



The Hydrogeologist

Newsletter of the
GSA Hydrogeology Division

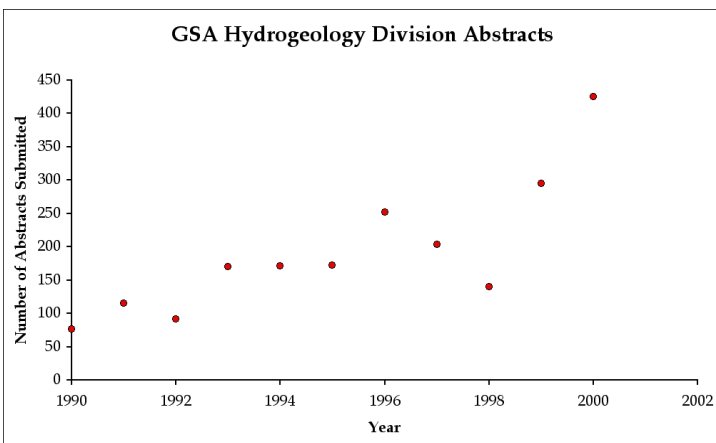
October 2000
Revised Issue No. 53

Message from the Chair

Greetings:

In the Spring Newsletter, I spoke quite a bit about scientific communication and its importance in the advancement of science. Using some research that was done by Anne Carey, our 2001 Division Program Chair, I have some very interesting data to share with you. Anne used data provided by the GSA Joint Technical Program Committee on the number of abstracts submitted to the national meeting over the past ten years. I would like to summarize and discuss the data, because the trends are very interesting and very encouraging.

In 1990, GSA had 1,952 abstracts submitted for the national meeting in Dallas. Of these, 76, or 4%, were from the Hydrogeology Division. For the 2000 Annual Meeting in Reno, there are a total of 3,536 submitted abstracts, of which, 425, or 12%, are from the Hydrogeology Division. The growth rate in submitted abstracts for GSA as a whole over the past ten years was 78%, whereas for our division, the growth rate is 521%! The Division's share of abstracts has gone up by a factor of three. I have included a graph of the data, which shows the nearly exponential growth rate in submitted abstracts for the Annual Meeting for our division.



The only minor downturn in this growth curve was in 1998, which is explained by the fact that the meeting was held in Toronto. GSA Annual Meetings held in Canada have traditionally had lower attendance because of the international travel, which is apparently difficult for some members to justify.

If our growth rate continues at the current pace, our projected number of abstracts for the 2001 meeting will be over 600, which will be nearly a 15% share of the meeting. The typical complaint that I've heard about the meetings over the past couple of years is that there are often difficult choices to be made regarding which concurrent session to attend. One of the challenges I mentioned in my spring message is that we need better attendance in the sessions. With the growth in abstracts, even over the past year, I will go out on a limb and predict that our session attendance this year will be very good.

Besides communication, another important function that our scientific societies serve is to recognize and promote excellence in scientific research. One of the ways scientific excellence is recognized is through the awards that societies give. The O. E. Meinzer Award is given each year by the Hydrogeology Division for outstanding contributions to the science of hydrogeology. As Division Chairman this year, it has come to my attention that we need to develop some new procedures for the selection process of the O. E. Meinzer Award. In my view, some of the things that need to be done include:

- Developing a nomination package model (e.g. nomination letter, a prescribed number [perhaps, three?] of letters of reference)

Continued on page 2



Stephen Wheatcraft
Chair
Hydrogeology Division

- An inclusive process for nominations; i.e., making sure that all the Division members are aware of the process and have a chance to submit nominations
- A hard deadline for all nomination materials to be submitted to the selection committee
- A consistent (from year to year) process for the committee to arrive at a selection for the award

Division management will take this up as a discussion item at the annual business meeting in Reno. We welcome ideas and feedback on this issue from the membership.

Finally, let me encourage everyone to attend the Annual Meeting in Reno in November. Bob Ritzi has put together an outstanding program and I would like to see the meeting rooms filled to capacity, even if this means that you are not at the casinos, contributing to the Nevada state tax base!

Visit our web site at :
<http://www.uakron.edu/geology/gshydro>

Feature

GSA Research Grants: More Hydrogeology Proposals Needed

Brian G. Katz

During the past three years, I was fortunate to serve on the GSA Research Grants Committee. This committee reviews proposals pertaining to hydrogeology and 11 other fields of study in the earth sciences that are submitted by graduate students attending universities in the United States, Canada,

Mexico, and Latin America. During 1998, 1999, and 2000, the committee read 443, 468, and 600 proposals, respectively, and each year recommended funding for approximately 40 percent of the proposals submitted. During the past three years, funding for grants correspondingly increased from \$309,000 to \$399,000; however, the average grant amount awarded decreased due to the substantial increase in the number of applications. To maintain the approximately 40 percent funding rate, the average grant amount decreased from about \$1,880 in 1998 to about \$1,640 in 2000. These grants to graduate students are made possible due to funding provided by a number of sources, including GSA endowments, the National Science Foundation, industry, individual GSA members, and dedicated research funds that have been endowed at the GSA Foundation by members and families. The recipients of this year's special awards and other successful applicants are listed in the September 2000 issue of GSA Today. Recipients of GSA Division awards are listed in the October 2000 issue of GSA Today.

While there is much optimism for the overall Research Grants program, the number of applicants and the percentage of funded hydrogeology proposals remained disproportionately low during the past three years. The number of proposal applications in hydrogeology only comprised about 6 percent of the total number of proposals, compared to about 10 to 15 percent of the total for other fields such as paleontology, sedimentology/stratigraphy, structure/tectonics, and quaternary geology/geomorphology. The funding rate for hydrogeology grant proposals also was somewhat lower than the overall average, with 39, 33, and 37 percent funded in 1998, 1999, and 2000, respectively. Also, somewhat discouraging was the drop in the number of applicants from 31 in 1998 to 24 in 1999. However, on a brighter note, it was encouraging to see a considerable increase to 35 proposals that were submitted in 2000. Also encouraging are the generous contributions from the Hydrogeology Division, which has increased funding for research grants in the hydrogeologic sciences from \$1,000 in 1998 to \$2,500 in 2000.

Obviously, there is much room for improvement regarding the number of hydrogeology proposals submitted for funding and the percentage of these proposals funded. While the funds may not cover all research costs, they certainly can help defray costs associated with field work and other research activities. The next cycle for proposals for research grants begins in December 2000 when information and applications can be downloaded from GSA's Web page <http://www.geosociety.org>. New application forms for 2001 also are available each fall in the geology departments of colleges and universities offering graduate degrees in the earth sciences. GSA strongly encourages women, minorities, and persons with disabilities to participate in this program. One new requirement for the 2001 Research Grants Program is that eligibility is restricted to GSA student members.



The Hydrogeologist

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://www.uakron.edu/geology/gshydro/>. 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 via ASCII (text) is most expedient.

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March 15, 2001

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SEPM Hydrogeology Research Group

The inaugural meeting of the SEPM Hydrogeology Research Group will be held at the GSA meeting in Reno. The meeting will include short presentations outlining some of the interesting work currently being conducted in the area of sedimentary hydrogeology and provides an opportunity for interested parties to discuss future research directions.

Check your GSA Program or the Research Group link on the SEPM Web site <http://www.sepm.org/sepm.html> for information about time and location. For more information, please contact Maureen Muldoon (muldoon@uwosh.edu).

Call for Applications!

Looking to expand your professional horizons? Believe in serving society through science? Ready for a unique challenge? Apply for GSA's Congressional Science Fellowship 2001–2002.

Put your expertise and experience to work helping shape science and technology policy on Capitol Hill. Work directly with national and international leaders.

The Congressional Science Fellow will be selected from top competitors early in 2001. Successful candidates are GSA members who possess either a Ph.D. in the earth sciences or a related field, or a Master's degree in the earth sciences or a related field with at least five years of professional experience. If you possess this professional background, have experience in applying scientific knowledge to societal challenges, and share a passion for helping shape the future of the geoscience profession, GSA invites your application. The fellowship is open to U.S. citizens or permanent residents of the U.S. **The deadline to apply is February 2, 2001.**

To learn more about the Fellow experience, contact David Verardo, 1997–1998 GSA Congressional Science Fellow, at (202) 314-2234 or dverardo@usgcrp.gov.

For application information, check our Web site at www.geosociety.org/science/csf/scifello.htm or contact Karlton Blythe, Program Officer, GSA Headquarters, (303)-447-2020, ext. 136, or kblythe@geosociety.org.

Chapelle to Receive O. E. Meinzer Award

Leonard F. Konikow

The O. E. Meinzer Award Committee has selected Dr. Francis H. Chapelle of the U.S. Geological Survey to receive the 2000 O. E. Meinzer Award from the Hydrogeology Division. Dr. Chapelle has significantly advanced our understanding of ground-water microbiology and the role of microbes in influencing ground-water quality and sediment chemistry in subsurface systems.

Chapelle was cited for the following four papers:

Chapelle, F.H., McMahon, P.B., Dubrovsky, N.M., Fuji, R.F., Oaksford, E.T., and Vroblesky, D.A., 1995, Deducing the distribution of terminal electron-accepting processes in hydrologically diverse groundwater systems: Water Resources Research, v. 31, no. 2, p. 359-371.

Lovley, D.R., and Chapelle, F.H., 1995, Deep subsurface microbial processes: Reviews in Geophysics, v. 33, no. 3, p. 365-381.

Chapelle, F.H., Bradley, P.M., Lovley, D.R., and Vroblesky, D.A., 1996, Measuring rates of biodegradation in a contaminated aquifer using field and laboratory methods: Ground Water, v. 34, no. 4, p. 691-698.

Bradley, P.M., Chapelle, F.H., and Wilson, J.T., 1998, Field and laboratory evidence for intrinsic biodegradation of vinyl chloride contamination in a Fe(III)-reducing aquifer: Journal of Contaminant Hydrology, v. 31, p. 111-127.

We congratulate Frank on this honor.

Konikow Chosen for Distinguished Service Award

John F. Harsh

Leonard F. Konikow has been selected to receive the 2000 Hydrogeology Division Distinguished Service Award. Dr. Konikow, who is employed with the U.S. Geological Survey, has a long history of service to both the Division and the science. This award is a timely recognition of his significant contributions.

Call for Nominations 2001 Meinzer Award

The Meinzer Award Selection Committee is soliciting nominees. You may send names of nominees with a short justification and citations of papers published within the last five years that would qualify as Meinzer Award winning papers to the incoming committee chair, Mary P. Anderson (andy@geology.wisc.edu). Please respond before January 15, 2001.

2000 GSA Annual Meeting Notes

Reno, Nevada - November 12-16

Robert W. Ritzi, Division Program Chair

The Annual Meeting continues to grow and set new records. This year's meeting had 3536 abstracts submitted (cf. 2900 last year). Anne Carey and I handled 445 of these for the Division (350 last year), which were distributed among 29 sessions (26 last year). As a result, the technical program is again strong this year with concurrent sessions on every day of the meeting. Thus, I encourage members as they make reservations to consider staying for the whole thing. Sessions include both the expected subdisciplines and many emerging areas of research. A list of our sessions, related ones from other divisions, field trips, and short courses is included elsewhere in this newsletter. Thanks to all who volunteered or otherwise surrendered to my arm twisting toward organizing these. We were granted many of our scheduling requests so that, as last year, our poster sessions are concurrent on Wednesday afternoon and none of our

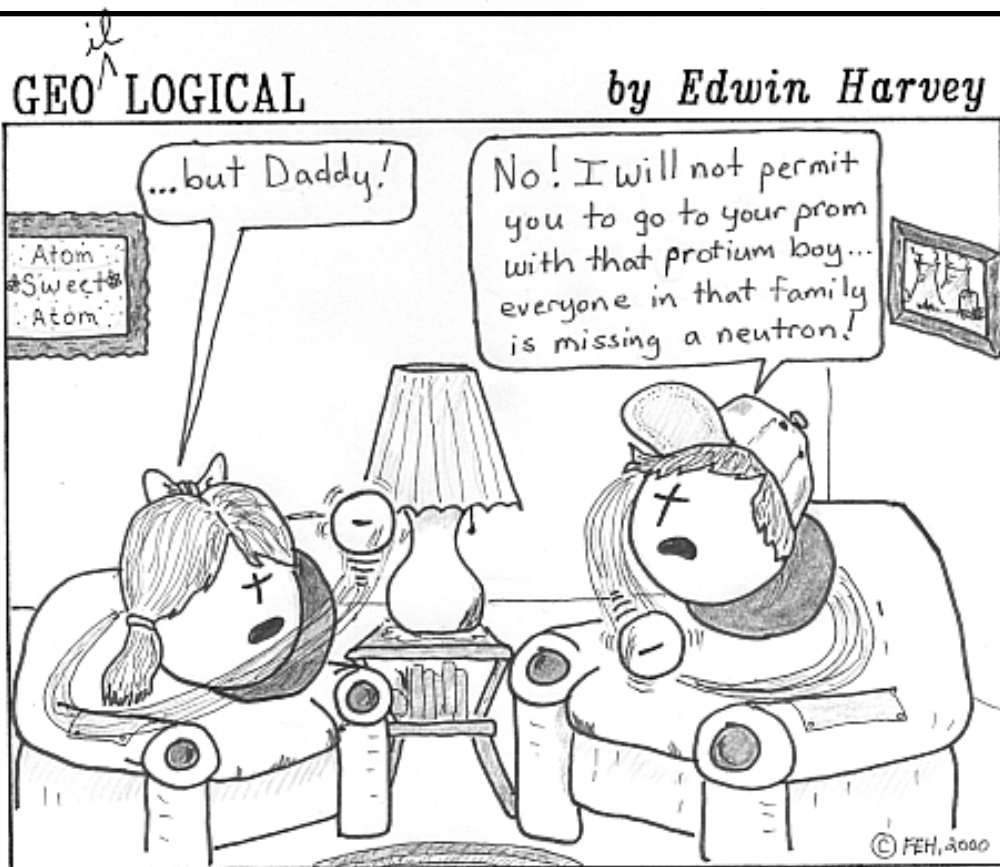
sessions are concurrent with the Division activities on Tuesday afternoon (though some related sessions were placed there by other divisions – alas, it is not a perfect world). More information about the meeting, including the overall technical program, registration, and housing, is available at <http://geosociety.org/meetings/2000/index.htm>.

Looking forward to seeing you in Reno!

Student Reception

Past Chair, Mary Jo Baedecker

Please don't forget to attend the student reception on Tuesday, November 14 at the Reno GSA Meeting following the Birdsall-Dreiss Lecture. It will be held from 5:00-6:30 p.m., and is a great opportunity for students in the hydrogeological sciences to meet each other and to meet professionals in the field. Food is provided and a cash bar is available. Students will receive a free ticket for one drink. Part of the event is a raffle where students have the opportunity to win books if their number is drawn. We have an excellent selection of books and awards to give away this year. Don't miss it!



THE DEUTERIUM FAMILY ENCOUNTERS THEIR FIRST
"PROBLEMS WITH ISOTOPE DATING"

*2000 Hydrogeology Division Program and Related Sessions
GSA Annual Meeting, Reno, NV*

Monday, November 13

Morning Session

T82. Surface Water-Ground Water Connections I (GSA Hydrogeology Division)

T88. Groundwater Flow, Geologic Processes, and Climate Change (GSA Hydrogeology Division)

T90. Flow in Fractured Aquifers-From Field Characterization to Model Construction (GSA Hydrogeology Division)

T104. Redox Manipulation for Groundwater Remediation (GSA Hydrogeology Division)

K1. Geology in the New Millennium I: Resource Collapse, Environmental Catastrophe, or Technological Fix? (Public Policy)

T112. Reactive Transport Modeling: Theory and Applications (Geochemical Society)

Geochemistry (Aqueous) I

Afternoon Session

T82. Surface Water-Ground Water Connections II (GSA Hydrogeology Division)

T96. Coupled Hydrologic and Geochemical Processes in Mining Wastes and other Highly Heterogeneous Media (GSA Hydrogeology Division)

T100. Phytoremediation and Natural Attenuation (GSA Hydrogeology Division)

Hydrogeology I: Volcanic Ground-Water Flow Regimes

NSF Town Hall Meeting

Geochemistry (Aqueous) II

Organic Geochemistry I (Posters)

Tuesday, November 14

Morning Session

K7. Nuclear Waste Disposal: "Bridging the Gap Between Science and Policy" (GSA Hydrogeology Division)

T83. Artificial Recharge Through the Vadose Zone (GSA Hydrogeology Division)

T86. Physical Modeling for Process Understanding and Model Validation in Subsurface Flow and Transport (GSA Hydrogeology Division)

T99. Rare Earth Elements in Groundwater Flow Systems (GSA Hydrogeology Division)

Hydrogeology II: Groundwater Sustainability and International Management Issues

T108. Geomicrobiology: Microbial Communities and Geochemistry (Geochemical Society)

T113. Sources, Transport, Fate, and Toxicology of Trace Metals in the Environment: A Tribute to Ron Fuge (International Association of Geochemistry)

Environmental Geoscience I: Organic Chemicals in the Environment: Risk, Remediation, and Post-audits

Afternoon Session

Hydrogeology Division Reception, Lunch, and Business Meeting 12:30 to 3:30

2000 Birdsall-Dreiss Lecture, E. Scott Bair, 4:00-5:00

Student Reception, 5:30-6:30

K6. Living with Uncertainty: Scientific, Political and Societal Perspectives (GSA Institute for Earth Science and the Environment)

T55. Geomorphic and Geologic Controls on Surficial and Ground-Water Hydrology in Deep Alluvial Basins (GSA Quaternary Geology and Geomorphology Division)

Environmental Geoscience I (Posters)

T108. Geomicrobiology: Microbial Communities and Geochemistry II (Geochemical Society)

T111. Secondary Mineralization in the Unsaturated Zone at Yucca Mountain, Nevada (Geochemical Society)

Aqueous Geochemistry I (Posters)

Geochemistry (Aqueous) III

Wednesday, November 15

Morning Session

T87. 25 Years of Groundwater Modeling: A Special Session in Honor of Professor Mary Anderson (GSA Hydrogeology Division)

T92. Integrated Geoscience Strategies Applied to Regional Groundwater Modeling: Death Valley Regional Groundwater Flow System (U.S. Geological Survey)

T95. Mining Impacts on Hydrologic Systems (GSA Hydrogeology Division)

T131. Water Quality in the Arid West: Controls on Inorganic Anthropogenic By-Products (Environmental Geoscience)

Afternoon Session

T82. Surface Water-Ground Water Connections III (GSA Hydrogeology Division)(Posters)

T87. 25 Years of Groundwater Modeling A Special Session in Honor of Professor Mary Anderson, II (GSA Hydrogeology Division)

T91. Studies on Water Movement and Solute Transport in Arid Regions (GSA Hydrogeology Division)

T94. Heterogeneity in Granular Hydrogeologic/Reservoir Systems (Posters) (GSA Hydrogeology Division)

Hydrogeology III: Carbonate Ground-Water Flow Regimes (Posters)

Hydrogeology IV: Isotope Hydrology and Hydrogeochemistry (Posters)

Hydrogeology V (Posters)

T133. The Impact of Mercury on the Global Environment (U.S. Geological Survey; GSA Coal Geology Division; GSA Institute for Environmental Education)

Geomicrobiology I (Posters)

Thursday, November 16

Morning Session

T79. Application of Hydrologic and Geologic Studies to the Performance of a Potential Geologic Repository at Yucca Mountain, Nevada (United States Department of Energy)

T97. Environmental Isotopes in Hydrogeology (GSA Hydrogeology Division)

T98. Solute Cycling in Groundwater and Surface Water (GSA Hydrogeology Division; Geochemical Society)

Hydrogeology VI: Biological and Colloidal Processes

K3. Causes and Consequences of Floods: Geologic, Climatologic, Ecologic, and Human Dimensions (GSA Quaternary Geology and Geomorphology Division)

T68. Joints and Other Discontinuities (GSA Engineering Geology Division; American Rock Mechanics Association)

T74. Environmental Restoration of Abandoned Mine Lands (GSA Engineering Geology Division)

Environmental Geoscience I: Heavy Metals and Radionuclides in the Environment

Afternoon Session

T79. Application of Hydrologic and Geologic Studies to the Performance of a Potential Geologic Repository at Yucca Mountain, Nevada II (United States Department of Energy)

T103. Innovative Applications in Water Supply and Environmental Investigation, Remediation, and Risk Assessment (GSA Hydrogeology Division)

Hydrogeology VII: Stress and Strain in Subsurface Flow Systems

T70. High Technology Tools for Geologic Research and Practice (Posters) (GSA Engineering Geology Division)

Geomicrobiology I

Field Trips and Workshops

Characterizing and Modeling Fluid Flow in Fault Fracture Zones: The Reality and the Idealized (Premeeting workshop)

Applications of Environmental Isotopes in Ground Water Studies (Premeeting workshop)

Field Methods for Estimation of Spatial Variations in Hydraulic Conductivity: Recent Advances and Practical Ramifications (Premeeting workshop)

Practical Methods in Applied Contaminant Geochemistry: From Characterization to Remediation (Premeeting workshop)

Hydrogeologic and Geologic Characteristics of the Yucca Mt. Site Relevant to the Performance of a Potential Repository (Premeeting field trip)

Exploring the Lower Truckee River and Pyramid Lake (Premeeting field trip)

Hydrology of the Tahoe Basin (Postmeeting field trip)

Lake Tecopa: 2.5 Million Years of Exposed History and Its Relevance to Tectonic, Climatic, Erosion, and Ground Water Issues at the Proposed Nuclear-Waste Repository at Yucca Mountain, Nevada (Postmeeting field trip)

Editor's Note

This issue will complete my 3rd year as Editor for the Division. I am grateful for all of the help and contributions that members have come forth with to make the newsletter possible.

Ira D. Sasowsky, Editor
The Hydrogeologist



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