

GSA NEWS & INFORMATION

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Theme Sessions Scheduled for GSA Centennial Celebration

by W. W. Hay, S. S. Adams, and A. R. Palmer
1988 Technical Program Committee Members

At the 1988 Centennial Celebration of GSA, in Denver, Colorado, eight theme sessions will be a formal part of the scientific program for the start of our new century. Theme sessions are getting an informal tryout this year at the Annual Meeting in Phoenix; they are a response to an article by John Maxwell and Eric Swanson in *GSA News & Information*, March 1987.

Theme sessions for the Centennial Celebration will be special oral and poster topical sessions of volunteered papers that will provide an opportunity for presentation of ideas by both fresh and familiar voices. All abstracts that are accepted for a theme session will be presented. Those offered as poster presentations will be grouped in contiguous space on the same day.

Most theme sessions will be multidisciplinary. The 1988 abstract forms will have special checkoff boxes for the eight theme sessions *in addition to* the topical boxes. The *topical checkoff box* will determine where the abstract will be evaluated; the *theme session checkoff box* will determine to which set of theme organizers the reviewed abstract will go. The eight themes were selected from among those suggested by GSA Divisions, Associated Societies, and individuals. Each theme is explained below.

Geology in the Service of Humanity in the 21st Century

Earth science is a global concern. How can geological knowledge play its proper role in the service of humanity? Geologists in the past played an important role in resource development and management, including fuels, land use, hazards, and waste management. Geologists have contributed immensely to concepts of organic evolution, global processes, the age of Earth, and our position in the cosmos. What will be asked of geology in the next century? What initiatives should professionals undertake? This is an opportunity to stimulate discussion about choices of action in education, research, commerce and industry, and government.

Diagenesis of Lacustrine and Associated Rocks in the Geologic Record: Processes and Patterns

Knowledge of diagenetic processes and alteration patterns that characterize lacustrine depositional systems in modern and ancient environments is important in modeling the genesis of mineral deposits (zeolites, evaporites, uranium, etc.) as well as understanding the processes that govern the generation and migration of

hydrocarbons. What do we know about (1) mineralogy and geochemistry of modern and ancient lacustrine environments, (2) interrelations between depositional setting and diagenesis, (3) pore-water evolution and water-rock interaction, and (4) fluid migration?

Geophysical Patterns in North America

The Gravity and Magnetic Anomaly Maps of North America, published in late 1987 at a scale of 1:5,000,000, are the first colored pixel maps of this information for the entire continent. In the first half of 1988, at least three of the maps of the Neotectonics series—Seismicity, Thermal Aspects, and Stress, should be published at the same scale and on the same base. What new patterns are observed in these data? What can be said about the buried crust? The sum of the parts may be more than the whole!

Global Aspects of Sedimentary Geology

The focus will be the Cretaceous. This is an especially suitable period to examine for global-scale processes and their interactions within a well-defined chronostratigraphic framework. What have we learned about globally synchronous fluctuations of sea level, anoxic events, the development and demise of carbonate platforms, paleogeography, paleoclimates, and especially the interactions among all these? Can understanding of these interconnected processes in the Cretaceous provide essential guidelines for interpreting global change?

Organic Compounds in Ground Water

Organic compounds in ground water are causing major problems in aquifer evaluation and remediation of aquifer quality. Often the compounds are difficult to detect and interpret. Legal actions relating to ground-water pollution are expensive. What is the latest information about analytical detection, microbial degradation and daughter products, subsurface movement, techniques of monitoring, and experience with aquifer remediation?

Paleontological Constraints on Accreted Terranes

Paleontological data play a crucial role in the identification and interpretation of accreted terranes. These interpretations are based

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Theme Sessions (continued from p. 213)

on our best current understanding of the paleobiology, paleobiogeography, and biostratigraphy of fossils in the terranes. How well do we understand the ecology, evolution, and biogeography of the species involved? What are the compatibilities and incompatibilities of paleontologic and paleomagnetic data?

Physics and Chemistry of Mylonites: Geologic Applications

The physical and chemical processes operative within mylonite zones control a wide spectrum of geologic features. What are the processes that lead to variations in the mechanical, chemical and isotopic behavior of minerals and rocks—from outcrop to micron scale? What field and experimental data contribute to understanding the origin of mylonites at various pressure-temperature-fluid conditions? What aspects of structure and geochemistry of

mylonites provide a significant measure of constraint on regional tectonics and mylonite petrogenesis?

Secular Variation in the Sedimentary Record

What do long-term changes in sedimentation and the sedimentary rock record imply about the origin and evolution of Earth? This session will emphasize (1) secular variations in the mineralogical and chemical composition of sedimentary rocks and what such changes reflect in terms of continental crustal composition; (2) probable secular trends in the nature and composition of the atmosphere and hydrosphere as inferred from variations in the sedimentary rock record; and (3) long-term variation in rates of sedimentation and erosion, as well as overall sedimentary tectonic framework, as reflections of major changes over time in the mechanism and style of basin formation and orogenesis.

IGCP Projects Solicit Participation

Two new International Geological Correlation Program (IGCP) projects have been approved, and the coordinators invite interested scientists to participate.

IGCP Project 252: Past and Future Evolution of Deserts

The study of the geologic and biological evolution of extant desert areas, in correlation with global astronomical, geophysical, and oceanic data, allows one to understand their genesis and their fluctuations, as well as to appreciate the roles played by nature and humans in recent desertification processes. Project 252 will help to reconstruct, by multidisciplinary methods, the hydrological, environmental, and human variations in arid zones and to appreciate their future evolution in terms of models or scenarios.

The concerned sciences are numerous: astrophysics, geophysics, geology, geochemistry, isotopic geochemistry, hydrology and hydrogeology, sedimentology, pedology and paleopedology, geomorphology, climatology and paleoclimatology, meteorology, geochronology and dating methods, remote sensing, paleoecology, paleobotany and palynology, paleontology, physical and cultural anthropology and paleoanthropology, etc. Research on natural (mineral, energy, hydrological) resources and other applied geological studies are also part of this project.

Each member will send each year, before September 1, a short (one-page maximum) report on his or her individual or group's activities and a list of the papers published in the scientific press. Workshops will be organized in those countries where research is particularly active, in order to permit a direct discussion of results and objectives. The project is scheduled for 1987-1991.

If you wish to participate, write to N. Petit-Maire, Laboratoire de Géologie du Quaternaire, CNRS, Case 907, Luminy, 13288 Marseille Cedex 9, France.

IGCP Project 254: Ore Mineralization Associated with Black Shale Formations (Metalliferous Black Shales, for short). Jan Pasava of the Geological Survey, Prague, Czechoslovakia, is the project leader. The primary objective of the project is to foster communication and synergism within that part of the international research community currently investigating metalliferous black shales and related ore deposits. Due to very limited funding, no new research efforts will be financed. Focusing, stimulation, and perhaps slight redirection of ongoing research will be encouraged as a result of interactions with colleagues. These efforts are expected to culminate in 1992 in a volume summarizing the available data bases and current genetic and exploration models for metalliferous black shales and related ore deposits.

A multiplicity of disciplines including sedimentology; stratigraphy; petrology; organic, inorganic, and isotope geochemistry; and economic and exploration geology will be represented by participants from at least 23 nations.

If you are interested in participating in IGCP Project 254, plan on attending the organizational meeting of the project's U.S. Working Group that will be held on October 27, 1987, from noon to 1 p.m. in Suite 327 of the Hyatt Regency during the Phoenix meeting of GSA. For more information, contact Richard I. Grauch, U.S. Geological Survey, Denver Federal Center, MS 973, Denver, Colorado 80225, (303) 234-5551.

THE 1988 GSA CENTENNIAL ORCHESTRA

A Special Event for THE GEOLOGICAL SOCIETY OF AMERICA CENTENNIAL MEETING

The 1988 GSA Centennial Orchestra will celebrate the 100-year history of the Geological Society of America. We are seeking **musically active geologists and their spouses** interested in participating in this musical celebration to take place at the GSA Centennial Meeting in Denver, October 31 to November 3, 1988. So that we may begin to plan a balanced orchestra, please indicate your interest by sending the following:

- name, address, and telephone number
- instrument you play and current level of ability to Holly Stein at the address below.

Please share this announcement with other musical geologists you know and watch for details in the November issue of *GSA News & Information*.



Please contact:

Holly Stein, Organizer
U.S. Geological Survey
M.S. 905, Federal Center
Denver, CO 80225

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CENTENNIAL NEWS

by Allison (Pete) Palmer

More Kudos

Special thanks to the editors and authors of *North America and Adjacent Oceans during the Last Deglaciation* listed below! Not only do they represent the second volume of *The Geology of North America* to reach completion, but this may be the only remaining book of the set that will be published in the year for which it was projected. Bill Ruddiman and Herb Wright have done a fine job of developing another outstanding DNAG volume. It should be printed and available for purchase in November.

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Geophysical Maps of North America

The Magnetic Anomaly Map of North America was printed by the USGS in late July and displayed at the meeting of the International Union of Geodesy and Geophysics, along with final color proofs of the Gravity Anomaly Map of North America and a preliminary color proof of the northwestern quadrant of the Seismicity Map of North America. The Magnetic and Gravity Anomaly maps

represent the first colored pixel maps ever prepared for the entire continent, and they reflect a lot of hard work by the international committees that had to integrate various national data bases in order to make these maps possible.

The Magnetic Anomaly Map, consisting of four colored sheets at a scale of 1:5,000,000 is now available for purchase as a DNAG product. The Gravity Anomaly Map is scheduled to be printed by the Geological Survey of Canada in October.

North-Central Section Centennial Field Guide

At the very last minute, the 100th text for this book appeared on the scene. Most of this book already had final page numbers; we hoped to get it to the printer by the middle of September. It will probably be one of the November DNAG products. Congratulations to the authors and to editor Don Biggs. They will be listed in the November edition of this column.

Other DNAG Products

We have only one more book to go to complete the set of Centennial Field Guides. The last three chapters were promised before the end of August. This book should be printed before Christmas; take note, if you might like to order full sets of Field Guides as Christmas presents.

The reviews are back on the final substantive chapter for the *Atlantic Continental Margin: U.S.*; if the revision has been completed by September 1, we stand a good chance of having this book printed before the end of the year.

Several other volumes of *The Geology of North America* are close to completion but have one or two laggards who make predictions unreliable. An update of the list of chapters still needed will be published in my January column (deadline for copy for this is early November for those who shy away from publicity).

November 30 is 1988 Dues Deadline

Last year, most GSA members remitted their annual dues payment before the November 30 deadline. As a result, they received their GSA publications without delay. This year, the timing is again critical because all section meeting *Abstracts with Programs* will be mailed to members early in 1988. If we do not receive your dues payment before the November 30 deadline, you may not receive that much-needed *Abstracts with Programs* in time for the section meeting that you plan to attend. Remember, back orders take 6 to 8 weeks to reach you! Please use the 1988 dues and publications selection form mailed to you earlier. Dues for 1988 are \$70 for Members and Fellows and \$32 for Students.

If you have any questions, please call or write the GSA Membership Department, P.O. Box 9140, Boulder, CO 80301, (303) 447-2020.

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FOUNDATION NEWS

by Robert L. Fuchs
President, GSA Foundation

Trustees Honor Silver

Caswell Silver, an original Trustee of the GSA Foundation and its first Chairman, has completed his term of service and been appointed an Honorary Trustee. In recognition of Cas Silver's very important and extended service to the Foundation, the Trustees presented him with a special plaque. The award took place at GSA headquarters in Boulder, Colorado, in June.

Silver, brother of former GSA President Lee Silver, has had an illustrious career in applied geology. His interests cover the full spectrum of natural resources—petroleum, coal, minerals, and land. He acquired control of Sundance Oil Company, a minuscule Utah company in 1955, in the early stages of his career and built the company into a significant independent natural resources company with oil, gas, and coal operations. Hoadley Field, a major Canadian natural gas field, was found by Sundance under Cas Silver's leadership.

Sundance was sold to the Quebec government oil and gas company in 1984, but Silver has continued to maintain an active presence in Rocky Mountain exploration. In addition, he has closely followed and invested in the developing precious-metals play of the southwestern Pacific Basin rim. His deep appreciation for earth matters has enticed him into the agricultural arena, resulting in the acquisition of one of Colorado's largest sheep ranches, in the San Luis valley, which he is maintaining as an operating ranch.

Cas Silver's generous financial support of geologic causes is well established. In addition to his early and large contribution to the Foundation, he endowed the Caswell Silver Foundation at his alma mater, the University of New Mexico.

Cas and his wife Betty divide their time between Denver and Santa Fe, New Mexico. Daughters Anne and Sue (plus grandchildren) live in Crestone, Colorado, and Oakland, California, respectively.

Century Challenge at Phoenix

The Foundation exhibit at the GSA Annual Meeting in Phoenix, October 26–29, will focus on the Century Challenge, the membership's birthday gift to GSA. Results of the fund drive to date will be displayed. Literature about the Century Challenge will be available, and visitors will have the opportunity to contribute or pledge.

Members who have already participated, or do so at Phoenix, will be eligible for a drawing for free airfare to be held at the end of the meeting. The winner will receive a voucher from a major airline for air travel anywhere in that airline's U.S. system.

Also, if you are a Century Challenge contributor, please make it a point to visit the exhibit. We would like to say thank you, both verbally and with a small gift. See you in Phoenix!



Caswell Silver, center, displays the plaque awarded to him for service to the GSA Foundation. Foundation President Bob Fuchs, left, and GSA Executive Director Mike Wahl, right, presented the award to Silver on behalf of the Foundation Trustees.

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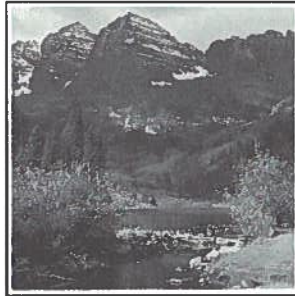
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Report from Washington

by Jennifer Hess

GSA Congressional Science Fellow

Groundwater: Background and Definition of Issues

Groundwater constitutes more than 50 times the volume of the nation's surface water and provides primary drinking water for over half the U.S. population. Increasing concern is being expressed on the Hill and elsewhere because groundwater in some locations is contaminated by toxic or potentially hazardous chemicals, many of which are known or suspected carcinogens.

Groundwater protection is a dominant issue of Congress's environmental activities. Two major environmental laws—the Safe Drinking Water Act and the Superfund Law—were amended during the 99th Congress; both contained provisions that enhance groundwater protection. The 100th Congress has already passed amendments (P.L. 100-4) to the Clean Water Act that also specify increased protection of groundwater, and several specific groundwater bills have been introduced in both houses. No single piece of legislation serves to protect groundwater exclusively. The Environmental Protection Agency (EPA) protects the drinking-water quality of groundwater through several environmental laws, but parts of these overlap, leading to some duplication of effort. They are not comprehensive, even when administered to complement individual state protective efforts. The EPA has attempted to integrate the administration of the federal and state laws by devising a comprehensive national groundwater protection strategy, but this strategy is in the early stages of implementation.

Six federal environmental laws administered by the EPA contain aspects of groundwater protection: the Safe Water Drinking Act; the Clean Water Act; the Resource Conservation and Recovery Act; the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund); the Toxic Substances Control Act; and the Federal Insecticide, Fungicide, and Rodenticide Act.

Policy Issues

1. *What is the status of information about groundwater contamination?* National data on groundwater contamination are limited, and there is no national monitoring system to determine the degree or trends of groundwater degradation. Although there are numerous regional, local, and private reports on groundwater quality, there is no central collection source for this information. Even though only an estimated 1%–2% of the nation's groundwater is contaminated, thousands of people were exposed to this contamination before their drinking-water wells were closed. No deaths are known to have resulted from such exposure, but numerous instances of illness have occurred. Further research is needed to determine the human health effects from drinking water that may be contaminated. Also, there has been little research on how to clean up contaminated aquifers.

2. *How well are the existing federal laws that address groundwater protection working?* The federal government already has expressed the need for groundwater protection as components of several environmental laws, but recent evidence has called into question how well these laws are protecting groundwater. For example, a 1985 House Energy and Commerce survey showed that 45% of 1246 Resource Conservation and Recovery Act facilities are contaminating nearby groundwater supplies, and 25% of the facilities have inadequate groundwater monitoring wells. Because groundwater is protected in part by several environmental acts, there may be a need for Congress to strengthen the federal oversight of groundwater. Two alternatives may be considered:



amend each environmental act to be more responsive to groundwater protection (perhaps by emphasizing integration of the various statutes), or enact a groundwater-specific protection law.

3. *Do the federal and state roles in groundwater protection need to be revised?* Groundwater protection has traditionally been a right of the states, but the federal role has been growing, for several reasons. One is that some groundwater aquifers are interstate. In some cases the recharge area of an aquifer (and sometimes the source of contamination) occurs in a different state from the one withdrawing groundwater from the aquifer. A second reason is that some existing federal environmental statutes intrinsically affect groundwater contamination: accelerated cleanup in one medium (air, water, or land) generally means that pollutants will be transferred to other media—usually the least regulated. A third reason stems from the diversity of state laws protecting groundwater. Generally reflecting the groundwater uses within a particular state, they provide little integration and consistency among the states' efforts.

Legislation

P.L. 100-4, H.R. 1/S. 1 amends the Clean Water Act to provide for the renewal of the quality of the nation's water. (Legislation is identical to S. 1128 in the 99th Congress, which was pocket-vetoed by the President.) The groundwater protection provisions include a 50% grants program (authorized at \$7.5 million) to carry out state groundwater protection programs and several aquifer studies to identify sources of pollution and control measures (authorized at \$7 million). Introduced January 6, 1987, it passed the House January 8 without amendment. H.R. 1 (S. 1 was the identical bill) passed the Senate on January 21 without amendment. It was vetoed by the President on January 30. The motion to override the veto passed in the House on February 3 and in the Senate on February 4.

H.R. 791 was introduced on January 28, 1987, and referred to the Committee on Interior and Insular Affairs. The bill designates the U.S. Geological Survey (USGS) as the lead federal agency responsible for the collection, analysis, and dissemination of groundwater quality and quantity information. The bill was approved by the House Interior Committee on May 6. The measure mandates the creation of a groundwater information program and clearing-

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Report from Washington (continued from p. 219)

house and a national advisory committee on groundwater information. It would authorize \$164 million annually for three years to fund new programs and current USGS groundwater efforts. Most of the money would go to existing programs.

H.R. 963/S. 20 provides for the protection of groundwater through state standards, planning, and protection programs. They require each state to assess, manage, and monitor groundwater resources within the state according to contaminant standards based on federal criteria. The House bill, introduced on February 4, was referred jointly to the Committees on Public Works and Transportation, Interior and Insular Affairs, and Energy and Commerce. The Senate bill, introduced on January 6, was referred to the Committee on Environment and Public Works.

The **S. 20 Amendment**, introduced on April 28, is an amendment to the Groundwater Research Act of 1987 (S. 20). It strengthens and clarifies the groundwater research programs of the EPA, the USGS, the Department of Agriculture, and other agencies. It authorizes \$285 million per year, one-third of which is new authority. The amendment was referred to the Senate Committee on Environment and Public Works.

S. 1105, introduced on April 28, is a groundwater research bill which was also introduced as an amendment that could be attached to S. 20 (see above). The legislation seeks to expand and guide groundwater programs at the EPA, the USGS, and the Department of Agriculture. The Committee on Environment and Public Works has not decided yet whether to consider groundwater research legislation separately or as part of groundwater protection legislation.

H.R. 2253 would establish a comprehensive EPA research program aimed at developing new technologies for preventing, detecting, and mitigating groundwater contamination. Currently, the EPA can only conduct research programs in support of its own regulatory programs. This bill would allow the agency to broaden its research efforts to include the development and demonstration of new technologies for groundwater protection and for detection, control, and cleanup of contamination. It would specifically direct the EPA to establish a program of research on the health effects of groundwater contaminants. The bill would also authorize the EPA to provide technical and financial assistance to state and local research programs and to provide grants to private, nonprofit entities working on groundwater problems. It would allow the agency to develop a program of scientific training for groundwater specialists and to authorize grants to universities for the establishment of three groundwater research institutes. The measure also seeks to improve the dissemination of groundwater information. Like the USGS bill, H.R. 2253 mandates the creation of a national groundwater information clearinghouse.

Congressional staff working on 791 and 2253 say the two bills will probably be merged in an effort to establish a comprehensive federal groundwater research program with specific roles for the USGS, the EPA, and the Agriculture Department. Some action will probably have occurred by the time this is published. The goal of both of these bills is to provide scientific information to the states, which have the primary responsibility for groundwater protection but lack the resources to gather the type of data that groundwater protection programs require.

W. W. Hutchison, 1935-1987

William Watt Hutchison, President of the International Union of Geological Sciences (IUGS) and Assistant Deputy Minister for the Geological Survey of Canada died in Ottawa on July 3, 1987, of cancer.

Hutchison graduated from the University of Aberdeen in 1957, and he received his doctorate in geology from the University of Toronto in 1962. After a brief period in industry, he joined the Geological Survey of Canada, part of the Canadian federal government's Department of Energy, Mines and Resources, and began geological mapping of the Coast Range Plutonic Complex of British Columbia on Canada's west coast. In 1974 he was appointed Head of the Geological Survey's Data Systems Group in Ottawa.

During his tenure as Secretary General of IUGS from 1976 to 1980, Hutchison expanded the scope of the IUGS scientific program; improved communications in the Union, which includes almost 100 countries; and started publishing *Episodes*, a news magazine for international geoscience. In 1980 he received the Bancroft Award from the Royal Society of Canada.

Hutchison was promoted on January 1, 1981, to the position of Director General of the Geological Survey of Canada; his appointment as Assistant Deputy Minister of Earth Sciences followed in July 1981. He provided leadership to numerous national and international organizations, including the Geological Association of Canada, the Association of the Scientific, Engineering and Technological Community of Canada, the standing Committee on International Scientific Relations in the Canadian Geoscience Council, the Canadian Geological Foundation, the IUGS Committee on Storage, Automatic Processing and Retrieval of Geological Data, and the Committee on Data for Sciences and Technology (CODATA) of the International Council of Scientific Unions. In 1982, he was elected President of CODATA for a term of four years. He also served as chairman of the IUGS Advisory Board for

Research Development from 1982 through 1984. He was a Fellow of the Geological Society of America.

At the XXVII International Geological Congress held in Moscow, USSR, in 1984, Hutchison was elected president of IUGS for a five-year term. One of Hutchison's last wishes was to establish, under IUGS auspices, a memorial fund, the Hutchison Young Scientist Foundation, to assist the professional development of meritorious young geologists through participation in key IUGS-sponsored meetings and conferences. Contributions to this fund may be addressed to Scott and Ayles, Barristers and Solicitors, attention Laird J. Rasmussen, 170 Laurier West, Ottawa, Ontario K1P 5V5, Canada.

MEMORIAL PREPRINTS

The following memorial preprints are now available, free of charge, by writing to GSA, P.O. Box 9140, Boulder, CO 80301.

Geraldo Botero-Arango, by Tomas Feininger and Néstor Castro

John W. Harrington, by Norman C. Smith

Paul Carrington Henshaw, by James A. Anderson

Allan H. James, by Laurence P. James

Carl Arthur Lamey, by Aurèle La Rocque

Robert M. Lindvall, by Edwin B. Eckel

Henry Silliman McQueen, by William H. Tonking and Tom Freeman

Robert Crim Redfield, by Joe L. Jackson

Frank Reeves, by Eric Rudd

Horace Gardiner Richards, by Rhodes W. Fairbridge

Paul Randolph Schluger, by Joseph P.D. Hull, Jr.

Albert E. Weissenborn, by Thor H. Kiilsgaard and

Joseph E. Worthington

Gordon H. Wood, by Ralph L. Miller and Jack H. Medlin

PRELIMINARY ANNOUNCEMENT AND CALL FOR PAPERS
SOUTHEASTERN SECTION, GSA, 22nd Annual Meeting

Columbia, South Carolina
April 7-8, 1988

The Southeastern Section of the Geological Society of America will meet at the Radisson Hotel together with the Southeast Section of the Paleontological Society. The meeting is hosted by the Earth Sciences and Resources Institute, University of South Carolina; the USC Department of Geology; and the South Carolina Geological Survey.

CALL FOR PAPERS

Papers are invited for presentation at technical and poster sessions and symposia. A maximum of 15 minutes for presentation and 5 minutes for discussion will be allowed in the technical sessions. Papers of regional interest to geologists in the southeastern United States as well as those of general geologic interest will be considered for the program. Abstracts not accepted for symposia may be considered for regular technical sessions.

SYMPOSIA

1. **Geological Aspects of Hazardous and Radioactive Waste Disposal.** Stephen H. Stow, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN 37830.
2. **Gold and Related Mineral Resources in the Southern Piedmont and Blue Ridge.** P. Geoffrey Feiss, Dept. of Geology, University of North Carolina, Chapel Hill, NC 27514.
3. **Geologic Setting of the Appalachian Ultradeep Core Hole (ADCOH) Project.** Richard T. Williams, Dept. of Geological Sciences, University of Tennessee, Knoxville, TN 37916.
4. **Structural Geology of Ductile Shear Zones in the Southern Appalachian Mountains.** Andy R. Bobyarchick, Dept. of Geography and Earth Sciences, University of North Carolina, Charlotte, NC 28223.
5. **Geology of the Savannah River Plant Area, South Carolina and Georgia.** Van Price, Savannah River Laboratories, Building 773-42A, Aiken, SC 29802.
6. **Geophysics of Buried Early Mesozoic Rift Basins of the Southeastern United States.** John McBride, INSTOC, Cornell University, Ithaca, NY 14853.
7. **Mesozoic-Cenozoic Biogeography of the Southeastern United States.** Joseph G. Carter, Dept. of Geology, University of North Carolina, Chapel Hill, NC 27514.

FIELD TRIPS

1. **The Lake Murray Spillway: Type Locality for the Alleghanian Orogeny in the Eastern Piedmont.** Don Secor.
2. **Geological and Geotechnical Aspects of Hazardous Waste Disposal at the GSX Facility Near Sumter, South Carolina, and at the Chem-Nuclear Facility Near Barnwell, South Carolina.** Roger Davis and Michael Ryan.
3. **Exhalative (?) Gold Deposits in the South Carolina Slate Belt.** Ed Sharp and Geoffrey Feiss.
4. **The Role of Dextral Strike Slip in the Displacement History of the Brevard Zone.** Andy Bobyarchick, Steve Edelman, and Wright Horton.

5. **Neotectonics of the Charleston, South Carolina Region.** Don Colquhoun and Pradeep Talwani.
6. **Barrier Islands and Tidal Inlets of the Central South Carolina Coast.** Tim Kana and Jerry Sexton.
7. **A Geological Transect Through the Suspect Terranes of the Appalachian Piedmont from the Fall Line Through the Inner Piedmont.** Allen Dennis, Jack Garihan, Steve Mittweide, Bill Ranson, and Don Secor.

ABSTRACTS

Abstracts are limited to 250 words and must be submitted camera-ready on official 1988 GSA abstract forms, available from Abstracts Coordinator, Geological Society of America, P.O. Box 9140, Boulder, CO 80301, (303) 447-8850.

Symposium abstracts should be sent to the appropriate symposium chairpersons. Technical and poster-session abstracts and suggestions for additional symposia should be sent to Robert M. Ressetar, Earth Sciences and Resources Institute, University of South Carolina, Columbia, SC 29208, or Steven Schamel, Earth Sciences and Resources Institute, University of South Carolina, Columbia, SC 29208. One original and five copies must be submitted.

ABSTRACTS ARE DUE NOVEMBER 13, 1987

PROJECTION EQUIPMENT

Equipment will be provided for 2" x 2" slides, which must fit a 35-mm carousel tray. Overhead projectors will not be available. Please bring your own loaded carousel trays, if possible.

EXHIBITS

Exhibits representing education, research, and industry will be on display at the meeting site. For further information, contact Willard E. Sharp, Department of Geology, University of South Carolina, Columbia, SC 29208, (803) 777-6929.

DETAILED INFORMATION

Information concerning registration, accommodations, and activities will appear in a future issue of *GSA News & Information* and as part of *Abstracts with Programs* for 1988.

Inquiries, additional information, requests, or suggestions should be addressed to

Elizabeth H. Morris
Earth Sciences and Resources Institute
University of South Carolina
Columbia, SC 29208
(803) 777-6484

New Geology Editor Appointed

M.E. (Pat) Bickford, University of Kansas, Lawrence, has been selected editor of *Geology*, to work with Eldridge Moores, whose second term as *Geology* editor will end soon.

Bickford was selected from 20 applicants for the post. He is an isotope geochemist and geochronologist whose primary interest is crustal evolution in the Proterozoic. He is a professor of geology at the University of Kansas and has taught there since 1964.



Geology editors Pat Bickford (left) and Eldridge Moores consider cover photo submissions.

Moores proposed the two-editor system because of the work load: when he became editor in 1981, about 13 manuscripts per month were submitted to *Geology*. The average is now 40 manuscripts per month. The editor must select a list of at least four potential reviewers for each manuscript (the most time-consuming part of the job) and subsequently decide, on the basis of the reviews, whether the paper is, or could be made, suitable for publication. Selecting papers and their order and choosing cover photographs for each issue are among the myriad other duties of the *Geology* editor. Office assistance and a computer system are also required. Moores's assistant for his editorial office at the University of California, Davis, is Beth Morgan. Bickford's assistant in Lawrence is Lee Blackledge.

Bickford says he considers *Geology* "the best journal of its type within the earth sciences" and that "it should continue to be a medium of publication of exciting, timely articles."

"Pat is both able and enthusiastic," Moores said. "I think he'll do a good job."

Authors should continue to send papers to be considered for *Geology* to GSA headquarters. The address: *Geology*, Geological Society of America, 3300 Penrose Pl., P.O. Box 9140, Boulder, CO 80301. Manuscripts sent to the editors must be forwarded to GSA before they can enter the processing system; sending manuscripts directly to the editors delays that entry and, therefore, the publication process.

SHORT OF RESEARCH FUNDS? We're working on the problem.

For more information:
Call the GSA Foundation
303-447-2020
800-GSA-1988

or mail contribution form to:
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3300 Penrose Place
P.O. Box 9140
Boulder, CO 80301-9974



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To the Geological Society of America Foundation:

My Century Challenge payment preference is:

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- check for \$50 is enclosed. Please bill me for \$50 next year.
- check for \$25 is enclosed. Please bill me for \$25 in each of the next three years.
- I recognize the strong need for research funds in our profession. I am joining the Trustees as a Challenge Partner by enclosing my check for \$ _____ (minimum \$250).

Name _____

Address _____

Signature _____

PRELIMINARY ANNOUNCEMENT AND CALL FOR PAPERS

NORTH-CENTRAL SECTION, GSA, 22nd Annual Meeting

Akron, Ohio
April 21-22, 1988

The **North-Central Section** of the Geological Society of America will be hosted by the Department of Geology, University of Akron, and will meet concurrently with the North-Central Section of the Paleontological Society, the Great Lakes Section of the Society of Economic Paleontologists and Mineralogists, the National Association of Geology Teachers, and the Pander Society.

CALL FOR PAPERS

Papers are invited for presentation at technical and poster sessions and symposia. Fifteen minutes for presentation and five minutes for discussion will be the format for the technical sessions. A wide variety of papers of interest to geoscientists are solicited including those on archaeological geology, coal geology, economic geology, engineering geology, environmental geology, general geology, geochemistry, geophysics, glacial geology, groundwater geology and hydrology, mineralogy, mining geology, paleobotany, paleoecology, paleontology, petroleum geology, petrology, remote sensing, sedimentology, stratigraphy, structural geology, and tectonics.

SYMPOSIA

1. **Seismicity of the Great Lakes Region.** A.W.G. Kunze, (216) 375-7632, and S. S. Alexander.
2. **Diagenesis of Sediments.** Samuel M. Savin, (216) 368-6592.
3. **Petroleum of the Appalachian Basin, a Clinton Centennial.** Arthur E. Burford, (216) 375-7635, and George Kotska.
4. **Depositional and Geochemical Features of Low-Sulfur Coals.** Lindgren L. Chyi, (216) 375-7635.
5. **Sedimentary Iron Accumulation through Geologic Time.** Sponsored by the Great Lakes Section, S.E.P.M. Annabelle M. Foos, (216) 375-7659, and Bruce M. Simonson.
6. **Great Lakes Levels and Public Policy: A Geological Perspective.** Charles E. Carter, (216) 375-7632.
7. **Carboniferous Paleontology and Biostratigraphy of the Mid-Continent Region.** Sponsored by the Paleontological Society. Gerald T. Weber, (612) 696-6105.
8. **Hydrology.** Lon C. Ruedisili and John P. Szabo, (216) 375-6935.
9. **Public Lands and Geologic Education.** Sponsored by the National Association of Geology Teachers. Barbara M. Manner, (216) 375-6935.

ABSTRACTS

Abstracts, limited to 250 words, must be submitted camera-ready on official GSA 1988 abstract forms. One original and five copies must be submitted to L. L. Chyi (address below) on or before December 3, 1987. Acceptance or rejection of an abstract will be based on the abstract as submitted by the author. Contributors to symposia should submit one additional copy of their abstract to the symposium coordinator. Abstract forms may be obtained from Lindgren L. Chyi, Dept. of Geology, University of Akron, Akron, OH 44325, (216) 375-7635; or Abstracts Coordinator, GSA, P.O. Box 9140, Boulder, CO 80301, (303) 447-8850.

ABSTRACTS ARE DUE DECEMBER 3, 1987

PROJECTION EQUIPMENT

All slides must be 2" x 2" and fit a standard 35-mm carousel projector. Two projectors will be available in each meeting room. Please bring your own loaded carousel trays.

STUDENT AWARDS

Student papers are welcome; awards will be made to students presenting the most outstanding papers. Student papers must be clearly identified as such and must be written exclusively by students. Prizes awarded for student papers with more than one author will be divided among the authors.

FIELD TRIPS

Field Trip Coordinator is Robert G. Corbett, (216) 375-7631.

1. **Upper Pennsylvanian Coals and Associated Rocks—Depositional Environments, Sedimentation, Paleontology, and Paleobiology.** Aureal T. Cross, (517) 355-4630, and others.
2. **Applied Environmental Geology in Northeast Ohio.** Jim L. Jackson, (216) 375-7991.
3. **Glacial Deposits and Paleoshorelines, Northeastern Ohio.** John P. Szabo, Charles E. Carter, (216) 375-7632, and others.
4. **Late Devonian and Early Mississippian Distal Basin-Margin Sedimentation, Northern Ohio (premeeting).** Thomas L. Lewis, (216) 687-3505.
5. **Geology of the Cuyahoga Valley National Recreation Area.** Sponsored by the National Association of Geology Teachers. Robert G. Corbett, (216) 375-7631, and Barbara M. Manner.
6. **Middle Devonian Conodont Biostratigraphy of North-Central Ohio.** Sponsored by the Pander Society. Dale Sparling, (507) 537-6164, and Frank Huntly.
7. **Structure and Stratigraphy of the Valley and Ridge and Plateau Provinces (premeeting).** Arthur E. Burford, (216) 375-7635.
8. **Longwall Coal Mine Visit.** Lindgren L. Chyi, (216) 375-7635.

SOCIAL EVENTS

A welcoming reception will be held on Wednesday evening, April 20. The Annual Banquet will be on Thursday evening, April 21. The Society of Economic Paleontologists and Mineralogists will hold a luncheon on Thursday, April 21, and the Paleontological Society will hold a luncheon on Friday, April 22.

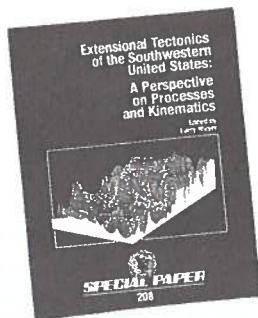
EXHIBITS

Space will be available for educational, research, and industry exhibits. Contact Charles E. Carter, (216) 375-7632.

DETAILED INFORMATION

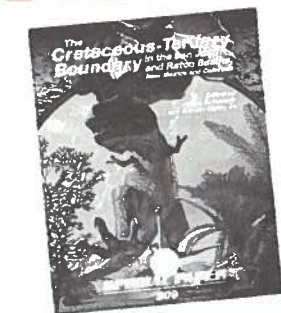
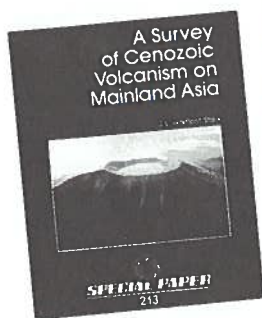
Information concerning registration, hotel and motel accommodations, transportation, and other activities will appear in a future issue of *GSA News & Information* and as part of *Abstracts with Programs* for 1988. Additional information, requests, or suggestions should be directed to Arthur E. Burford, Dept. of Geology, University of Akron, Akron, OH 44325, (216) 375-7635.

GSA RECENT RELEASES



Extensional Tectonics of the Southwestern United States: A Perspective on Processes and Kinematics

edited by Larry Mayer, 1986.
The goal of this volume is to provide a better understanding of continental rifting processes in general and in the Basin and Range and Mojave Desert Provinces in particular.
Special Paper 207, 130 p., ISBN 0-8137-2208-X, CIP, paperback, \$17.50.

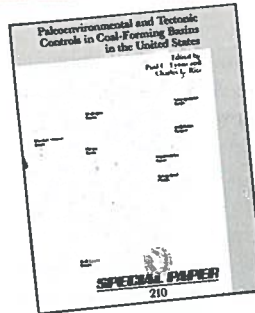


The Cretaceous-Tertiary Boundary in the San Juan and Raton Basins, New Mexico and Colorado

edited by James E. Fassett and J. Keith Rigby, Jr., 1987.
The 10 papers in this volume provide new information about the rocks adjacent to the Cretaceous-Tertiary boundary in the San Juan and Raton basins. The studies represented by the papers in this volume do not support an impact-associated mass extinction in either of these basins at the end of the Cretaceous Period, and it is noted that clearly much more work is needed to resolve questions about this boundary.
Special Paper 209, 204 p., with two 24"×20" pocket plates, ISBN 0-8137-2209-8, CIP, paperback, \$28.50.

A Survey of Cenozoic Volcanism on Mainland Asia

by J.L. Whitford-Stark, 1987.
The volume presents a catalog of the products of the Cenozoic volcanism on mainland Asia, exclusive of the Koryak and Kamchatka Peninsulas. A synthesis of the available information illustrates that the dominant volcanic landforms are fissures and cinder cones.
Special Paper 213, 82 p., ISBN 8-8137-2213-6, CIP, paperback, \$15.00.

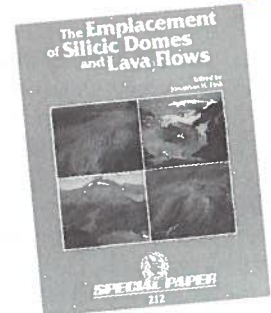
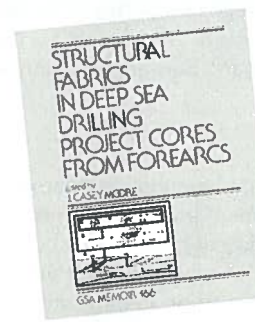


Paleoenvironmental and Tectonic Controls in Coal-Forming Basins of the United States

edited by Paul C. Lyons and Charles L. Rice, 1987.
A wealth of recent coal data and references to important literature on the field of coal-basin modeling in the United States are contained in this volume.
Special Paper 210, 208 p., ISBN 0-8137-2210-1, CIP, paperback, \$25.00.

Structural Fabrics in Deep Sea Drilling Project Cores from Forearcs

edited by J. Casey Moore, 1987.
DSDP cores from forearcs have a known tectonic setting and catch



The Emplacement of Silicic Domes and Lava Flows

edited by Jonathan H. Fink, 1987.
A symposium held at the 1984 GSA meeting in Reno, Nevada provided the basis for this volume. The symposium emphasized the mechanical, rather than chemical aspects of dome emplacement, and this volume maintains that approach. Several different perspectives are considered and offer insight into many of the key questions that still remain unanswered about domes.
Special Paper 212, 153 p., ISBN 0-8137-2212-8, CIP, paperback, \$18.75.

deformational and diagenetic-metamorphic processes while they are occurring. Analysis of the fabrics from these cores has great potential for furthering our understanding of initial structural processes in accretionary wedges, and for providing new insight into the evolution of ancient subduction complexes. Critical information is brought to a broad geological audience in a uniform and condensed format through a structural study done of virtually all cores collected from forearcs during the DSDP and presented in this volume.
Memoir 166, 168 pg., with two 17"×26" pocket plates, ISBN 0-8137-1166-5, CIP, hardbound, \$18.00.

NOW AVAILABLE Special Paper 207

The Motion of Allochthonous Terranes Across the Northern Pacific Basin

by M.G. Debiche, A. Cox, and D.C. Engebretson, 1987. \$11.00

Special Paper 211

Community paleoecology as a geologic tool: The Chinese Ashgillian-Eifellian (latest Ordovician through early middle Devonian) as an example

by Wang Yu, A.J. Boucot, Rong Jia-Yu, and Yang Xue-chang, 1987. \$18.50

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THE GEOLOGICAL SOCIETY OF AMERICA



THE GEOLOGICAL SOCIETY OF AMERICA

Annual research awards program

1988

The Geological Society of America will continue its annual research awards program in 1988. Eligibility is not restricted to GSA members. New application forms for the current year and detailed requirements are available each fall in the geology departments of colleges and universities offering graduate degrees in earth sciences. Forms are mailed annually to GSA Campus Representatives and department secretaries and chairmen in the United States and Canada. They are also available upon request from the Research Grants Administrator, Geological Society of America, P.O. Box 9140, Boulder, Colorado 80301. PLEASE USE ONLY THE 1988 APPLICATION AND APPRAISAL FORMS.

The primary role of the research grant program is to provide partial support of master's and doctoral thesis research for graduate students at universities in the United States, Canada, Mexico, and Central America. If necessary, applications may be submitted in Spanish or French.

The Geological Society of America awarded \$176,000 in grants in 1987. The awards went to 199 students doing research for advanced degrees. The average amount awarded was \$885. The largest award was \$1,230, but there is no predetermined maximum amount.

Confidential evaluations from two faculty members are required from master's and doctoral candidates and must accompany applications submitted. PLEASE USE THE "APPRAISAL OF APPLICANT" FORMS, WHICH ACCOMPANY THE 1988 APPLICATION FORMS.

Applications will also be accepted for the Harold T. Stearns Fellowship(s). These grants are awarded periodically in support of research on one or more aspects of the geology of Pacific Islands and of the circum-Pacific region. They are distinct from the GSA Penrose research grants and are restricted in their use to the particular region. The awardee(s) will be selected by the Research Grants Committee. Applications must be postmarked by **February 15**. Application forms are the same as those used for the Penrose research grants.

The Committee on Research Grants will meet in April to evaluate applications and award grants. In April, all applicants for grants will be informed of the committee's actions by the Executive Director of the Geological Society of America.

**ALL APPLICATIONS MUST BE SUBMITTED ON THE 1988 FORMS
AND POSTMARKED BY FEBRUARY 15, 1988**

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Scientific Leader: Stanley Beus, Northern Arizona University.

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APRIL 26-MAY 6, 1988

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Guests welcome
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Photo by Peter Kresan

CLIP & RETURN TO: GSA MEETINGS DEPT., P.O. BOX 9140,
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CENTENNIAL MEETING & EXHIBIT
OCTOBER 31-NOVEMBER 3, 1988
DENVER, COLORADO

CALL FOR 1988 FIELD TRIP PROPOSALS
DUE NOW

The final selection of field trips for the 1988 Centennial Celebration is underway. A preliminary announcement will be available this October. Many proposals already have been received. If you are thinking about leading a trip, now is the time to get in touch with the chairman.

1988 Field Trip Chairman
Gregory S. Holden
Dept. Geology and Geol. Eng.
Colorado School of Mines
Golden, CO 80401
(303) 273-3818 (direct)
273-3800 (dept.)

CALL FOR 1988 SYMPOSIA PROPOSALS
DUE JANUARY 1, 1988

Selection of symposia will be made in January 1988. For guidelines and information contact

1988 Technical Program Chairman
William W. Hay
University Museum
Campus Box 218
University of Colorado
Boulder, CO 80309
(303) 492-7370 (direct)

1988 Technical Program Co-Chairmen

Samuel S. Adams	A.R. (Pete) Palmer
Dept. Geology and Geol. Eng.	GSA
Colorado School of Mines	P.O. Box 9140
Golden, CO 80401	Boulder, CO 80301
(303) 273-3800	(303) 447-0173

PRELIMINARY ANNOUNCEMENT AND CALL FOR PAPERS

ROCKY MOUNTAIN SECTION, GSA, 41st Annual Meeting

Sun Valley, Idaho
May 16-18, 1988

The **Rocky Mountain Section** of the Geological Society of America will meet at the Sun Valley Inn, Sun Valley, Idaho, in conjunction with the Idaho Association of Professional Geologists and the Rocky Mountain Section of the Paleontological Society. The meeting is sponsored by the Department of Geology, Idaho State University, Pocatello, Idaho.

Sun Valley is located in the spectacular mountain country of central Idaho and is a premier all-season resort. The area is served by Horizon Airlines; connections are available from major cities. Boise and Idaho Falls are served by major airlines and are less than three hours drive from Sun Valley. The final meeting announcement will contain details of special airline fares. Because May is "slack season," room rates will be very reasonable (about \$45 for a double). The variety of restaurants and recreational activities is impressive. The beautiful setting, considered idyllic by America's affluent for 50 years, has not changed.

Because this is the first major geologic meeting in central Idaho, many of the field trips and symposia will cover previously little known terrain. Plan to join us in Sun Valley for what we intend to be the most stimulating Rocky Mountain Section Meeting ever. Bring your family and enjoy springtime in the Idaho mountains.

CALL FOR PAPERS

Papers are invited for presentation in technical sessions, symposia, and poster sessions. Technical sessions will allow fifteen minutes for presentations and five minutes for discussion. Papers dealing with all aspects of the geology of the Rocky Mountain region and the Pacific Northwest are encouraged. Abstracts for symposia should be submitted directly to the symposium convener.

FIELD TRIPS

An extensive program of both premeeting and postmeeting field trips is planned. For details, contact the first-listed trip leader or the field trip coordinator, H. Thomas Ore, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-3871 or 236-3365.

Premeeting

1. **Transect Across a Continent-Island Arc Boundary, West-Central Idaho.** Elaine Aliberti, Dept. of Earth and Planetary Sciences, Harvard University, Cambridge, MA 02138, (617) 495-2351; Cathryn Allen Manduca, Cal Tech; Mel Kuntz, USGS.
2. **Structural and Stratigraphic Transect of South-Central Idaho: Lost River, Pioneer, and Smoky Mountains.** Paul Karl Link, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-3846; Betty Skipp, USGS; Peter Isaacson, University of Idaho; Tim Hait, USGS.
3. **Southwest Montana Thrust Belt—Melrose to Bannack.** Jim Sears, Dept. of Geology, University of Montana, Missoula, MT 59812, (406) 243-2341; Larry Johnson, Beth Geiger, Bill Brandon, University of Montana.
4. **Rhyolitic and Explosive Volcanism of the Eastern Snake River Plain and Margins.** Lisa Morgan (USGS and University of Colorado), 975 14th Street, Boulder, CO 80302, (303) 440-7376; Bill Hackett, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-3960.

5. **Glacial Geology of Wood River Valley and Stanley Basin; Volcanism at Craters of the Moon, Borah Peak Fault Scarp.** Ed Evenson, Dept. of Geology, Lehigh University, Bethlehem, PA 18015, (215) 758-3659; Roy Breckenridge, Idaho Geological Survey; George Stevens, George Washington University.
6. **Geology of the Camas Prairie.** Brian Cluer, Dept. of Geology, Northern Arizona University, Flagstaff, AZ 86011, (602) 523-5383; Kelly Cluer, University of Arizona.

Postmeeting

1. **Cretaceous and Tertiary Intrusive Rocks of South-Central Idaho.** Kathleen Johnson, USGS, MS 937, Box 25046, Denver, CO 80225, (303) 236-5704; Reed Lewis, Oregon State University and USGS; Earl Bennett, Idaho Geological Survey; Thor Kiilsgaard, USGS.
2. **Early Paleozoic Margin Development, Central Idaho.** Peter Isaacson, Dept. of Geology, University of Idaho, Moscow, ID 83843, (208) 885-7969 or 885-6192; Elizabeth Measures, Mark McFadden, University of Idaho.
3. **Rhyolitic Volcanism of the Central and Western Snake River Plain and Margins.** Bill Leeman, Dept. of Geology, Rice University, Houston, TX 77251, (713) 527-4880; Bill Bonnicksen, Idaho Geological Survey.
4. **Neogene Paleontology of the Snake River Plain.** Bill Akersten, Idaho Museum of Natural History, Idaho State University, Pocatello, ID 83209, (208) 236-2680; Sue Miller, Dave Fortsch, Idaho State University; Dick Moyle, Weber State College; Ted Weasma, Bureau of Land Management, Boise.
5. **Geothermal Systems of the Wood River Area.** Duncan Foley, Dept. of Earth Science, Pacific Lutheran University, Tacoma, WA 98447, (206) 535-7568; Leah Street, Idaho Dept. of Water Resources, Burley.

SYMPOSIA

The following symposia have been organized or are in final stages of organization. Authors are encouraged to contact individual symposium chairpersons if they have relevant abstracts. Abstracts for symposia should be submitted directly to individual chairpersons.

1. **A Continent-Island Arc Boundary: Eastern Oregon-Western Idaho.** Elaine Aliberti, Dept. of Earth and Planetary Sciences, Harvard University, Cambridge, MA 02138, (617) 495-2351; Cathryn Allen Manduca, Cal Tech.
2. **Eocene Volcanism and Plutonism in the Northwest.** Falma Moye and Bill Hackett, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-3365; Kathleen Johnson, USGS.
3. **Snake River Plain Volcanic Processes, Stratigraphy, Petrology.** Bill Hackett, Dept. of Geology, Idaho State

(continued on p. 228)

Rocky Mountain Section (continued from p. 227)

- University, Pocatello, ID 83209, (208) 236-3960; Mel Kuntz, USGS.
- 4. Geochronology of the Hinterland of the Sevier Orogenic Belt.** Kip Hodges, Dept. of Earth and Planetary Sciences, MIT, Cambridge, MA 02139, (617) 253-2927; John Sutter, USGS.
 - 5. Hydrogeology of the Snake Plain Aquifer.** Paul Castelin, Idaho Dept. of Water Resources, 450 W. State, Boise, ID 83720, (208) 334-4487.
 - 6. Problems of Waste Disposal in the Greater Rocky Mountain Region.** Albert Ogden, Water Resources Center, P.O. Box 5082, Tennessee Tech, Cookeville, TN 38505, (615) 372-3353.
 - 7. New Interpretations of Sedimentary Basin Evolution in the Rocky Mountain Region.** Jim Schmitt, Dept. of Geology, Montana State University, Bozeman, MT 59715, (406) 586-3118.
 - 8. Mineralization of the Hailey 2-Degree Sheet.** Dedicated to the memory of Wayne Hall. Ron Worl, USGS, Branch of Central Mineral Resources, MS 905, Box 25046, Denver, CO 80225, (303) 236-5603.
 - 9. Living with the Wasatch Fault—Geology, Politics, and Economics.** Genevieve Atwood, Utah Geological and Mineral Survey, 606 Black Hawk Way, Salt Lake City, UT 84108, (801) 581-6831.
 - 10. Late Quaternary History of Great Salt Lake, Its Precursors, and Other Intermountain Lakes.** Don Currey, Dept. of Geography, University of Utah, Salt Lake City, UT 84112, (801) 581-6553.
 - 11. Regional Geology of the Idaho-Wyoming Thrust Belt and Snake River Plain.** Dedicated to the memory of Steve Oriol. Paul Karl Link, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-3846; Lucian Platt, Bryn Mawr College; Mel Kuntz, USGS; Nick Woodward, University of Tennessee.
 - 12. Neogene Biostratigraphy of the Northern Rocky Mountain Region.** Michael E. Nelson, Dept. of Earth Sciences, Fort Hays State University, Hays, KS 69601, (913) 628-5389; Gerry Smith, Richard Moyle.

For general information on the symposia, contact the symposium chairman, William R. Hackett, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-3960 or 236-3365.

ABSTRACTS

Abstracts are limited to 250 words and must be submitted camera-ready on the official 1988 GSA abstract form, available from Abstracts Coordinator, Geological Society of America, P.O. Box 9140, Boulder, CO 80301, (303) 447-8850.

Please send one original and five copies of abstracts to be considered for technical or poster sessions to the technical program chairman, David W. Rodgers, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-2754 or 236-3365.

Abstracts for symposia should be submitted (one original and five copies) directly to the first-listed symposium convener.

ABSTRACTS ARE DUE DECEMBER 29, 1987

PROJECTION EQUIPMENT

All slides must be 2" x 2" and fit a standard 35-mm carousel tray. Two projectors may be available for some symposia, but speakers should plan on using only one projector unless advised differently by the Program Committee. Please bring your own loaded carousel tray, if possible.

EXHIBITS

Exhibits will be adjacent to the technical session rooms in the foyer of the Sun Valley Inn. The cost of booths for educational and nonprofit institutions will be reduced. For further information, contact the exhibits coordinator, Falma J. Moye, Dept. of Geology, Idaho State University, Pocatello, ID 83209, (208) 236-3365.

SPECIAL EVENTS

A welcoming party will be held on Sunday evening, May 15. The Annual Banquet will be held Monday, May 16. The speaker will probably be Governor Cecil Andrus of Idaho, former Secretary of the Interior.

GUEST ACTIVITIES

A full program of spouse and guest activities is planned. Sun Valley is an exquisite resort in beautiful mountain country. This is your chance to enjoy a family vacation in combination with a stimulating professional meeting. Accommodations are available in suites and condominiums if desired. Details of accommodations will be distributed with the final meeting announcement.

DETAILED INFORMATION

Detailed information concerning registration, accommodations, and activities will appear in a future issue of *GSA News & Information* and as part of *Abstracts with Programs* for 1988. Requests for additional information or suggestions should be addressed to

General Chairman

Paul Karl Link

Dept. of Geology

Idaho State University

Pocatello, ID 83209

(208) 236-3846 or 236-3365

Registrar

Carla Noonan Granquist

Dept. of Geology

Idaho State University

Pocatello, ID 83209

(208) 236-3365.

AIP Offers Reduced Subscription Rates

The American Institute of Physics (AIP) offers reduced-rate subscriptions for its own journals to individual members of Affiliated Societies, of which GSA is one. This offer is limited to one subscription per person to each journal. Following is a list of AIP-owned journals showing the member rates for 1988 which are available to individuals who are members of GSA and, for reference, the nonmember rates.

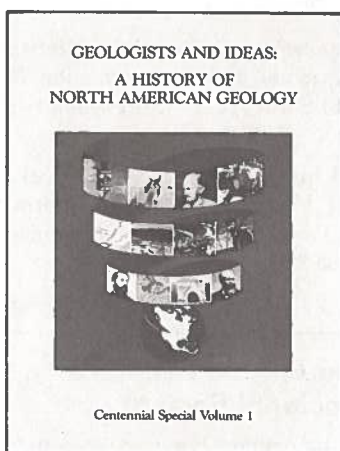
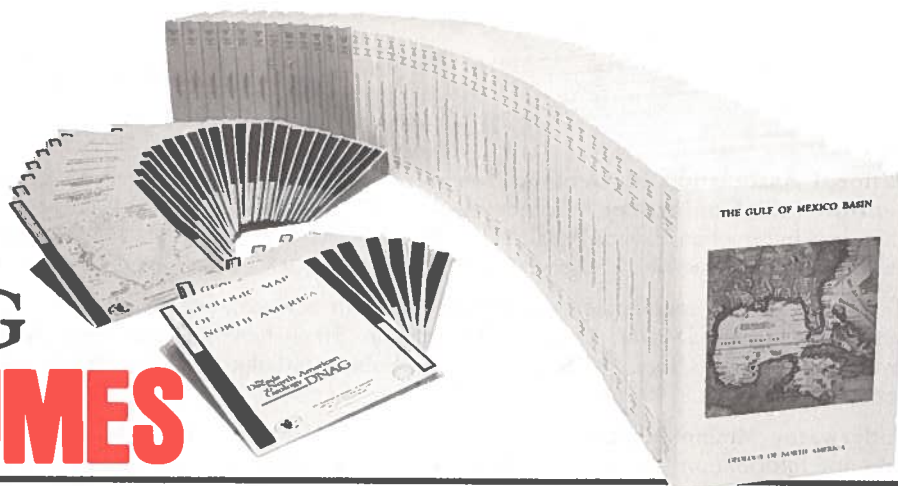
	Domestic rates		Foreign rates	
	Member	Non-member	incl. Canada & Mexico	Member
<i>Applied Physics Letters</i>	\$ 45	\$ 425	\$ 80	\$ 460
<i>Computers in Physics*</i>	20	250	30	260
<i>Journal of Applied Physics</i>	90	725	130	765
<i>The Journal of Chemical Physics</i>	110	1165	160	1215
<i>Journal of Mathematical Physics</i>	55	760	70	775
<i>Journal of Physical and Chemical Reference Data†</i>	60	265	70	275
<i>The Physics of Fluids</i>	50	665	70	685
<i>Physics Today</i>	25	85	35	95
<i>Review of Scientific Instruments</i>	33	395	53	415
<i>Current Physics Index</i>	72	390	92	410
<i>General Physics Advance Abstracts</i>	14	165	24	175

*To begin publication in January 1988.

†Nonmember subscriptions are handled by the American Chemical Society in Columbus, Ohio.

Send subscription orders with remittances directly to the American Institute of Physics, 335 East 45th St., New York, NY 10017. Include a statement indicating that you are a member of GSA.

The Decade of North American Geology DNAG VOLUMES



CENTENNIAL SPECIAL VOLUMES

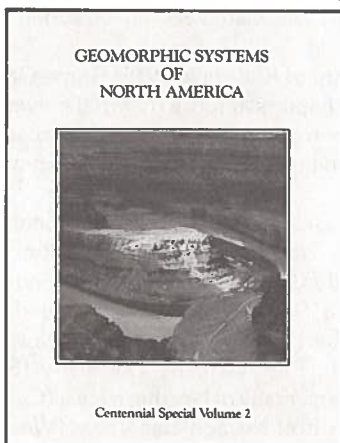
Four special, topical volumes prepared by four of GSA's Divisions as their contribution to the Society's centennial project, DNAG. The Divisions participating are: The History of Geology Division, the Quaternary and Geomorphology Division, the Engineering Geology Division, and the Archeological Geology Division. Volumes are hardbound, 8-1/2" X 11", with spines color coded as indicated.

Geologists and Ideas: A History of North American Geology

edited by Ellen T. Drake and William M. Jordan, 1985

An unusually coherent, well-written volume. Prepared for DNAG by the History of Geology Division of GSA. Spotlights events, ideas, and people, and sheds light on the history of North American geology as a whole. With its many intellectual jewels on the evolution of scientific concepts, this book will provide many happy hours of entertainment and instruction for anyone interested in the history of science, especially that of the earth sciences. Thirty-four papers are organized into four categories: (1) The Evolution of Significant Ideas; (2) Contributions of Individuals; (3) Contributions of Organized Groups; and (4) Application of Significant Ideas. Excellent as a course-book or for additional reading for classes related to the history of geology or general science. Light blue spine.

CSV001, 520 p., Indexed, ISBN 0-8137-5301-5, CIP, hardbound, \$37.50.

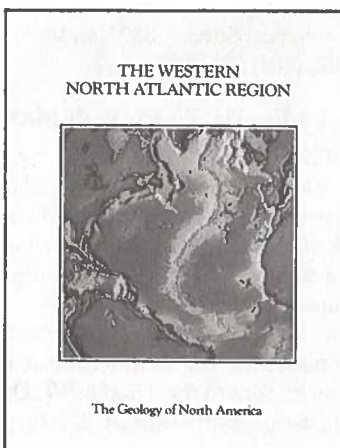


Geomorphic Systems of North America

edited by W. L. Graf, 1987

New ideas, new techniques, new data, even new access to extraterrestrial worlds -- all these are in greater abundance now than ever, making this, the editor says, a marvelous time to be a geomorphologist! This 14-paper volume has been prepared by the Geomorphology Division of GSA as its contribution to DNAG. Subjects treated are Regional Geomorphology of N. America; Appalachian Mountains and Plateaus; Atlantic and Gulf Coast Province; Central Lowlands; Canadian Shield; Great Plains; Rocky Mountains; Colorado Plateau; Basin and Range; Central America and the Caribbean; Columbia and Snake River Plains; Interior Mountains and Plateaus; Pacific Coast and Mountain Systems; and Arctic Lowlands. Yellow spine.

CSV002, 661 p., Indexed, ISBN 0-8137-5302-3, CIP, hardbound, \$48.50.



GEOLOGY OF NORTH AMERICA

The centerpiece of the DNAG project. When complete, this modern synthesis of the geology and geophysics of North America and the adjacent oceanic regions will contain 28 matched volumes, in two sets: 19 U. S. and Mexican volumes, and nine from Canada. Both of these sets, and all single volumes will be available from GSA. All volumes are hardbound, 8-1/2" X 11" and most include separate slip cases containing oversize plates.

The Western North Atlantic Region

edited by P.R. Vogt and B.E. Tucholke, 1986

The award-winning first volume in this 28-volume series. Complete coverage of the geology and geophysics of the western North Atlantic Ocean basin in 41 chapters, organized into 8 sections: Introduction; Present Accretion Axis; Regional Geology and Geophysics; Plate Tectonic Evolution; Surficial Sedimentation; Biofacies; Paleoceanography; and Resources and Law of the Sea. The editors received the 1986 Alan Berman Research Publication Award for this volume. Includes 11 plates, several in color, in a separate, matching slipcase.

GNA-M, 720 p., 11 plates in stipcase, Indexed, ISBN 0-8137-5202-7, CIP, hardbound, \$47.50

COMING SOON...

Heritage of Engineering Geology

edited by W.L. Graf, 1987

The contribution to DNAG by the Engineering Geology Division of GSA.

MEETINGS

(Asterisk indicates new or changed information)

1987

National Association of Geology Teachers Far Western Section Fall Conference, October 2-4, 1987, Hayward, California. Information: Elwood Brooks, Dept. Geological Sciences, California State University, Hayward, CA 94542; (415) 881-3486.

GeoTech '87 (microcomputer applications in earth science), October 3-6, 1987, Denver, Colorado. Information: Stephen A. Krajewski, Geomath, Inc., 165 S. Union Blvd., Suite 410, Lakewood, CO 80228; (303) 980-8625.

Underwater Mining Institute, October 4-7, 1987, Newport, Oregon. Information: Allen Miller, UW Sea Grant Advisory Services, 1800 University Ave., Madison, WI 53705; (608) 262-0645.

Troodos '87: Ophiolites and Oceanic Lithosphere, October 5-10, 1987, Nicosia, Cyprus. Information: Troodos '87 Symposium, Geological Survey Dept., Nicosia, Cyprus.

North American Conference on Tectonic Control of Ore Deposits, October 6-9, 1987, Rolla, Missouri. Information: Geza Kisvarsanyi, Dept. Geology and Geophysics, University of Missouri, Rolla, MO 65401; (314) 341-4663.

American Association of Petroleum Geologists Eastern Section, October 7-10, 1987, Columbus, Ohio. Information: William Rike, P.O. Box 763, Worthington, OH 43085; (614) 888-6747.

Society of Economic Paleontologists and Mineralogists Great Lakes Section Annual Meeting and fall field trip, October 9-11, 1987, southern Indiana. Information: J. R. Dodd, Dept. of Geology, Indiana University, Bloomington, IN 47405; (812) 335-5322 or 5581.

Geothermal Resources Council Annual Meeting, October 12-16, 1987, Sparks, Nevada. Information: Geothermal Resources Council, P.O. Box 1350, Davis, CA 95617-1350; (916) 758-2360.

Mathematical Methods in Geology, 16th Annual Geochautauqua, October 12-16, 1987, Pribiam, Czechoslovakia. Information: V. Nemeč, Geindustria, Geologicka 2, 152 00 Praha 5, Barrandov, Czechoslovakia; phone (42-2) 590228 or (42-2) 7811801.

Indiana Geological Survey Sesquicentennial Celebration, October 15-16, 1987, New Harmony, Indiana. Information: Robert H. Shaver, Indiana Geological Survey, 611 North Walnut Grove, Bloomington, IN 47405; (812) 335-7428.

79th Annual New England Intercollegiate Geological Conference, October 16-18, 1987, Montpelier, Vermont. Information: David S. Westerman, Dept. Earth Science, Norwich University, Northfield, VT 05663; (802) 485-2337.

(continued on p. 231)

Engineering Geology Division Establishes Award Fund

GSA's Engineering Geology Division has established an Anniversary Award Fund in commemoration of the 40th anniversary of its founding in 1947. The fund will make an annual grant through the GSA Research Awards Program for research in engineering geology.

"The Division's activities, such as publication of the book series *Reviews in Engineering Geology* and *Engineering Geology Case Histories*, programs it has arranged at GSA Annual Meetings, and representing the Society on numerous interdisciplinary committees on applied earth sciences, have helped the development of engineering geology in North America to attain its present healthy state," says David M. Cruden, chairman of the Anniversary Award Committee. The target amount for the award fund is \$20,000. Those who wish to contribute to the fund can use the form printed here.

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Enclosed is my gift for the Anniversary Award Fund of the Engineering Geology Division of GSA to be used for research grants in engineering geology.

Make checks payable to: GSA Foundation

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Sigma Gamma Epsilon Becomes GSA Associated Society

Sigma Gamma Epsilon, the national honorary society for the earth sciences, became a GSA Associated Society by action of the GSA Council in May 1987.

Founded at the University of Kansas in 1915, Sigma Gamma Epsilon currently has active chapters at more than 100 universities nationwide. Membership, open to students with good academic records and strong motivation in the earth sciences, now numbers 1100.

National officers are President Austin A. Sartin, Centenary College, Louisiana; Secretary-Treasurer Charles J. Mankin, Oklahoma Geological Survey; and Editor (quarterly journal *Compass*) Daniel F. Merriam, Wichita State University. Regional vice-presidents are Don C. Steinker, Bowling Green State University (Northeastern), C. Q. Brown, East Carolina University (Southeastern), James C. Walters, University of Northern Iowa (Central), and Anne F. Wyman, University of Nevada, Las Vegas (Western).

More information on Sigma Gamma Epsilon is available from Betty Bellis, c/o Oklahoma Geological Survey, 830 Van Vleet Oval, Room 163, Norman, OK 73109, (405) 325-3031.

Dibblee Foundation Seeks Funds To Publish Maps

The Thomas W. Dibblee Foundation is raising funds to publish about 100 of Dibblee's geologic quadrangle maps of California. Dibblee, 75 and still professionally active, has studied and mapped more than 40,000 square miles of California. His maps have become standard references for geologists working in the state in the past 50 years. More than 60 of his maps have been published.

The Dibblee Foundation, founded in 1983, has raised one-fourth of its \$400,000 goal for publication of the 100 Dibblee maps. Contributions for the fund may be sent to the Thomas W. Dibblee Foundation, P.O. Box 60560, Santa Barbara, CA 93160; phone (213) 301-0442.

MEETINGS (continued from p. 230)

32nd Annual Midwest Groundwater Conference, October 28-30, 1987, Madison, Wisconsin. Information: Jim Krohelski, U.S. Geological Survey, 6417 Normandy Lane, Madison, WI 53719-1133; (608) 276-3850.

American Association of Petroleum Geologists Gulf Coast Section, October 28-31, 1987, San Antonio, Texas. Information: Don F. Tobin, 1530 Milam Bldg., San Antonio, TX 78205; (512) 227-9540.

First Brazilian Congress on Geochemistry, October 30-November 2, 1987, Porto Alegre, Brazil. Information: Geol. Eduardo Camozzato, CPRM, Rua Banco da Província, 105 - 90.650, Porto Alegre/RS, Brazil; phone (0512)33-7311; Telex (051)1062 CPRM.

Workshop to Develop Scientific Drilling Initiatives in the Caribbean, November 17-21, 1987, Runaway Bay, Jamaica. Information: R. C. Speed, Dept. Geological Sciences, Northwestern University, Evanston, IL 60201; (312) 491-3238.

International Waste Management Conference, November 29-December 5, 1987, Hong Kong. Information: Gloria Greene, ASME Professional Development Dept., 345 East 47th St., New York, NY 10017; (212) 705-7398.

***Nature and Composition of Surface Units on Mars Workshop**, December 4-5, 1987, Napa, California. Information: Pamela Jones, LPI Projects Office, 3303 NASA Rd. 1, Houston, TX 77058; (713) 486-2150.

Society of Economic Paleontologists and Mineralogists Gulf Coast Section 8th Annual Research Conference, Paleontological Applications in Petroleum Exploration, December 6-9, 1987, Houston, Texas. Information: Charles L. McNulty, Dept. of Geology, University of Texas, UTA Box 19049, Arlington, TX 76019; (817) 273-2979.

American Geophysical Union Fall Meeting, December 7-11, 1987, San Francisco, California. Information: Ann E. Singer, American Geophysical Union, 2000 Florida Ave., N.W., Washington, DC 20009; (202) 462-6903.

First Arab Conference on Geological Education, December 12-14, 1987, Baghdad, Iraq. Information: Conference Secretariat, Arab Conference on Geological Education, Arab Geologist Association, P.O. Box 1247, Baghdad, Iraq; Telex 212197 JAMIT IK.

GSA 1987 Annual Meeting, October 26-29, 1987, Phoenix, Arizona

1988 *Restoring the Earth, National conference on natural resource restoration and environmental planning, January 13-16, 1988, Berkeley, California. Information: Kathleen Ferguson, 1713 C Martin Luther King Jr. Way, Berkeley, CA 94709; (415) 843-2645. (Abstracts due October 15, 1987.)

Australian Association of Exploration Geophysicists-Society of Exploration Geophysicists International Geophysical Conference and Exhibition, February 14-21, 1988, Adelaide, Australia. Information: ASEG/SEG Adelaide '88 Conference, c/o Elliservice Convention Management, P.O. Box 753, Norwood 5067, SA, Australia; phone (08) 332-4068; Telex AA87129.

American Association of Petroleum Geologists Southwest Section, February 21-23, 1988, El Paso, Texas. Information: Robin Hoffer, Dept. of Geology, University of Texas, El Paso, TX 79968; (915) 747-5501.

American Association of Petroleum Geologists Annual Meeting, March 20-23, 1988, Houston, Texas. Information: AAPG Convention Dept., P.O. Box 979, Tulsa, OK 74101; (918) 584-2555.

Anadarko Basin Symposium, April 5-6, 1988, Norman, Oklahoma. Information: Kenneth S. Johnson, Oklahoma Geological Survey, University of Oklahoma, Norman, OK 73019; (405) 325-3031.

(continued on p. 232)

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MEETINGS (continued from p. 231)

American Association of Petroleum Geologists Pacific Section, April 17-19, 1988, Santa Barbara, California. Information: Jack Cunningham, Celeron Oil & Gas, 111 West Micheltorena, Santa Barbara, CA 93101-3018; (805) 966-0831.

V. M. Goldschmidt Conference for geochemistry, May 11-13, 1988, Baltimore, Maryland. Information: Goldschmidt Conference Coordinator, Pennsylvania State University, 410 Keller Bldg., University Park, PA 16802. (Abstracts due December 18, 1987.)

Sixth Thematic Conference on Remote Sensing for Exploration Geology, May 16-19, 1988, Houston, Texas. Information: Thematic Conference, Environmental Research Institute of Michigan, P.O. Box 8618, Ann Arbor, MI 48107; (313) 994-1200, ext. 3382; Telex 4940991 ERIMARB.

American Geophysical Union Spring Meeting, May 16-20, 1988, Baltimore, Maryland. Information: Ann E. Singer, American Geophysical Union, 2000 Florida Ave., N.W., Washington, DC 20009; (202) 462-6903.

Bicentennial Gold 88, May 16-20, 1988, Melbourne, Australia. Information: R. R. Keays, Dept. of Geology, University of Melbourne, Parkville, Victoria 3052, Australia; telephone (03) 345 1844; Telex AA35185.

Geological Association of Canada-Mineralogical Association of Canada-Canadian Society of Petroleum Geologists Joint Annual Meeting, May 22-25, 1988, St. John's, Newfoundland. Information: John Fleming, Newfoundland Dept. of Mines and Energy, P.O. Box 4750, St. John's, Newfoundland A1C 5T7, Canada; (709) 576-2768.

Notice of Council Meeting

The Council of the Society reminds you that meetings of Council are open to all Fellows, Members, and Student Associates as observers, except during executive sessions. Only councilors, officers, and section representatives may speak to agenda items, except by invitation of the chair. Because of space and seating problems, notification of attendance must be received by the Executive Director in advance of the meeting. The next meeting of the Council will be Wednesday morning, October 28, at the annual meeting in Phoenix.

HELP DIRECT GSA'S FUTURE

The GSA Committee on Nominations requests your help in compiling a list of GSA members qualified for service as officers and councilors of the Society. The committee requests that each nomination be accompanied by basic data and a description of the qualifications of the individual for the position recommended (vice-president, treasurer, councilor).

NOMINATIONS FOR 1989 OFFICERS AND COUNCILORS MUST BE RECEIVED at GSA headquarters no later than **FEBRUARY 15, 1988**.

Please send nominations and backup material to
Administrative Department
Geological Society of America
P.O. Box 9140
Boulder, CO 80301

Case Histories in Geotechnical Engineering 2nd International Conference, June 1-5, 1988, St. Louis, Missouri. Information: Shamsheer Prakash, Room 308, Dept. of Civil Engineering, University of Missouri, Rolla, MO 65401; (314) 341-4461.

***WaterTech China '88**, international exposition and congress of water technologies, June 3-8, 1988, Beijing, China. Information: Management Committee, WaterTech China '88, c/o MartLink Communications Group, GPO Box 13477, Hong Kong; phone 5-225705; Telex 72091 HX.

***Second International Symposium on Rockbursts and Seismicity in Mines**, June 8-10, 1988, Minneapolis, Minnesota. Information: Charles Fairhurst, Dept. Civil and Mineral Engineering, 500 Pillsbury Dr. S.E., Minneapolis, MN 55455-0220.

29th U.S. Symposium on Rock Mechanics, June 13-16, 1988, Minneapolis, Minnesota. Information: Jan Becker, Dept. Professional Development, University of Minnesota, 315 Pillsbury Dr. S.E., Minneapolis, MN 55455; (612) 626-1358.

Fourth Symposium on the Geology of the Bahamas, June 17-22, 1988, San Salvador Island, Bahamas. Information: Donald T. Gerace, CCFL Bahamian Field Station, 270 Southwest 34th St., Fort Lauderdale, FL 33315.

***Shelf Sedimentation: Events and Rhythms** (SEPM research conference), June 26-July 1, 1988, Santa Cruz, California. Information: M. Field or E. Clifton, USGS, 345 Middlefield Rd., Menlo Park, CA 94025; (415) 354-3088 or 3112.

Seismic Probing of the Continents and Their Margins International Symposium, July 6-8, 1988, Canberra, Australia. Information: Jim Leven, Bureau of Mineral Resources, P.O. Box 378, Canberra, ACT 2601, Australia; telephone (062) 499111; Telex AA62109.

International Working Meeting on Soil Micromorphology (meeting of Subcommittee B of the International Society of Soil Science), July 10-15, 1988, San Antonio, Texas. Information: L. P. Wilding, Dept. of Soil and Crop Sciences, Texas A&M University, College Station, TX 77843-2474; (409) 845-3604.

First International Conference on Radiolaria, July 18-20, 1988, Marburg, Federal Republic of Germany. Information: Joyce R. Blueford, U.S. Geological Survey, MS 144, 345 Middlefield Rd., Park, CA 94025; (415) 329-4004, or R. Schmidt-Effing, Interrad-Conference, Dept. of Geosciences, Philipps-Universität, Lahnberge, D-3550 Marburg, Federal Republic of Germany.

***5th International Symposium on Fossil Cnidaria**, including Archaeocyatha and spongiomorphs, July 25-29, 1987, Brisbane, Australia. Information: John Jell, Uniquist Ltd., University of Queensland, St. Lucia, QLD 4067, Australia; phone (07) 344 2733.

Permafrost 5th International Conference, August 2-5, 1988, Trondheim, Norway. Information: V International Conference on Permafrost, Norwegian Institute of Technology, Studies Administration, N-7034 Trondheim-NTH, Norway.

American Association of Petroleum Geologists Rocky Mountain Section, August 21-24, 1988, Bismarck, North Dakota. Information: Roger N. Borchert, Box 5006, Bismarck, ND 58501; (701) 223-3588.

6th International Fission Track Dating Workshop, September 5-9, 1988, Besançon, France. Information: J.-L. Janier-Dubry, Lab. de Microanalyses Nucléaires, U.F.R. des Sciences et Techniques, 16 Route de Gray, 25030 Besançon cedex, France; telephone 81.53.81.22.

(continued on p. 233)

MEETINGS (continued from p. 232)

International Symposium on Geochemistry and Mineralization of Proterozoic Mobile Belts, September 6–10, 1988, Beijing, China. Information: Proterozoic Geochemistry Symposium, c/o Prof. Sun Dazhong, Tianjin Inst. Geology and Mineral Resources, CAGS No. 4, 8th Rd., Dazhigu, Tianjin 300170, People's Republic of China.

International Symposium on Engineering Geology: Study, Preservation and Protection of Ancient Works, Monuments and Historical Sites, September 19–23, 1988, Athens, Greece. Information: Paul G. Marinos, Greek Committee of Engineering Geology, 1988 Symposium Secretariat, P.O. Box 19140, GR-117 10 Athens, Greece; Telex 45 4312 POLX.

Fourth International Tectonostratigraphic Terrane Conference, September 19–30, 1988, Nanjing University, Nanjing, People's Republic of China. Information: Tom Wiley, U.S. Geological Survey, MS-999, 345 Middlefield Road, Menlo Park, CA 94025; (415) 354-3067.

American Geophysical Union Fall Meeting, December 5–9, 1988, San Francisco, California. Information: Ann E. Singer, American Geophysical Union, 2000 Florida Ave., N.W. Washington, DC 20009; (202) 462-6903.

GSA 1988

Northeastern Section, March 9–12, Portland, Maine
South-Central Section, March 14–15, Lawrence, Kansas
Cordilleran Section, March 28–30, Las Vegas, Nevada
Southeastern Section, April 6–8, Columbia, South Carolina
North-Central Section, April 21–22, Akron, Ohio
Rocky Mountain Section, May 16–18, Sun Valley, Idaho
Annual Meeting, October 31–November 3, Denver, Colorado

Penrose Conferences

Origin of Massif Anorthosites and Related Rocks, August 1988, Chugwater, Wyoming. Information: B. Ronald Frost, Dept. of Geology and Geophysics, University of Wyoming, Laramie, WY 82071; (307) 766-4290.

Volcanic Influences on Terrestrial Sedimentation, August 28–September 3, 1988, Crystal Mountain, Washington. Information: Gary A. Smith, Dept. of Geology, University of New Mexico, Albuquerque, NM 87131; (505) 277-4204.

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The Kontinentales Tiefbohr (KTB) program welcomes cooperation in joint research on the hole to be drilled in the Oberpfalz, Federal Republic of Germany. The program will consist of a pilot hole of 3–5 km followed by a superdeep hole to about 15 km. Interested scientists should send inquiries to R. Emmermann, Univ. Giesse, Inst. Petrologie & Mineralogie, Senckenbergstr. 3, D-6300 Giessen, FRG; or to H. Rischmueller, KTB-Projektleitung, Bundesanstalt für Geowissenschaften und Rohstoffe, Postfach 510153, D-3000 Hannover 51, FRG.

In Memoriam

John P. Albers
Palo Alto, California

Joseph L. Adler
Houston, Texas
March 5, 1987

Charles S. Alexander
Tucson, Arizona

Kenneth W. Barr
Buckinghamshire, England
May 20, 1987

George H. Crowl
Delaware, Ohio
June 10, 1987

Hollis M. Dole
Lake Oswego, Oregon
July 19, 1987

William W. Hutchison
Ottawa, Ontario
July 3, 1987

Correction: W. Harold Stuart was incorrectly listed as Harold W. Stuart, in the July 1987 issue of *GSA News & Information*. He died March 5, 1987

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The Department of Geology invites applications for a tenure-track faculty position occupying the MacArthur Chair in Hydrogeology and Environmental Systems. We are particularly interested in identifying geoscientists with sufficient experience to warrant appointment at the Assistant or Associate Professor level and with concern for applying their specialty to broader questions of interactions within environmental systems. We seek an individual who will take advantage of the strong programs in science and engineering present at Bucknell in a strong liberal arts context, and who has an enthusiasm for teaching highly-qualified undergraduates at both introductory and advanced levels. Our primary objective is to receive applications from persons with a Ph.D. and experience in hydrogeology, but we will also consider geomorphologists with research interests in low-temperature geochemistry of natural water systems who can teach a course in hydrogeology. This position will be filled beginning September, 1988. Salary is competitive; funds are included for equipment and research; and there is a lower teaching load for the initial five years of the appointment. Applicants should send a detailed resume, the names of three individuals from whom letters of recommendation can be obtained, and a statement of research and teaching interests to: Dr. J. C. Allen, Chairman, Department of Geology, Bucknell University, Lewisburg, PA 17837. Review of applications will begin November 1, 1987. Bucknell University is an Affirmative Action/Equal Opportunity Employer.

THE DEPARTMENT OF GEOGRAPHY AND GEOLOGY AT MOUNT HOLYOKE COLLEGE invites applications for a full-time, tenure-track position at the Assistant Professor level in a three-person geology program, beginning September 1988. Applicants must have completed all requirements for the Ph.D. before the appointment can be finalized. Some teaching experience

is preferred, and a sincere commitment to high-quality teaching of excellent undergraduate students (both geology majors and nonmajors) in a liberal-arts setting is an absolute must. Applicants must also be willing to interact (both in research and in teaching) with earth science faculty and graduate student colleagues in our local Five-College consortium. We solicit applications primarily from individuals with teaching/research competence in surficial geology (geomorphology, glacial geology, hydrogeology, or sedimentology), but would also like to consider applications from specialists in geophysics (especially seismology). Strong field orientation is important. If interested, please send resume, one page statement of immediate teaching and research goals, and names of three references to: Martha M. Godchaux, Chair, Department of Geography & Geology, Mount Holyoke College, South Hadley, MA 01075 before January 1, 1988. Mount Holyoke College is an Affirmative Action/Equal Opportunity Employer.

We'll be conducting interviews at the GSA meeting in Phoenix.

STRUCTURAL GEOLOGIST UNIVERSITY OF TENNESSEE-KNOXVILLE

The Department of Geological Sciences, University of Tennessee-Knoxville invites applications for a tenure track position in structural geology (Assistant or Associate Professor level) to be filled September 1, 1988. Applicants should have a Ph.D. degree completed by the time of employment, and interest in pursuing a strong research program in structure and tectonics. All members of the faculty teach both graduate and undergraduate courses in their discipline. Preference will be given to those with documented research capability. The University of Tennessee is located in a classic region for research into the structure of orogenic belts and evolution of continental crust. Excellent computing and analytical facilities are available at the University and nearby Oak Ridge National Laboratory. Application deadline: January 8, 1988. Send resume with summary of research interests, publications, experience, and names and addresses of three references to: DR. STEVEN G. DRIESE (CHAIRPERSON), STRUCTURAL GEOLOGY SEARCH COMMITTEE, DEPARTMENT OF GEOLOGICAL SCIENCES, UNIVERSITY OF TENNESSEE, KNOXVILLE, TN 37916. UTK is an EEO/Title IX/Section 504 employer.

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Enquiries, or applications, with a curriculum vitae and the names of three referees should be sent to: Dr. C.R. Barnes, Head, Department of Earth Sciences, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, A1B 3X5. Telephone: (709) 737-8142.

Note: In accordance with Canadian Immigration requirements, this advertisement is directed to qualified Canadian citizen and permanent residents.

FACULTY POSITION IN SEISMOLOGY

The Center for Earthquake Research and Information (CERI) and Department of Geological Sciences of Memphis State University invite

applications for a new faculty position in Seismology. The Ph.D. is required. The level and emphasis of the position are open, though preference is for entry-level candidates with experience in applying seismology to understanding the structure and dynamics of the earth's interior. The successful applicant, in addition to teaching graduate classes, will be expected to generate external funds and implement an independent program of research.

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Applicants should submit a statement of research interests, curriculum vitae, reprints of recently published articles, and names and addresses of three references to Dr. Steven G. Wesnousky, Center for Earthquake Research and Information, Memphis State University, Memphis, TN 38152. Closing date is October 31, 1987, or until position is filled.

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The Department of Geology and Geological Engineering invites applications for a tenure-track position in geohydrology and geological engineering at the Assistant or Associate Professor level. Applicants should have the Ph.D. and strong commitment to both teaching and research. Teaching duties include undergraduate and graduate courses in geohydrology and undergraduate courses in geological engineering. Opportunities for research and project support are outstanding. Applicants should be interested in developing field and theoretical approaches to geological and engineering projects. The Department offers degrees in Geology through the Ph.D. and a B.S. in an accredited Geological Engineering program. There are twelve full-time and eight adjunct faculty, 50 undergraduate majors and 35 graduate students.

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The position is available as early as Jan. 1, 1988. Closing date for applications will be Nov. 7, 1987 or as soon as a suitable pool of applicants is obtained. Salary will depend on qualifications and experience. Interested applicants should send a resume and the names and

addresses of three references to: John Reid, Geohydrology/Geological Engineering Search Committee, Department of Geology and Geological Engineering, University of North Dakota, Grand Forks, ND 58202. Telephone (701) 777-2131 (JR) or 2811(Dept. Office).

The University of North Dakota is an Equal Opportunities/Affirmative Action Employer.

THE DEPARTMENT OF GEOLOGY, WASHINGTON STATE UNIVERSITY invites applications for a full time, tenure track position in carbonate petrology/sedimentology beginning August 15, 1988. The position will be filled at the assistant professor level. A strong commitment to research is expected and the Ph.D. is required.

The application deadline is January 1, 1988. Send resume, transcripts and three letters of recommendation to Dr. Gary Webster, Department of Geology, Washington State University, Pullman, WA 99164-2812.

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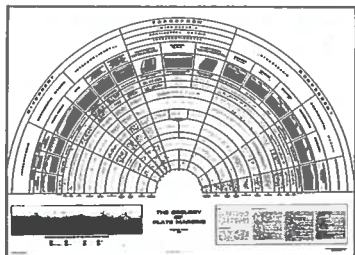
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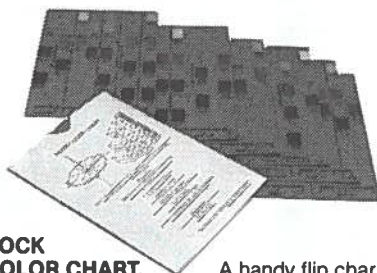
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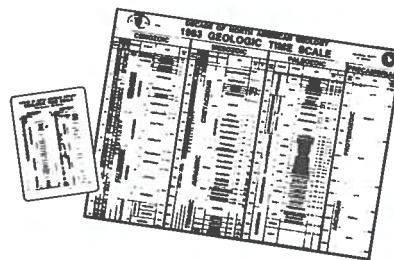
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