Water resource issues have high visibility at virtually all levels of government. Water users become most keenly aware of water resources when the supply of water becomes insufficient to meet their demands. The June 8, 2007, USA Today featured a front page story on the prolonged drought that is currently affecting many areas of the nation. Not only are farmers and ranchers impacted, the story describes the loss of revenue from recreational activities in Minnesota, where some of the lakes of the Boundary Waters are no longer navigable, and Florida, where the decline in water levels in Lake Okeechobee has left boat docks resting on dry sediments. That Lake Okeechobee is supposed to serve as a backup water supply for 5 million Floridians is also no small concern. GSA is actively pursuing multiple water resource policy initiatives, in furtherance of the Society’s official mission to be a leader in advancing the geosciences, enhancing the professional growth of its members, and promoting the geosciences in the service of humankind.

As a part of those initiatives, the GSA Geology and Public Policy Committee (GPPC) has recommended to GSA Council—and Council has agreed—that GSA develop an official Water Resources Position Statement. The purpose of GSA position statements is to help communicate geoscientific findings of broad societal importance with diverse technical and lay audiences. The position statements identify why the topic is important, very briefly synopsize the state of knowledge about the topic, identify areas requiring further scientific and technical investigation, and make recommendations regarding actions that ought to be taken. An ad hoc committee is being created to craft the Water Resources Position Statement, and that committee is seeking input from members of the Hydrogeology Division. As the incoming Chair of the GPPC, I intend to remain fully engaged on this issue, and I would like the committee to draft a pithy, compelling and well-crafted statement for GPPC review before the year is out. Please let me know if you are able to contribute.

Please see Hydro on page 16.

In This Issue:

Hydro On The Hill .......................................................... 1
Chair’s Corner ............................................................... 2
Annual Business Meeting Summary ............................. 3
Denver Meeting Update ................................................ 5
Mann Mentors Activities ................................................ 7
Birdsall-Dreiss Report ..................................................10
Mary Stoertz Memoriam ............................................... 11
NGWA-GSA Collaborations .......................................... 12

Hydrogeology From Space Article ................................. 14
GRA Associated Society of GSA .................................. 15
Newsletter Editor Wanted ............................................ 18
New GSA Fellows ......................................................... 20
2007 Division Ballot .................................................... 20
Cadidate Bios .............................................................. 21
Bulletin Board .............................................................. 21
From the Editor ............................................................ 21
Hydrogeology Division Contacts ................................. 22

EDITOR’S NOTE: A color version of this newsletter is available on the web at [http://gsahydrodiv.unl.edu]
The Hydrogeologist is a publication of the Hydrogeology Division of the Geological Society of America. It is issued twice a year, to communicate news of interest to members of the Hydrogeology Division. During 1998, the publication moved from paper-based to electronic media. The electronic version may be accessed at: <http://gsahydrodiv.unl.edu>. Members of the Hydrogeology Division who have electronic mail will receive notification of all new issues. Other members will continue to receive paper copies.

Contributions of material are most welcome, and should be directed to the Editor. Submission as Word or WordPerfect document is most expedient.

F. Edwin Harvey, Editor
The Hydrogeologist
107 NH
University of Nebraska
Lincoln, Nebraska 68588-0517

Deadline, Fall Issue
August 15, 2007
The Hydrogeology Division Meeting was held following the Hydrogeology Division luncheon on October 24, 2006, at the GSA Annual Meeting in Philadelphia. The business meeting was called to order at 1:45 pm. Kip Solomon presented the election results for the Hydrogeology Division: Scott Tyler, Chair; Ed Sudicky, 1st Vice Chair; Carol Wicks, 2nd Vice Chair; Brian Katz, Secretary-Treasurer.

Following this, the role of Hydrogeology and other Divisions in GSA was discussed. The Hydrogeology Division is growing. Membership is at all time high, over 1500 members. It was the 2nd largest division in GSA at the end of 2006.

It was announced that changes were made to the rules and regulations for the Meinzer award. It is the responsibility of the nominator to prepare the nomination package. Recommendation letters should not be older than five years.

Janet Herman has made a strong effort to increase the number of Fellows in Hydrogeology Division. A plea was made to consider nominating other members for GSA fellowship.

Kip thanked those who serve on various committees.

Members were informed that the Birdsall-Dreiss funds are growing. However, we need to continue fundraising campaign for these funds.

Next year’s Annual Meeting will be in Denver. Mark Person will be Program Chair and there will be an arid regions theme.

David Blowes presented a report of his Birdsall-Dreiss lecture tour. He visited 35 places and found that hydrogeology is the core of many University geology programs. Also reported that hydrogeology is alive and doing well.

Ralph Davis presented his final report as Hydrogeology Division treasurer. The Division is in good shape financially. Details on dues revenue, expenses, and miscellaneous revenues were handed out at the Management Board Meeting on October 22, 2006. Ralph also reiterated...
2006 Birdsall-Driess Lecturer, David Blowes, presents his report to the assembly. Photo by Ed Harvey

the need to continue fundraising for the Birdsall-Dreiss lecture series. Janet Herman talked about the student reception to follow the Birdsall-Dreiss lecture and encouraged students to attend.

This is the last year for Ed Harvey as editor of the Newsletter. We need nominations for a new person to take over.

Each representative from an associated society presented their reports. Vicki Kretsinger-NGWA-AGWSE, talked about the Ground Water Summit to be held in Albuquerque, NM, April 28-30. Jack Sharp-IAH, encouraged people to think about nominating colleagues for Penrose and other awards. Also, the Hydrogeology Journal is increasing its number of pages and volumes. Finally there is an upcoming meeting of IAH in Portugal. Dave Stephenson, AGI, mentioned that AGI needs an executive director. Dave Diodato, Geology and Public Policy, talked about creating a water science position.

Kip turned over the chair to Scott Tyler. Scott thanked Kip for a wonderful job as Chair of the Division. He also, thanked Laura Toran and Mark Person for this year’s outstanding program and hydrogeology sessions. Scott thanked Jean Bahr.

2006 Student Research Grant Awards

Matthew Silver, Calif. State Univ., Sacramento
Seasonal Variability in Hyporheic Flow Beneath a Salmon Spawning Riffle, Lower American River
Advisor: Tim Horner

Elizabeth Diesel, Virginia Tech
The Mobility of Arsenic Adsorbed to Particulates Within Agricultural Wetlands
Advisor: Madeline Schreiber

Mohammad Shamsudduha, Auburn University
Mineralogical Profiling and Sediment Geochemistry of Arsenic Contaminated Alluvial Aquifers in the Ganges Floodplain of Bangladesh
Advisor: Ashraf Uddin

Paul Moore, University of Florida
Controls on Porosity Enhancement in Carbonate Island Karst
Advisor: Jon Martin
Scott Tyler, Ward Sanford, and I would like to thank all of those who participated in putting together this year’s technical program for the 2007 Annual Meeting in Denver. In Philadelphia last year, thanks to the efforts of Laura Toran, we had a near record number of Topical Sessions (35) and papers presented (about 600). This year’s program promises to be a little more intimate with 22 topical Sessions, but we anticipate a large number of abstracts! Several sessions will honor those who have passed away this past year (Ronit Nativ, Mary Stoertz) or who have made seminal contributions to our field (Jozsef Toth).

We are pleased to announce that the Hydrogeology Division was selected to sponsor a Pardee Keynote Symposium entitled “Middle East Water Resources in a Time of Crisis”. This Keynote Symposium is organized by Avner Gosh at Duke University and John Lane of the USGS; two of our division members who have worked extensively in Middle East on water resources issues. In addition to our technical session, the Hydrogeology Division is also sponsoring a series of pre-meeting short courses and workshops (see inset).

We are also pleased to announce that the National Ground Water Association has generously agreed to sponsor the 2007 Darcy Lecture by Dr. James J. Butler of the Kansas Geological Survey. He will present a talk entitled, “What the Heck Is a Phreatophyte? A Field Investigation of Ecohydrologic Processes in Stream-Aquifer Systems”.

Please don’t hesitate to contact myself (maperson@indiana.edu), Ward Sanford (wsanford@usgs.gov), or Scott Tyler (tylers@unr.edu) should you have any questions about this years program.


---

**Short Courses for the Fall Meeting**

**Estimating Rates of Groundwater Recharge**, Sat., 27 Oct., 8 a.m.-5 p.m, Rick Healy, U.S. Geological Survey; Bridget Scanlon, BEG, University of Texas at Austin.


**Teaching Field Methods in Hydrogeology**, Sat.; 27 Oct., 8 a.m.-5 p.m., Todd Halihan, Oklahoma State University; Shemin Ge, University of Colorado; Ed Harvey, University of Nebraska-Lincoln, School of Natural Resources.
Hydrogeology Division Topical Sessions
For GSA Annual Meeting 2007

50 Years of Hydrogeology in the Desert: A Tribute to Mahdi Hantush and His Legacy

Arid Zone Hydrogeology: In Honor of Ronit Nativ

Climate Change Hydrology

Ecohydrology of Riparian Zones

Geologic Structures, Fluid Flow, & Ore Deposits

Groundwater Mining & Population Growth

Hydrogeology of Mountainous Terrains

Informing Public Policy and Resource Management With Ground-Water Models

Innovations and New Technologies for Measuring and Characterizing Groundwater-Surface Water Interaction

Innovative Approaches to Uranium Mining and Groundwater Restoration

Innovative Uses of Environmental Isotopes in Hydrology

Inverse Methods in Practice: Perspectives & Future Directions

Managed Underground Storage of Recoverable Water

Numerical Modeling of Hydrothermal Fluids

Regional Groundwater Flow: In Honor of Jozsef Toth

Solute Plume Conceptual Models: Process, Prediction, & Paradigms

Springs & Spring Deposits

The Role of Sediments in Hydrology and Hydrogeology: Streams Springs, Karst, & Hyporheic Zone

The Spatial & Temporal Variability of Ground Water Recharge

Remote Sensing & Geophysical Approaches for Regional Aquifer Characterization & Monitoring

The Science of Groundwater Recharge, Coal Mine Hydrology/Geochemistry, Stream Restoration and Its Application to the Public Good: In Honor of Mary W. Stoertz
The Hydrogeology Mentor Programs, made possible by a gift of endowed funds to the GSA Foundation by the late John F. Mann, are designed to extend the mentoring reach of individual professionals from applied hydrogeology or hydrology to undergraduate and graduate students.

These programs provide a forum for these students to participate in informal conversation with current hydrogeology and hydrology professionals. These Programs, named after benefactor John F. Mann, are held in various formats at GSA Meetings, and focus on providing students with career-enhancing information. At the 2006 GSA Annual Meeting in Philadelphia, 25 students received subsidized tickets to attend the Division’s luncheon and 44 received one-year GSA student memberships or renewals, each of which also included one year’s paid student dues to the Hydrogeology Division.

The Mann Program continues to expand. In 2007, it funded pizza dinners at each of the GSA Section Meetings which benefited 168 students and 32 mentors. This is the first time the Mann program has run at each of the Section Meetings. The mentor volunteers—from private and public businesses and government agencies—represented a broad range of backgrounds, education, experience, and expertise. Both mentors and students leave these events expressing feelings of personal and professional growth. New friendships are made, and—to the students’ great good fortune—professional contacts are established for their future.

Mentors have commented:
“I have enjoyed volunteering as a mentor and realize the significance of sharing information with students”
“The students’ questions were thought-provoking and they made me realize what a satisfying job I’ve got. I’d like to do this again!”

“Thanks for the invitation to participate in this luncheon. I really enjoyed meeting the students; it was a win-win situation in my book!”

Students have commented:
“I came for pizza and left with everything I’ve been searching for in the last 3 months”
“This program was the best part of the Section Meeting. I got to meet professionals from the hydrology industry”
“It was great to meet with professionals and to hear from them what they are looking for in employee candidates”
“I got to know the mentors’ work experiences, the job opportunities in their agencies, and the real picture of the agency they work for”
“Great advice on what path to take when I finish with my bachelors degree”

Mentors were contacted through GSA’s Hydrogeology Division, the Association of Engineering Geologists, and web searches for hydrogeology companies that were located near the meeting. If you plan to attend one of the 2008 GSA Section Meetings, please consider being a Mann Mentor. You will enjoy the experience and you will have promoted our industry along the way.
The John Mann Mentors in Applied Hydrogeology Program

The GSA Mentoring Program gratefully acknowledges these mentors for their individual gifts of time and for sharing their insight with GSA’s student members. To get more information about these programs, or to be a mentor for a future program, please contact Jennifer Nocerino, jnocerino@geosociety.org.

NORTHEASTERN SECTION

Thomas S. Bobowski
Nobis Engineering, Inc.
Concord, N.H.

Michael R. Burke
JGI EASTERN, Inc.
Manchester, N.H.

John N. Dougherty
Camp, Dresser & McKee (CDM)
Edison, N.J.

Paul Rydel
Sanborn, Head & Associates, Inc.
Concord, N.H.

Tim White
Sanborn, Head & Associates, Inc.
Concord, N.H.

David R. Wunsch
New Hampshire Geological Survey
Concord, N.H.

SOUTHEASTERN SECTION

Micahel Crump
Ozark – St. Francis National Forests
Russellville, Ark.

C. W. Fetter
Consultant
Hilton Head, S.C.

Gail G. Gibson
Florida Community College at Jacksonville
Jacksonville, Fla.

Dan Harman
Ground-Water Services, Inc.
Kennesaw, Ga.

Barry R. Levine
City of Memphis
Division of Public Works
Memphis, Tenn.

Jerry L. Mallams
Southwest Florida Water Management District
Program (ROMP) Section
Brooksville, Fla.

Craig L. Sprinkle
CH2M HILL
Atlanta, Ga.

James M. Emery
Emery & Garrett Groundwater, Inc.
Meredith, N.H.

Frank Getchell
Leggette, Brashears & Graham, Inc.
Ramsey, N.J.

Susan G. Price
Murphy Risk Services
Barrington, N.H.

Charles Race
Tetra Tech NUS, Inc.
Wilmington, Mass.
NORTH-CENTRAL/SOUTH-CENTRAL SECTION

D. Douglas Haney
MKEC Engineering Consultants, Inc.
Overland Park, Kans.

Michael J. (Mike) Kirby
Shaw Environmental & Infrastructure, Inc.
Overland Park, Kans.

Sam A. McCormick
Coffeyville Resources, LLC
Kansas City, Kans.

Richard Shields
Installation Restoration Program
Fort Riley, Kans.

Susan Stover
Kansas Water Office
Topeka, Kans.

Margaret Townsend
Kansas Geological Survey
Lawrence, Kans.

CORDILLERAN SECTION

Gerrit R. Bulman
CH2M HILL
Deerfield Beach, Fla.

Sue Culton Kahle
U.S. Geological Survey
Washington Water Science Center
Tacoma, Wash.

ROCKY MOUNTAIN SECTION

Kenneth E. Kolm
ARCADIS U.S., Inc.
Golden, Colo.

John W. Rold
Consultant
Lakewood, Colo.

Marcia Knadle
U.S. EPA Region 10
Seattle, Wash.

William E. Lum, II
Kitsap County Health District
Bremerton, Wash.

Dan McShane
Stratum Group
Bellingham, Wash.

Joel W. Purdy
GeoEngineers, Inc.
Port Orchard Wash.

Paul K.M. van der Heijde
Heath Hydrology, Inc.
Boulder, Colo.
I would like to express my appreciation to the Hydrogeology Division for the opportunity to serve as the 2006 Birdsall-Dreiss Distinguished Lecturer. I am grateful to the Division members who supported the lecture tour through generous contributions to the Birdsall-Dreiss Lecture Fund. I also appreciate contributions of the University of Waterloo toward the lecture tour, including travel support as well as release from teaching and administrative duties during the term of the lectureship.

I presented lectures at 41 venues, including universities, colleges, federal and state agencies and at national and international meetings in the United States and Canada. Local support for these lectures was provided by the host institutions. In addition, other funding sources made it possible for me to visit three institutions in Germany and two in Australia. Unfortunately, due to budget and time constraints, I was unable to visit all of those who provided an invitation. I delivered two lectures, one on acid mine drainage and the second on permeable reactive barriers. The requests for the two lectures were approximately equal. I received several requests to combine portions of the lectures, which I accommodated. These modifications, together with adding in new field results as they became available, kept the lectures interesting for me, but also lead to a few notable pauses and missteps as I adapted to the changes.

The tour provided me with a chance to see old friends and research groups that I have long wanted to visit. I am grateful to my hosts, who opened their labs to me, described their research programs and showed me their field experiments. Several provided advice on aspects of my research projects. My research program will benefit from their generosity. Many research groups dedicated a portion of my visit to interactions with graduate students and occasionally with undergraduate students. I particularly appreciated the opportunity to spend time with small groups and with individual students. Without exception, the graduate students I encountered were enthusiastic about their research and the opportunities that lie ahead.

I had the good fortune of conducting the lecture tour in a period of increasing opportunity for Earth Science departments. Concerns about the supply of clean water, the widespread awareness of the environmental consequences of climate change and the recent increases in demand and rising prices for commodities have revitalized the public interest in the geological sciences. Graduates are highly sought after and job opportunities for undergraduates are improving.

Activity in hydrogeology programs is high. Hydrogeology has become a core component of many departments. Understanding groundwater flow and solute transport is recognized as an important aspect of research areas ranging from geomicrobiology to geological engineering, providing many opportunities for collaboration. As noted by other recent lecturers, there are exciting research opportunities at the frontiers between hydrogeology and other aspects of Earth and environmental sciences. In

Please see Lecturer on page 18.
Mary Wilder Stoertz, 49, an Associate Professor of hydrogeology at Ohio University in Athens, passed away on February 26, 2007, at O’Bleness Memorial Hospital. She is survived by her husband Douglas H. Green, her mother Cynthia Riggs, sons Kevin (19) and Duncan Green (17), brothers William, James and Robert and sister Ann.

Born March 6, 1957, in Washington, D.C., to Cynthia Riggs and the late George E. Stoertz, she graduated with a B.S. in geology in 1980 from the University of Washington and went on to pursue M.S. and Ph.D. degrees in geology at the University of Wisconsin-Madison, where she studied groundwater recharge through both field and groundwater modeling studies. She joined her spouse Douglas Green as an adjunct faculty member in the Department of Geological Sciences at Ohio University in 1992 and became Director of the Appalachian Watershed Research Group there beginning in 1998.

In addition to membership in the Hydrogeology Division of GSA, Mary gave frequent presentations at regional and national meetings, convened topical sessions at GSA Annual Meetings (2000, 2002), and served on state and regional committees and the National Research Council Committee on USGS Water Resources Research (1998-2003). She was active in Christ Lutheran Church and numerous community organizations, including the Hocking River Commission, the Sunday Creek Watershed Group, the Monday Creek Watershed Restoration Project, the Raccoon Creek Improvement Project, the Buckeye Forest Council, and the Athens Youth Hockey Association. Her research, teaching, student mentoring, and service focused on interdisciplinary, collaborative approaches to solving environmental problems, such as acid mine drainage, stream restoration, and water-balance changes due to mining, in Appalachian Ohio. She considered her most important contribution to be to train the next generation of scientists to work in an integrated, collaborative, and respectful manner. She created the Consortium for Energy, Economics and the Environment (CE3) at Ohio University specifically to frame environmental problems in economic terms that could be communicated in language understandable to policy makers. Mary’s students are actively involved within the profession in industry, watershed groups, government, and education.

Mary’s positive attitude, keen insight, unselfishness, and disciplined work ethic will be missed by all who knew her. A scholarship in her name has been established to benefit students in the Department of Geological Sciences at Ohio University. Contributions may be sent to: the Ohio University Foundation P.O. Box 869, Athens OH 45701. Please indicate that the donation should be applied to the Mary W. Stoertz Memorial Scholarship. A special Topical Session (T148) – The Science of Groundwater Recharge, Coal Mine Hydrology and Geochemistry, and Stream Restoration and its Application to the Public Good: In Honor of Mary W. Stoertz – will be offered at the 2007 Annual Meeting in Denver, CO.

NGWA and GSA: Collaborative Activities in 2007

By Vicki Kretsinger, AGWSE Past Chair

NGWA/AGWSE Division Co-Sponsors
Three Sessions at 2007 GSA Annual Meeting

As an Associated Society of the Geological Society of America (GSA), NGWA/AGWSE will be co-sponsoring three sessions 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. In addition to co-sponsorship by GSA’s Hydrogeology Division and NGWA, additional co-sponsors include GSA’s Geophysics Division and the Geology and Society Division.

One of the co-sponsored sessions at the 2007 GSA annual meeting is “Regional Groundwater Flow: In Honor of Jozsef Toth”, which 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 (Session T34) will honor JozsefToth’s contributions to hydrogeology. Notably, Jozsef Toth 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, willing to share his insights and ideas."

A second session co-sponsored by GSA’s Geophysics Division and NGWA/AGWSE is “High-Resolution Geophysical Methods for Hydrogeologic Site Characterization.” This session (Session T41) convened by John Jansen of Ruckert-Mielke and AGWSE Division Board member 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.

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 provide his Darcy Lecture “What the Heck Is a Phreatophyte? A Field Investigation of Ecohydrologic Processes in Stream-Aquifer Systems.” Butler’s lecture 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.

The third co-sponsored session is “Conjunctive Use of Surface and Groundwater: The Role of Scientists in Informing Policy Makers, Developing Management Approaches, and Implementing Mitigation Measures,” which is being co-convened by Vicki Kretzinger 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 key to addressing supply imbalances and shortages. This session (Session T47), 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 science-based policies allow for managed groundwater development and use while mitigating pumping impacts. Invited speakers presenting in this session include Marios Sophocleous of the Kansas State Geological Survey, Paul Barlow of the U.S. Geological Survey, Donna Cosgrove of 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 Theis 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.

Abstracts for Sessions T34, T41, and T47 must be submitted electronically on GSA’s web site at www.geosociety.org (instructions are posted at the site) by July 10, 2007 (11:59 pm Pacific Time). Electronic abstracts will be archived and remain searchable on the site for at least two years. For further information about Session T34, please contact Ben Rostron at Ben.Rostron@ualberta.ca or Frank Schwartz at frank@geology.ohio-state.edu. For further information about Session T41, please contact John Jansen at jjansen@ruerkert-mielke.com. And, for more information about Session T47, contact Vicki Kretsinger at vkretsinger@lsce.com or John Bredehoeft at jdbrede@aol.com.

GSA Hydrogeology Division Co-Sponsors AGWSE 2007 Summit

Many thanks to GSA’s Hydrogeology Division as a co-sponsor of the second annual NGWA “Ground Water Summit” occurring April 29 – May 3, 2007 in Albuquerque, New Mexico.

Distinguished Lecturer Exchange

The 2007 Summit provided a continued opportunity to recognize the NGWA and GSA distinguished lecturers. The 2007 Darcy lecturer, James Butler presented his Darcy Lecture as described above. The 2007 GSA Birdsall-Dreiss Lecturer, Bridget Scanlon, senior research scientist at the Bureau of Economic Geology at the University of Austin, gave her lecture on “Impacts of Changing Land Use on Subsurface Water Resources.” In keeping with the distinguished lecturer exchange program that began in 2003, Jim will also be providing his lecture at this year’s GSA Annual Meeting and Exposition in Denver.

2008 Ground Water Summit – Session Proposals Due August 1, 2007

The call for session proposals is now open for the 2008 Ground Water Summit scheduled to take place March 30 – April 3, 2008 in Memphis, Tennessee. Planning is underway, and the AGWSE Board and Summit Task Force, including Summit co-chairs Dan Stephens of Daniel B. Stephens & Associates and Jerry Anderson of the University of Memphis, welcome continued event co-sponsorship by GSA. Events being planned for the 2008 Summit are listed at http://www.ngwa.org/e/conf/0803305095.cfm. Help formulate the content for the 2008 Ground Water Summit by submitting a proposal for sessions, professional development courses, and field trips. All session proposals (paragraph description of up to 100 words on the session topic) for the 2008 Ground Water Summit must be submitted online in electronic format. Session proposals are due August 1, 2007.

The AGWSE Board extends many thanks to GSA for embracing continued opportunities for geoscience collaboration! We look forward to more opportunities to demonstrate the value of allied efforts.

Do you have an interesting idea for a short scientific article? Perhaps an opinion on a new policy or technique? Any exciting news in your professional life? Upcoming conference? An announcement of interest to the hydrogeological community? If so, why not publish it in The Hydrogeologist? Send your submission ideas to feharvey1@unl.edu.
By 2010, 40 percent of the scientific instruments on U.S. satellites that collect environmental data are expected to stop working. This will lead to a dramatic loss of information needed to study water-related topics such as weather and climate, floods and droughts, water resource planning, and pollution management. A new report from the National Research Council titled “Earth Science and Applications from Space” says that to prevent this, the U.S. government should renew its commitment to earth science research - including water science - in the next decade and beyond.

The report recommends that NASA and NOAA undertake 17 missions from 2010 to 2020 to ensure continuity of key measurements and develop urgently needed capabilities. These missions and associated programs will underpin an integrated Earth information system to address a broad range of societal needs.

Many of these recommended missions have applications to groundwater science and management. For example, the proposed GRACE-II (Gravity Recovery and Climate Experiment) would provide information about variations in groundwater storage at spatial resolutions that would be more relevant for managers than that which the current satellite can provide. An L-band Interferometric Synthetic Aperture Radar (InSAR) and laser altimeter (lidar) system would have applications to even finer scale groundwater resources issues through observations of surface deformation related to water storage changes.

A mission to measure soil moisture and its freeze/thaw state would have wide-ranging applications to regional groundwater problems requiring recharge or discharge estimates, in addition to weather and climate modeling. Other missions such as the Global Precipitation Measurement (GPM) mission (planned but delayed) and a mission to measure snow properties in areas of complex topography (e.g., the Sierra Nevada and the Rockies) would also have indirect benefits to groundwater scientists and water-resource managers in many areas.

The entire report, including its chapter on “Water Resources and the Global Hydrologic Cycle” can be freely read online at www.nap.edu/catalog/11820.html.

Want to know what’s going on within the GSA Hydrogeology Division?

Then visit our website at <http://gsahydrodiv.unl.edu> to catch up on the latest events or find out how you can become more involved with our activities.
GRA Becomes an Associated Society of GSA

By Vicki Kretsinger, AGWSE Past Chair and GRA Board Member

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, co-sponsors and/or cooperating organizations with GRA (or vice versa for educational programming events where GRA has been a co-sponsor) have included: the California Department of Water Resources (DWR), University of California – Water Resources Center, Water Education Foundation (WEF), U.S. Geological Survey (USGS), U.S. Environmental Protection Agency, State Water Resources Control Board (SWRCB), California Department of Toxic Substances Control, CalEPA, Association of California Water Agencies, California Groundwater Association, National Ground Water Association (NGWA, of which GRA is an Associated State Society), International Association of Hydrogeologists (IAH), Association of Engineering Geologists, and the University of Waterloo.

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 continues to encourage its alliances with other societies, organizations, and also local, state, and federal agencies in service to its members and the larger earth sciences community. As a result, in mid November 2006, GRA inquired about becoming allied with the Geological Society of America (GSA) as an Associated Society. GRA’s objectives for this and its other organizational alliances include:

- 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.


On November 26, 2006, Jack Hess, GSA’s Executive Director, wrote to acknowledge receipt of GRA’s application and GSA’s similar interest in linking organizations having the common aim of advancing geosciences. GSA’s Council has since officially approved GRA as an Associated Society.

GRA — Upcoming 2007 Events

June 20-21, 2007

Increasing Groundwater Storage to Meet California’s Future Demand – Challenges & Solutions, Long Beach, California

Presenters at this symposium will discuss many critical factors related to groundwater storage and recharge. Sessions will cover: legal, regulatory, and policy issues; water-quality concerns; planning tools; and a broad range of case studies. An optional field trip on June 22 will focus on groundwater recharge programs in the Los Angeles area.
August 22, 2007
Environmental Information Management Systems, Irvine, California

In today’s environmental industry, it is common for data and information to be dispersed in various storage and communication vehicles. Presenters at this symposium will focus on accelerating data management needs, including data organization and archival management methods and tools.

September 18-19, 2007
26th Biennial Groundwater Conference and 16th Annual GRA Meeting — “California’s Water Future: Expanding the Role of Groundwater” Sacramento Convention Center, Sacramento, California

For more than 50 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. Sponsors of this conference include the University of California Center for Water Resources, GRA, DWR, WEF, SWRCB, and USGS. Cooperating organizations include IAH and NGWA.

Call for Poster Presentations and Conference Program Information: The Poster application form, an abstract template, and additional conference program details are available from the conference website: http://www.lib.berkeley.edu/WRCA/WRC/GW26th.html.
Poster Abstract Deadlines: June 22 for submittal of an application form expressing interest in presenting a poster and July 3 for submission of poster abstracts.

November 14-15, 2007
DNAPL Source Zone Characterization and Removal, 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.

For more information about GRA’s programs, see the web site at www.grac.org, or e-mail Kathy Snelson, GRA Executive Director at executive_director@grac.org

Hydro from page 1

and willing to contribute to the work of the ad hoc committee in developing a Water Resources Position Statement.

With regard to drought, you may recall that I wrote in the last Hydro on the Hill about a GSA-sponsored conference called “Managing Drought and Water Scarcity in Vulnerable Environments: Creating a Roadmap for Change in the United States.” The conference was held in September, 2006, and was attended by approximately 200 individuals from academia, industry, local, state, and federal government (both executive and legislative branches were actively engaged), Native American tribes, and international water resource organizations. The goals of the meeting were to improve understanding and management of drought and water scarcity in the United States and to create a relevant science policy document that can inform national debate. The meeting addressed past, present, and future approaches to drought management, including presentations and discussions on: drought science, new technologies, enhancing the reliability and the usability of scientific information, valuing water, and on policy and management practices from the U.S. and abroad. In addition to identifying future science needs, information needs of decision-makers were identified and discussed. The week after the conference, GSA President Steve Wells, GSA Executive Director Jack Hess, and conference Technical Program Chair Don Wilhite presented preliminary findings to the bicameral Congressional Hazards Caucus on Capitol Hill. Subsequent to that, brief write-ups of preliminary findings were published in EOS (Diodato, D.M., et al, 2007) and in the Natural Hazards Observer (Pulwarty, R.S., et al, 2007). As of this writing, the Drought program Executive Committee is finally assembling its findings in Managing Drought in the United States: A Roadmap for Science and Public Policy, which will be available on the GSA web site next month. The findings of that report will be presented to the Congressional Hazards Caucus on July 18, 2007.

Finally, GSA Council approved the GPPC recommendation to create a Director for Geoscience Policy as a part of the GSA National Leadership Initiative. The Director for Geoscience Policy is responsible for all phases of GSA’s government affairs activities, working with Congress, federal agencies, GSA’s Geology and Public Policy Committee, and with the membership to bring accurate science into the decision-making process of public policy; communicate the Society’s policy interests; monitor and analyze legislation and policy developments affecting the geosciences; and develop GSA congressional testimony and
policy positions on national geoscience issues. This office has the potential to significantly improve the engagement and effectiveness of communications of members of GSA at the national level, and thus to enhance the geosciences in general, all in furtherance of the GSA mission statement. The search is ongoing at the time of this writing; please apply if you have an interest in this geoscience policy position. More information is available at http://www.geosociety.org/geopolicy/0705dgp.htm.

Please let me know if I’m missing something that you’d like to see covered here. As always, your questions or comments are welcome at any time! Send them to ddiodato@TheHydrogeologist.com. Thanks!


Chair from page 2

Hydrogeology Division would reflect. I am continuing to work with the other Division chairs to raise the level of support the Divisions receive from the general membership fees. However, the most immediate impact we can have to improve our support of such important programs as the Birdsall-Dreiss Lecture Series and student research grants, is to encourage our colleagues to join the Hydrogeology Division each year. The cost of membership is very small, and the benefits to our broader community through our outreach programs have a tremendous cost/benefit ratio.

As we look forward, the Hydrogeology Division will celebrate its 50th anniversary at the 2009 Annual Meeting. If you are like me, 2009 at first seems quite distant (in fact, the end of the semester keeps moving away!) however we have already started making plans for this event. I’ve asked Jean Bahr to head up the first planning committee to develop ideas for celebratory activities, and you will be hearing from her this summer for input and potential ideas. Concepts such as special topical sessions, oral histories of some of our founding members and seminal paper republication are just a few ideas that have come up, and Jean and her committee will be looking for your input.

The 50th Anniversary also gives us the opportunity to set the path for the next 50 years of our history. Our founding members were visionaries who knew that a Division could be the catalyst for Hydrogeology. Their vision of the Division’s outreach, through the Birdsall-Dreiss Lecture Series, the sponsorship of student research and our strong technical programs at the Annual Meeting has been the Division’s strength. It is now up to us to try to follow in their footsteps to lead the Division into the next 50 years.

To ensure the Division’s place as the catalyst for Hydrogeology, I am now working closely with the GSA Foundation to begin a major endowment campaign to culminate at our 50th Anniversary Celebration. This ambitious campaign will support the three pillars that the Division embraces; Education, Research and Outreach. Specifically, the campaign will support the following activities of the Division:

1. Support of the Division’s Birdsall-Dreiss Distinguished Lecturer Series designated to be used specifically to support the research of the Division’s most important membership: its students.

3. Support for Outreach
   The Hydrogeology Division has a long history of outreach to both students and members as part of the Annual Meeting. As the Division has grown, requests for outreach activities such as the Annual Student Reception, Awards Luncheon and support for international presenters have far outstripped the available resources of the Division. The Division anticipates directing a portion of the endowment annual revenue toward supporting and growing its outreach efforts at the national Annual Meeting and throughout the year.

The next 3 years leading up to our 50th Anniversary will be an exciting and challenging time. Our founding members had a vision for us back in 1959- and I know that we will not let them down. It is my goal that 50 years from now, the Hydrogeology Division members will look back to the years 2007-2009 as a time when the membership stood up to the challenge and committed the Division to another 50 years of leadership in the field of Hydrogeology.


addition, new geophysical techniques, modeling approaches and environmental tracers are extending our ability to understand groundwater flow and solute transport in complex terrains. New analytical techniques are allowing detection of emerging contaminants, including personal care products, pharmaceutical compounds and their degradation products. Non-traditional stable isotope techniques are being developed to help understand geochemical systems within aquifers. Although interest in contaminant hydrogeology remains high, there is a strong focus on delineating and protecting groundwater resources and to optimizing approaches for water utilization. All of these research areas will lead to valuable benefits to society and provide exciting research opportunities for graduate students.

For the most part, the travel was smooth and uneventful. I did miss an exit and wound up in a colorful area of Miami, where some enterprising young gentlemen were removing the tires from parked cars. Although I am in no hurry to visit another airport, I am grateful for the opportunity to drive through parts of the U.S. that I would not otherwise visit. I was impressed by the friendliness of the people and by the spectacular scenery. I gained a new appreciation for the importance of football to American universities, which greatly enhanced my enjoyment of the New Years bowl games.

Finally, I thank my students and colleagues for understanding my erratic travel patterns, and most importantly I thank my wife and children for their continuing support, and for tolerating my prolonged absence over the year.

WANTED: NEWSLETTER EDITOR - WEBSITE ADMINISTRATOR

The Hydrogeology Division is seeking a volunteer to assume the duties of Editor of the Division’s newsletter “The Hydrogeologist” and to manage the Division’s website. The newsletter is published twice a year and is currently assembled using Adobe PageMaker. The website is updated several times a year. The new editor would be responsible for transitioning away from the current PDF/paper copies to a HTML format. If you are interested, please contact Scott Tyler <tylers@unr.edu>. Questions about the duties and time commitment should be directed to Ed Harvey <feharvey1@unl.edu>.

New Hydrogeology Division
GSA Fellows Elected

The following Division members were named a GSA Fellow in May, 2007, and will be recognized at the Presidential Address and Awards Ceremony at the GSA Annual Meeting in Denver, Colorado on Saturday, October 27th. Congratulations from your colleagues in the Hydrogeology Division!

Brian Berkowitz
Randall J. Hunt
Shu-Guang Li
Hui Hai Liu
Karsten Pruess

Benjamin J. Rostron
Elizabeth J. Screaton
Marios Sophocleous
Abraham E. Springer
Ballot Instructions

This is the ballot for 2007-08 officers and for proposed bylaws changes for the GSA Hydrogeology Division. Biographies for the candidates are on the following pages. Submit your vote in one of the following ways:

1) **By Mail:** Vote on the paper ballot below. Complete the bottom section of the ballot. Mail the completed ballot to: Geological Society of America, PO Box 9140, Boulder, CO 80301, Attn: Division Ballot. Ballots must be **received at GSA by August 31, 2007 or**

2) **By Fax:** Vote on the paper ballot below. Complete the bottom section of the ballot. Fax the completed ballot to GSA, Attn: Division Ballot, at (303) 357-1074. Ballot must be **received at GSA by August 31, 2007 or**

3) **Online:** Vote online at <https://rock.geosociety.org/ballot/vote.asp?Name=hyd>. Log onto the ballot using your GSA member number (given on your mailing label) or your e-mail address (which will work only if your e-mail address is in your GSA member record). For assistance, please contact GSA at <gsaservice@geosociety.org> or (303) 357-1000 (option 3) or tollfree in the U.S. at (888) 443-4472. Electronic votes **must be submitted by August 31, 2007.**

Ballot.  *Vote for no more than one individual for each office.*

2007-2008 Officers of the Hydrogeology Division:

**Chair**

☐ Edward A Sudicky

☐ (or write-in)___________________________________________

**First Vice-Chair**

☐ Carol M. Wicks

☐ (or write-in)___________________________________________

**Second Vice-Chair**

☐ E. Scott Bair

☐ (or write-in)___________________________________________

Your Name (printed)________________________________________________________________________

Your Signature (required)___________________________________________________________________

Your GSA Member Number (required)*_____________________________________________________

*This is at the top of your mailing label. If you need assistance, GSA contact information is printed near the top of this ballot.
Hydrogeology Division Candidate Biographies

Chair:

Edward A. Sudicky, Professor, Ph.D., P.Eng., FRSC, FCAE. Dr. Sudicky is a full professor in the Department of Earth Sciences at the University of Waterloo and has been on the faculty since 1985. He currently holds a senior-level Canada Research Chair in the field of Quantitative Hydrogeology. He received his B.A.Sc. degree in Civil Engineering, and M.Sc. and Ph.D. degrees in Earth Sciences, all at the University of Waterloo. Dr. Sudicky’s research interests relate to the development and application of advanced numerical models of hydrological processes, including surface and subsurface flow and contaminant transport, the transport and fate of organic compounds in groundwater, multiphase flow, geostatistics, stochastic analyses of subsurface flow and transport, and field characterization techniques. Dr. Sudicky was the Association of Ground Water Scientists and Engineers’ Henry Darcy Distinguished Lecturer in 1994, received the O.E. Meinzer Award from the Geological Society of America in 1999, and the Hydrology Award from the American Geophysical Union in 2002. He is a Fellow of the Royal Society of Canada, the Canadian Academy of Engineering, the American Geophysical Union and the Geological Society of America. The results of Dr. Sudicky’s research are recognized internationally by the scientific community, and by researchers and practitioners working within government and private sectors. In a series of essays published over the years in Current Contents, ISI Thomson Scientific has identified the world’s most cited researchers. In the field of Engineering, ISI has listed the frequency of citations of his research papers to be amongst the top one half of one percent of all published papers worldwide, and has included his publication list in their Highly Cited Researchers (TM) database, a publicly available Web-based resource of the world’s most cited authors.

First Vice-Chair:

Carol M. Wicks, Educ: BS Chemical Engineering (Clarkson University), ME Chemical Engineering, MS Environmental Sciences, PhD Environmental Sciences (University of Virginia), NRC Post-Fellowship U.S. Geological Survey – Water Resources Division (Reston VA), Prof Exp: University of Missouri – Columbia, Department of Geological Sciences (93–present), currently Professor. Prof Affil: GSA (mbr 89, Fellow 05), AGU, NGWA, KWI, NSS. GSA Service: Comm on Research Grants (04, 05, 06), Joint Technical Planning Committee (00, 01, 02, 03, 04). Addtl Service: KWI (President, currently serving, 4 years), Ground Water (Associate Editor – 3 years), Water Resources Research (Associate Editor – 3 years), Natl Rsrch Council committee - Everglades. Rsrch Int: Numerical modeling of the karst hydrology and geochemistry; fate and transport of hormonally active agents through karstic aquifers; linking streambed scour events with ecological disturbance events, particularly karstic ecosystems.

Second Vice-Chair:

E. Scott Bair, Educ: BS Geology, College of Wooster, MS Geol/Hydrogeol, Penn State Univ., PhD Penn State Univ; Birdsall-Dreiss Distinguished Lecturer (2000), GSA Hydro Div; GSA Fellow (98); Distinguished Teaching Award, OSU; Alumni Distinguished Teaching Award, OSU; Prof Exp: Professor, OSU, USGS, Stone & Webster Eng. Corp, Prof Affil: CPG-Indiana, GSA, AGU, AGWSE; Rsrch Int: Hydrogeology, environmental geology, petroleum hydrodynamics. Author: Applied Problems in Groundwater Hydrology.
GSA Denver Meeting
Just Around the Corner

Don’t forget to submit your abstracts for the upcoming GSA Annual Meeting in Denver, CO. The online abstract deadline is 11:59 PM, Pacific Time, **July 10, 2007**. Please visit the GSA Webpage <http://www.geosociety.org/meetings/2007/index.htm> to review the list of this year’s sessions.

**PLACE YOUR ANNOUNCEMENT HERE!**

2007 NGWA Ground Water Expo & Annual Meeting

Mark your calendar for “Soar to Success” in Orlando, FL, December 4-7. For more information visit the NGWA webpage at <http://www.ngwa.org/expo2007/main.efm>.

2007 AWRA Annual Conference

When: Nov 12-15
Where: Albuquerque, NM
For more information visit the AWRA webpage at <http://www.awra.org/meetings/New_Mexico2007/index.html>.

AGU Fall Meeting
Deadlines Draw Near

Abstracts for the AGU 2007 Fall Meeting (December 10-14). For information on sessions and abstract dates see the AGU web site at: <http://www.agu.org/meetings/fm07/>.

XXXV Congress of the IAH Groundwater & Ecosystems

When: Sept 17-21
Where: Lisbon, Portugal
For more information visit the IAH website <http://www.iah.org/>.

From The Editor...

Thanks to everyone who contributed an article, commentary, announcement, photo, etc., to this issue. The newsletter would not be possible without each of you. If you have comments, suggestions, or an idea for a column or article, please contact me at <feharvey1@unl.edu>. Also, the Division is looking for a new editor for the newsletter. If you are interested please contact me, or Scott Tyler to discuss job duties and qualifications.

F. Edwin (Ed) Harvey, Editor
The Hydrogeologist
**2007 Management Board**
Chair: Scott Tyler (tylers@unr.edu)
First Vice-Chair: Ed Sudicky (sudicky@sciborg.uwaterloo.ca)
Second Vice-Chair: Carol Wicks (WicksC@missouri.edu)
Secretary-Treasurer: Brian Katz (bkatz@usgs.gov)
Past Chair: Kip Solomon (ksolomon@mines.utah.edu)

**Standing Committees**
Technical Program Committee:
Mark Person (Chair), Ward Sanford

Nominating Committee:
Bob Ritzi (Chair), Chris Neuzil, Janet Herman

Meinzer Award Committee:
Jeff Hanor (Chair), Maddy Schreiber, John Wilson, Karsten Pruess, Marios Sophocleous

Birdsall-Dreiss Lecturer Committee:
Bill Woessner (Chair), Dave Blowes, Bridget Scanlon

Distinguished Service Award Committee:
Ann Carey (Chair), Frank Schwartz, Tom Nicholson

**Ad Hoc Committees**
Historical Committee:
Alan Fryar (Chair)

**Section Representatives**
Cordilleran - TBA
Northeastern - Todd Rayne
North-Central - Maureen Muldoon
South-Central - TBA
Rocky Mountain - TBA
Southeastern - Joe Donovan

**Representatives to other Societies**
American Geophysical Union - Dave Diodato
American Geological Institute - Dave Stephenson
National Ground Water Association - Vicki Kretsinger
International Assoc. of Hydrogeologists - Jack Sharp
Water Science Policy Liaison - Dave Diodato
Society for Sedimentary Geology - Gary Weissmann

**Newsletter Editor:** Ed Harvey (feharvey1@unl.edu)
**Web Administrators:** Ed Harvey, Duane Mohlman
**GSA Student Research Grants:** Carol Wicks
**GSA Council:** Jean Bahr

**Hydrogeology Division Website:** [http://gsahydrodiv.unl.edu/](http://gsahydrodiv.unl.edu/)