



International Association of Hydrogeologists U.S. National Chapter Newsletter

Vol. 33, no. 1: June 2004

Editor: Colin J. Booth, Department of Geology and Environmental Sciences
Northern Illinois University, DeKalb, IL 60115
Phone: 815-753-7933 Fax 815-753-1945 E-mail: colin@geol.niu.edu



CONTENTS

EDITOR'S NOTE - *Colin Booth*

MESSAGE FROM THE CHAIRMAN - *Lenny Konikow*

REPORTS

USGS 125TH ANNIVERSARY – *Lenny Konikow*

DIGITAL LIBRARY FOR EARTH SYSTEM EDUCATION – *Lenny Konikow*

AMERICAN GEOLOGICAL INSTITUTE – *PETROLEUM AND THE ENVIRONMENT* – *Lenny Konikow*

RURAL GROUNDWATER DEVELOPMENT IN THE BOLIVIAN ALTIPLANO: THE NEED FOR A HOLISTIC APPROACH
- *Victor Heilweil*

IAH CONFERENCES

THIRTY-THIRD CONGRESS OF IAH - October 11-15, 2004, Zacatecas, Mexico

IAHS INFORMATION AND MEETING NOTES

IAHS SCIENTIFIC ASSEMBLY – April 3-9, 2005, Foz Do Iguaçu, Brazil

IAHS 4TH INTERNATIONAL GROUNDWATER QUALITY CONFERENCE: GQ 2004: BRINGING GROUNDWATER QUALITY RESEARCH TO THE WATERSHED SCALE - July 19–22, 2004: University of Waterloo, Canada.

OTHER CONFERENCE NOTICES

COASTAL SUBSIDENCE SPECIALTY CONFERENCE – Call for interest

AGWT: AQUIFER STORAGE AND RECOVERY WORKSHOP -July 12-13, 2004: Denver, Colorado

AGU: WESTERN PACIFIC CONFERENCE - August 16-20, 2004: Honolulu, Hawaii

IMWA: MINE WATER 2004 - PROCESS, POLICY AND PROGRESS - Sept 20-24, 2004: Newcastle upon Tyne, UK

GSA: ANNUAL MEETING – Nov. 7-10, 2004: Denver, Colorado

7TH INTERNATIONAL CONFERENCE ON ACID DEPOSITION - June 12-17, 2005: Prague, Czech Republic

7TH HELLENIC HYDROGEOLOGY CONFERENCE & 2ND OPEN WORKSHOP ON THE HYDROGEOLOGY OF FISSURED ROCKS - October 5-6, 2005: Athens, Greece.

7TH INTERNATIONAL SYMPOSIUM ON LAND SUBSIDENCE: SISOLS 2005: Oct. 23-28, Shanghai, PR China.

INTERNATIONAL GROUNDWATER CONFERENCE, INDIA - January 4-6, 2006: Dindigul, Tamilnadu, India

GROUNDWATER RESOURCES ASSOCIATION OF CALIFORNIA – Vicki Kretsinger

IAH Allied Activities with the GRA of California

11TH SYMPOSIUM ON GROUNDWATER CONTAMINANTS – PERCHLORATE IN CALIFORNIA’S GROUNDWATER - Aug 4, 2004: Glendale, California

13TH ANNUAL MEETING & CONFERENCE – MANAGING AQUIFERS FOR SUSTAINABILITY: PROTECTION, RESTORATION, REPLENISHMENT & WATER REUSE - September 23-24, 2004: Rohnert Park, California

12TH SYMPOSIUM ON GROUNDWATER CONTAMINANTS - ARSENIC IN GROUNDWATER: IMPACTS ON A CRITICAL RESOURCE - October 18-19, 2004: Fresno, California

13TH SYMPOSIUM ON GROUNDWATER CONTAMINANTS – INVESTIGATION AND REMEDIATION OF DRY CLEANER SITES

-

November, 2004: Orange County, California

INTERNATIONAL INVOLVEMENT THROUGH THE FULBRIGHT PROGRAM - *Vicki Kretsinger*

IAH/USNC – NAMES AND CONTACT INFORMATION

EDITOR’S NOTE

Welcome to the Spring, 2004 newsletter of the US Chapter of IAH. This issue contains an abundance of information on conferences and activities: thanks to all the contributors who have provided so much interesting and useful material. In addition to notices and announcements, there is also an interesting and thought-provoking article by member Victor Heilweil, based on his experience as a volunteer helping with rural water development in Bolivia. Another aspect of international involvement is also suggested in the article by Vicki Kretsinger of the California GRA, on a graduate course in Jamaica supported through a Fulbright grant.

At the GSA 2003 Annual Meeting in Seattle, we participated in the GSA Hydrogeology Division’s student reception and provided two one-year student memberships in IAH as part of the raffle prizes. The lucky winners were Martha Buckwalter, an undergraduate at SUNY-Brockport, and Orfan Shouakar-Stash, a doctoral student at the University of Waterloo (who therefore joins the Canadian chapter).

You might notice that with this issue we are venturing into new technological territory, by including some pictures in jpeg format. We are cautious about this, and keeping them small, as many people (including myself, at home) still rely on phone-based modems and don’t want to download large files. If you have any difficulty with the size or format of the newsletter and require a direct-text-only copy, please let me know. And as always, let me know if you change your e-mail or mailing address.

Finally, this is the fourth and final year of office for the current national committee – Lenny Konikow, John Harsh, Yoram Eckstein, and myself: our tenure ceases on December 31, 2004. Later in summer, you will be receiving information on the IAH/USNC constitution and procedures for election of officers for the period starting January 2005. We have already received expressions of interest in serving by some members, but if any other members are interested in serving IAH/USNC either on the executive committee or in some other capacity, please let me know as soon as possible. We will finalize the nominations for the next set of officers in July.

-- Colin Booth

MESSAGE FROM THE CHAIRMAN

In early May I represented IAH/USNC at the American Geological Institute’s (AGI) Annual Leadership Forum held at USGS Headquarters in Reston, VA (a very convenient location for me). This gave me an opportunity to meet and talk with the leaders of many other AGI-Associated geological societies, with which we might not normally interact. In one case it led to a conversation about the possibility of holding a joint conference at some time in the future (if anything develops, we will certainly let you

know). This was an outstanding group of people, and their societies face many of the same problems as IAH, such as maintaining or increasing membership, providing benefits for members, publishing quality scientific journals in the face of the tidal wave of electronic media, outreach activities, support for students, undergraduate geoscience education, Federal science policy, mechanisms for increasing cooperation and collaboration among societies, and international activities.

This last item is largely in recognition that the new global economy also produces a global scientific community, which the U.S. scientific community cannot afford to ignore because there is much top-notch scientific work going on outside of the U.S. and we must keep abreast of it. But certainly the international scientific community is of interest to some U.S. societies in part as a source of increased membership. IAH/USNC was unique in that we represent a small U.S. part of a larger international scientific society. One of our challenges is attracting more members in the U.S. rather than overseas. But basically, IAH exists to serve, support, and interconnect the global hydrogeological community.

We discussed Federal Science Policy and met with a staff member from the House Subcommittee on Research (who has a PhD in soil science) and with a member of the National Science and Technology Council at the White House Office of Science and Technology Policy (who is a geologist). Naturally, we discussed policy issues and the funding process for agencies and for research. It was noted that currently the three main policy drivers are National Security, Homeland Security, and a Vibrant Economy. In the face of these priorities, maintaining level funding for a science agency or research institute or research program should be viewed as a good outcome! The question was asked about how can societies be more effective in influencing Federal policy and budget decisions. The answer was that lobbying works (and, in fact, many Congressional staffers rely on lobbyists as a source of information). Scientists should (or must) get political, find a champion within the system, and encourage a grass roots movement to have your voice heard. While recognizing the value of that, I must say that IAH/USNC as an organization does not plan to hire any lobbyists. We do, however, encourage all of you to speak up and let your opinions be heard in the political arena—particularly on issues related to hydrogeology and the wise use and protection of groundwater.

During the discussions, I pointed out to the two science staffers that the two cover stories on this month's issue of *Geotimes* (AGI's monthly news magazine) were on water problems (including water conflicts in the west). So I asked if they would comment on Federal water policy and priorities. They clearly had a good understanding of many of the issues, pointing out that Federal water policy is, to some extent, being decided in the courts on a case-by-case basis. The unstated implication was that this was not the best way to set policy. However, they did note that the water availability issue is recognized and will be getting more attention; that there is a need for a comprehensive survey of water supply and availability, as well as for water use; and that water quality and availability are closely linked.

This year's Geological Society of America's Annual Meeting will be held in Denver, Nov. 7-10. The hydrogeology parts of the program are especially strong this year, and the U.S. National Chapter of IAH is organizing and sponsoring four theme sessions. Further information is given later in this Newsletter. I hope to see you in Denver! The next IAH Congress will be held in Zacatecas City, Mexico, in October. I plan to be there, and hope to see you there too; again, further information is given below.

For those of you who have recently been involved in international work or activities, I encourage you to share your experiences and insights (whether good or bad, humorous or serious) with our members by submitting a brief write-up to this newsletter. For an example, see the article by Vic Heilweil in this issue. I encourage you to use this newsletter as a medium for communication with colleagues.

I hope all of you have a great summer.

-- Lenny Konikow

REPORTS

USGS 125th ANNIVERSARY

According to a news release from AGI, in early March, Rep. Jim Moran (D-VA) introduced a resolution to congratulate the U.S. Geological Survey (USGS) on its 125th anniversary. The resolution (H. Res. 556) states: "The House of Representatives expresses strong support for the United States Geological Survey as it serves the Nation by providing timely, relevant, and objective scientific information which helps to describe and understand the Earth, minimize the loss of life and property from natural disasters, manage water, biological, energy, and mineral resources, and enhance and protect the quality of life of all Americans."

The commemorative resolution has 11 original co-sponsors, including House Science Committee Chairman Sherwood Boehlert (R-NY) and House Appropriations Committee Chairman C.W. Bill Young (R-FL). The resolution was introduced with the support of the USGS Coalition. To help support the USGS on its 125th anniversary, please ask your Representative to co-sponsor H. Res. 556. You can find the e-mail address for your Representative at <http://www.house.gov>.

-- Lenny Konikow

Digital Library for Earth System Education

The Digital Library for Earth System Education (DLESE) supports Earth science (or Earth system) education at all levels by helping educators and learners create, find, and use online educational resources about the Earth. DLESE offers:

- Access to high-quality collections of educational resources
- Access to Earth data sets and imagery (and tools and interfaces for their educational use)
- Support services to help teachers and learners share educational resources
- Communication networks to facilitate collaborations

DLESE is a free service for finding valuable, online resources for teaching about the Earth. DLESE ensures that the resources are available and relevant to the Earth system. Many of the resources in DLESE have undergone an extra level of scrutiny, to make certain that they are scientifically accurate, grade-level appropriate, and effective for teaching. DLESE is sponsored by the National Science Foundation. Check out their web site at: www.dlese.org

-- Lenny Konikow

American Geological Institute

Petroleum and the Environment

A news release from AGI states that few of us ever think about petroleum as we use its products like plastics, medications, or gasoline. It usually takes a major increase in the price of gasoline, brownouts when electricity is in short supply, or an accident like an oil spill to focus our attention on petroleum. Concerned citizens recognize the need to manage both our petroleum resources and our natural environment wisely. ***Petroleum and the Environment*** provides an introduction to the major environmental concerns associated with petroleum exploration, production, transportation, and use. Intended for educators, policy-makers, and the general public, ***Petroleum and the Environment*** is a richly-illustrated, 64-page book that is written clearly and concisely. The sixth publication in the AGI Environmental Awareness Series, this was prepared under the sponsorship of AGI's Environmental Geoscience Advisory Committee with support from the AGI Foundation. The objective of the Environmental Awareness series is to promote better understanding of the role of the earth sciences in all

aspects of environmental concerns and issues. Since its formation in 1993, AGI's Environmental Geoscience Advisory Committee, co-chaired by Dr. Philip E. LaMoreaux and Dr. Stephen H. Stow, has been identifying projects and activities that will help AGI achieve this goal. For additional information about AGI's environmental geoscience program, contact Travis L. Hudson, AGI Director of Environmental Affairs, by e-mail at ageology@olypen.com, or by phone on (360) 582-1844.

Petroleum and the Environment was produced by the American Geological Institute in cooperation with the American Association of Petroleum Geologists, Bureau of Land Management, Mineral Management Service, USDA Forest Service, U.S. Department of Energy, and the U.S. Geological Survey. Copies (ISBN 0-922152-68-3, 64 pages, 1 lb.) are available from AGI at a list price of \$15.95. **Members of IAH/US National Chapter receive a 20% discount.** Orders may be placed through AGI Publications at <http://www.agiweb.org/pubs>, or by phone (Tel: (703) 379-2480, E-mail: pubs@agiweb.org).

-- LENNY KONIKOW

**RURAL GROUND-WATER DEVELOPMENT IN THE BOLIVIAN ALTIPLANO: THE NEED FOR A
HOLISTIC APPROACH
BY VICTOR HEILWEIL**



As the only country in South America without a seaport, Bolivia is more isolated and less economically developed than its neighbors and is one of the poorest countries in Latin America (<http://www.cia.gov/cia/publications/factbook/geos/bl.html>). The Altiplano region of Bolivia is a high plain (about 4,000 meters elevation) situated between the Andes and Occidental mountain ranges and inhabited for at least 20,000 years primarily by the indigenous Aymara people and their ancestors

(<http://countrystudies.us/bolivia/4.htm>). Surviving conquests by both the Incas and Spanish, many aspects of ancient Aymara culture have remained intact to this day (<http://www.mnsu.edu/emuseum/prehistory/latinamerica/south/cultures/aymara.html>). However, geographic isolation and cultural differences between the rural Aymara villages and urban areas have resulted in limited economic assistance from the central government. The combination of poverty and political stability, particularly during the 1990s, has attracted a multitude of international aid organizations to the Altiplano. This aid has provided improvements in transportation infrastructure, schools, health care, agriculture, and water-resources development.

The water table in the Altiplano is generally shallow and ground water is fairly accessible, thus the unconfined aquifer is very susceptible to contamination. The combination of unrestricted animal grazing and location of pit toilets in close proximity to existing wells has resulted in the contamination of many wells and springs. The infant mortality rate in the Altiplano region of Bolivia is the highest in Latin America (http://ippfnet.ippf.org/pub/IPPF_Regions/IPPF_CountryProfile.asp?ISOCODE=BO), caused by a combination of limited access to safe water, poor sanitation, and malnutrition. Although alarming from a Western perspective, these conditions limit population growth in the villages.

During 1993-94, my wife Ann and I spent a year as volunteers doing small-scale ground-water development projects in a handful of villages in the Altiplano. Our work focused on providing cleaner and more reliable sources of water through the installation of hand-dug wells, hand pumps, and spring catchments. We also assisted with the construction of solar greenhouses, where newly developed water resources were used to increase agricultural productivity and variety. With funding from USAID Partners of the Americas Program (<http://www.partners.net/>) and a local non-profit organization in Salt Lake City (<http://www.choicehumanitarian.org/>), we were able to construct and install about 50 wells and pumps, 20 greenhouses, and 5 spring catchment systems. Metal pumps had been provided previously to many of the same villages by other international development organizations, but because of a design flaw, the majority had broken as a result of problems with ice buildup. In contrast, our pumps were designed to drain after each use and were made of PVC parts that could be easily replaced locally. Our efforts were generally well-received by the communities, as judged by their willingness to provide both labor and cost-sharing of materials. We also demonstrated the use of readily available liquid bleach for decontamination of drinking water sources, although this effort was only partly successful because of a combination of their dislike of the odor and taste of chlorinated water and a commonly held belief that illness was generally caused by dissatisfaction of their gods rather than by water-borne pathogens.

Providing cleaner and more abundant sources of water are certainly worthy goals. Benefits include improved hygiene, health, diet, and economic status. However, we also came to realize that our intervention efforts could have adverse societal effects. A reduction in infant mortality due to the improvement of water sources and other public health interventions would eventually cause an increase in population. Because of a combination of cultural taboos, religious beliefs, and economic limitations, less than 20 percent of women age 15-49 in the Altiplano currently use modern contraception methods (http://ippfnet.ippf.org/pub/IPPF_Regions/IPPF_CountryProfile.asp?ISOCODE=BO). With limited agricultural land and limited prospects for other employment in the villages, population growth could exacerbate a problem common to many developing nations – the flight of young adults to urban slums. This illustrates that international development work requires a holistic approach where all causes and effects are adequately addressed. Providing clean water should also be accompanied by improved primary health care services and better educational and vocational opportunities.

IAH CONFERENCES

THIRTY-THIRD CONGRESS of IAH

October 11-15, 2004: Zacatecas, Mexico

The 33rd IAH Congress will be held Oct. 11-15, 2004, in Zacatecas City, Mexico, one of the most beautiful cities in Mexico. The Congress will be held jointly with a meeting of AHLSUD (Latin-American Association of Underground Hydrology for Development).

Conference web site (<http://www.igeograf.unam.mx/aih/>) for more information. Joe Toth will be one of seven keynote speakers; Joe's talk is on "The modern scope of hydrogeology and the history of its evolution: a one man's viewpoint." The U.S. National Chapter is a co-organizer (together with NGWA and the Canadian Chapter of IAH) of the Symposium on Transboundary Aquifer Issues, and we thank Mike Campana for representing us in this effort.

--Lenny Konikow

INTERNATIONAL ASSOCIATION OF HYDROLOGICAL SCIENCES (IAHS) Information and Meeting Notes



The next **IAHS SCIENTIFIC ASSEMBLY – April 3-9, 2005 at beautiful Foz Do Iguaçu, Brazil** - will include symposia on several hydrologic topics, including "Sustainable Water Management Solutions for Large Cities," "Groundwater Resources Sustainability Indicators," and "Dynamics and Biogeochemistry of River Corridors and Wetlands." The deadline for abstracts of contributions to these Symposia is 31 May 2004. Details of the scientific program, where to send abstracts, how to register, accommodation, etc. are available on the web at: <http://iahs.info/>

A new IAHS book, **WASTEWATER RE-USE AND GROUNDWATER QUALITY**, edited by Joop Steenvorden & Theodore Endreny, has just been published, and details will be posted soon at <http://iahs.info/>.

IAHS 4TH INTERNATIONAL GROUNDWATER QUALITY CONFERENCE: GQ 2004: BRINGING GROUNDWATER QUALITY RESEARCH TO THE WATERSHED SCALE

July 19–22, 2004: University of Waterloo, Canada.

Managing groundwater quality for human consumption, agricultural and industrial use and for ecosystem health requires moving our focus from a local site to the natural catchment or watershed scale. This will be a research-based conference drawing together renowned researchers from around the world. Ground-breaking research initiatives, innovative investigation and interpretive techniques, novel remediation approaches, and recent breakthroughs in understanding of the processes controlling groundwater quality will be presented. Over 200 abstracts have been accepted for presentation in both oral and poster sessions. Check <http://gq2004.uwaterloo.ca/> for details of the program, associated field trips, and short course and registration information.

OTHER CONFERENCE NOTICES

COASTAL SUBSIDENCE SPECIALITY CONFERENCE

IAH Member Robert Traylor, Texas Commission on Environmental Quality, is working on preparing a conference on coastal subsidence, a geologic process and problem of considerable urgency and scientific dispute. If you are involved or interested in this topic, contact Rtraylor@tceq.state.tex.us

American Ground Water Trust: AQUIFER STORAGE AND RECOVERY WORKSHOP

July 12-13, 2004: Denver, Colorado

The American Ground Water Trust will hold its next in its series of workshops on Aquifer Storage and Recovery in Denver, Colorado – July 12-13, 2004 [Denver Marriott Southeast]. Its theme is: “Aquifer Storage Forum: Solutions to water shortage crises? Focus on ASR and Denver Basin Aquifer.”

This represents an Education Program from American Ground Water Trust and is co-sponsored by the International Association of Hydrogeologists/USNC. The first day will focus on science & technology, and the 2nd day will focus on management and policy. It will include expert presentations, a field trip option, exhibit opportunities, and a CD of Forum presentations and discussion will be available to participants.

Program details and registration information are available on-line at: <http://www.agwt.org/> (click on workshops and conferences).

-- Lenny Konikow

AGU WESTERN PACIFIC CONFERENCE

August 16-20, 2004: Honolulu, Hawaii

The session H05 “Uncertainty Quantification in Subsurface Hydrology” was mentioned in the e-mail sent out to IAH/US members in April, the deadline for submission of abstracts being May 5. However, if you are interested in attending this session or meeting, go to:

<http://www.agu.org/meetings/wp04/> for further information.

**INTERNATIONAL MINE WATER ASSOCIATION
MINE WATER 2004 - PROCESS, POLICY AND PROGRESS**

Sept 20-24, 2004: Newcastle upon Tyne, United Kingdom

Themes:

- Geochemistry of mine water
- Acid drainage prevention technologies
- Passive and active treatment
- Coupled dewatering/subsidence/gas release processes
- Post-closure mine hydrology
- Legislation and policy for mine water management

Further information and registration forms at: <http://www.imwa2004.ncl.ac.uk/>

The International Mine Water Association was a co-sponsor of the recent IAH meeting at Bled, Slovenia, and has a long record of involvement in all hydrogeological issues related to mining, from control and risks of mine water inflows to hydrological effects of mining to environmental impacts of mine drainage. The association's journal "Mine Water and the Environment" is published quarterly through Springer; its Editor is Bob Kleinmann, US Department of Energy (Pittsburgh), and the US Associate Editor is Colin Booth (editor of this newsletter). IMWA is very much an international society, holding annual symposia and triennial congresses around the world. The current president of IMWA is Dr Andrzej Witkowski of Poland (organizer of the June 2004 IAH conference on groundwater vulnerability assessment and mapping, mentioned above). IMWA is a very worthwhile organization to join for all hydrogeologists involved with any aspect of mining. Information is available on the web page at <http://www.imwa.info/>.

GEOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING

November 7-10, 2004: Denver, Colorado

The hydrogeology parts of the 2004 GSA Annual Meeting program are especially strong, and the U.S. National Chapter of IAH is organizing and sponsoring four theme sessions. Special thanks go to our members Bridget Scanlon and Marios Sophocleus for organizing a session on "Sustainable Management of Water Resources;" to Cliff Voss for a session on "The Future of Hydrogeology," which is also a prelude to the next theme issue (on this same topic) in *Hydrogeology Journal*; to John Moore and Phil LaMoreaux for a session on "History of Hydrogeology in the United States: Celebrating the Contributions of O.E. Meinzer, Stan Lohman, and John Ferris;" and to John Moore and Peter Barkmann for a session on "Groundwater Depletion and Overexploitation in the Denver Basin Bedrock Aquifers." There are also many other sessions of interest to hydrogeologists (a total of about 35 hydrogeology theme sessions and several general sessions – *CB*). The **deadline for submitting abstracts is July 13** (check out the GSA web site at: <http://www.geosociety.org/meetings/2004/> for detailed information about these and other theme sessions and submittal instructions).

IAH/USNC also plans to hold a business meeting there, if you are interested in participating in the organizational effort of the society. We will give further details in the Fall newsletter. I hope to see you in Denver.

-- Lenny Konikow

7TH INTERNATIONAL CONFERENCE ON ACID DEPOSITION

June 12-17, 2005: Prague, Czech Republic

Pavel Kram, Czech Geological Survey

Contact: ACID RAIN 2005, Conference Secretariat

INFO.COM Ltd., Krokova 2, 12800 Prague 2, Czech Republic

Phone: +420 241 412 518

Fax: +420 241 408 222

E-mail: infocom@infocom.cz

Website: <http://www.acidrain2005.cz/>

7TH HELLENIC HYDROGEOLOGY CONFERENCE & 2ND OPEN WORKSHOP ON THE HYDROGEOLOGY OF FISSURED ROCKS

October 5-6, 2005: Athens, Greece.

The Hellenic Committee of Hydrogeology is a scientific committee of the Hellenic Geological Society and the official representative in Greece of the International Association of Hydrogeologists-IAH. They will host the 7th Hellenic Hydrogeology Conference, in Athens, from Wednesday 5th to Thursday 6th October, 2005. The primary goal of the congress is the presentation of recent advances in Hydrogeology with an emphasis on the Hydrogeology of Fissured Rocks (Discontinuous Media).

The 2nd Workshop on the Hydrogeology of Fissured Rocks will take place within the frame of the Congress, as a joint event. It is organized by the Middle and East Mediterranean Working Group of Fissured Rocks, Hydrogeology Commission of the International Association of Hydrogeologists. The official language of the Workshop will be English.

Two field trips will be organized. The Pre-Conference field trip will take place from 3rd to 4th of October 2005 in Evia, and the Post-Conference from 7th to 9th of October 2005 in Tinos Island

The Congress will cover hydrogeology topics in the fields of General Hydrogeology, Hydrochemistry and Isotopic Hydrogeology, Groundwater Hydraulics, Environmental Hydrogeology, Groundwater Management, Hydrology, Karst Hydrogeology, Fissured Rocks Hydrology, Applied Hydrogeology, Groundwater Engineering, etc.

Further information about the Conference and Workshop is now available at their web site: www.iah-hellas.geol.uoa.gr

-- from Lenny Konikow

SISOLS 2005: SEVENTH INTERNATIONAL SYMPOSIUM ON LAND SUBSIDENCE

October 23-28, 2005: Shanghai, P.R. China,

Problems related to land subsidence and its anthropogenic causes have long been recognized; in 1964, UNESCO first included the problem for study under the International Hydrological Decade, later the International Hydrological Programme. The result was the initiation of the only series of international symposia on land subsidence, now in its 7th edition. UNESCO, the Center for Land Subsidence of the China Geological Survey, and the Municipal Government of Shanghai, China, jointly invite you to attend SISOLS 2005.

The symposium provides a forum to scientists from all over the world to discuss problems related to land subsidence, to present technological innovations and achievements, and to exchange ideas, information, and results. It will give the opportunity to discuss a sustainable approach to land subsidence, intended to seek a compromise between the use of natural resources and mitigating negative subsidence effects caused by their exploitation. Issues will also include distinguishing naturally occurring subsidence from anthropogenic causes of subsidence, predicting potential hot spots, in particular those located in coastal and low-lying flat areas, and transforming scientific information into intelligent policy management and environmental control.

Symposium Topics

- Geological Land Subsidence
- Land Subsidence Caused by Fluid Withdrawal
- Land Subsidence Caused by Solid Extraction
- Land Subsidence Related to Chemical Processes
- Land Subsidence and Earth Fissures
- Sinkhole Subsidence
- Laboratory and In-Situ Compaction and Expansion Measurements
- Monitoring and Measurement of Land Subsidence (GPS, InSAR, extensometers, etc)
- Mechanics and Modeling for Land Subsidence Simulation and Prediction
- Environment Effects and Remedial Measures, including artificial recharge
- Land Surface Deformation Due to Fluid Injection
- Economic Effects

Papers/posters are invited on the conference topics outlined and other topics falling within the objectives of the symposium. **Abstracts of 200-400 words in English should be submitted not later than August 1, 2004.** For specifics on submitting abstracts and obtaining other information about the symposium please visit <http://www.sigs.com.cn/sisols2005.htm>.

- Devin Galloway

INTERNATIONAL GROUNDWATER CONFERENCE, INDIA

January 4-6, 2006: Dindigul, Tamilnadu, India

An International Groundwater Conference (IGC-2006) on “*Sustainable Development and Management of Groundwater Resources in Arid and Semi-Arid Regions, with Special Reference to Hard Rocks*” will be held at Dindigul, Tamilnadu, India, January 4-6, 2006. Dindigul, a commercial town with a population of 0.5 million, is situated on the foothills of two ranges, in the heart of the crystalline rocks of Southern Peninsular India. IGC-2006 is a follow-up to the earlier, successful IGC-2002, held at the same place in February, 2002. In that spirit, the organizers are planning this second conference with local support, and are hoping that foreign and Indian delegates will attend and enjoy meeting with rural farmer delegates, who are facing serious water problems. Participants will also enjoy the hospitality of local people on the eve of the inaugural of the conference. The themes of the conference include:

- Remote sensing techniques and GIS)in groundwater resource assessment.
- Recent advancements in Geophysical/Geological/Geo-Engineering techniques.
- Innovative techniques in monitoring.
- Recharge process in Arid and Semi-Arid regions.
- Application of isotope techniques in hydrology.
- Artificial recharge methods including Aquifer Storage and Recovery (ASR).
- Impact of human activities, climate change, coal mining and urbanization on groundwater systems.
- Mapping of aquifer vulnerability.
- Characterization of fracture geometry and properties for understanding the flow mechanism in hard rocks with special reference to multi-scale parameters.
- Lake-aquifer interaction studies and conjunctive use of surface and groundwater.
- Groundwater Flow and Mass Transport modeling.
- Management of groundwater resources through scientific and community participation, with special reference to over-exploited regions in developing countries and the role of Non Government Organizations. All **abstracts (not exceeding 250 words) must be received by December 20, 2004** and can be sent by E-mail to the principal organizer, Dr. M. Thangarajan, Conference Coordinator at: mthangarajan@hotmail.com. (Emeritus Scientist, NGRI, Hyderabad-500007 (Ph: +91-(0)40 27175156), India.

-- Lenny Konikow

GROUNDWATER RESOURCES ASSOCIATION OF CALIFORNIA ACTIVITIES, MEETINGS, AND INFORMATION

BY VICKI KRETSINGER

IAH ALLIED ACTIVITIES WITH THE GRA OF CALIFORNIA

The Groundwater Resources Association (GRA) and IAH developed an allied partnership in 2001 and launched a Joint Membership Program beginning in 2002. There have been 129 participants in the Joint Member program with 30 IAH members electing to participate so far this year.

IAH members are welcome to express their interest in assisting with the planning of 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.

Through the balance of 2004, upcoming GRA events for which the IAH USNC is a cooperating organization include:

11TH SYMPOSIUM IN THE SERIES ON GROUNDWATER CONTAMINANTS – PERCHLORATE IN CALIFORNIA'S GROUNDWATER

August 4th, 2004; Hilton - Glendale, California

In 2004, perchlorate continues to be a major contaminant issue, impacting ground- and surface water resources. This Symposium will focus on the continuing and escalating problems associated with perchlorate contaminated groundwater with topics in:

- Perchlorate Characteristics, Occurrence, Analysis, and Forensics
- Toxicology of Perchlorate and Perchlorate in Plants and Foods
- Innovative Remediation Methods and Case Histories
- Recent Legislation, Regulatory Affairs, and Legal Issues
- Continuing Problems for Water Utilities and Water Purveyors

Experts and researchers from academia, consulting, regulatory agencies, water purveyors, and the legal arenas will present papers, poster sessions, and provide panel discussions. The **deadline for abstract submittals is June 25, 2004**. Please contact Tom Mohr at tmohr@valleywater.org.

13TH ANNUAL MEETING & CONFERENCE – MANAGING AQUIFERS FOR SUSTAINABILITY – PROTECTION, RESTORATION, REPLESHMENT & WATER REUSE **September 23-24, 2004; Double Tree Hotel, Rohnert Park, California**

GRA's 13th Annual Meeting in Sonoma County provides an important forum to address groundwater sustainability, aquifer protection, and water recharge or reuse. Cooperating organizations include the California Department of Water Resources, U. S. Geological Survey, Water Education Foundation, the International Association of Hydrogeologists, Association of California Water Agencies, California Groundwater Association, National Ground Water Association, and the National Resources Section of the California State Bar. Conference sessions include:

- Managing Aquifers for Sustainability
- Groundwater Resource Management
- Quantitative and Predictive Tools to Assess Groundwater Contamination Management Strategies

- Tools and Technologies for Groundwater Resource Assessment and Protection
- Strategies and Decision Processes for Groundwater Quality Management
- Challenges of a Finite Resource - Groundwater Use and Reclaimed Water Reuse
- Groundwater Contaminants Today and Tomorrow
- Long-Term Strategies to Assess and Manage Non-Point Sources and Restore Groundwater Quality
- Groundwater Legislative, Regulatory, and Policy Issues

A field trip on Wednesday September 22, sponsored by the Sonoma County Water Agency, includes visits to various local water works in Sonoma County. There are also a number of other networking events planned, including a golf tournament, an evening gathering with dinner and wine tasting and a program on geology in the wine country, and a reception with exhibits and poster presentations. The program will be posted soon on GRA's web site at www.grac.org.

12TH SYMPOSIUM IN THE SERIES ON GROUNDWATER CONTAMINANTS – ARSENIC IN GROUNDWATER: IMPACTS ON A CRITICAL RESOURCE
October 18-19, 2004; Radisson Hotel & Convention Center, Fresno, California

This symposium will look at the arsenic in groundwater issue, the impacts the new drinking water standard will have on this critical Western U.S. resource, and possible solutions to mitigate these impacts. This conference will focus on the continuing and escalating problems associated with arsenic in groundwater with topics in:

- Status of California Groundwater and Arsenic Distribution
- Arsenic Occurrence and Chemistry
- Public Health Issues and Impacts on Beneficial Use
- Collaborative Approaches to Achieve Source Management
- Source Controls and Treatment Technologies
- Impacts on Waste Disposal After Groundwater Treatment
- Cost of Arsenic Cleanup in Groundwater

Experts and researchers from academia, consulting, regulatory agencies, water purveyors, and the legal arenas will present papers, poster sessions, and provide panel discussions. GRA welcomes submittals of abstracts for papers and poster presentations on the topics outlined above. The **deadline for submitting an abstract for a Paper or a Poster Presentations is July 15, 2004**. Please feel free to contact Bill Pipes (559-264-2535) or Sarah Raker (510-622-2377) if you would like to discuss your topic for this symposium before submitting your abstract.

13TH SYMPOSIUM IN THE SERIES ON GROUNDWATER CONTAMINANTS – INVESTIGATION AND REMEDIATION OF DRY CLEANER SITES
November, 2004; Orange County, California

A similar symposium was conducted by GRA in April 2004 and, due to the success of the Symposium and continued interest in this issue, it is being offered again in November 2004 (*Date TBA*). Watch GRA's web site for details. See also "Publications" at GRA's web site for the article "Dry Cleaner Symposium Focuses on Under-examined, Under-funded Threat to Groundwater Resources" by Sarah Raker, Tom Mohr, Scott Davis, Janet Peters, and John McHugh in the Summer 2004 Issue of *HydroVisions*.

INTERNATIONAL INVOLVEMENT THROUGH THE FULBRIGHT PROGRAM

By Vicki Kretsinger, California GRA

Earlier this year, James A. Jacobs (Chief Hydrogeologist, Environmental Bio-Systems, Inc., California) taught an intensive 4-week graduate class, titled "Environmental Engineering: Sampling, Assessment and Remediation," in the Water Resources Management program at the University of the West Indies (UWI), Mona Campus, Jamaica, under an American Fulbright Senior Specialist grant from the U.S. Department of State in partnership with the Council for International Exchange of Scholars. Some of the students in the graduate class were full-time students, but many were also working at water resources, environmental, and mining agencies, or as private-sector consultants.

As part of the program, a special 3-day workshop (sponsored by UWI in conjunction with the Petroleum Corporation of Jamaica) was held in Kingston. Subjects for this special workshop included Risked-Based Corrective Action, Risk Assessment, and In-Situ Remediation and Natural Attenuation Processes. Participants included UWI students as well as Jamaican regulators, oil company representatives and other private company environmental directors, and local consultants. Two additional invited American lecturers also participated during the workshop, Dr. Ravi Arulanantham (Geomatrix Consultants, Oakland, California) and Dr. Roger Brewer (California Water Quality Control Board, San Francisco Bay Region).

Water supplies are critical to Jamaica's economy, and groundwater is used extensively by the island nation, which faces a large projected population growth over the next 25 years. Planning for new water supplies to meet expected water demands is critical. Problems include saltwater intrusion near the more populated coastal cities. Jamaica has combined its redevelopment and environmental oversight agencies into one group, the National Environmental and Planning Agency (NEPA). Soil and groundwater pollution issues associated with gasoline stations, industrial facilities, rum distilleries and mining operations are being evaluated by NEPA. However, not all potential or existing sources of pollution are met with the same urgency, as raw sewage is regularly escaping through the water treatment plant into Kingston Bay. During his stay, Mr. Jacobs also met with a variety of environmental regulatory officials and with NEPA, the Water Resources Authority, the Environmental Foundation of Jamaica, the Mona Institute of Applied Science, and other groups.

The Groundwater Resources Association (GRA) (www.grac.org) generously donated a library of GRA short-course books which were made available to the students and have been placed permanently in the UWI Geology Department Library. Other books, materials, and supplies for the classes were generously provided by: Lewis Publishers/CRC Press; Timothy Buscheck (Richmond, California environmental research group of Chevron-Texaco); Robert A. Van Valer (Roscoe Moss Company of California and a GRA Director); and Oglebay Norton Industrial Sands, Inc., Colorado.

Mr. Jacobs found the Fulbright programs (www.CIES.org) to be a terrific way for American professionals to work within an established international exchange program and help promote mutual understanding and respect between United States and other nations. He plans to continue his involvement with UWI and Jamaica and is planning several 2-week short-courses for an upcoming UWI graduate program or Mona Institute of Applied Sciences environmental certificate program. For further information, James Jacobs can be reached at augerpro@sbcglobal.net

IAH/US CHAPTER: NATIONAL COMMITTEE

Chairman:	Leonard F. Konikow	lkonikow@usgs.gov	703-648-5878
Secretary-Treasurer:	Colin J. Booth	colin@geol.niu.edu	815-753-7933
Vice-Chair:	John F. Harsh	tamjfh@aol.com	
Vice-Chair:	Yoram Eckstein	yeckstei@geology.kent.edu	330-672-2364