



International Association of Hydrogeologists U.S. National Chapter Newsletter

Vol. 32, no. 1: June 2003

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CONTENTS

Editor's Note - *Colin Booth*

Message from the Chairman - *Lenny Konikow*

IAH Issues:

- IAH in the news
- Report on World Water Forum
- IAH Meetings and Conferences:
 - * Groundwater in Fractured Rocks, Prague, September 15-19
 - * 1st Int. Conf. On Groundwater in Geological Engineering, Slovenia, September 22-26
 - * 33rd IAH Congress, Zacatecas City, Mexico, October 11-15, 2004

Geological Society of America Annual Meeting, November 2-5, Seattle, Washington

- IAH-Sponsored Session: How Subsurface Properties Determine Microbial Habitats
- Commemorative Darcy and Hubbert Sessions
- Other Hydrogeology Sessions

IAH Allied Activities with the GRA of California

More Meeting Announcements:

- Two Rivers Conference, Sept. 29- Oct. 1, Winnipeg, Manitoba
- Epikarst Conference, October 1-4, Shepherdstown, WV
- Underground Injection Science and Technology, Oct. 22-25, Berkeley, CA
- The Role of Groundwater in Integrated Water Management (24th Biennial/12th GRA), Oct. 28-29, Ontario, CA
- Evaporite Karst Processes and Problems, September 2005, Zaragoza, Spain

American Geological Institute

- AGI Directory of Geoscience Departments
- Water and the Environment
- National Water Strategy

News about members

- Philip LaMoreaux
- Lorne G. Everett

Other Items

- Washington State Geologist Licensing
- NGWA Ground Water Expo

IAH US National Committee

EDITOR'S NOTE

Welcome to our electronic newsletter for Spring 2003. In this issue, we have information about conferences, people, publications, and issues. Lenny Konikow provides a wide-ranging Chairman's message that opens with an emphasis on the "international" aspect of IAH. Also on an international aspect, I saw this item by Stuart A. Smith (of Smith-Comesky Ground Water Science, Upper Sandusky, Ohio) in the *AGWSE Newszine* (February 2003) that addresses the issue of people making a difference in the world. I thought that it spoke nicely to the aims of IAH, and I am reprinting extracts here, with kind permission of Mr. Smith and of AGWSE:

"First of all, be thankful for the many opportunities and advantages that you have – and do not take them for granted. They are NOT your birthright. Under other circumstances of birth or history, it could be your daughter hauling water all day ..."

"Resolve to make a difference in the world. If nothing else, take opportunities to donate to water improvement causes. Additionally, as a member of the world's water technology elite, you have the technical and management skills that can teach others to maintain and operate water supplies just like you do in your town ..."

"Pick a corner of the world and make that difference ... There are thousands of worthwhile needs in the world. You can easily be overwhelmed by the needs and become paralyzed, and decide to do nothing. Don't give in! Pick something (for example, supplying water in a particular place), concentrate on it and do it well. Someone else will feel called to do others."

Have a good summer, and, as always, let me know if you change your e-mail or mailing address.

-- Colin Booth

Message from the Chairman

Remember that the "I" in "IAH" stands for "international." One of the values of membership in the International Association of Hydrogeologists is that it helps members maintain a broad and global perspective on hydrogeological issues. IAH meetings and literature help you, as a hydrogeologist, to better appreciate and understand a broader spectrum of hydrogeological settings and problems than you would otherwise experience. This, in turn, should help you do your own job more effectively and efficiently—perhaps simply by having seen or read about a similar problem in another country.

I was very fortunate in that I was able to attend two different international conferences during the past several months. This allowed me to experience two different cultural and societal settings, as well as participate in local hydrogeological field trips, and see things that could not be seen just by traveling or by attending conferences in the United States. But

I feel that one of the greatest values in attending these international conferences is the opportunity to meet and communicate with foreign scientists, and see first hand both the similarities and the differences in the problems and issues that challenge us. In addition to the professional "networking" opportunities, the most enjoyable aspect is making new friends. E-mail is a great tool for continuing such friendships across great distances.

One of the meetings I attended was the 2nd SWICA Conference (Sea Water Intrusion in Coastal Aquifers), which was co-sponsored by IAH and was held in April in Merida, Mexico. This Conference was attended by about 100 participants and focused on a variety of issues related to seawater intrusion problems, including physical and chemical process, geophysical exploration, modeling of variable-density systems, and management approaches. The Proceedings can be downloaded from the Saltnet web site at:

<http://www.olemiss.edu/sciencenet/saltnet/page8.html> if you are interested in seeing the abstracts and other details. I participated in one of the field trips that looked at some of the scientific and management issues related to the karst aquifer underlying the Yucatan Peninsula (where one stop was at a sinkhole that a town pumped directly for its water supply, and another stop at a nearby town that used a sinkhole for its garbage dump!). Merida is located within the Chixculub Impact Crater, the site of the K-T impact that caused the extinction of dinosaurs and many other species 65 million years ago. We were treated to a talk on this extraterrestrial topic, and some of its hydrogeological implications, during the opening ceremonies by Dr. Antonio Camargo, one of the discoverers of the crater.

The other meeting I attended was the 32nd IAH Congress held in Mar del Plata, Argentina, in October 2002. This meeting was held jointly with ALHSUD (the Latin-American Association of Groundwater for Development) and was attended by more than 400 participants from over 40 countries. This was truly an international gathering. More details about the Congress, and the Mar del Plata Statement on Groundwater and Human Development that came out of it, are available on the IAH web site and in the recent IAH Headquarters newsletters. Also available on the IAH web site are summaries of the several IAH workshops held

during the Congress. Congratulations to Andrew Skinner on receiving the IAH President's Award for 2002, and to Ramon Llamas and Aldo Reboucas on being elected Honorary Members of IAH. The next IAH Congress will be held in Zacatecas City, Mexico, in October 2004. It is not too early to begin making plans to attend this Congress so you can take advantage of its location being so close to the U.S. More details are described later in this newsletter.

IAH now has a record number of members—over 3700 from about 130 countries. Please make sure that you stay a part of it by renewing your membership (if you haven't already done so). Membership also enables you to access the new members-only pages on the IAH web site. This includes an on-line directory of members, and in the near future will allow you access to other services, such as access to *Hydrogeology Journal* on-line. If you have colleagues who are not members of IAH, please encourage them to join, which can be done easily from the IAH web site < <http://www.iah.org/> >.

The U.S. National Chapter is helping to organize several events at the Annual GSA Meeting to be held in Seattle later this year. I hope to see you there.

-- Lenny Konikow

IAH ISSUES

IAH in the News

The International Association of Hydrogeologists was mentioned favorably in a feature article on science that appeared in the *Washington Post* on Monday, March 10, 2003. The article focused on global water scarcity, the role of groundwater, sustainable development, and transboundary aquifer issues. The article states "... with funding from several international agencies, the International Association of Hydrogeologists has begun a massive underground mapping project to determine the outlines and volumes of the

world's larger aquifers--the first step to working out agreements among the countries that share them." IAH members Shammy Puri and Alice Aureli were also both quoted in the article. The text of the article can be viewed on-line at: <http://www.washingtonpost.com/wp-dyn/articles/A2557-2003Mar9.html>

Dr. Puri is Chairman of the IAH Commission on Transboundary Aquifers. More information is available from this Commission's web page at: <http://www.iah.org/isarm/index.html>

Report on the World Water Forum, Kyoto, March 2003

Extracted and modified from the April 2003 letter by Andrew Skinner, Secretary-General of IAH: I believe IAH achieved good value for the effort we put into the Forum last month in Kyoto and Osaka, Japan and that the groundwater experts present at the Forum did a lot to raise the profile of groundwater on the international water stage. Some twenty IAH members were present at the Forum, all of them funded by partner international agencies or by their home countries or institutes, so no burden fell upon the IAH budget. The work done by all the IAH team was excellent but I would just mention a few in particular: Ken Howard, who coordinated the production of the groundwater PowerPoint presentation, which was very well received at the Groundwater Theme session; Christine Colvin, who co-hosted the IAH session with Ken and “managed” our principal guest, Minister Ronnie Kasrils of South Africa; Alice Aureli, who gave the support from UNESCO which made it possible for IAH to have such a strong presence; and Karin Kemper of the World Bank and IAH Vice-President Stephen Foster, who helped coordinate the whole two-day groundwater session with the excellent support of our colleagues from the Japanese Association of Environmental Hydrogeologists/IAH Japanese National Chapter.

Lenny Konikow adds: Although I was unable to attend the World Water Forum in Japan, I understand it was attended by more than 12,000 delegates from around the world, and that IAH was a key player in organizing groundwater sessions and representing groundwater interests. More details are also available in the IAH Headquarters newsletter of April 2003 (http://www.iah.org/IAH_news.htm) and elsewhere on their web site (for example: <http://www.iah.org/kyoto.htm>). The latter site also includes several useful and interesting links, such as the UNESCO/IAH groundwater briefings (which can be downloaded as pdf files). These briefings are useful for

communicating selected water-resources concepts and the importance of earth sciences investigations and activities to laypersons.

IAH MEETINGS AND CONFERENCES

Two successive IAH meetings will be held in Prague, Czech Republic and Bled, Slovenia in September this year. The early-registration discount ended on 31 May, but you can still register normally for these excellent conferences:

GROUNDWATER IN FRACTURED ROCKS Sept. 15-19, 2003 - Prague, Czech Republic

Conference organized by the IAH Working Group on Hard Rock Hydrogeology.
INFO: Jiri Krasny E-mail: krasny@natur.cuni.cz
Web: <http://www.natur.cuni.cz/gwfr2003>

1ST INTERNATIONAL CONFERENCE ON GROUNDWATER IN GEOLOGICAL ENGINEERING September 22 - 26, 2003 - Bled, Slovenia

INFO: Andrej Juren. E-mail:
andrej.juren@siol.net
Web: <http://www.drustvo-skiah.si> or
<http://www.pivo-union.si/ICGGE-2003/>

The IAH Annual General meeting will be held on Tuesday 23 September, 2003, in the afternoon at the conference venue in Bled.

XXXIII IAH Congress

The 33rd IAH Congress will be held Oct. 11-15, 2004, in Zacatecas City, Mexico. The Congress will be held jointly with a meeting of AHLSUD. Dr. Joel Carrillo-Rivera is Chairman of the Organizing Committee.

The overall theme is “Groundwater Flow Understanding: from local to regional scales,” but a number of additional topics will be emphasized, including:

- Social & economic aspects of groundwater management
- chemical & isotopic data in local & regional flow definition
- groundwater flow scaling in hard rocks
- defining and mitigating negative environmental impacts
- transboundary groundwater flow
- groundwater recharge to local and regional systems
- wetlands & groundwater flow dimensions
- groundwater mining
- groundwater in thick aquifers
- differential groundwater flow to coastal areas
- modeling of groundwater flow systems

- role of flow systems in contaminant migration
- sustainable development of groundwater

The U.S. National Chapter of IAH is co-sponsoring and co-organizing a Symposium on Transboundary Aquifers together with the Canadian Chapter of IAH and with NGWA. Mike Campana has agreed to help organize and co-chair this Symposium on behalf of both USNC and NGWA. Please contact him if you'd like more information on this session or would like to contribute.

Plan ahead to attend this special event being held so close to the U.S. The deadline to submit abstracts is November 15, 2003. More details are available on the Congress web page at: <http://www.igeograf.unam.mx/aih/>

GEOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING

November 2 – 5, 2003, Seattle, Washington

IAH Sponsored Session

Each year, the U.S. Chapter of IAH sponsors a session at the annual GSA meeting. This year's session is described below; we hope that some of you will consider contributing an abstract. The deadline for abstract submittal is July 15. All the information about the meeting and the online Abstract Submission Form are available on the GSA Web site at: <http://www.geosociety.org/meetings/2003/>

Session T64: How Subsurface Properties Determine Microbial Habitats: The Role of Groundwater Flow and Subsurface Chemistry in Supplying Energy and Nutrients to the Subsurface Biosphere

This session will examine the role of groundwater flow and subsurface chemistry in supplying energy and nutrients to the subsurface biosphere. Microbial habitats both in the terrestrial subsurface and below the seafloor and their relationship to subsurface properties are of interest. We encourage submissions from

geochemists, hydrologists, and microbiologists describing field, laboratory, and theoretical results.

Sponsors: U.S. Chapter of the International Association of Hydrogeologists, GSA Hydrogeology Division, GSA Geobiology and Geomicrobiology Division

Rationale: Studies over the last 15 years have definitively established that large and diverse microbial populations are active to great depths in the terrestrial subsurface and below the seafloor. Although fundamental questions such as the maximum depth and temperature for viable organisms remain open, perhaps the most compelling question for hydrologists is the mechanism of supply of nutrients to this subsurface population. It is important to recognize that new mechanisms by which microbial life may be maintained are being continuously discovered. At this point, both heterotrophic organisms that consume deeply buried ancient carbon and chemolithotrophic

organisms that harness geochemical energy of reactive rocks have been documented in the subsurface. However, abundant microorganisms do not exist everywhere in the subsurface, making it clear that a better understanding of the ecology of subsurface ecosystems is needed to predict the abundance and significance of the subsurface biosphere. Numerous features of subsurface environments exert significant influence on microbial community structure and on the biochemical processes mediated by these communities. Examples of important environmental influences include pore-water chemistry, permeability, pore size, mineralogy, temperature, and fluid flow rates. In some subsurface environments, relatively stagnant hydrologic conditions over geologic time spans may foster microbial populations adapted to very slow rates of energy supplied from recalcitrant carbon sources. In other environments, vigorous flow driven by topography, compaction, or density contrasts may drive significant fluxes of energy supplies through high permeability zones. In both cases, a coordinated interdisciplinary approach is required to understand the many physical and chemical aspects controlling the resulting microbial ecology. Eventually it should be possible predict the expected microbial activities in subsurface environments on the basis of broad hydrologic and geologic categories.

Advocate(s): Barbara Bekins, babekins@usgs.gov, Phillip Bennett, pbennett@mail.utexas.edu

Commemorative Darcy and Hubbert Sessions

Among the occasions being recognized at this year's GSA Annual Meeting are the 200th birthday of Henry Darcy and the 100th birthday of M. King Hubbert.

“M. King Hubbert at 100: The Enduring Contributions of Twentieth-Century Geology’s Renaissance Man” will review Hubbert’s contributions to hydrogeology, structural geology, tectonics, and petroleum geology and explore his legacy as scientist, educator, citizen, and visionary. Invited

presenters and their topics include T.N. Narasimhan (University of California, Berkeley), "Hubbert as Citizen-Scientist: An Introduction"; Grigory Barenblatt (University of California, Berkeley), "Dimensional Analysis"; Craig Bethke (University of Illinois), "Ground-Water Motion and Hydrodynamics of Petroleum Entrapment"; Mark Zoback (Stanford University), "Hydraulic Fracturing"; Peter McCabe (USGS), "Longevity of Fossil Fuel Resources"; Fred Meissner (Colorado School of Mines), "Hubbert as Teacher". Co-conveners are Alan Fryar (afryar1@uky.edu) and T.N. Narasimhan (tnnarasimhan@lbl.gov). The M. King Hubbert session is co-sponsored by the GSA Hydrogeology Division; the National Ground Water Association (NGWA; an Associated Society of GSA); the U.S. National Chapter of the International Association of Hydrogeologists, and the History of Geology, Geophysics, Sedimentary Geology, and Structural Geology and Tectonics Divisions of GSA.

“Henry Darcy’s 200th Birthday: Fundamental Advancements Through Observation and Analysis” will include a historical perspective of Darcy’s accomplishments and recent, observation-based research that will fundamentally change our understanding of groundwater flow and mass transport phenomena and help identify future research needs. Invited presenters include: John Cherry (University of Waterloo); Ghislain de Marsily (University of Paris); John Wilson (New Mexico Institute of Mining and Technology and Executive Director of the Consortium of Universities for the Advancement of Hydrologic Science Incorporated [CUAHSI]); and Charles Harvey (Massachusetts Institute of Technology). Co-conveners for this session are Vicki Kretsinger (vkretsinger@lsce.com) and Graham Fogg (gefogg@ucdavis.edu); the session is co-sponsored by NGWA, the GSA Hydrogeology Division, the History of Geology Division of GSA, and the History of Earth Science Society. The Call for Abstracts for the Darcy session is posted at

<http://www.ngwa.org/education/index.html>
under the November Calendar listing for GSA.

Volunteered oral presentations on these and related topics are welcomed. Abstracts must be submitted on-line at (<http://gsa.confex.com/gsa/2003AM/index.epl>); follow the Topical Sessions link to #50 for the Darcy session and #51 for the M. King Hubbert session and check "hydrogeology" as a review category. ***The deadline for submissions is midnight, Pacific Time, July 15, 2003.*** Please note that abstracts will be subject to peer review and that acceptance cannot be guaranteed. In addition, GSA specifies that a person cannot be listed as speaker on more than one volunteered abstract (invited presentations are excepted).

Other Hydrogeology Sessions

There are 152 proposed sessions, 33 of which are related to hydrogeology, listed at <http://gsa.confex.com/gsa/2003AM/top/index.epl>. The final number of sessions will depend on the number of abstract submissions, so get those abstracts in! Among other offerings, three field

trips and two distinguished lectures are planned. Steve Gingerich (USGS) will reprise "Island and Coastal Hydrogeology of Hawaii" October 26 – 31. Roy Gephart (Pacific Northwest National Laboratory) and colleagues are offering "Geohydrology of the Hanford Nuclear Waste Site in the South-Central Columbia Plateau" November 5 – 7. Steve Ingebritsen (USGS) and colleagues will lead "Hydrogeology of Cascade Range Volcanoes: Mount St. Helens, Mount Hood, and Central Oregon" November 6 – 8. The Hydrogeology Division luncheon, business meeting, and Birdsall-Dreiss Distinguished Lecture (by Jean Bahr) will take place on the afternoon of Monday, November 3. On Tuesday afternoon, the hydrogeology poster sessions will be held, followed by the NGWA Henry Darcy Distinguished Lecture. Richelle Allen-King will present "A Hydrogeochemist's Perspective on Organic Contaminant Transport in Groundwater." The Hydrogeology Division student reception will follow Richelle's lecture. Detailed information is available at www.geosociety.org/meetings/2003/.



IAH Allied Activities with the Groundwater Resources Association of California

by Vicki Kretsinger

IAH/USNC is co-sponsoring the following GRA events during the upcoming year:

- Perchlorate Symposium, July 31, 2003, Sacramento, CA
- GPS and Field Data Collection Workshop, August 20, 2003
- 24th Biennial Groundwater Conference and 12th Annual GRA Meeting, October 28-29, 2003 (further information below)

- 1,4-Dioxane Symposium, December 10, 2003, San Jose, CA
- PCE and Dry Cleaners Symposium, February 18, 2004

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>

MORE MEETING ANNOUNCEMENTS

TWO RIVERS CONFERENCE

**56th Canadian Geotechnical Conference
and 4th Joint IAH-CNC/CGS Conference.
Winnipeg, Manitoba, Sept. 29-Oct. 1, 2003**

Information from the IAH Canadian Chapter:
This conference includes specialty IAH sessions on: Prairie Hydrogeology; Radioactive Waste Management; and Groundwater Management and Protection. For more information please see:
<http://home.cc.umanitoba.ca/~cgsman/cgs2003/>

EPIKARST CONFERENCE

October 1-4, 2003, Shepherdstown, WV
Information from W. K. Jones, Co-Chair:

The Karst Waters Institute is sponsoring an *Interdisciplinary Workshop on Epikarst*, starting Wednesday evening, October 1 and ending Saturday evening, October 4, 2003 in Shepherdstown, West Virginia. *Epikarst* is defined as the interface zone between soil and rock in karst landscapes, and is characterized by small fractures and solution pockets that may or may not be filled with water. Water movement and storage in the epikarst zone appears to play an important role in the hydrologic regime of many karst aquifers [as well as in contaminant transport]. The workshop is designed to foster interdisciplinary understanding of epikarst by presenting ideas of specialists from a variety of diverse but complementary fields. The workshop will bring together ecologists, geologists, geochemists, geomorphologists, hydrogeologists, and zoologists to reach a better understanding of the physical and biological processes taking place in epikarst. The meeting will be tightly structured so that topics will build upon each other in order to identify gaps in understanding that can best be filled by interdisciplinary cooperation. Speakers and discussion leaders at the workshop will be well-known specialists from a variety of fields who can bridge these gaps.

The workshop will include a field trip to local epikarst sites and a cave. The workshop format will consist of a relatively small number of formal presentations, followed by thorough discussions. In addition, two technical workshops are planned, and three unique “Confusion Sessions” are planned where speakers are invited to take five minutes and no more than two slides to describe a problem, observation, idea, or data set with which they are grappling and for which the audience insight would be most helpful.

Presentations for the oral sessions are by invited speakers and are already filled, but volunteered poster papers are welcome (a one- to two-page extended abstract may be submitted at the conference; please indicate at the time of registration if you plan to submit a poster paper).

The registration fee is \$280 US, or \$180 for students, including receptions, banquet, field trip, and proceedings. Registration deadline is September 1, 2003. The conference schedule and information on registration and are available on the web site at:
www.karstwaters.org/epikarst/epikarst.htm.

SYMPOSIUM ON UNDERGROUND INJECTION SCIENCE AND TECHNOLOGY

October 22-25, 2003, Berkeley, California

This symposium, to be held at the Lawrence Berkeley National Laboratory, is sponsored by the U.S. Environmental Protection Agency and the U.S. Department of Energy, with co-sponsorship from several professional societies.

The subsurface environment is increasingly being used for the injection disposal or storage of liquids, gases and even slurries generated by industrial, oil and gas, and municipal facilities, in addition to its widespread utilization as a source of drinking

water. With such exploitation, numerous technical and scientific problems arise, which are commonly addressed in various research studies and case history analyses. New applications of underground injection are being developed at an increasing rate, while both the science and technology addressing safety assessment and monitoring methods become ever more sophisticated. The Symposium will provide for a dialog and exchange of ideas, which will enhance the ability of participating scientists and engineers to address the challenges and opportunities attending utilization of the subsurface environment for underground injection practices.

Further details are on the website: <http://www.lbl.gov/Conferences/UIST> and you can also email the conference organizers at cftsang@lbl.gov or jaapps@lbl.gov to be put on the mailing list for further announcements.

--Chin-Fu Tsang

THE ROLE OF GROUNDWATER IN INTEGRATED WATER MANAGEMENT

24TH BIENNIAL GROUNDWATER CONFERENCE & 12TH ANNUAL GRA MEETING

**October 28-29, 2003: DoubleTree Hotel,
Ontario, CA**

Sponsors/Cooperators: University of California, California Department of Water Resources, California State Water Resources Control Board, Groundwater Resources Association of California, Water Education Foundation, and U.S. Geological Survey. Cooperating organizations include the International Association of Hydrogeologists.

Conference and Theme: For 48 years, the Biennial Groundwater Conference has provided policy-makers, practitioners, researchers, and educators the opportunity to learn about the current policies, regulations, and technical challenges affecting the use and management of groundwater in California. This year's theme of

"The Role of Groundwater in Integrated Water Management" will emphasize the interconnected nature of water resources at basin-wide, regional, and global scales. Presentations will explore the role of groundwater in formulating water policies, planning and managing water resources, and optimizing beneficial uses. The two-day conference features a plenary session, concurrent policy and technical sessions, and a final general assembly.

The Plenary session will begin with a keynote speech by Dr. Chip Groat, Director of the U.S. Geological Survey, which will focus on recent publications and programs of the USGS that have emphasized the integrated nature of water resources, challenges of groundwater sustainability, long-term groundwater monitoring for water resources management, the importance of assessing water availability and use, and national goals for collecting and disseminating the necessary information for integrated water resources planning and management. Plenary session talks are planned on climate change and its effect on groundwater and worldwide groundwater banking programs. Technical session topics are:

- Regulatory and legislative actions affecting groundwater
- Developing a sound groundwater management plan
- Conjunctive management and water banking
- Wastewater Management
- Public outreach and public involvement strategies
- Desalination technologies
- Tools for quantifying groundwater resources
- Emerging contaminants
- Contaminant fate and transport
- Calculating a groundwater budget
- Transboundary and international issues

For more information, visit the University of California Water Resources Center web site, <http://www.waterresources.ucr.edu>, and also www.grac.org, or contact Pamela Dick at the UC Center for Water Resources, (909) 787-4327.

EVAPORITE KARST PROCESSES AND PROBLEMS

September, 2005: Zaragoza, Spain

The *Sixth International Conference on Geomorphology* will be held September 7-11, 2005, in Zaragoza (Spain). A special session on **Evaporite Karst Processes and Problems (EK)** has been programmed for this international meeting. Details are available on the website: <http://wzar.unizar.es/actos/SEG>.

Topics of possible interest to IAH members include:

- *EK Hydrology*
- *Subsidence hazards in EK areas*
- *Speleogenesis in evaporite rocks*
- *Speleothems and minerals in evaporite caves*
- *Paleoenvironmental records from caves in evaporites*

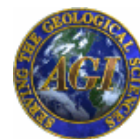
- *Water pollution in EK areas*
- *EK and waste- disposal sites*
- *Dissolution of evaporite minerals*
- *Dissolution and subsidence in evaporite mines*
- *Evaporite dissolution in saline lakes and sabkhas*
- *Evaporite dissolution, subsidence, and deformational structures*
- *Evaporite paleokarst (breccias, residues, rauhwackes ...)*

Contributions on Karst Hydrology and Paleohydrology will be also be welcome. The Conference program offers a wide variety of field trips before, during, and after the conference.

Francisco Gutiérrez, University of Zaragoza:
email: fgutier@posta.unizar.es
Kenneth S. Johnson Oklahoma Geological Survey, email: ksjohnson@ou.edu

American Geological Institute

IAH U.S. National Chapter is a member organization of AGI



AGI Directory of Geoscience Departments

The latest annual edition of the *Directory of Geoscience Departments (DGD)*--providing fundamental information about college and university geoscience departments in the United States and in 18 countries--has been published by the American Geological Institute (AGI). This valuable reference, produced by AGI since 1952, is the most comprehensive directory of its kind for the geoscience community. The *Directory of Geoscience Departments, 41st Edition*, provides an alphabetical listing of 1,021 geoscience departments. This year, the list of geoscience departments outside the U.S. has expanded to 88 departments in 18 countries. In addition to information about college and university geoscience departments, the *Directory* includes listings of U.S. federal agencies that employ or are of interest to geoscientists, all 50 state

geological surveys, field-camp information, and faculty e-mail addresses. Other valuable features include departments that are AGI Academic Associates, the year of the most recent departmental update, the most recent enrollments and degrees granted, and AGI and AGI Member Society staff listings.

Published in soft cover, the 610-page *Directory of Geoscience Departments, 41st Edition* (ISBN 0-922152-61-6; ISSN 0364-7811), is available from AGI and can be ordered online or by mail, fax, or telephone. The list price is \$40.00 plus shipping and handling; members of the U.S. National Chapter of IAH (an AGI member society) are eligible to purchase one copy at 20% off list price. All orders must be prepaid. Please make your check or money order, drawn on a U.S. bank in U.S. funds, payable to the American Geological Institute. Orders can be placed on the AGI web

site (<http://www.agiweb.org>) from their “publications” link, where payments can be made by credit card. For additional information, contact the AGI Publications Department, 4220 King Street, Alexandria, VA 22302-1502, Telephone: (703) 379-2480, Fax: (703) 379-7563, E-mail: pubs@agiweb.org, Web: <http://www.agiweb.org/pubs>.

Water and the Environment

The AGI states that water, not oil or minerals, is the most controlling resource on Earth. *Water and the Environment*, a richly-illustrated, 64-page book recently published by AGI, provides basic information about this precious resource and how we can protect and manage it. Included in each book is a colorful 18" x 24" poster that vividly details the many roles water plays in our lives and describes ways that every citizen can use water wisely. Intended for educators, policy makers, and the general public, *Water and the Environment* is written in non-technical language, contains many photographs and graphics, and uses actual examples to demonstrate the importance of water to the environment and how we manage water resources to improve our standard of living. The book also provides a general overview of surface water, ground water, water quality, water in the atmosphere, and how water shapes the Earth. Noting in the Preface that “water is essential to life,” the authors, hydrologists Stephen J. Vandas, Thomas C. Winter, and William A. Battaglin, address water-related environmental concerns arising from naturally occurring and human activities and provide important information about protecting and conserving our water resources to meet future needs. “All of the water on Earth, salty and fresh, is part of the hydrologic cycle that must be studied in great detail locally and worldwide to provide the data needed to properly develop and manage this most valuable resource,” states Philip E. LaMoreaux, chairman of AGI’s Environmental Geoscience Advisory Committee, in the book’s Foreword.

Copies of *Water and the Environment* (ISBN 0-922152-63-2, 64 pages, 1 lb.) are available from AGI at a list price of \$15.95. Members of IAH receive a 20% discount. Orders may be placed through the AGI Publications Center at <http://www.agiweb.org/pubs>, or by phone (703) 379-2480).

News from AGI: National Water Strategy Considered at Hearings

The House Transportation and Infrastructure Committee began a series of hearing this month to review water resource issues. At a May 7th hearing, the Subcommittee on Water Resources and Environment heard testimony regarding H.R. 135, a bill that seeks to establish the Twenty-first Century Water Commission for the purpose of developing a national comprehensive water strategy. Subcommittee Chairman John Duncan (R-TN) noted that the water commission is not intended to impose on state water rights but to provide federal expertise and technical assistance to the water problem. Witnesses and subcommittee members were supportive, with suggestions mostly aimed towards the ultimate goal of the commission. The Interstate Council on Water Policy recommended broadening the commission's focus to more than water supply acquisition and development to include conservation, including alternative strategies such as water reuse and reclamation, desalination, and surface and groundwater conjunctive use.

On May 22nd, the subcommittee held a hearing on water supply in the face of increasing demand. Witnesses from local municipalities, agriculture, and industry testified on the increasing occurrence of water shortfalls. There was consensus that previous attitudes toward water as a ubiquitous resource have led to poor planning and the current water supply problem. More at http://www.agiweb.org/gap/legis108/water_hearings.html

NEWS ABOUT MEMBERS

Philip LaMoreaux (an Honorary Member of IAH) is active with the IAH Karst Commission and the Committee on Mineral and Thermal Waters (CMTW), which will be having a meeting in Azerbaijan in September. He is also the Editor-in-Chief of the international journal *Environmental Geology*, and would welcome scientific papers from members.

Lorne G. Everett: Congratulations to member Lorne Everett, who has received the C. V. Theis Award from the American Institute of Hydrology. In presenting the award in October, 2002,

Dr. Patrick Leahy (Chief Geologist of the U.S. Geological Survey and former Chair of the U.S. Chapter of IAH) noted that Dr. Everett was the 13th recipient of a Ph.D. in hydrology in America (from the University of Arizona where he then joined the faculty) and that among other activities and achievements, he developed a National Groundwater Monitoring Strategy for the U.S. EPA, published in his book *Groundwater Monitoring*. He has had a distinguished career focusing on research on vadose zone characterization, monitoring, and remediation.

OTHER ITEMS

Washington State Geologist Licensing

The Washington State Legislature has passed a bill that provides another opportunity for people to apply for a Washington State Geologist License or Geologist Specialist License without taking an exam. However, to take advantage of this, you must have your complete application to the Licensing Board office, or postmarked, **BY JUNE 30, 2003**. A complete application includes:

- Signed application;
- Application fee;
- Sealed college transcripts or documentation of completion of educational equivalents. If you cannot otherwise meet the educational requirements, credit may be given for on-the-job training;
- Signed Employment and Experience Verification and Personal Reference forms; and
- Completed List of Projects forms (if applying for a specialty license).

You may also continue to apply for licensure via examination, which may be

preferable if you intend to seek licensure in other jurisdictions.

More information is available on the website: <http://www.dol.wa.gov/design/geofront.htm>

Or from:

Leslie Saeger, Program Manager
Geologist Licensing Board
PO Box 9045
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NGWA Ground Water Expo

The 2002 NGWA Ground Water Expo was held December 9-11 in Las Vegas. In a previous newsletter, we had announced that NGWA would provide a complimentary registration to the first IAH member who submitted an abstract in response to the announcement. We are pleased to report that **Dr. Duane R. Hampton**



was the first to respond and was given the free registration. His paper was entitled “*In-Situ Remediation of Contaminated Sediments in Groundwater-Fed Streams and Lakes.*” Duane is with the Dept. of Geosciences at Western Michigan University, and his coauthors were D.P. Cassidy, D.R. Beck, and S.L. Kohler.

The **2003 NGWA Ground Water Expo** will be held in Orlando, Florida, Dec. 9-12, 2003. The theme of the technical session, organized by AGWSE, is *Ground Water in Coastal Zones: Availability, Sustainability, and Protection*. The event will highlight the latest

basic and applied research associated with ground water issues related to the sustainability, availability, and protection of ground water resources in coastal zones. Like last year, the technical sessions will use the TIPs (technical interactive presentation) format. The presentations are designed for interaction and will use two 4-foot by 8-foot boards and a table. Poster material, field equipment, site samples, and speaker-provided computer displays can compose the TIP. Latest details are available from links on the NGWA web site at: <http://www.ngwa.org/>



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