



# GSA news & information

VOLUME 3, NUMBER 2

G.S.A. ARCHIVES

FEBRUARY 1981

## ATLANTA '80—A SUCCESSFUL ANNUAL MEETING

The Geological Society of America and its associated societies held a most successful annual meeting November 17–20 in Atlanta, Georgia. It was the first meeting in many years in the heart of the southeast, with an interesting array of field trips and excellent facilities contributing to its success.

The total registration of 4,285 for the Atlanta meeting placed it slightly smaller than the total registration of 4,574 at the San Diego 1979 Annual Meeting. Of the total registrants at Atlanta, 2,758 were professionals, 1,051 were students, and 280 were spouse/guests. There was a total of 196 one-day registrants, and 2,844 had preregistered.

The 1980 Annual Meeting was a full 4 days in contrast to 3½ days for the previous year's meeting in San Diego. By Council directive, subsequent annual meetings will be scheduled for 4 days.

A grand total of 1,505 abstracts was submitted for the Atlanta meeting. Of these, 1,359 were submitted for general sessions and 1,094 were accepted for the program and presented in 49 half-day sessions. In 22 symposia, 218 papers were presented, and there were 10 poster sessions that included 244 presentations.

A first at this meeting was the GSA Open Public Forum on Mount St. Helens. This forum was initiated by the Local Committee and was the first time GSA sponsored a program designed for the general public. The attendance for this Sunday afternoon event was approximately 450 with attendees being a mix of both general public and geologists.

In addition, 6 short courses and workshops organized by AGI, PS, SEPM, MSA, and AAPG complemented the meeting.

There were 747 who participated in field trips in 12 pre-meeting and 11 postmeeting trips; 102 went on mini-trips. Guidebooks were published in two volumes by AGI which will handle future distribution. The field trips are a major undertaking and a demanding task for the Field Trip Committee. The 1980 committee is to be congratulated for an excellent job.

Another major undertaking is the Employment Interview Service operated by the GSA Membership Department. This year the service was available daily at the Marriott Hotel Monday through Thursday noon. There were 116 employers who participated in the 1980 program; 81 employers conducted 1,300 interviews for 191 positions, an additional 14 employers used the message center only, and 21 of the total

number of employers requested printouts of the applicant listings but did not conduct formal interviews during the meeting.

Among the list of organizations using the employment service, there were 75 academic institutions, 26 industry participants, and 15 in consulting, state governments, and other groups.

Prior to the meeting, 383 applicants were registered with the employment service; an additional 116 registered on-site; 296 applicants were present at the meeting to seek interviews with participating employers.

The current expanded job market also contributed to the success of the third annual forum, "Future Employment Opportunities in the Geological Sciences," which was held at the Georgia World Congress Center on Monday afternoon. The popularity of the forum has increased over the past 3 years and is a valuable source of information.

As a primary supplement to the technical program, the exhibits were a major attraction. There were 123 booths that represented displays by 93 exhibitors. The quality of the educational exposition has improved as a result of renewed interest and emphasis on this phase of the meeting. We look forward to continued expansion each year.

All of us are indebted to the Atlanta Local Committee for its efforts on behalf of the 1980 meeting. A meeting of this complexity relies on the willingness of geologists to make a donation of their organizational abilities to the Society. In spite of the time involved, however, it is rumored that some members of the committee might do it all again—a few years from now—but it is only a rumor. Local Committee members are as follows:

General Chairman ——— William A. Thomas  
Co-Chairman/Treasurer — Charles J. Waag  
Field Trips ————— Thornton L. Neathery  
Robert W. Frey  
Guest Program ————— William B. Size  
Linda E. Size  
Howard R. Cramer  
Publicity————— Robert E. Carver  
J. Hatten Howard III

*(continued, next page)*

Science Theater ————— David Ogren  
 Richard D. Davis

Student Assistants ————— Norman S. Pottinger

Technical Program ————— Robert D. Hatcher, Jr.  
 Charles E. Weaver

Technical Services ————— W. Robert Power

Transportation ————— Michael W. Higgins  
 Keith McConnell

Abstracts ————— Judy Hall

Accounting ————— Rose Ann Nyari  
 Mary Bruno

Employment Service ————— Joan Heckman  
 Clara Hodgson  
 Ellery Sanborn

Exhibits ————— Lee Swift

Field Trips ————— Kathy Ohmie

Printing & Production ————— Jim Clark  
 June Thomas  
 Ann Fogel  
 Newell Fogelberg

Registration & Security ————— Ralph Thiemann  
 Bruce Overmyer

Each year, Local Committee activities have been supported by a network of GSA staff whose work makes a major contribution to a successful meeting. To each of you, thanks for a good year!

Meetings Department ————— Sue Beggs  
 Jean Latulippe

#### NEW IN 1980

Although the meeting may appear to be in the same format year after year, there are always subtle changes which we hope work toward improving the quality of the meeting and the convenience and satisfaction of registrants. New for 1980 were the following:

1. The extension of the preregistration date to within 4 weeks of the meeting.
2. The schedule and contents of the technical program on pages 336–337 of *Abstracts with Programs* which capsulized the technical sessions.
3. Speaker kits sent to all those making oral or poster presentations.
4. Multi-screen panoramic slide display on national parks.

5. Computerized system for all abstracts data.
6. Poster booths utilized in double session.
7. Extensive shuttle system for day and evening transportation.
8. Bluegrass Night during which 1,100 geologists and their guests enjoyed themselves with good Southern food and entertainment. It's true that geologists love their science—but some of them at least also love to dance! An event like this may not contribute directly to the science, but it certainly brings the scientists together in a congenial setting and contributes substantially to the overall satisfaction with the meeting. THANKS, ATLANTA!

## UPDATE

### February *Bulletin*, Part II to include full-microfiche map

The February number of GSA's *Bulletin*, Part II includes an innovative and economical approach to geologic map reproduction: a black and white map reproduced on a whole-microfiche card; that is, the map is not divided into individual pages for reproduction but will be reproduced whole on the microfiche and will occupy the entire microfiche card. A second microfiche card will carry the accompanying geologic cross section. The map and the cross section are illustrations for an article by Roland R. Reid, William R. Greenwood, and Gordon L. Nord, Jr., contained in the same number of *Bulletin*, Part II. The Summary for that article appears in Part I.

The full-microfiche map and cross section can be viewed in all microfiche viewing devices. However, most microfiche-printers (machines which make paper copies of microfiche) are designed to print page-by-page, and they will reproduce the map and cross section in pages, up to 98 pages each in GSA's microfiche format. Because the maps are not cut into pages prior to being put on microfiche, microfiche-printers will "drop" narrow margins around each of the 98-page formats as these "pages" are reproduced.

Thus, the paper-copy pages could be assembled into a large map, but there will be some loss of data in these narrow marginal strips.

As one solution to this problem, GSA has established a standard maximum image area of 3¼ x 4½ in. for these full-card reproductions. This will make it possible to use any standard 4 x 5 in. photographic enlarger to make good quality photographic prints from either positive or negative mode of microfiche. Alternatively, photographic prints could be made in two steps on any standard 2¼ x 3¼ in. or 6 x 9 cm photographic enlarger, either of which will accommodate one-half of this standard image area at one time.

Two additional maps now are planned for *Bulletin*, Part II, probably for the April or May 1981 issue.

Authors who plan to prepare articles which might include maps for full-microfiche reproduction are urged to contact the Production Manager at GSA prior to preparing final drafting. Standards will be suggested for line weights, type styles, and so on, to ensure good quality reproduction at the extreme reduction required for this process.

## UPDATE

### Articles in *Bulletin*, Part II, February 1981

Articles in *Bulletin*, Part II are listed below. (Summaries only of these articles are in *Bulletin*, Part I.)

1. Metamorphic petrology and structure of the St. Joe area, Idaho, by Rolland R. Reid, William R. Greenwood, and Gordon L. Nord, Jr., Doc. no. M10201. (On microfiche: 112 p., 16 figs., 7 tables)
2. Petrochemistry and petrogenesis of the Malani igneous suite, India, by H. S. Pareek, Doc. no. M10202. (On microfiche: 68 p., 10 figs., 9 tables)
3. Experimental stability relations of the hornblende magnesiohastingsite, by Michel P. Semet and W. S. Pernst, Doc. no. M10203. (On microfiche: 84 p., 8 figs., 16 tables)

### In February *Geology*

1. Stratigraphic evidence for a deep Eocene Lake Uinta, Piceance Creek Basin, Colorado, by R. C. Johnson
2. Episodic growth of Holocene tidal marshes in the northeastern United States: A possible indicator of eustatic sea-level fluctuations, by M. R. Rampino, J. E. Sanders
3. Subduction complex of pre-Jurassic age, northern Anatolia, Turkey, by O. Tekeli
4. Development of columnar-spheroidal structures by meteoric water in a New Mexico basalt, by K. E. Windom, D. C. Stewart, C. P. Thornton
5. Sites of river-derived sedimentation in the ocean, by R. J. Gibbs
6. Provenance of Eocene graywackes of the Flournoy Formation near Agness, Oregon—A geochemical approach, by Z. E. Peterman, R. G. Coleman, C. M. Bunker
7. Age of the Salmon Springs Glaciation in Washington, by D. J. Easterbrook, N. D. Briggs, J. A. Westgate, M. P. Gorton
8. Penrose Conference report: Silicic volcanism, by P. W. Lipman, P. M. Bethke, H. P. Taylor

### Rule change for article length in *Bulletin*, Part I

By action of the GSA Council at the Atlanta Annual Meeting, the rules governing length of articles that can be accepted for Part I of the *Bulletin* were changed.

Beginning immediately, manuscripts up to about 60 pages in length will be accepted for publication in Part I, that is, in the traditional paper (hard-copy) format of the *Bulletin*. Part II on microfiche will continue to be available for longer manuscripts and for supplemental data for articles in Part I.



## CENTENNIAL NEWS

### Canadian Leaders for Regional Geology Volumes

The D-NAG project on the Geology of the North American Plate and adjacent areas continues to develop. Leadership for the eleven volumes to be produced by U.S. authors was announced in the November issue of *GSA News & Information*. Now, Canadian leaders for seven additional volumes have been identified and are listed below.

In addition to these 18 volumes, there will be volumes for Greenland, Mexico, and the Caribbean Plate (which includes Central America), and two more Canadian volumes. Leaders for these volumes will be announced shortly. The project leaders will be planning the structure for each of their volumes during the next few months, and the outlines for the volumes should be firmed up at a project leaders' meeting in mid-April.

#### Geology of the North American Plate and adjacent areas— Canadian Project Leaders

1. **Canadian Cordillera and Pacific Offshore**  
H. Gabrielse, G.S.C., Vancouver, B.C.  
C. J. Yorath, Pacific Geoscience Centre,  
Sidney, B.C.
2. **Canadian Shield**  
P. F. Hoffman, G.S.C., Ottawa, Ont.  
A. Davidson, G.S.C., Ottawa, Ont.  
K. D. Card, G.S.C., Ottawa, Ont.
3. **Innuitian Belt**  
H. Trettin, G.S.C., Calgary, Alta.
4. **Canadian Appalachians**  
H. Williams, Memorial Univ., St. John's, Newf.
5. **Canadian Eastern Offshore**  
R. T. Haworth, Atlantic Geoscience Centre,  
G.S.C., Dartmouth, N.S.
6. **Quaternary of Canada**  
R. J. Fulton, G.S.C., Ottawa, Ont.
7. **Summary volume, Geology and Mineral Resources  
of Canada**  
J. O. Wheeler, G.S.C., Vancouver, B.C.

### D-NAG Steering Committee

The November issue of *GSA News & Information* also showed the membership of an ad-hoc committee for D-NAG. This committee was a U.S. committee that proposed the leadership for the eleven U.S. volumes in the regional geology series. It completed its duties last spring. The *Steering Committee*, which guides the policies for all of the D-NAG programs, is an international group with ongoing responsibilities. The current membership on this committee, which is chaired each year by the immediate past president of GSA, is listed below:

- |                              |                          |
|------------------------------|--------------------------|
| L. L. Sloss (U.S.), Chairman | D. J. McLaren (Canada)   |
| H. R. Gould (U.S.)           | R. G. Blackadar (Canada) |
| C. L. Drake (U.S.)           | J. O. Wheeler (Canada)   |
| A. W. Bally (U.S.)           | R. A. Price (Canada)     |
| R. Brett (U.S.)              | G. P. Salas (Mexico)     |
| J. C. Reed (U.S.)            | J. Guerrero (Mexico)     |
| W. R. Keefer (U.S.)          | G. Dengo (Guatemala)     |

# Annual Report for 1979—Report of the President

*To the Council and Membership of the Geological Society of America:*

The Society had an extremely active, innovative, and productive year in 1979. It was a year of new starts and of commitments to new programs. It was a year that will be remembered as the first year of publication of the *Bulletin* in the new two-part format; the year the decision was made to proceed with the "Decade of North American Geology," in recognition of the Society's forthcoming Centennial; the year the decision was made to initiate the Centennial Development Program; and the year when the financial operating procedures were critically evaluated and new procedures adopted.

Because the statistics for general operations, for the successful annual meeting in San Diego and the annual meetings of the sections, for the publications program, and so on, have been presented in the report of the Executive Director, I will confine myself to a review of the changes in plans and policies of our Society.

Rising costs and resulting deficits of our scientific publications program have continued to be a major problem that must be confronted in a more realistic way. The savings made possible by adopting the new two-part *Bulletin* have sharply reduced the deficit on that item; simultaneously the lag time between acceptance and publication of manuscripts was reduced by more than one year. In the past, and in this year, the major cause of publications deficits has been the large subsidy for publications offered to the members far below actual production costs. It is necessary that both operational economies and more realistic pricing be introduced that will correct this persistent problem.

The most exciting and far-reaching activities of the year have been the authorization, planning, and the implementation of two major new programs leading to the Centennial year of the Society in 1988. During the past two years discussions have been under way in the Executive Committee, the Council, at annual meetings, and elsewhere, concerning the most appropriate method of recognizing this once-only event. During the previous year an ad hoc Centennial Planning Committee was appointed and met for two days of intensive discussion at GSA headquarters in Boulder. The committee's main recommendation was that the Society should highlight

the event by making a major contribution to the advancement of the science of geology in North America. This recommendation was presented to the Council of the Society and approved in principle. To implement the program, an international Centennial Steering Committee was appointed and held its first meeting shortly after the end of the year. The major project agreed to so far, based upon a suggestion by A. W. Bally, is a series of comprehensive volumes summarizing the geology of North America. National working committees have been organized in Canada, and similar committees are in the process of formation for the U.S.A. and Mexico.

It is anticipated that several additional special projects, now under active discussion, will be approved by the Centennial Steering Committee as companion activities to the series of volumes on the geology of the continent. Cooperation and assistance has been solicited not only from GSA sections and divisions, but also from sister organizations in North America, including the societies affiliated with GSA. Responses have been positive, thoughtful, and substantial.

Parallel with, and in support of both the new program, "The Decade of North American Geology," and the anticipated needs of our Society in its second century, a Centennial Development Fund program has been organized. It goes without saying that the new programs outlined above will need significant financial support. These needs go well beyond the supportive capacity of the Society's existing endowment. The Development Committee, authorized and appointed in 1979, held its first meeting shortly after the end of the year, and is now actively at work.

The year 1979 was an exciting and challenging one to be President of the Geological Society of America. Although there were times when the pace became a bit hectic, major strides were taken. I thank you all for the opportunity to serve the Society and the science of geology.

Respectfully submitted,  
*Leon T. Silver, President, 1979*

## SECTION MEETING ANNOUNCEMENTS

### **Flying to Northeastern Meeting, Bangor, Maine?**

Plane reservations to Bangor, Maine, should be made one month in advance to allow the airline to accommodate the extra passengers.

### **Correction: Southeastern Section Premeeting Field Trip**

Premeeting Field Trip No. 1 will leave on March 17 and return March 18. This is a two-day field trip. Housing and lunches are included in the cost.

## GSA News & Information

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Prepared from contributions from the staff and membership by John C. Frye, Executive Director; James R. Clark, Production Manager; and June Thomas and Ann H. Fogel, Production Assistants.

## Timing of orogenic activity in the Appalachian-Caledonian system

A GSA Penrose Conference, "Timing of Orogenic Activity in the Appalachian-Caledonian System," will be held May 10-15, 1981, at Ann Jordan Lodge (University of Alabama), Alexander City, Alabama. The conveners are William A. Thomas and James F. Tull, Department of Geology and Geography, University of Alabama, P.O. Box 1945, University, Alabama 35486. Please send application to conveners by March 15, 1981. The final figures on costs were not available at press time but will be announced in the March issue of *GSA News & Information*.

Orogenesis involves a complex sequence of physical and chemical changes within a restricted segment of Earth's crust and upper mantle during a reasonably large interval of geologic time. Precise identification of time of orogenic events is essential to thorough understanding of the evolution of mountain belts and to the construction of meaningful tectonic models. Determination of the absolute and relative times of these events involves a variety of research techniques employed by earth scientists in numerous research specialties. In the Appalachian-Caledonian orogenic belt, indicated times of deformation vary notably both along and across strike. For example, a major dynamothermal metamorphic event during the Ordovician is indicated in western North Carolina and northeastern Georgia, but in Alabama, the orogen was affected by dynamothermal metamorphism in the Devonian. In central South Carolina, dynamothermal events occurred as late as the Pennsylvanian-Permian. In Scandinavia, the Caledonides experienced dynamothermal maxima in the Cambrian, Ordovician, and Silurian-

Devonian. Clastic wedges reflect apparently independent times of uplift of sediment sources in each regional salient along the Appalachian orogen. The classic Taconic orogeny included numerous pulses at different times in different places. Time of dynamothermal metamorphism in the internal belts is generally not coincident either with the time of uplift indicated for sources of clastic wedge sediment or with the time of thrusting in the external belt. Stratigraphic details along many structures in the external fold and thrust belt, as well as geochronologic dates from the internal crystalline belts, indicate a long history of episodic movements.

Are these apparent discrepancies in timing of events real or are they artifacts of our techniques of age determination? If the latter is correct, how can we better calibrate the variety of tools for age determination? If differences in timing are real, how are they to be interpreted? What are the controlling factors in systematic or nonsystematic diachroneity of orogeny? How can diachroneity of orogeny be incorporated into large-scale tectonic models? Variation in time of orogeny both along and across strike is now coming into focus as a major problem in tectonic syntheses.

A one-day field trip will include examination of (1) the low-rank metamorphic Devonian clastic sedimentary to arc volcanic sequence in the Alabama Piedmont, and (2) stratigraphic evidence of episodic deformation from the Ordovician to the Pennsylvanian along the Birmingham anticlinorium in the Alabama fold and thrust belt.

## Necrology

Notice has been received of the following deaths: Charles T. Berry, Stonington, Connecticut; Paul S. Boyer, Niceville, Florida; Lon D. Cartwright, Jr., Sherman Oaks, California; George Evans Carver, Jr., Oklahoma City, Oklahoma; Carl Wilhem Correns, West Germany; James L. Darnell, Amarillo, Texas; Victor Dolmage, W. Vancouver, British Columbia, Canada; René L. H. Engel, Wofford Heights, California; Heath Roydon Hose, Savona, Italy; Bernhard Kummel, Cambridge, Massachusetts; Theodore A. Link, Victoria, British Columbia, Canada; Wayne Loel, South Pasadena, California; Joseph B. Mackelduff, West Palm Beach, Florida; William B. Mather, Austin, Texas; Gerald M. Miller, Auburn, Washington; Thomas A. Mutch, Providence, Rhode Island; Evan R. Phillips, New South Wales, Australia; Paul H. Price, Morgantown, West Virginia; Percival Robertson, Belleair Beach, Florida; Richard H. Schweers, Houston, Texas; Edwin R. Scott, Dallas, Texas; Henry H. R. Sharkey, Houston, Texas; James W. Snider, Denver, Colorado.

## Call for suggestions for Centennial Symposia

The Council of the Society has authorized the designation of a featured Centennial Symposium for each annual meeting during the decade of the 1980s. These symposia are part of the Centennial Program and of the Decade of North American Geology. The President of the Society each year makes the final selection from suggestions and proposals made by the Program Review Committee, the Council, divisions, sections, and the membership at large.

It is hoped that each symposium will focus on an exciting new frontier of the science.

Suggestions and proposals are solicited from the membership. As this is a ten-year program, do not hesitate to send suggestions for several years in the future. Please send your suggestions to A. R. Palmer, Centennial Science Program Coordinator, Box 9140, Boulder, CO 80301, and they will be given the proper distribution.

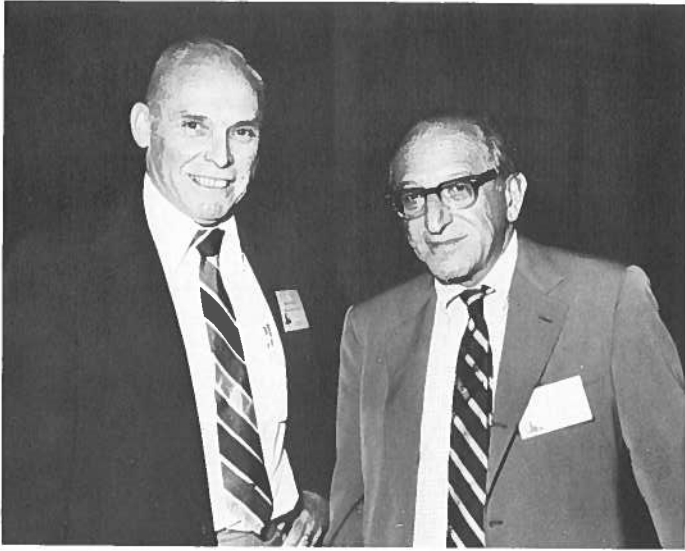
# ATLANTA 1980 ... GSA ANNUAL MEETING



Above, 1981 GSA councilors and officers; left, 1980 GSA councilors and officers; bottom left, exhibitors and visitors at X-Ray Assay Laboratories, Ltd., exhibit; below, Dr. and Mrs. John B. Lucke of Harwich Port, Massachusetts.







GSA 1981 and 1980 Presidents Howard R. Gould and Laurence L. Sloss



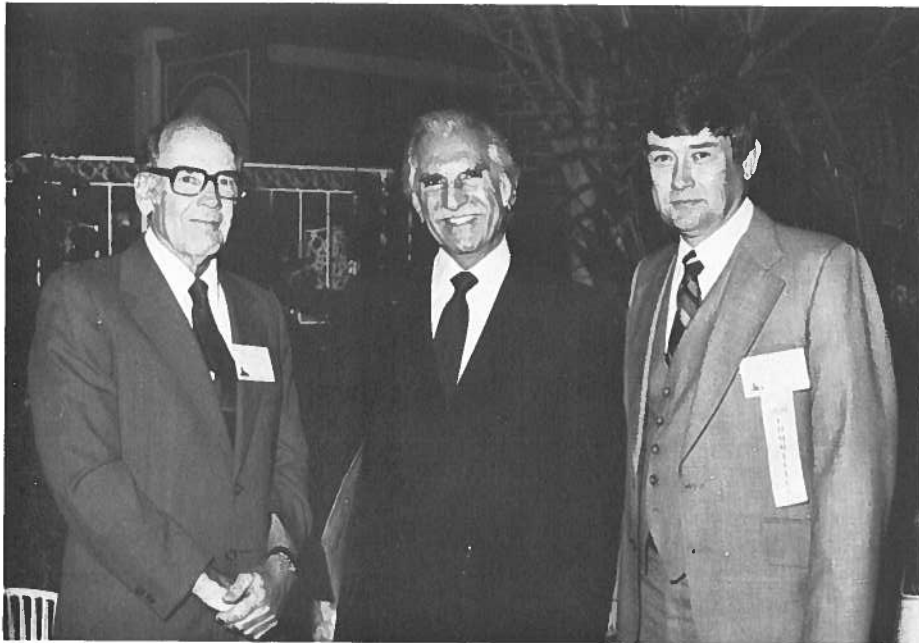
1980 President Laurence L. Sloss presents Henry G. Thode, Day Medalist for 1980



Battelle Memorial Institute exhibit



At the university cocktail parties



GSA Past President John C. Maxwell, after-dinner speaker Michel T. Halbouty, and William A. Thomas, general chairman of the 1980 annual meeting



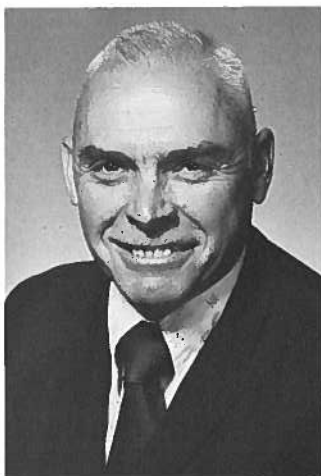
Hollis D. Hedberg, 1980 Penrose Medalist

## Who's who of GSA: Officers and councilors for 1981

The direction and destiny of the Geological Society of America are in the hands of the officers and councilors that you, the membership, elect each year. All too often only a few of these individuals are known to any one member. For that reason it has been suggested that a few basic facts about each of them serving during 1981 be listed in the *Society's News & Information*. The following is our attempt to condense a great deal of information into a few words about them.

### PRESIDENT

**HOWARD R. GOULD**, b. Adrian, WV, 11-10-21; m. 48; c. 2. GEOLOGY. BA, Univ. Minnesota, 43; PhD (geol.), Univ. Southern California, 53. Training assoc., 43-45, assoc. marine geol., Div. War Res., Univ. California, 46; asst. geol. Scripps Inst. Technol., 46-47; geol., USGS, 47-54; asst. prof. oceanog., Univ. Washington, 53-56; sr. geol., 56-63, staff geol., 63-64, chief, Geol. Res. Sect., Humble Oil & Ref. Co., 64; mgr. stratig. geol. div., 64-67, RES. SCI., EXXON PROD. RES. CO., 67-. Spec. consult., US Navy. Amer. Assn. Adv. Sci.; fel. Geol. Soc. Amer.; Soc. Econ. Paleont. & Mineral; Amer. Assn. Petrol. Geol.; Amer. Geophys. Union. Sedimentation, especially in marine and lake environments; general geology of the sea floor; petroleum geology. Address: Exxon Production Research Company, P.O. Box 2189, Houston, TX 77001. Phone: (713) 965-4796.



### TREASURER

**WILLIAM B. HEROY, JR.**, b. Washington, DC, 8-13-15; m. 37; c. 4. GEOLOGY, GEOPHYSICS. AB, Dartmouth Coll., 37; PhD (geol.), Princeton, 41; adv. mgt. prog., Harvard Univ., 61. Asst. geol., Princeton, 39-41; asst. geol. field party, 41-42, geol. Texaco Co., 42-45; Geotech. Corp., 45-46, supvr., 46-50, v. pres. & dir., 50-59, exec. v. pres.; 59-61, pres., 61-65; exec. v. pres. 65-68, pres. Geotech. Div., 65-67, group mgr., 67-68, asst. to pres., Teledyne, Inc., 68-70; v. pres-treas., 70-76; PROF. GEOL. SCI., SOUTHERN METHODIST UNIV., 70-. fel. Geol. Soc. Amer.; Soc. Explor. Geophys.; Soc. Econ. Geol.; Seismol. Soc. Amer.; Amer. Assn. Petrol. Geol.; Amer. Geophys. Union. Geology of the Shell Canyon area; economic geological petroleum; geophysical prospecting; surface and structural geology; stratigraphy, sedimentation and seismology. Address: Box 274, SMU Station, Southern Methodist University, Dallas, TX 75275. Phone: (214) 692-2425.



### VICE-PRESIDENT

**DIGBY J. MCLAREN**, b. Carrickfergus, Northern Ireland, 12-11-19; m. 42; c. 3. GEOLOGY. BA, Univ. Cambridge, 41, MA, 47; PhD (geol.), Univ. Michigan, 51. Mem. staff, 48-59, chief paleont., 59-67, dir. inst. sedimentary & petrol. geol., 67-73, DIR., GEOL. SURV. CANADA, 73-. Chmn., Comm. Stratig., Intl. Union Geol. Sci., 68-72; Chmn., Bd. Intl. Geol. Correlation Prog., UNESCO-Intl. Union Geol. Sci., 76-78. Amer. Paleont. Soc. (pres. 69); fel. Geol. Soc. Amer.; fel. Royal Soc. Canada; Foreign Assoc., Geol. Soc. France; Canadian Soc. Petrol. Geol. (pres., 71); Foreign Assoc., Natl. Acad. Sci.; fel. Royal Soc. London. Devonian paleontology and stratigraphy of Western Canada. Address: Director General, Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario K1A 0E8. Phone: (613) 995-4208.



### PAST-PRESIDENT

**LAURENCE L. SLOSS**, b. Mountain View, CA, 8-26-13; m. 37; c. 2; m. 79. GEOLOGY. BA, Stanford Univ., 34; PhD (geol.), Univ. Chicago, 37. From instr. to assoc. prof. geol., Montana School of Mines, 37-46; geol. State Bur. Mines & Geol., Montana, 37-46; from lectr. to prof., 47-71, WILLIAM DEERING PROF. GEOL., NORTHWESTERN UNIV., 71-. Amer. Assn. Adv. Sci.; Amer. Geophys. Union; fel. Geol. Soc. Amer.; Paleont. Soc.; Soc. Econ. Paleont. & Mineral. Sedimentary petrology; stratigraphic analysis; continental tectonics. Address: Department of Geological Sciences, Northwestern University, Evanston, IL 60201. Phone: (312) 492-7539.



### COUNCILOR 1979-1981

**HELEN TAPPAN LOEBLICH**, b. Norman, OK, 10-12-17, m. 39; c. 4. MICROPALAEONTOLOGY. PALEOECOLOGY. BS, Univ. Oklahoma, 37, MS, 39; PhD (geol.), Univ. Chicago, 42. Asst. Geol., Univ. Oklahoma, 37-39; instr., Tulane Univ., 42-43; geol. USGS, 43-45, 47-59; Guggenheim fel., 54; hon. res. assoc. paleont., Smithsonian Inst., 54-57; lectr. geol., 58-65, assoc., res. geol., 61-63, sr. lectr. geol., 65-66, v. chmn. dept., 73-75, PROF. GEOL., UNIV. CALIFORNIA, LOS ANGELES, 66-. Soc. Econ. Paleont. & Mineral; Amer. Micros. Soc.; fel. Geol. Soc. Amer.;



Paleont. Soc.; Soc. Protozool; Phycological Soc. Amer. Micropaleontology; living and fossil foraminiferans, tintinnids, thecamoebians and organic-walled, siliceous and calcareous phytoplankton; morphology, taxonomy, ecology, primary productivity and food chains, evolution and extinctions. Address: Department of Earth & Space Sciences, University of California, Los Angeles, CA 90024. Phone: (213) 825-1563.

#### **COUNCILOR 1979-1981**

JOHN D. MOODY, b. Denver, CO, 12-4-18; m. 45; c. 3. GEOLOGY, Geol. Engr., Colorado School Mines, 40, Petrol. Prod. Engr., M. Geol. Engr., 47. From surv. to explor. coordinator, Gulf Oil Corp., 38-60; mgr. explor., Plymouth Oil Co., 60-62; mgr. explor., Socony Mobil Oil Co., 62-63; exec. v. pres. for explor. & prod., 63-67, sr. v. pres. Mobil Oil Corp., 64-67; CONSULT., 74-; PRES. INTL. OIL & GAS CORP., 77-; PRES., MINEX, INC., 77-. Amer. Assn. Adv. Sci.; Amer. Assn. Petrol. Geol.; Amer. Geophys. Union; fel. Geol. Assn. Canada; fel. Geol. Soc. Amer.; fel. Geol. Soc. London; Assn. Prof. Geol. Sci. Consultant on petroleum, geology, energy and minerals. Supervised and conducted exploratory and development projects worldwide. Address: International Oil and Gas Corp., 3303 Lee Parkway, Suite 406, Dallas, TX 75219. Phone: (214) 522-9560.

#### **COUNCILOR 1979-1981**

RAYMOND A. PRICE, b. Winnipeg, Manitoba, 3-25-33; m. 56; c. 3. STRUCTURAL GEOLOGY, TECTONICS. BSc, Univ. Manitoba, 55; MA, Princeton Univ., 57, PhD (geol.), 58. Geol., Surv. Canada, 58-68; assoc. prof. geol., 68-70, Head Dept. Geol. Sci., 72-77; PROF. GEOL., QUEEN'S UNIV., ONTARIO, 70-. Killam fel., 78-80; pres., IUGG-IUGS Inter-Union Comm. on Lithosphere, 80-; Foreign Sec. Canada Geosci. Coun., 79-; Mem. Canada Natl. Comm. Intl. Geol. Correlations Prog., 74-. Fel. Geol. Soc. Amer.; fel. Geol. Assn. Canada; Amer. Assn. Petrol. Geol.; fel. Royal Soc. Canada; Amer. Geophys. Union; Canada Soc. Petrol. Geol. Structural geology, geotectonics, regional geology of southern Canadian Rockies; tectonic evolution of North American Cordillera; Address: Department of Geological Sciences, Queen's University, Kingston, Ontario K7L 3N6. Phone: (613) 547-5973.

#### **COUNCILOR 1979-1981**

JACK A. SIMON, b. Champaign, IL, 6-17-19. GEOLOGY. BA, Univ. Illinois, 41, MS, 46, Northwestern Univ., 47-49. From asst. geol. to assoc. geol., 46-53, geol. & head coal div., 53-67, prin. geol., 67-73, asst. chief, 73-74, CHIEF, ILLINOIS STATE GEOL. SURV., 74-; assoc. prof. metall. & mining, 67-74, prof., 74-77, ADJUNCT PROF. DEPT. GEOL., UNIV. ILLINOIS, 79-; Amer. Assn. Adv. Sci.; Geol. Soc. Amer.; Amer. Assn. Petrol. Geol.; Amer. Inst. Mining, Metall. & Petrol. Eng.; Amer. Inst. Prof. Geol.; Soc. Econ. Geol.; Soc. Econ. Paleont. & Mineral. Coal resources, coal mining geology; Pennsylvanian stratigraphy. Address: Chief, Illinois State Geological Survey, Natural Resources Building, 615 East Peabody Drive, Champaign, IL 61820. Phone: (217) 333-5111.

#### **COUNCILOR 1980-1982**

ROBERT E. BOYER, b. Palmerton, PA, 8-3-29; m. 51; c. 3. GEOLOGY. BA, Colgate Univ., 51; MA, Indiana Univ., 54; PhD, Univ. Michigan, 59. From instr. geol. to assoc. prof. geol., 57-67, PROF. GEOL. SCI. & EDUC., chmn., dept. geol. sci., 71-80, chmn., ex. comm. geol. found., 71-80, DEAN, COLL. NATURAL SCI., UNIV. TEXAS, 80-. Ed., Texas Journal Sci., 62-64 & Journal Geol. Educ., 65-68. Fel. Geol. Soc. Amer.; Amer. Assn. Adv. Sci.; Amer. Assn. Petrol. Geol.; Amer. Soc. Photogram.; Austin Geol. Soc. (Pres., 75-76); Gulf Coast Assn. Geol. Soc. (Pres., 76-77); Natl. Assn. Geol. Teachers (Pres., 74-75); Natl. Sci. Teachers Assn.; Hon. Life Mem.; Texas Acad. Sci (Pres., 69). Structural and field geology; space photography and remote sensing; earth science curricula and teaching in secondary schools. Address: Department of Geological Sciences, University of Texas, Austin, TX 78712. Phone: (512) 471-3285.

#### **COUNCILOR 1980-1982**

FRANK E. KOTTELOWSKI, b. Indianapolis, IN, 4-11-21; m. 45; c. 3. ECONOMIC GEOLOGY. AB, Indiana Univ., 47; AM, 49; PhD (econ. geol.), 51. Asst. geol. econ. geol., State Geol. Surv., Indiana, 46-51; asst., 47-48; instr., Indiana Univ., 50; fac. assoc., New Mexico Inst. Mining & Technol., 54-; econ. geol., 51-66, asst. dir. & sr. geol., 66-73; DIR., NEW MEXICO BUREAU MINES & MINERALS RES., 73-. Fel. Amer. Assn. Adv. Sci.; Soc. Econ. Geol.; fel. Geol. Soc. Amer.; Amer. Assn. Petrol. Geol.; Amer. Inst. Prof. Geol. Coal geology; Pennsylvanian and Permian stratigraphy; Cenozoic sediments and volcanic rocks; industrial minerals and rocks; areal mapping in Indiana, New Mexico, and Montana; measuring stratigraphic sections. Address: New Mexico Bureau of Mines and Mineral Resources, Socorro, NM 87801. Phone: (505) 835-5420.

#### **COUNCILOR 1980-1982**

DALLAS L. PECK, b. Cheney, WA, 3-28-29; m. 51, c. 3. GEOLOGY. BS, California Inst. Technol., 51, MS, 53; PhD, Harvard Univ., 60. Asst. field geol., California Inst. Technol., 51-52; asst. struct. geol., Harvard Univ., 52-53; geol., 61-66, asst. chief geol., Office Geochem. & Geophys., 67-72, res. geol., 72-77, CHIEF GEOL., USGS, 77-. Mem. Vis. Comm. to Dept. Geol. Sci., Harvard Univ., 71-76. Mem. Geosci. Adv. Comm., Los Alamos Sci. Labs., 75-78. Fel. Geol. Soc. Amer.; fel. Amer. Geophys. Union (Pres., Section Volcanology, Geochem., and Petrol., 75-77); Soc. Econ. Geol.; Mineral. Soc. Amer. Igneous Petrology; Hawaiian lava lakes; Sierra Nevada Batholith. Address: U.S. Geological Survey, 911 National Center, Reston, VA 22092. Phone: (703) 860-6531.

#### **COUNCILOR 1980-1982**

PETER R. VAIL, b. New York, NY, 1-13-30; m. 56; c. 3. GEOLOGY. AB, Dartmouth Coll., 52; MS, Northwestern Univ., 55, PhD, 59. Teach. asst., Northwestern Univ., 52-54; asst. geol., USGS, Spokane, WA, & Evanston, IL, 52-56; res. geol., Carter Oil Co., Tulsa, OK, 56-58; res. geol., 58-62, sr. res. geol., Jersey Prod. Res. Co., Tulsa, OK, 62-65; sr. res. spec., 65-66, res. assoc., 66, res. supvr., 66-70, sr. res. assoc., 70-72, sr. res. adv., 72-76; RES. SCI., EXXON PROD. RES. CO., HOUSTON, TX, 76-. Fel. Geol. Soc. Amer.; Amer. Assn. Petrol. Geol. (Distinguished Lectr., 75-76) (Co-recipient Pres. Award for Best Paper, 79); Soc. Explor. Geophys. (Kaufman Gold Medal Award, 76); Amer. Petrol. Inst.; Amer. Assn. Adv. Sci.; Geol. & Geophys. Soc. Houston; Sigma Xi, Wm. Smith Lectr., Geol. Soc. London, 78; Mem. Joint Oceanographic Inst. Deep Earth Sampling Passive Margin Panel, 78-79; Mem. Consortium for Continental Reflection Profiling Site Selection Comm., 74-80; Mem. Intl. Subcomm. Stratigraphic Class., 76-; Mem. Ocean Science Board, NAS, 79-81. Principal publications concern seismic stratigraphy, global changes of sea level and tectonics. Address: Exxon Production Research Company, P.O. Box 2189, Houston, TX 77001. Phone: (713) 965-4884.

#### **COUNCILOR 1981-1983**

HUBERT GABRIELSE, b. Golden, BC, 3-1-26; m. 55; c. 2. GEOLOGY. BASc, Univ., British Columbia, 48, MASc, 50; PhD (geol.), Columbia Univ., 55. Geol., 53-70, head Cordilleran subdiv., 70-79, RES. SCI., GEOL. SURV. CANADA, 80-. Fel. Geol. Soc. Amer.; NY Acad. Sci.; fel. Geol. Assn. Canada; mem. Canadian Inst. Mining & Metall.; Canadian Soc. of Petrol. Geol.; Royal Soc. Canada. Regional stratigraphy, structure and tectonics. Address: Geological Survey of Canada, 100 West Pender Street, Vancouver, British Columbia V6B 1R8. Phone: (604) 666-2958.

#### **COUNCILOR 1981-1983**

BRUCE B. HANSHAW, b. Harrisburg, PA, 5-7-30; m. 54; c. 2. GEO-CHEMISTRY. ScB, Massachusetts Inst. Technol., 53; MS, Univ. Colorado, 58; PhD (geochem.), Harvard Univ., 62. Geol., US AEC, 53-54 & 56, Petrol. Res. Corp., 58-61; geol., Water Res. Div., 61-70, staff sci., Off. Dir., Washington, DC, 70-73, GEOCHEM., USGS, 73-. Mem. Comm. Pollution, NAS-NRC, 65-67; mem. US Natl. Comm., Intl. Hydrol. Decade, 67. O.E. Meinzer Award, Geol. Soc. Amer., 73. Amer. Assn. Adv. Sci.; Geol. Soc. Amer.; Geochem. Soc.; Amer. Geophys. Union; Amer. Chem. Soc. Isotope chemistry; membrane phenomena applied to clay minerals; mineral-solution equilibria; factors affecting natural water chemistry. Address: U.S. Geological Survey WRD, 431 National Center, Reston, VA 22092. Phone: (703) 860-6083.

#### **COUNCILOR 1981-1983**

JOHN C. HARMS, b. Albuquerque, NM, 7-29-30; m. 52; c. 3. GEOLOGY. BS, Columbia Univ., 51; PhD (geol.), Univ. Colorado, 59. Geol., Continental Oil Co., 52-54; RES. GEOL.-MGR. REG. EXPLOR., MARATHON OIL CO., 59-. Geol. Soc. Amer.; Amer. Assn. Petrol. Geol.; Soc. Econ. Paleont. Mineral.; Amer. Assn. Adv. Sci.; Sigma Xi. Detrital sedimentary rocks; structural geology. Address: Marathon Oil Company, P.O. Box 269, Littleton, CO 80160. Phone: (303) 794-2601.

#### **COUNCILOR 1981-1983**

ROBERT D. HATCHER, JR., b. Madison, TN, 10-22-40; m. 65; c. 2. STRUCTURAL GEOLOGY, TECTONICS. BA, Vanderbilt Univ., 61, MS, 62; PhD (geol.), Univ. Tennessee, 65. Geol., Humble Oil & Ref. Co., 65-66; asst. prof. to prof. geol., Clemson Univ., 66-78; prof. geol., Florida State Univ., 78-80; PROF. GEOL., UNIV. SOUTH CAROLINA, 80-. Geol. Soc. Amer.; Amer. Geophys. Union; Geol. Assn. Canada. Regional tectonics; structural geology; metamorphic petrology; stratigraphy in medium to high grade metamorphic rocks. Address: Department of Geology, University of South Carolina, Columbia, SC 29208. Phone: (803) 777-4148.

## NEW FELLOWS, MEMBERS, AND STUDENTS

**NEW MEMBERS**— The following 227 Members have been elected to Membership by Council action during the period from March 1, 1980 through August 31, 1980. (\* indicates a transfer from Student Associate to Member).

- |  |  |   |   |
|--|--|---|---|
| <p>Athol D. Abrahams<br/>Tunde J. Afolabi<br/>Douglas Aikin*<br/>Jeffrey E. Andrews</p>  | <p>Raymond P. Duchaine<br/>Stefan H. Duerr<br/>Julie Ann Dumoulin</p>  | <p>Dennis D. Kaegi<br/>Lynn M. Kantner<br/>Sanford S. Kaplan*<br/>Charles M. Keefer<br/>Patricia H. Kelley*<br/>Karl S. Kellogg<br/>Peter C. Kelsall<br/>Yousif K. Kharaka<br/>Azam A. Khwaja<br/>Philip S. Kimball, Jr.<br/>Clifford C. Knitter<br/>Thomas E. Koler*<br/>Lisa A. Korner<br/>Walter F. Kramer<br/>Fred A. Kruse</p>   | <p>Carlos Ramirez-Rubio<br/>Edward L. Rector<br/>Joseph M. Reilly<br/>Dianna Lynn Riggs<br/>Fran Robbins-Holmes<br/>Milagro Rodriguez<br/>David D. Rollins<br/>Glenn R. Roquemore*<br/>Joseph P. Rousseau</p>   |
| <p>Gary Douglas Babb<br/>Mark L. Ballard<br/>Donald K. Balmer<br/>James E. Barkdull<br/>Charles E. Barker*<br/>Joffre H. Baron<br/>Noel L. Barstow<br/>Henry L. Barwood<br/>Jay C. Batzner<br/>David K. Beach*<br/>Frederick H. Becker<br/>Thomas H. Bedwell<br/>Francis Thomas Beka<br/>Stephen A. Bennett<br/>Katharine A. Best<br/>Patricia K. Bettis<br/>Bonnie Bloeser<br/>Laurie Bloom*<br/>Marcus X. Borengasser<br/>Kenneth W. Bramlett<br/>Gerald C. Braun<br/>Koll Y. Buer*<br/>T. Bruce Burgess<br/>Edward G. Busby<br/>Joseph A. Butch</p> | <p>Wynn Eakins<br/>Duncan L. Edwards*<br/>Todd J. Eller<br/>Gerald M. Ellis<br/>Samuel A. Epstein<br/>Denis R. Erickson</p>  | <p>James R. Farris<br/>Robert H. Feldman<br/>Joseph M. Finneran<br/>Joan J. Fitzpatrick<br/>Martha R. Fletcher*<br/>Robert J. Foresti<br/>Kim Forster<br/>John H. Foster*<br/>Douglas R. Frick<br/>William J. Fritz*<br/>Eric G. Frost</p>  | <p>Jorge H. Salinas<br/>William F. Saur<br/>Jacques R. Schott<br/>Michael J. Shulman<br/>Richard Shutler, Jr.<br/>Eric B. Shyer<br/>Frederick O. Simon<br/>Robert Dean Smith<br/>Thomas L. Smith<br/>Daniel Spencers<br/>Steven W. Sperry<br/>Debra S. Stakes<br/>Judith M. Stangl<br/>David A. Stanley*<br/>Eric J. Stimson<br/>Kathleen A. Sullivan<br/>Alan L. Swenson</p> |
| <p>Wayne K. Camp*<br/>Judith A. Castello<br/>Ananda Kumar Chakrabarti<br/>Steven D. Chatman<br/>J. Albert Cherng<br/>Robert H. Chesson<br/>Susan M. Childs<br/>Dong Ryong Choi<br/>Robert E. Chuckran, Jr.*<br/>Ronald K. Churchill<br/>Joan L. Claycomb<br/>Bastiaan J. Collette<br/>David G. Collins<br/>Kelly A. Collins*<br/>Stephen W. Conway<br/>Ulrich J. Cordon*<br/>Bruce H. Cox</p>  | <p>Rodney G. Gaines<br/>Thomas A. Galya<br/>Jonathan L. Gant*<br/>Cynthia A. Gardner<br/>Fredric J. Geiger<br/>Jerry M. German<br/>Gary D. Gindlesperger<br/>Clemens J. Goewert<br/>Robert F. Grabb, Jr.<br/>Thomas X. Grasso<br/>John Harrison Gray<br/>Gary E. Grubitz</p>   | <p>Werner R. Landry<br/>George W. Lee, Jr.<br/>Robert S. Lee<br/>Alan J. Lehocky<br/>Jeffrey J. Lelek*<br/>Connie P. Letsky<br/>Michael H. P. Lewis*<br/>Richard A. Lindvall<br/>Lester K. C. Lubetkin</p>  | <p>Mohamed-Ali Tadkod<br/>Feren Tamura*<br/>Thomas C. Tatkin<br/>Robert E. Thomason<br/>Joseph W. Toth*<br/>Joseph R. Tyburski</p>  |
| <p>David L. Daniels<br/>Thomas D. Davies*<br/>Harold G. Davis<br/>Darrel A. Dean<br/>Kenneson G. Dean</p>  | <p>William B. Hansen*<br/>Stephen B. Harper<br/>Nicholas B. Harris*<br/>Christine M. Hartman<br/>Glenn A. Hayman<br/>J. Stuart Heath*<br/>David M. Helgren<br/>Kenneth P. Helmold<br/>Jorge A. Hernandez-Cantu<br/>Joseph R. Hewitt*<br/>James R. Hoppie<br/>Brenda Houser<br/>W. Brant Howard<br/>Michael R. Hulpke<br/>Donlon O. Hurtubise*<br/>Peter J. Hutchinson*</p> | <p>Takeshi Makinouchi<br/>Garry C. Maurath<br/>Gregory B. Maynard*<br/>John E. McClure, Jr.<br/>Thomas J. Miller<br/>Randall A. Mills<br/>John Drew Mitchler<br/>Dale J. Mitiska<br/>Hasan Mohammad<br/>Jon Peter Monroe<br/>Diane Elaine Moore<br/>Andrew I. Moran<br/>Bruce J. Moriarty<br/>Kenneth L. Moss<br/>James P. Murray</p> | <p>Roy B. Van Arsdale*<br/>Margaret Van Kempen<br/>Glen T. Vedera*</p>  |
| <p>Alan H. De Flumere<br/>James J. Dexter*<br/>Randall K. Dickinson<br/>Thomas P. Dolley*<br/>Paul N. Dolliver*<br/>Paul A. Dooley*<br/>Diane Mary Doyle<br/>Peter A. Drobeck*<br/>Susan M. DuBoise</p>  | <p>Joseph R. Inman, Jr.</p>  | <p>Vincent E. Neall<br/>Sally Wood Needell<br/>Alan Barry Nelson</p>  | <p>Bruce M. Walker<br/>Stephen D. Walker<br/>F. Kent Wallace<br/>Gregory L. Wallace<br/>Peter N. Webb<br/>Andrew C. Weinzapfel<br/>Donald Orton West<br/>Ronald R. Whitler<br/>J. Scott Wilbur<br/>Gary F. Wilder<br/>Ralph H. Willoughby*<br/>Margaret Anne Winslow<br/>C. Gil Wiswall*<br/>Brian J. Witzke<br/>Alan J. Woods*<br/>Michael J. Woods<br/>Thomas O. Wright</p> |
|  |  | <p>Kathleen Older<br/>Julio C. Olimpio*</p>   | <p>Clyde L. Yancey<br/>J. William Yon<br/>Louise B. Young<br/>Jean Lower Younker<br/>Leland W. Younker</p>  |
|  |  | <p>Robert H. Page<br/>Brad R. Parker<br/>John H. Parks<br/>E. Christine Petersen<br/>Gary Lee Peterson<br/>Fernando R. Pires<br/>Harry Nicholas Planner*<br/>Paul J. Post</p>   | <p>Mark D. Zoback<br/>Karen G. Zubatkin</p>   |
|  |  | <p>Stephen H. Quigley</p>   |   |

## NEW FELLOWS

The following candidates were elected to Fellowship by Council action at the November 1980 meeting.

Franz E. Anderson  
Roger L. Batten  
John C. Behrendt  
Wallace A. Bothner, Jr.  
Jonathan F. Callender  
Frank W. Cambray

Raymond B. Daniels  
H. Stewart Edgell  
Walter A. Gibbins  
Victor Goldsmith  
Robert M. Hamilton

David E. Harmon, Jr.  
Rudolph K. Hoagberg  
Jasper L. Holland  
Vincent Matthews III  
Marshall A. Reiter  
David C. Roy

David Schleicher  
William Spackman, Jr.  
Randall S. Spencer  
Marion I. Whitney  
Roger G. Wolff

## NEW STUDENT ASSOCIATES— Listed are 192 Student Associates who became affiliated with the Society during the period from March 1, 1980 through August 31, 1980.

Dennis S. Albaugh  
Paula E. Allen  
M. Lee Allison  
Gail E. Anderson  
Charles L. Angevine  
Allen W. Archer  
Mark P. Ausburn

Thomas Richard Fargo  
Joseph L. Featherston, Jr.  
James S. Ferris  
Thomas M. Finn  
Norman A. Fox  
Noelle A. France  
Douglas R. Fraser  
Robert C. Frey  
Michelle C. Frodey

June L. Legler  
Alice Lew  
John M. Libert  
David B. Loope  
John C. Lorenz  
John G. Lovett  
Robert D. Lubin  
Marie S. Lucas  
Stephen T. Luthy

Cheryl A. Royal  
Everett Rutherford

Maria A. Balzarini  
Richard Banos  
F. Christopher Benedict, Jr.  
Patricia A. Bernard  
George J. Blyskun  
Matthew R. Bob  
Debra J. Bones  
Danita S. Brandt  
Steven K. Broberg  
Mark F. Broer  
Bruce E. Broster  
Kebra Buckley  
Douglas A. Burns  
Jonathan L. Burr

Rolin L. Geronsin  
Britt G. Gibson  
Gregory N. Green  
Jeffrey B. Griffin  
Todd T. Grimmitt  
Alan Guy

Kathleen Stacy Mack  
Raul J. Madrid  
Thomas R. Malecki  
Richard A. Mann  
Gerald B. Margeson  
Jill Miller  
Susan E. Milnes  
Baylus K. Morgan  
Falma J. Moye

Jose A. Samaniego  
Daniel Sarewitz  
Donna M. Schaeffer  
Richard E. Schofield  
Richard S. Seymour  
Mark S. Shemet  
Lawrence R. Shore  
Anne Slivitzky  
Gary P. Smith  
James J. Smith  
Forrest A. Smouse  
Gregory Alan Snyder  
Mark A. Sparlin, Jr.  
Dale A. Springer  
Robert W. Starcher  
David K. Steward  
Clay R. Sullivan  
Lori L. Summa  
John L. Sweezy  
Karen A. Synowiec

Clark N. Callander  
S. Christopher Caran  
Douglas D. Carty  
Julie A. Chambers  
Daniel S. Chase  
Ann M. Chirinko  
Karen I. Christensen  
Bradford M. Clement  
John Lloyd Conner  
Robert D. Conti  
Frederick A. Cook  
Jill Rambo Crosbie

Gary D. Haeck  
Rhonda G. Hakundy  
Phil M. Hammons  
Reese P. Hastings  
Marc L. Helman  
Richard A. Holland  
James M. Hollywood  
Greg N. Hummel

Glenn D. Newman  
Phillip C. Nisbet

Kathy A. Tablack  
Ann B. Tabony  
Jed Thomas  
Kirk A. Thomson  
James A. Thum  
Jill A. Tipton

James S. Dean  
Andre Desrochers  
Dean E. Detar II  
Carolyn Sue Dingus  
Paul R. Dixon  
William J. Domoracki  
David P. Donegan  
Jeffrey B. Donnellan  
Donald W. Downey  
Alan R. Dutton

Gary D. Ishibashi

H. Steven Jackson  
Michael K. Jackson  
William S. Jefferson  
Steven M. Jessee  
Thomas V. Johnson  
Lynne E. Jones  
Kristine D. Z. Junge

Michael J. O'Leary  
Biodun N. Olorunfemi  
Daniel J. Olson  
Karin E. Olson  
Inemibo K. Opuiyo  
Less W. Osborne  
Gregg E. Ostrander

Jaye E. Up De Graff

Margaret R. Eggers  
James M. Ellis  
Joseph F. Engeln  
Karen Marie Erstfeld

Terry A. Kaplan-Henry  
Kim Anne Kastens  
Lena Kelekian  
Shari A. Kelley  
Ben W. Kennedy  
James L. Kennedy III  
Thomas J. Kenney  
Robert M. Kick  
Scott T. Kimler  
Teresa M. Kinley  
Gregory D. Klocek  
Michelle A. Kominz  
Frederick W. Kunzinger, Jr.

Keith H. Patton  
Robert T. Paulsen  
Michael R. Pawlowski  
Cornelius C. Perkins, Jr.  
Scott F. Perkins  
Robert Baxter Pharr, Jr.  
Marijan Poljak

Ann M. Vasko  
Brian K. Vesey  
Susan M. Vetter  
Peggy M. Visher

Terri L. Fairfield

Luise L. Langheinrich  
Chris L. Lausten  
Michael C. Layton  
Mary J. Leenheer

Douglas A. Price  
William J. Priore  
Phillip L. Pumphrey  
Denise M. Radtke  
James M. Randle  
David K. Rankin  
John L. Rascher  
Roy E. Reed  
Joseph M. Renier  
David J. Reynolds  
Susan L. Richardson  
Patricia A. Ringgenberg  
Locke Neal Rooney  
Susan V. Roth

Gary C. Walker  
Blanche M. Wallace  
Cyril R. Wanamaker  
Virginia J. Waters  
Samuel K. Webb  
William Keith Welsh  
Eric R. West  
Russell D. White  
William D. White  
Edith M. Wilde  
Frederick W. Williams  
Nancy Susan Williams

Patti A. Yates  
Cyril J. Young

John Steve Zuker



REPORT OF THE GSA COMMITTEE ON GEOLOGY AND PUBLIC POLICY  
OCTOBER 1980

## Perspectives on Government and Science: Occasioned by the Centennial of the U.S. Geological Survey

All agree that modern government requires scientific information—how it gets it, from whom, and how it is used are crucial questions. The GSA symposium at the San Diego Annual Meeting, honoring the USGS on its hundredth anniversary, explored these issues from the viewpoints of the mineral industry, geoscience agencies of government, universities, the Congress, and the observing scientist.

M. Gordon Wolman (Johns Hopkins University): Introduction

E. F. Osborn (Carnegie Institution of Washington; Pennsylvania State University):  
Dividing responsibilities in scientific research: Government, universities, and industry

W. D. McElroy (University of California, San Diego): University research, innovation, and federal regulations

Digby J. McLaren (Geological Survey of Canada): Earth science and government:  
A Canadian perspective

J. R. Muhm and P. A. Bailly (Occidental Minerals Corporation): Mining and government in America

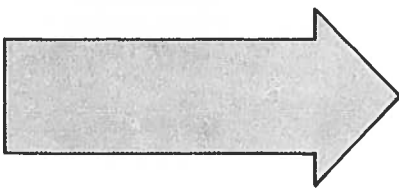
George E. Brown, Jr. (Congressman from the 36th Congressional District of California): Geology and public policy

Philip H. Abelson (Editor of *Science*): Science in the Washington jungle

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*Professor of Geography*    *Johns Hopkins University*  
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## NOAA's Regional Undersea Research Program

In November 1977 and January 1979, announcements of opportunity were issued inviting the submission of proposals to participate in NOAA's Regional Undersea Research Program at St. Croix, U.S. Virgin Islands. This is one of four current regional undersea programs sponsored by NOAA designed to improve our ability to understand and manage marine resources. The St. Croix program's facilities, managed by the West Indies Laboratory of the Fairleigh Dickinson University under contract to NOAA, are located on the north coast of St. Croix. Its underwater laboratory system, a manned saturation habitat, is located offshore in 50 feet of water at the head of a submarine canyon.

As a result of the previous announcements, proposals have been received and selected on the basis of peer review by members of the academic and government scientific community. Twenty-two scientific missions have been completed successfully since May 1978.

This is an invitation to submit proposals (for the period May 1-September 30, 1981) for the use of this unique underwater facility. Those wishing to participate in this program should identify areas of scientific investigation which fall into one or more of the following categories:

- (1) Fisheries resource conservation, development, and utilization.
- (2) Assess pollution effects on marine environment.
- (3) Impact of offshore energy development.
- (4) Dynamics and assessment of marine ecosystems and oceanographic processes.

- (5) Underwater biomedical research.
- (6) Equipment, test, and evaluation.
- (7) Education and training of graduate marine science students.

Proposals received will be evaluated using the scientific peer review system. High priority will be given to proposals that exploit the unique capabilities of an underwater laboratory and are designed to produce results applicable to problems encountered in U.S. coastal regions.

In addition to scientific merit, factors such as diving and medical qualifications will be reviewed by specialists in those areas. The use of the underwater laboratory system will be provided at no cost to the scientists whose proposals are selected. Limited funds are available for transportation and per diem. Salaries for the participants are expected to be provided by the participant's parent organization. Investigators wishing to submit proposals or needing further information concerning proposal submission should contact:

William Busch	or	Dennis Hubbard
NOAA (RD/SP2)		P.O. Box 4010
6010 Executive Blvd.		Christiansted, St. Croix
Rockville, MD 20852		U.S. Virgin Islands
(301) 443-8391		(809) 773-3339

The deadline for proposal submission for missions during May 1-September 30, 1981, period must be submitted no later than March 1, 1981.

## Twenty-fourth Conference on Great Lakes Research Set

The Twenty-fourth Conference on Great Lakes Research and the annual meeting of the International Association for Great Lakes Research will be held on the campus of the Ohio State University in Columbus, Ohio, from April 28 to 30, 1981. The Ohio State University, Center for Lake Erie Area Research, and the United States Environmental Protection Agency, Large Lakes Research Station, will serve as co-hosts for the conference.

The purpose of the conference is to stimulate information exchange on all aspects of theoretical and experimental research having a direct relation to the Great Lakes or applicable to the understanding of large lakes in general. Papers related to the physical, chemical, geological, biological, technological, and socio-economic problems of the Great Lakes will be presented. The meetings will include a half-day plenary, in which each of the Great Lakes will be addressed by a prominent researcher, and two and one-half days of technical sessions.

The theme of the Twenty-fourth Conference is focused on a fundamental understanding of the Great Lakes. It is becoming increasingly evident that a clearer understanding of lakes as ecosystems is needed before effective management strategies can be developed. The meetings will stress

the dissemination of research findings related to understanding the character and processes of the Great Lakes.

In addition to the regular technical sessions, certain members are arranging special sessions. These include silica cycling, sediment transport, aquatic plants, socio-economic issues and the Lake Erie intensive study, as well as a general poster session. Those interested in participating in these sessions should contact the Conference Coordinator for more details.

This annual international conference encourages and promotes communication and cooperation among researchers from Canada and the United States. We anticipate that 700 scientists, socio-economists, technologists, and administrators will attend the conference to hear approximately 200 research papers. The conference will also feature an Exhibition Center for the display and demonstration of commercial research products and services.

For further information, contact  
 Conference Coordinator  
 Center for Lake Erie Area Research  
 484 West Twelfth Avenue  
 Columbus, Ohio 43210  
 (614) 422-8949

## GSA to co-sponsor a Congressional Fellow

The Geological Society of America, along with AAPG and others, is cooperating with the American Geological Institute and AAAS in sponsoring a congressional fellow in the geological sciences for the coming year. These one-year appointments afford an opportunity for a two-way flow of information at the Washington level. The congressional fellow serves as a source of geologic information for the congressional committee to which he or she is attached, and in turn the geologist learns a great deal about the way things

work in Washington. Although many of the congressional fellows in other disciplines are relatively young, there are no arbitrary age limits.

Anyone wishing to nominate a candidate or to apply himself or to obtain more detailed information should contact Dr. A. G. Unklesbay, Executive Director, American Geological Institute, 5205 Leesburg Pike, Falls Church, VA 22041, (703) 379-2480.

## MAC Short Course to be held in Calgary, Alberta

### Clays and the Resource Geologist: Problems, Applications, and Investigative Techniques

Calgary, Alberta—May 14–16, 1981

This short course on clay minerals, sponsored by the Mineralogical Association of Canada, will be held at the University of Calgary during May 14–16, 1981. The course and the accompanying volume of lecture notes are oriented toward geologists from both industry and academia who wish to upgrade their knowledge concerning physico-chemical aspects of clay mineralogy and the role of clay minerals in petroleum geology. The instructors include W. Almon (Davies, Almon and Associates, Inc., Houston), J. R. Boles (University of California, Santa Barbara), G. W. Brindley (The Pennsylvania State University), D. K. Davies (Texas Tech. University), J. Hower (University of Illinois at Urbana-Champaign), I. Hutcheon (University of Calgary), and J. B. Thomas (Reservoirs, Inc., Denver). Topics of study are (1) structures and chemical compositions of clay minerals, (2) X-ray identification of clay minerals, (3) identification of interstratified clays, (4) clay minerals and shale diagenesis, (5) formation damage, stimulation design and the crystal chemistry of clays, (6) classification and diagenesis of clay minerals in tight gas sandstone, (7) regional controls of diagenesis in the Rotliegendes sandstone, Dutch sector of the North Sea, (8) clay diagenesis and effects on

sandstone cementation (case histories from the Gulf Coast Tertiary), (9) a review of the importance of clays in porosity occlusion and stimulation design in Cretaceous sandstones of Alberta, and (10) thermodynamics and authigenic mineral assemblages.

The registration fee is \$250\* (Canadian) and includes lecture notes, attendance at all sessions, accommodations at university residences, all meals from breakfast on May 14 to lunch on May 16, and a wine-and-cheese reception on the evening of May 13. A reduced fee (\$175\*, Canadian) is available for participants arranging their own accommodations and meals. Special rates are available for qualified students. Further information can be obtained from

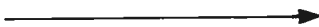
F. J. Longstaffe  
Department of Geology, University of Alberta  
Edmonton, Alberta, T6G 2E3, Canada  
Phone: (403) 432-2778 or (403) 432-3265

\*MAC members; nonmembers will pay an additional \$15.00 for membership and receive a one-year subscription to the Canadian Mineralogist.

## NAGT Geology Summer Field Course Clearinghouse Service

Students who are having trouble finding a geology summer field course and summer field camps that have unfilled openings can be put in touch with each other by contacting Dr. Thomas E. Hendrix, Department of Geology, Grand Valley State Colleges, Allendale, MI 49401; (616) 895-6611, Ext. 191.

Updates of field camp openings will be made Feb. 1, March 1, and April 1 for interested students. Inquiries about openings should be by letter (with self-addressed, stamped envelope for reply) or by phone (no collect calls will be accepted).

Please complete the form  if you wish your summer program to be included in this endeavor. For those returning the initial form, requests for updates will be sent February 15 and March 15. Please send the form to the addressee listed above.

### NAGT Geology Summer Field Course Clearinghouse

Institution \_\_\_\_\_

Date(s) of Course(s) \_\_\_\_\_ Sem. or Qtr. Credits \_\_\_\_\_

Will your course accept outside students?  
\_\_\_\_\_ yes \_\_\_\_\_no

Number of outside openings remaining as of \_\_\_\_\_  
date  
\_\_\_\_\_ number

If full, do you have a waiting list? \_\_\_\_\_yes \_\_\_\_\_no

Name and address of Camp Director:



## FEBRUARY BULLETIN BRIEFS

By Council action, the *Bulletin* Separates program is being discontinued. Effective with the January 1981 issue of *Bulletin*, GSA will no longer publish Separates. Members who hold coupons for *Bulletin* Separates PUBLISHED DURING 1980 may redeem those coupons any time during 1981; however, no new orders for the Separates program will be accepted.

GSA will continue to publish *Bulletin* Briefs in *GSA News & Information* each month for the convenience of the membership.

### Article Summaries

- S10201—Metamorphic petrology and structure of the St. Joe area, Idaho: Summary.

*Rolland R. Reid, Department of Geology, University of Idaho, Moscow, Idaho 83843; William R. Greenwood, U.S. Geological Survey, Federal Center, Denver, Colorado 80225; Gordon L. Nord, Jr., U.S. Geological Survey, Reston, Virginia 22092. (3 p., 1 fig.)*

- S10202—Petrochemistry and petrogenesis of the Malani igneous suite, India: Summary.

*H. S. Pareek, Central Petrological Laboratories, Geological Survey of India, 27, Jawaharlal Nehru Road, Calcutta-700 016, India. (4 p., 1 fig.)*

- S10203—Experimental stability relations of the hornblende magnesiohastingsite: Summary.

*Michel P. Semet and W. G. Ernst, Department of Earth and Space Sciences, University of California, Los Angeles, California 90024 (present address, Semet: Institut de Physique de Globe, Université de Paris, 75230 Paris Cedex 05, France). (4 p., 8 figs., 1 table)*

### Articles Complete in the February Issue of Part I

- 10204—Morphology and the role of landsliding in formation of some rock glaciers in the Mosquito Range, Colorado.

*Steven G. Vick, Dames & Moore, Salt Lake City, Utah 84111. (10 p., 8 figs., 2 tables)*

Some 23 rock glaciers have been identified in the central portion of the Mosquito Range. Surface features and characteristic forms correlate well with those reported for rock glaciers in Alaska and elsewhere in Colorado, New Mexico, and Utah. On the basis of air-photo interpretation, about two-thirds of the rock glaciers are lobate in form, and one-third are tongue-shaped. Only 5 of the 23 rock glaciers are believed to be active.

A detailed stability analysis of two rock glaciers in Iowa Gulch indicates that landsliding of unstable morainal deposits played a major role in their formation. Landslide debris provided loading necessary to initiate ice creep in frozen till on the lower valley slopes. Ice creep continued, eventually bringing the rock glaciers to their present form. With the supply of landslide debris exhausted and with insufficient ice wedging and rock exposure to generate large talus cones, stresses generated by the superincumbent load were reduced by creep-induced spreading, and motion ceased. Internal ice, in the form of both interstitial ice and ice layers, still remains.

Techniques developed to evaluate activity of rock glaciers in Alaska have been applied to the two rock glaciers in Iowa Gulch. These techniques, based principally on steepness and form of the rock glacier front as well as on calculated values of basal shear stress, indicate both rock glaciers to be inactive. Re-survey of a mining claim corner and inspection of

a shaft show that no movement has occurred over the period of record and that the rock glaciers are indeed inactive, substantiating the usefulness and validity of the above-described techniques for assessment of rock glacier activity elsewhere.

- 10205—Joint orientation in Devonian rocks in the northern portion of the lower peninsula of Michigan.

*Timothy B. Holst, Department of Geology, University of Minnesota, Duluth, Minnesota 55812; Gary R. Foote, Department of Geology, Hope College, Holland, Michigan 49423. (9 p., 12 figs., 1 table)*

The orientations of 4,787 joints were measured at 43 separate locations in the area from Charlevoix, Michigan, to Alpena, Michigan, and north to the tip of the lower peninsula of Michigan. The sample localities are all in Devonian carbonate rocks and shales of the Michigan Basin. Nearly all of the joints are vertical. At least one major joint set is identifiable at each location, and four major sets are present at more than half of the locations. At 40 of the 43 sample localities, there is a joint set with a strike of about 54 degrees (N54°E); at 35 locations, there is a set striking about 133 degrees (N47°W). At 32 locations, there is a set with a strike of about 92 degrees (N88°W), and a set with a strike of about 2 degrees (N02°E) is present at 31 sample localities. Mean orientation of any of the four joint sets does vary from location to location but is relatively consistent over the entire area for each of the sets. Fluctuations in mean orientation of any of the joint sets or the presence or absence of the joint sets is independent of formation, lithology, and distance between sample stations.

Joint set orientation is independent of the regional strike

**SEPARATES PROGRAM DISCONTINUED FOR 1981**

around the Michigan Basin, which varies from 54 degrees (N54°E) to 114 degrees (N66°W) within the study area. The joint pattern does not appear to be related to structural trends previously postulated to exist in the Precambrian basement of the area. Two of the joint sets may be related to major low-amplitude folds in the Paleozoic strata of the Michigan Basin. In situ stress measurements show the orientation of maximum horizontal compressive stress to be compatible with these joint sets and the folds.

- 10206—Ignimbrites, trachytes, and sedimentary rocks of the Precambrian Thunderbird Group, Franklin Mountains, El Paso, Texas.

*William F. Thomann, Department of Geological Sciences,*

*University of Texas at El Paso, El Paso, Texas 79968 (present address: Department of Geography and Geology, Texas A and I University, Kingsville, Texas 78363). (7 p., 10 figs., 2 tables)*

Metamorphosed trachytes, ignimbrites of rhyolitic composition, and volcanoclastic rocks are recognized in the Precambrian Thunderbird Group, Franklin Mountains, near El Paso, Texas. Chemically, both the trachytes and pyroclastic rocks are alkalic. Contact metamorphism due to intrusion of the Red Bluff Granite recrystallized the Thunderbird Group to the albite-epidote hornfels facies. However, primary igneous and sedimentary structures are well preserved, as seen both in outcrops and thin sections, throughout most of the Thunderbird Group.

**FOR YOUR CALENDAR — FUTURE MEETING DATES**

1981	November 2-5	Cincinnati, Ohio
1982	October 18-21*	New Orleans, Louisiana
1983	October 31-November 3	Indianapolis, Indiana

\*Please note change from October 25-28

**1981 SECTION MEETINGS**

Southeastern	March 19-20	Hattiesburg, Mississippi
Cordilleran	March 25-27	Hermosillo, Sonora, Mexico
Northeastern	April 9-11	Bangor, Maine
South-Central	April 13-14	San Antonio, Texas
Rocky Mountain	April 16-17	Rapid City, South Dakota
North-Central	April 30-May 1	Ames, Iowa



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