 2007 newsletter! This issue combines the Spring and Fall issues because we didn't manage to get the Spring issue out. Sorry - we tried, but didn't manage it. Material that is still relevant is included here.

-- Todd Halihan & Colin Booth



CHAIRMAN'S REPORT – BY JACK SHARP

Greetings colleagues:

Your chapter has taken several important actions since last fall, concerning both incorporation and chapter meetings in the USA.

By the time you read this article, we will have taken all the steps necessary to achieve incorporation as a non-profit organization. We filed on March 15 with Colorado Secretary of State to register as a non-profit corporation in Colorado (GSA provides the permanent address), and the forms to register as a 501c3 organization have been filed with the Internal Revenue Service. This means that we can earn interest on our funds and accept charitable donations. It has been proposed that an endowed fund be established to help support student participation at IAH meetings outside the USA. If you are interested in contributing or establishing an endowment, contact Todd Halihan (todd.halihan@okstate.edu) or me (jmsharp@mail.utexas.edu).

Also, we have acted to increase our presence at our sister-society meetings. With respect to the annual meeting of the Geological Society of America (GSA), our board meeting will be on the official program and will be held late Sunday afternoon before the GSA welcoming party at the GSA Presidential Suite. This meeting is, as always, open to all U.S. IAH chapter members or to those wishing to become members. In addition, we are investigating the possibility of a booth at the annual meeting, if the cost is reasonable.

We are setting up two program committees to coordinate with GSA and the National Ground Water Association (NGWA). Previously our participation with GSA and NGWA has been on an ad hoc basis with good representation some years and minimal representation in others. Mike Wireman and Vic Heilweil, who are both IAH/US Chapter Directors, have volunteered to head the committees for GSA and NGWA programs, respectively. Our goal is to have a more substantial presence every fall at the GSA annual and every spring at the NGWA Ground Water Summit with theme sessions or symposia sponsored or co-sponsored by IAH. We can also sponsor sessions at GSA Sectional meetings and the NGWA annual meeting, if desired. The plan is to set up 3-5 person committees with a rotating membership to coordinate these initiatives. Please contact Mike or Vic directly, if you are interested in developing these scientific programs. We will probably also contact some members directly to establish these committees. The annual GSA meeting in Houston in the fall of 2008 offers special opportunities to work with our colleagues in Mexico and Central America.

The Board voted that we take steps to organize an official IAH Conference on Sustainable Groundwater management in late 2008 or 2009 (see item under Conference Notices). IAH Conferences are smaller than the IAH Congresses; we would have a limit of about 200 participants. Mike, Vic, Suzanne Pierce (Sandia), Ingrid Verstaeten (USGS), and I are taking the initial lead on this conference. If you are interested in participating, please contact any of us.

By the time this newsletter is issued, we will have had the the 34th IAH Congress in Portugal on Groundwater and Ecosystems, preceded on the 16th of September by a Conference on the History of Hydrogeology. and ISMAR6 in Phoenix, Arizona. IAH Congresses are wonderful scientific experiences and are perhaps the best way of networking with fellow hydrogeologists and other groundwater specialists on an international basis. Coming up is the International Symposium on Managed Aquifer Recharge (ISMAR6) will be in Phoenix, Arizona, on 28 October-2 November. The conference is jointly



sponsored by IAH, the Arizona Hydrological Society, UNESCO, NWRI, and EWRI. For more information see the link: www.ismar2007.org.

Finally, one item is less positive. We suffered a loss of members between 2006 and 2007. This may have been due to some communications problems between the national chapter and the international office or due to a drop-off in members of the California Groundwater Association who were offered a special dual membership for a short time experiment. Nevertheless, this drop was somewhat surprising to me because the Hydrogeology Journal has become a superb scientific journal, the congresses and conferences are so very enjoyable, globalization should be leading us to become more internationally aware, and our dues are reasonable (but let's hope the U.S. dollar starts gaining some strength versus the euro).

Please encourage your colleagues and students to join IAH. The information and form follow. So, let's all study nature - especially groundwater everywhere.

-- Jack Sharp

P.S. A list of IAH publications can be found at <http://www.iah.org/pubs.htm>.



Your Board met in conjunction with NGWA Ground Water Summit in Albuquerque in May. Left to right are: Colin Booth, Mike Wireman, Vic Heilweil, and Jack Sharp. Photo taken by John Moore.



International Association of Hydrogeologists APPLICATION FOR 2007 IAH MEMBERSHIP

Last Name:			
First Name & M.I.:			
Title:			
Organization/Company:			
Mailing Address:			
Telephone:		Fax:	
E-mail:			

Type of IAH membership applied for:

- Full membership (\$85.00 or 68 Euros)
- Student membership (\$42.00 or 33 Euros)
- Corporate membership (includes 3 individual memberships) * (\$457.00/365 Euros)
- Full membership with contribution to developing country sponsorship** (\$127/101 Euros)

* More information available on IAH web site.

** If you choose to sponsor another member, the IAH Secretariat will send you full information.

For on-line membership application and credit card payment over a secure server, go to:

<http://www.iah.org/member.htm>

(After completing & submitting the online form, you can pay online through a secure server.
For credit card payment in dollars, the current conversion rate will be provided and charged.)

OR option for payment by check for U.S. residents only:

Mail form along with your check (made out to **IAH/US Chapter**) for payment of dues to:

Dr. Todd Halihan, School of Geology, Oklahoma State Univ., Stillwater, OK 74078-3031

For additional information about IAH, go to their Web page at: <http://www.iah.org/>

Membership includes a 1-year subscription to *HYDROGEOLOGY JOURNAL*.



ARTICLES, NOTICES AND ANNOUNCEMENTS

Proposed IAH/USNC Conference: Sustainable Management Of Ground-Water Resources

The US Chapter of the IAH is planning a conference that focuses on Sustainable Management of Ground-Water Resources. This topic is timely given the increasing demands on ground-water resources combined with increasing frequency of droughts and the unknown effects of global climate change on ground-water resources. The conference could be held in 2008 or 2009 and possible locations include States that border Canada or Mexico. The US Chapter of IAH has not sponsored a conference since 1998 (IAH/AIH “Gambling with Ground Water” in Las Vegas). Initial discussions about a conference have occurred among the President and the Executive Board of Directors. However we would like to hear from US members of IAH. Please provide your thoughts and suggestions to Mike Wireman (wireman.mike@epa.gov) (303-312-6719). Let us know if you think a conference is a good idea; if the topic is appropriate and where the conference should be convened.

-- Mike Wireman

Development of National Ground-Water Monitoring Framework

In January 2007 the Sub-Committee on Ground Water (SOGW) was formally designated as a sub-committee of the Advisory Committee on Water Information (ACWI). The ACWI was established by the Secretary of the Interior in 1996 as part of the Water Information Coordination Program pursuant to the Federal Advisory Committee Act. The purposes of the ACWI are to identify water information needs, evaluate the effectiveness of water information programs and recommend improvements. The ACWI membership includes all levels of government, Indian Tribal governments and the private sector. The Chair of the ACWI is the Department of Interior’s Deputy Assistant Secretary for Water and Science. The alternate Chair is the Associate Director for Water of the USGS.

The overall goal of the SOGW is to develop and encourage implementation of a nationwide, long-term ground-water quantity and quality monitoring framework that would provide information necessary for the planning, management, and development of ground-water supplies to meet current and future water needs and ecosystem requirements.

In undertaking its work, the SOGW will consider policies, programs, and funding for the collection, analysis, assessment, distribution, reporting, and use of ground-water data at all levels of government and in the private sector. The SOGW will review products and activities of ACWI or ACWI subgroups and their predecessors relevant to ground-water monitoring, data acquisition or storage and retrieval. Along with water use and other information, the overall assessment then can be used to assist in the evaluation of the availability and/or sustainability of the ground-water resource, in conjunction with constraints from ecological/environmental needs and from water-quality conditions.

The Co-Chairs of the SOGW are Bill Cunningham of the USGS (Reston, VA) and Bob Schrieber of the American Society of Civil Engineers. Four workgroups have been established to facilitate conducting the business of the SOGW: (a) Inventory Workgroup, (b) Data Standards and Data Management Workgroup, (c) Field Practices Workgroup, and (d) Monitoring Design Workgroup. The work completed by these four workgroups will provide the basis for a summary report that outlines the proposed Ground-water monitoring framework. The report is scheduled to be submitted to the ACWI in January 2008. For more information on the ACWI and the SOGW please visit www.acwi.gov.

-- Mike Wireman



Earth Portal Web Site

According to a recent AGI news release, the National Council for Science and the Environment (NCSE) has launched a new web-based resource called “Earth Portal.” It is described as follows:

“Earth Portal is a comprehensive, free and dynamic resource for timely, objective, science-based information about the environment built by a global community of environmental experts: educators, physical, life, and social scientists, scholars, and professionals who have joined together to communicate to the world. In contrast to information from anonymous sources with no quality control, the Earth Portal is created and governed by individuals and organizations who put their names behind their words and where attribution and expert-review for accuracy are fundamental.”

One of the site’s “hot topics” is water, and that section includes water profiles for a large number of countries and regions around the world—from Afghanistan to Zimbabwe.

Check out the portal at: www.EarthPortal.org

- Lenny Konikow

Safe Drinking Water Web Site Debuts

According to an AGI news release, the U.S. National Academy of Sciences and the Global Health and Education Foundation are joining more than 125 science, engineering, and medical academies around the world to take action on the global drinking water crisis by launching the Web site, “Safe Drinking Water Is Essential,” www.drinking-water.org.

The web resource will provide international decision makers with peer-reviewed scientific and technical information about drinking water distribution and treatment options. The site includes a number of thematic maps under their “atlas” link. Unsafe drinking water and poor sanitation causes nearly 80 percent of illnesses in developing countries.

Check out the portal at: www.drinking-water.org

-- Lenny Konikow

Judge Upholds Nevada’s Water Rights, Stalls Yucca Mountain Repository

According to an AGI news release, on August 31, a federal judge blocked the Department of Energy (DOE) from using water from nearby wells for cooling of drilling equipment or for gathering soil samples at the Yucca Mountain waste repository site. Judge Roger Hunt of the U.S. District Court for the District of Nevada denied an emergency motion by Justice Department attorneys to block the Nevada state engineer's cease-and-desist order asking scientists to stop taking water from the wells.

The judge’s decision will delay or stop the DOE from collecting the necessary data for completing its license application to the Nuclear Regulatory Commission for constructing the repository as 77,000 tons of radioactive waste remain in temporary storage at nuclear reactors in 39 states and the nuclear energy industry has no solution to current or new nuclear waste.

The judge did not decide the merits of the case, which has yet to be resolved; instead he only blocked the Justice Department’s motion. While the action underscores the importance of state water rights, it does



not resolve the primary problem leaving a quandary for DOE and Nevada, with the scientists and engineers caught in the middle. The Yucca Mountain water battle will continue in the courts and portends the likelihood of future water battles for a host of reasons beyond a massive waste repository at the local, state and national level.

-- Lenny Konikow

White House Releases Report on Fresh Water

According to an AGI press release, the White House Office of Science and Technology Policy (OSTP) recently released a study on the national challenges to ensure adequate fresh water supplies. The nation is facing greater competition for water resources and must make ever more critical decisions about allocations. The three scientific and technical challenges include: 1. Measure and account for the Nation's water; 2. Develop methods that will allow expansion of fresh water supplies while using existing supplies more efficiently; and 3. Develop and improve predictive water management tools. The study then outlines a federal strategic plan for addressing these challenges and provides a guide for how federal agencies will be a part of this plan. One major element is to develop a National Water Census.

The full report, "A Strategy for Federal Science and Technology to Support Water Availability and Quality in the United States" is posted by the Office of Science and Technology Policy at http://www.ostp.gov/nstc/html/_reports.html.

-- Lenny Konikow

U.S. Nuclear Regulatory Commission

The new technical report on uncertainty: NUREG/CR-6940 "Combined Estimation of Hydrogeologic Conceptual Model, Parameter, and Scenario Uncertainty with Application to Uranium Transport at the Hanford Site 300 Area" documents a systematic and quantitative methodology for identifying and assessing hydrogeologic conceptual, parameter and scenario uncertainties. The document and supporting information is located at:

www.nrc.gov/reading-rm/doc-collections/nuregs/contract/cr6940/

- Thomas Nicholson

Groundwater Law News

By Gabriel Eckstein

The International Water Law Project (IWLP), the premier Internet resource for international water law and policy information, has released its redesigned web site (www.InternationalWaterLaw.org or www.WaterLaw.org) with a dynamic, new look; an expanded repository of relevant documents and information; a dynamic news source providing up-to-the-minute news on global and local water issues; improved navigational features; built in language translator to make the web site available in other languages (e.g., Arabic, French, German, Italian, Japanese, Russian and Spanish); and much more. A press release is available at: <http://www.waterlaw.org/pressrelease.html>.

The US-Mexico Transboundary Aquifer Assessment Act (Public Law No: 109-448) was signed into law by President Bush on December 22, 2006. The law, which had been pursued for many years, directs



the US Department of Interior to cooperate with the US States of Arizona, California, New Mexico and Texas along the US-Mexico border, and other appropriate entities, to systematically conduct a hydrogeological characterization, mapping, and modeling program for priority transboundary aquifers. Priority transboundary aquifers are defined by criteria that include proximity to areas of high population density, extent of use, susceptibility to contamination, and other relevant criteria. The purpose of the program is to:

- 1) evaluate all available data;
- 2) create a new or enhance an existing geographic information system database to characterize the spatial and temporal aspects of each aquifer;
- 3) support ongoing monitoring and metering efforts; and
- 4) develop scientifically sound ground water flow models, including modeling of relevant water interactions.

The program is also intended to expand existing agreements between the US Geological Survey, the four U.S. border-States, relevant water resources research institutes, and appropriate U.S. and Mexican authorities to conduct joint scientific investigations and archive and share relevant data. This Act establishes a tri-regional planning group comprised of the El Paso Water Utilities Public Service Board, Lower Rio Grande Water Users Organization, and Junta Municipal de Agua y Saneamiento de Ciudad Juarez, and also involves the International Boundary and Water Commission, water resources research institutes in each US State, Sandia National Laboratories, and Indian tribes whose reservations includes a transboundary aquifer. The Act is authorized through 2016 and provides that up to US\$50 million may be appropriated to carry out the purposes of the Act. Congress has yet to appropriate the funds.

*Gabriel Eckstein
George W. McCleskey Professor of Water Law
Director, Center for Water Law & Policy
Texas Tech University School of Law*

IMWA: the International Mine Water Association
by Colin Booth (borrowing freely from the IMWA web site)

One of my principal research interests is mining hydrology. I have long been a member of the International Mine Water Association (IMWA), a multidisciplinary international association concerned with all aspects of mining hydrology, mine drainage, and mine-water treatment. Like IAH, IMWA brings together professionals from all over the world. It was founded in 1979 in Granada, Spain at the "First International Mine Drainage Symposium", as a result of interest in the increasing problems associated with water in the mining industry, and has held congresses every three years and symposia on a variety of topics annually (in an interesting variety of international locations). I've enjoyed meetings (some joint with IAH) in places as varied as Austria, Spain, England, Slovenia, and the USA. In addition to varied and interesting presentations, the meetings typically also have great field trips and social activities!

The association also publishes a quarterly peer-reviewed journal, "Mine Water and the Environment", through Springer. Articles on any aspect of mine hydrology and mine water are welcome. Membership of IMWA is open to everyone with an interest in mine water and mine hydrology. For further information please go to the IMWA web site, www.imwa.info - and don't forget to check out the 10th IMWA Congress, to be held in Karlovy Vary (Carlsbad), Czech Republic, next June (see the conference section in this newsletter).

A Brief History of the IAH and the Formation of the US Section
By Leonard A. Wood and John E. Moore



Originally published in the IAH/USNC Newsletter v. 34, no.1 (June 2005).

A newsletter from E. Romijn, Secretary General AIH/IAH, listing the officers in 1984, available publications, and Chairmen of the Commissions, contained the following:

The origin and organization of IAH

In 1948, during the 18th Session of the International Congress in London, a group of Hydrogeologists thought it opportune to create an association. The idea was developed and during the following Session, in 1952, in Algiers, a Provisional Organization Committee was formed under the presidency of G. Drouhin. In 1956 during the Session in Mexico, the hydrogeologists present became the founder members of the International Association of Hydrogeologists and P. Fourmarier was elected President.

The March 1980 newsletter of the U.S. Section contained the following:

The U.S. Section of IAH was organized in 1972 (by Callahan, LeGrand, Heindl, LaMoreaux, and Stringfield) as a Subcommittee of the U.S. National Committee on Geology. The officers of the U. S. Section of IAH have been chosen by the membership and they have served the four years from one General Assembly of the IAH and IGC to the next.

The General Assemblies are held every four years in the summer. However the IAH meeting is not always held the same year as the IGC General Assembly and may be delayed one year (example: The 1977 IAH Assembly in Birmingham was held one year after the IGC General Assembly).

Leo Heindl was the first Chairman of the U.S. Section when it became operational in 1973-74. He suffered a fatal heart attack October 18, 1978. Phil LaMoreaux, President of IAH, asked me (Wood) to take on the job of Chairman in November 1978 at the GSA Meeting. I agreed to do so if John Moore could be the Secretary-Treasurer.

The General Assembly of the IGC and the IAH was held in Paris, France, July 7-19, 1980 and was attended by John Moore who became Chairman of the U.S. Section at the close of the Assembly.

US Section Officers:

2005-2009	Chair: Jack Sharp	Sec-Treas: Todd Halihan
2000-2005	Chair: Leonard Konikow	Sec-Treas: Colin Booth
1996-2000	Chair: Pat Leahy	Sec-Treas: John Harsh
1992-1996	Chair: Joe Rosenshein	Sec-Treas: Pat Leahy
1988-1992	Chair: E.S.Simpson	Sec-Treas: Pat Leahy
1984-1988	Chair: Larry Doyle	Sec-Treas: E. S. Simpson
1980-1984	Chair: John E. Moore	Sec-Treas: Larry Doyle
1978-1980	Chair: Leonard A. Wood	Sec-Treas: John E. Moore
1974-1978	Chair: Leo Heindel	Sec-Treas: Robert Schneider
1972-1973	U.S. Section organized	

US Section members who have held international office in the IAH:

A list of International officers 1956-1989 is found in Applied Hydrogeology Journal 0/1992



--Eugene Simpson was the founder and first editor of the Applied Hydrogeology Journal 1992

Phil LaMoreaux: elected President of IAH 1977-80;

John Moore: elected Vice President of IAH 1985-93 and President of IAH 1993-96;

Jack Sharp: elected Treasurer of IAH 2004;

US Section hosted 3 IAH Congresses:

1998 27th Congress “ Gambling on Ground Water”, Las Vegas;

1985 17th Congress “Hydrology of Low Permeability Rock, Tuscon;

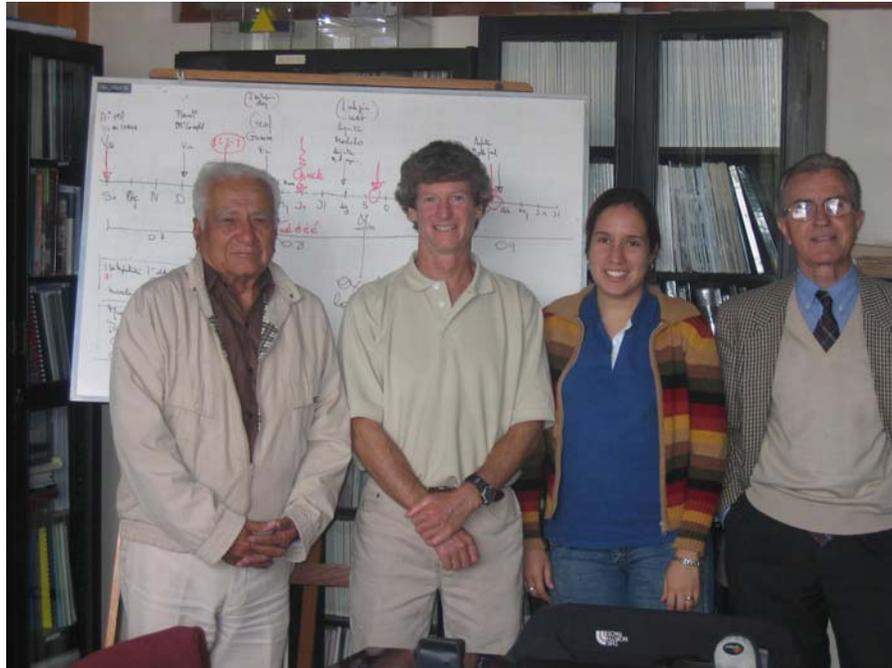
1975 12th Congress “Karst Hydrogeology, Huntsville

Hydrogeologic Study of the Mancora Aquifer in Northern Peru

By Victor Heilweil, U.S. Geological Survey

Its beautiful beaches, sunny weather, and great surfing makes Mancora one of the most popular beach resorts in Peru. This is where the southern Pacific current departs from the coast, resulting in warmer ocean temperatures than elsewhere along the Peruvian or Chilean coast. The combination of a rapidly-growing tourist economy and its desert setting, however, is driving the demand for additional water development. The problem of obtaining a consistent water supply to support the area’s growing economy is exacerbated by the region’s extreme climate variability; sometimes Mancora is ravaged by El Nino flooding, but more often it is parched by La Nina droughts. Except for very wet years, the area depends entirely on ground water for its municipal water supply. Because of limited precipitation and susceptibility to salinization, the region’s ground water is a precious and fragile resource; its overdevelopment could have dire consequences.

A team of scientists from the nearby Universidad de Piura (UDEP) has recognized the potential risks to water availability and water quality associated with uncontrolled development of the Mancora aquifer system. They are currently addressing these issues as part of a two-year study funded by the International Atomic Energy Agency (IAEA). This funding was partly based on UDEP’s successful completion of an earlier IAEA-funded study of the Alta Piura Aquifer (October 2004 issue of this newsletter). The objective of their work is to develop a sustainable ground-water management plan for the region, based upon detailed conceptual and numerical models of the Mancora aquifer system.



Wilfredo Castillo (Geologist), myself, Ana Maria Paulini (Civil Engineer), and Ignacio Benevent (Project Leader and Hydraulics Engineer) at the Universidad de Piura in northern Peru

I was fortunate to participate in a week-long IAEA-funded mission to northern Peru to learn about the Mancora aquifer system and to provide technical assistance for their study. This included a two-day field trip to the study area, followed by four days of meetings at UDEP. During our field trip, we inventoried springs and wells (municipal, agricultural, domestic) and observed how the topography and geology of the basin combine to form an aquifer system with relatively large recharge potential and storage capacity.



One of the two municipal wells that currently provide water to the town of Mancora, northern Peru.



The primary aquifer in the Mancora basin consists of fluvial sands and gravels. Nearly all current ground-water use comes from these unconsolidated deposits. Another potential aquifer is the consolidated Tertiary sandstone formations which underlie and are adjacent to the unconsolidated deposits. Hydraulic gradients indicate that recharge occurs along higher-elevation sandstone outcrop areas and drives subsurface inflow into the unconsolidated deposits. However, reconnaissance sampling of ground water quality in the sandstone indicates that it has higher salinity than the unconsolidated deposits, possibly from the dissolution of interstitial marine-derived salts. There is a risk; therefore, that increased ground-water pumping may cause more of this poorer-quality water to migrate into the unconsolidated aquifer. Additionally, wells lower in the basin have shown recent signs of salt-water intrusion. Future extraction of ground water near the coast may exacerbate this problem and cause further sea-water intrusion.



Tertiary sandstone formations adjacent to unconsolidated fluvial sediments in the Mancora Basin



A shallow irrigation well in the unconsolidated deposits of the Mancora aquifer system

Planned data acquisition and interpretation efforts during this study include water-level monitoring, aquifer testing, surface geophysics, geochemical and isotopic analysis, and the development of a water budget and ground-water flow model. One challenge facing the study team is the scarcity of pluviometric data for evaluating recharge. Most of the meteorology stations in the area were either destroyed or made inaccessible by flooding during the 1983-4 El Nino. Another challenge is the limited number of existing wells for water-level measurements and geochemical sampling, especially for monitoring potential sources of salinity from the consolidated sandstones and sea-water intrusion. To address this, the UDEP study team is considering drilling additional monitoring wells within the basin. While faced with certain challenges, the study is sure to improve the understanding of the Mancora aquifer system and will provide important information for the sustainable management of this region's water resources.



CONFERENCE AND MEETING NOTICES

For conference announcements by IAH, please go to the IAH website, www.iah.org

For announcements of conferences and meetings being presented by California GRA
See the GRA section below.

GEOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING
October 28-31, 2007, Denver
2007 Earth Sciences for Society – Beginning of the International Year of Planet Earth

www.geosociety.org

IAH/USNC Annual Board & members open meeting: Sunday October 28, GSA Presidential Suite, late
Sunday afternoon before the GSA Welcoming Party (see meeting agenda)

INTERNATIONAL SYMPOSIUM ON MANAGED AQUIFER RECHARGE
Phoenix, Arizona, October 28 – November 2, 2007
The world's preeminent conference devoted entirely to aquifer recharge

Organized by the Arizona Hydrological Society in partnership with IAH/AIH, ASCE/EWRI, UNESCO, and NWRI. Features a wide range of technical sessions, poster sessions, tours of innovative aquifer recharge projects, and workshops.

For information and on-line registration: www.ismar2007.org

SALINITY FORUM
2nd International Salinity Forum: “Salinity, Water and Society—Global Issues, Local Action”
Adelaide, South Australia, March 31 – April 3, 2008.

The conference will focus on new approaches for understanding and managing salinization of water resources, including issues related to irrigation, dryland and urban salinity, and saltwater intrusion. See the Forum website at: www.internationalsalinityforum.org

Second International Congress “Arsenic from Nature to Humans (As 2008)”
Valencia, Spain, May 21st to 23rd, 2008.

In 2006, an International Congress on Arsenic in the Environment was held in Mexico City, focusing on “Natural Arsenic in Groundwaters of Latin America”. As a result of that event, plans were made to hold a series of biennial congresses with rotating venues in different continents, continuing with the themes of the congress held in Mexico and also including aspects connected with toxicity and effects on health. These events would provide participants with an up-to-date, global view of the studies of this contaminant that have been carried out, on a multi- and interdisciplinary level.



The topics to be covered in the present congress will be grouped under the following headings:

- I. Arsenic in Rocks, Soil, Groundwater and Air
- II. Human Exposure: Sources, Intakes and Bioavailability
- III. Arsenic Metabolism, Biomarkers and Mode of Action
- IV. Environmental Health Effects and Risk Assessment
- V. Arsenic Remediation
- VI. Assessment of Social and Economic Impacts

For further information, visit the website www.adeit.uv.es/As2008valencia.

**INTERNATIONAL MINE WATER ASSOCIATION
Xth IMWA CONGRESS
June 1-5, 2008, Karlovy Vary (Carlsbad) Czech Republic
See: www.imwa.info**

Topics:

- [1] Water issues in underground mining and constructions – hydrogeological, technical and environmental aspects
- [2] Water issues in open pit mining - – hydrogeological, technical and environmental aspects
- [3] Mine water uses – resources of mineral water, geothermal energy
- [4] Mine closure -reclamation/remediation at abandoned mine sites
- [5] Geochemical and biogeochemical processes in mining and reclamation/remediation
- [6] Water engineering – mine water management, mine dewatering, and application of mathematical modeling
- [7] Mine water legal aspects, integrated water management

Abstract submission deadline: January 15, 2008

International Groundwater Symposium, Istanbul, Turkey

The International Association of Hydraulic Engineering and Research (IAHR) will hold an International Groundwater Symposium in Istanbul, Turkey, from June 18 to 20, 2008. The title of the Symposium is **"Flow and Transport in Heterogeneous Subsurface Formations: Theory, Modelling & Applications."**

The purpose of the Symposium is to bring together researchers focused on fundamental laboratory-scale experimentation and mathematical modelling of flow and transport in natural subsurface systems with



hydrogeologists, geologists, and engineers working on field applications and groundwater management problems. **The deadline for Abstracts submission is January 15, 2008.** See the symposium webpage at <http://www.iahr-gw2008.net> for more information.

33rd International Geological Congress

The 33rd IGC will be held in Oslo, Norway, August 6-14, 2008. The Congress will include 10 hydrogeology symposia, including sessions on karst, fractured bedrock, coastal aquifers, groundwater management, and general contributions to hydrogeology. In addition, one of the special daily themes will focus on water, human health, and the environment. The abstract deadline is Feb. 1, 2008. For more information and details, go to the Congress web site at: www.33igc.org

IAH ALLIED ACTIVITIES WITH THE GROUNDWATER RESOURCES ASSOCIATION OF CALIFORNIA

By Vicki Kretsinger, GRA Director

GRA Becomes an Associated Society of GSA

Since its inception, the Groundwater Resources Association of California (GRA), a statewide, nonprofit organization [501(c)(6)] with over 1300 members, has fostered opportunities for collaborating with a wide range of agencies and organizations having goals and objectives similar to those valued by GRA. Allied endeavors have included, but not been limited to, promoting the importance of protecting and managing groundwater resources, advancing the geosciences, and enhancing the professional growth of members. Since 1992 there have been more than a dozen co-sponsors and/or cooperating organizations with GRA; IAH and GRA developed an allied partnership in 2001, and this alliance has included IAH's participation as a cooperating organization for many of GRA's educational events and training workshops.

The Geological Society of America's Council has now approved GRA as an Associated Society of GSA. GRA's objectives for this and its other organizational alliances include:

- Consistent aims and goals with those of GRA, particularly in regards to the advancement of the earth sciences education and professional contributions to the understanding, protection, and management of the earth's groundwater resources;
- Explore future co-sponsored events, such as a session at the Annual meeting, and vice versa as appropriate;
- Cooperatively support legislative issues pertaining to groundwater and the groundwater industry, including actions to address national groundwater needs;
- Disseminate technical information related to groundwater (including in organizational newsletters);
- Offer collaborative technical/scientific input and evaluation of proposed position statements or other earth science initiatives, as applicable;
- Promote and encourage geoscientists/groundwater professionals throughout the industry to contribute to the education of not only themselves or other members but also the public and especially students;
- Unite with other geoscience organizations to support and promote Earth system science education at all levels to improve our understanding of the complexity of Earth's systems and encourage



protection of its valuable resources. (See also NGWA's position statement "Declaration of The Importance of Earth Systems Science Education" at <http://www.ngwa.org/ngwainwashington/earthscience.cfm> . GSA's policy statement on "The Importance of Teaching Earth Science in Schools" at <http://www.geosociety.org/science/govpolicy.htm>) and AGI's brochure on communicating how Earth science benefits society http://www.agiweb.org/education/WhyEarthScience/Why_Earth_Science.pdf)

GRA also co-sponsors the University of California Water Resources Center Archives "California Colloquium on Water" lecture series. This series sponsors scholars of distinction who provide presentations directed toward the goals of increasing the understanding and appreciation of water resources and to contribute to informed decisions about water in California.

GRA -- Upcoming 2007 Events

Upcoming GRA events for which the USNC/IAH is a cooperating organization are described below. As members of a cooperating organization, IAH members enjoy GRA member rates to attend these events.

DNAPL Source Zone Characterization and Removal November 14-15, 2007, Long Beach, California

Planned Symposium topics include: source zone characterization and monitoring using high-resolution techniques; predicting source zone architecture and persistence; characterization and remediation strategies for deep hydrogeologic systems; characterization and remediation challenges for non-chlorinated DNAPLs; mass flux determination/implications for source zone removal; and DNAPL site closure strategies.

IAH members are welcome to express their interest in assisting with the planning of these events or participating as a session organizer or presenter by contacting GRA. Learn more about GRA, or the programs in which IAH is participating with GRA as a cooperator, on the GRA web site at <http://www.grac.org> , or by telephone, 916-446-3626.

NGWA-AGWSE Association of Ground Water Scientists and Engineers division of the National Ground Water Association - by Vicki Kretsinger, AGWSE Past Chair

NGWA/AGWSE Division and IAH: Collaborative Activities in 2007 IAH Co-Sponsors 3rd Annual NGWA/AGWSE Ground Water Summit

The Association of Ground Water Scientists and Engineers' (AGWSE, division of the National Ground Water Association) convened the third annual "Ground Water Summit" April 29 – May 3, 2007 in Albuquerque, New Mexico. The AGWSE Board extends a hearty thanks to all its co-sponsors, including the IAH USNC. Officers and/or Directors of the IAH USNC, including Jack Sharp, Victor Heilweil, Mike Wireman and Colin Booth, were actively involved in session planning and/or presentations.



GSA 2007 Annual Meeting: NGWA/AGWSE Sessions

Thirty-three hydrogeology-related sessions are being planned and co-sponsored by the Geological Society of America's Hydrogeology Division and other groups at the 2007 GSA Annual Meeting and Exhibition, "2007 Earth Sciences for Society, Beginning of the International Year of Planet Earth," October 28-31, 2007 in Denver, Colorado. As an Associated Society of GSA, NGWA/AGWSE will be co-sponsoring three topical sessions, as described on GSA's web site:

<http://www.geosociety.org/meetings/2007/sessions/topical.asp>.

These are:

Regional Groundwater Flow: In Honor of József Tóth (Session T34) is being organized by Ben Rostron of the University of Alberta Canada and Frank Schwartz of Ohio State University. On the 45th anniversary of the publication of "A theory of groundwater motion in small drainage basins in Central Alberta," this session will honor József Tóth's contributions to hydrogeology. Notably, Tóth was honored by NGWA as the 2003 M. King Hubbert award recipient. When presenting the M. King Hubbert award to Tóth, Warren Wood of Michigan State University made these comments: "In many ways he [Joe] epitomizes the intent of the M. King Hubbert Medal, having made contributions to ground water science that are recognized worldwide and that are applied to practical problem solving daily. He has also mentored students who have themselves gained attention and had significant impact on the science of fluids in the subsurface. Joe has been, and continues to be, an extraordinary teacher and mentor. His reputation has attracted many students who have excelled in the field of ground water and subsurface fluid flow. I would be remiss if I did not take a moment to praise Joe Tóth the person. If the phrase "scholar and gentleman" can truly be applied to anyone, it is certainly Joe. He is unselfish in his research, willingly shares his insights and ideas."

High-Resolution Geophysical Methods for Hydrogeologic Site Characterization (Session T41) is convened by John Jansen of Ruckert-Mielke and AGWSE Division Board member. It will present an overview of the state of the practice of high resolution surface and borehole geophysical methods and their application to a variety of groundwater investigations. Recent advances in equipment have increased the resolution and accuracy of geophysical methods significantly. As a result, geophysical surveys can provide better and more reliable data. Planned session topics include water resources investigations, environmental site characterization, monitoring remediation processes, and other shallow applications.

Conjunctive Use of Surface and Groundwater: The Role of Scientists in Informing Policy Makers, Developing Management Approaches, and Implementing Mitigation Measures (Session T47) is being co-convened by Vicki Kretsinger of Luhdorff and Scalmanini, Consulting Engineers and AGWSE Division Past Chair and John Bredehoeft of Hydrodynamics and AGWSE Board member. Managed conjunctive use of surface and groundwater is a key to addressing supply imbalances and shortages. This session, co-sponsored by NGWA/AGWSE, GSA's Hydrogeology Division and GSA's Geology and Society Division, highlights the need to better inform policy makers so that science-based policies allow for managed groundwater development and use while mitigating pumping impacts. Invited speakers presenting in this session include Marios Sophocleous (Kansas State Geological Survey), Paul Barlow (U.S. Geological Survey), Donna Cosgrove (University of Idaho at Idaho Falls) and John Bredehoeft. For those who want to share their research on this topic in beautiful Park City, Utah, check out the upcoming 2007 NGWA Thesis Conference at <http://www.ngwa.org/e/conf/0709285100.cfm>. The 2007 Conference, "Conjunctive Management of Ground Water and Surface Water: Application of



Science to Policy”, convened by John Bredehoeft, Marios Sophocleous and Tim Parker, will engage participants in interactive discussion sessions on this topic over the course of several days.

NGWA’s 2007 Darcy Lecturer, James Butler, currently a senior scientist in the Geohydrology Section of the Kansas Geological Survey at the University of Kansas (KU), and also serving as an associate of the KU Center for East Asian Studies and a courtesy professor in the KU Department of Geology, will give his Darcy Lecture at the 2007 GSA Annual Meeting and Exhibition. Butler’s lecture, **“What the Heck Is a Phreatophyte? A Field Investigation of Ecohydrologic Processes in Stream-Aquifer Systems,”** is an overview of a multidisciplinary investigation of water use by phreatophytes—plants that utilize groundwater—in semiarid riparian zones. Groundwater consumption by nonnative phreatophytes is an issue of considerable concern in the western United States and elsewhere. His lecture describes the various components of the water budget in stream-aquifer systems with an emphasis on the contribution of riparian zone phreatophytes.

OBITUARY: Tom Prickett

By now, many of you will know of the death of Tom Prickett. We are reproducing here, with permission, part of the obituary sent out by Michael Campana as an e-mail on September 16th. A fuller obituary is on Michael’s blog:

<http://aquadoc.typepad.com/waterwired/2007/09/tom-prickett-a.html>

Thomas A. (Tom) Prickett, died on 13 September 2007 (age 71), in Indianapolis, having collapsed while en route. What a loss for those of us in the hydrologic realm!

Many of you probably didn't know Tom, who worked for the Illinois State Water Survey for many years and more recently had his own consulting firm, but he was best known as one of the pioneering ground water modelers, dating back to the 1960s. He and C.G. Lonquist developed the Prickett-Lonquist Aquifer Simulation Model (PLASM), which was published as the now-famous Bulletin 55 of the Illinois State Water Survey in 1971:

Prickett, T.A. and C.G. Lonquist. 1971. Selected Digital Computer Techniques for Groundwater Resources Evaluation. Illinois State Water Survey Bulletin 55, 55p.

His work in finite-difference (FD) ground water models set the stage for the USGS MODFLOW model, developed in the 1980s, which is now the worldwide standard.

Tom was also an incredibly nice fellow with a wonderful sense of humor. He had more "war stories" than any hydrologist I've ever known.

Rest in peace, Tom.

Michael

Our condolences to his wife, Alice, and to his family.