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

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

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

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 Cordon 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 3¾ × 4½ in. for these full-card reproductions. This will make it possible to use any standard 4 × 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 × 3½ in. or 6 × 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.)

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. Perntz, 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
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

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 firm by mid-April.

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

1. Canadian Cordillera and Pacific Offshore
   H. Gabrielle, 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. Innuittian Belt
   H. Trettin, G.S.C., Calgary, Alta.
4. Canadian Appalachians
   H. Williams, Memorial Univ., St. John’s, Nufld.
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:

<table>
<thead>
<tr>
<th>Leader</th>
<th>Country</th>
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<tbody>
<tr>
<td>L. L. Sloss (U.S.)</td>
<td>D. J. McLaren (Canada)</td>
</tr>
<tr>
<td>H. R. Gould (U.S.)</td>
<td>R. G. Blackadar (Canada)</td>
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<tr>
<td>C. L. Drake (U.S.)</td>
<td>J. O. Wheeler (Canada)</td>
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<tr>
<td>A. W. Bally (U.S.)</td>
<td>R. A. Price (Canada)</td>
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<tr>
<td>R. Brett (U.S.)</td>
<td>G. P. Salas (Mexico)</td>
</tr>
<tr>
<td>J. C. Reed (U.S.)</td>
<td>J. Guerrero (Mexico)</td>
</tr>
<tr>
<td>W. R. Keefer (U.S.)</td>
<td>G. Dengo (Guatemala)</td>
</tr>
</tbody>
</table>
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

Vol. 3, no. 2 February 1981

GSA NEWS & INFORMATION (ISSN 0164-5854) is the monthly newsletter of The Geological Society of America, Inc., P.O. Box 9140, Boulder, Colorado 80301. Second-class postage rates paid at Boulder, Colorado, and at additional mailing office.

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 orogenetic 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-Permain. 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 diachronity of orogeny? How can diachronity 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; Rene 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.
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 1961 and 1980 Presidents Howard H. 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

PREZIDENT

TREASURER

VICE-PRESIDENT

PAST-PRESIDENT

COUNCILOR 1979-1981
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).

Athol D. Abrahams
Tunde J. Afolabi
Douglas Aikin*
Jeffrey E. Andrews
Gary Douglas Babb
Mark L. Ballard
Donald K. Balmer
James E. Barkdull
Charles E. Barker*
Joffre H. Baron
Noel L. Barstow
Henry L. Barwood
Jay C. Batzner
David K. Beach*
Frederick H. Becker
Thomas H. Bedwell
Francis Thomas Bek
Stephen A. Bennett
Katharine A. Best
Patricia K. Bettis
Bonnie Bloser
Laurie Bloom*
Marcus X. Borengasser
Kenneth W. Bramlett
Gerald C. Braun
Koll Y. Buer*
T. Bruce Burgess
Edward G. Busby
Joseph A. Butch
Wayne K. Camp*
Judith A. Castello
Ananda Kumar Chakrabarti
Steven D. Chatman
J. Albert Cheng
Robert H. Chessen
Susan M. Childs
Dong Ryong Choi
Robert E. Chuckran, Jr.*
Ronald K. Churchhill
Joan L. Claycomb
Bastiaan J. Collette
David G. Collins
Kelly A. Collins*
Stephen W. Conway
Ulrich J. Cordon*
Bruce H. Cox
David L. Daniels
Thomas D. Davies*
Harold G. Davis
Darrel A. Dean
Kenneson G. Dean
Alan H. De Flumerle
James J. Dexter*
Randall K. Dickinson
Thomas P. Dolley*
Paul N. Dottive*
Paul A. Dooley*
Diane Mary Doyle
Peter A. Drobeck*
Susan M. DuBoise
Raymond P. Duchaine
Stefan H. Duerr
Julie Ann Dumoulin
Wynn Eakins
Duncan L. Edwards*
Todd J. Eller
Gerald M. Ellis
Samuel A. Epstein
Denis R. Erickson
James R. Farris
Robert H. Feldman
Joseph M. Finneran
Joan J. Fitzpatrick
Martha R. Fletcher*
Robert J. Foresti
Kim Forster
John H. Foster*
Douglas R. Frick
William J. Fritz*
Eric G. Frost
Rodney G. Gaines
Thomas A. Galya
Jonathan L. Gan*
Cynthia A. Gardner
Fredric J. Geiger
Jerry M. German
Gary D. Gindlesperger
Clayton J. Goertvert
Robert F. Grabb, Jr.
Thomas X. Grasso
John Harrison Gray
Gary E. Grubitz
William B. Hansen*
Stephen B. Harper
Nicholas B. Harris*
Christine M. Hartman
Glenn A. Hayman
J. Stuart Heath*
David M. Helgren
Kenneth P. Helmold
Jorge A. Hernandez-Cantu
Joseph R. Hewitt*
James R. Hoppie
Brenda Houser
W. Brant Howard
Michael R. Hulpke
Donlon O. Hurtubise*
Peter J. Hutchinson*
Joseph R. Inman, Jr.
Lawrence T. Jansen
Karl O. Jepsen*
Keith E. Johnson
Richard C. Johnson
Peter B. Jones
Dennis D. Kaegi
Lynn M. Kantner
Sanford S. Kaplan*
Charles M. Keeler
Patricia H. Kelley*
Carl S. Kellogg
Peter C. Kelsall
Youstef K. Kharaqa
Azam A. Khwaja
Philip S. Kimball, Jr.
Clifford C. Knitter
Thomas E. Koler*
Lisa A. Kornier
Walter F. Kramer
Fred A. Kruse
Warner R. Landry
George W. Lee, Jr.
Robert S. Lee
Alan J. Lehockey
Jeffrey J. Lelek*
Connie P. Letsky
Michael H. P. Lewis*
Richard A. Lindvall
Lester K. C. Lubetkin
Takeshi Makinouchi
Garry C. Mauerath
Gregory B. Maynard*
John E. McClure, Jr.
Thomas J. Miller
Randall A. Mills
John Drew Mitchler
Dale J. Mitiska
Hasan Mohammad
Jon Peter Monroe
Diane Elaine Moore
Andrew I. Moran
Bruce J. Moriarty
Kenneth L. Moss
James P. Murray
Vincent E. Neall
Sally Wood Needell
Alan Barrio Nelson
Kathleen Older
Julio C. Olimpio*
Robert H. Page
Brad R. Parker
John H. Parks
E. Christine Petersen
Gary Lee Peterson
Fernando R. Pires
Harry Nicholas Planner*
Paul J. Post
Stephen H. Quigley
Carlos Ramirez-Rubio
Edward L. Reecor
Joseph M. Reilly
Dianna Lynn Riggs
Frank Robbins-Holmes
Milagro Rodriguez
David D. Rolins
Glenn R. Roquemore*
Joseph P. Rousseau
Jorge H. Salinas
William F. Saur
Jacques R. Schott
Michael J. Shulman
Robert A. Shuller, Jr.
Eric B. Shyer
Frederick O. Simon
Robert Dean Smith
Thomas L. Smith
Daniel Spencers
Steven W. Sperry
Debra S. Stokes
Judith M. Stangl
David A. Stanley*
Eric J. Stimson
Kathleen A. Sullivan
Alan L. Swenson
Mohamed-Ali Tadkod
Feran Tamura*
Thomas C. Tatkin
Robert E. Thomas
Joseph W. Toth*
Joseph R. Tyburski
Paul J. Umhoefer*
Roy B. Van Arsdale*
Margaret Van Kempen
Glen T. Vedra*
Bruce M. Walker
Stephen D. Walker
Frank W. Kentwall
Gregory L. Wallace
Peter N. Webb
Andrew C. Weinzaepfel
Donald Orton West
Ronald R. Whitter
J. Scott Wilbur
Gary F. Wilder
Ralph H. Wiloughby*
Margaret Anne Winslow
C. Gil Wissal*
Brian J. Witzke
Alan J. Woods*
Michael J. Woods
Thomas O. Wright
Clyde L. Yancey
J. William Yon
Louise B. Young
Jean Lower Younker
Leland W. Younker
Mark D. Zoback
Karen G. Zukatskin
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. Whitnev
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
Maria A. Balzarini
Richard Banos
F. Christopher Benedict, Jr.
Patricia A. Bernard
George J. Blyskun
Matthew R. Bob
Debra J. Bones
Janita S. Brandt
Steven K. Broberg
Mark F. Broer
Bruce E. Broster
Kebra Buckley
Douglas A. Burns
Jonathan L. Burr
Clark N. Callander
S. Christopher Caran
Douglas D. Cartry
Julie A. Chambers
Daniel S. Chase
Ann M. Chiriko
Karen I. Christensen
Bradford M. Clement
John Lloyd Conner
Robert D. Conti
Frederick A. Cook
Jill Rambo Croisbie
James S. Dean
Andre Desrochers
Dean E. Detar II
Carolyn Sue Dingus
Paul R. Dixon
William J. Domoraicki
David P. Donegan
Jeffrey B. Donnellan
Donald W. Downey
Alan R. Dutton
Margaret R. Eggers
James M. Ellis
Joseph F. Engel
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GSANews & Information 31
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. McEroy (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

Condensed versions of these papers are now available as a Report of the Committee on Geology and Public Policy. Members may receive a complimentary copy by returning the order form below.

M. Gordon Wolman  Department of Geography and Environmental Engineering
Professor of Geography  Johns Hopkins University
Baltimore, Maryland 21218
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.
5. Underwater biomedical research.
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. Howse (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 diaogenesis, (5) formation damage, stimulation design and the crystal chemistry of clays, (6) classification and diaogenesis of clay minerals in tight gas sandstone, (7) regional controls of diaogenesis in the Rotliegendes sandstone. Dutch sector of the North Sea, (8) clay diaogenesis 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 Service
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.

• 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.
around the Michigan Basin, which varies from 54 degrees (N54°E) to 114 degrees (N64°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 volcaniclastic 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.

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