

# Quaternary Geologist and Geomorphologist

NEWSLETTER OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

Volume 24, no. 1

January 1984

#### QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION ELECTIONS

A total of 898 ballots were mailed to the Division's voting affiliates for the 1983 election of Officers and Panel, and 289 were returned. Division officers and members of the Panel elected for 1984 are:

Returning Panel Members (1982-84): Thomas H. Hamilton Robert C. Palmquist Dale F. Ritter

#### NOMINATIONS FOR THE 1984 PANEL MEMBERS

Clip out and mail this ballot before March 15, 1984, to: Richard F. Madole U.S. Geological Survey Box 25046, MS 966 Denver, CO 80225

All members except Division officers, present or retiring Panel members, and Student Associates are eligible for nomination to the Panel. The six names receiving the highest number of votes will appear on the annual ballot. Each voting affiliate of the Division (member other than Student Associate) may nominate up to three persons.

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#### NOMINATIONS FOR THE KIRK BRYAN AWARD FOR 1984

Nominations for the Kirk Bryan Award for 1984 will be accepted until January 31, 1984. To nominate a paper for the Kirk Bryan Award simply identify the paper and provide a statement about its significance. Send the nomination to the Division Secretary, Richard F. Madole, U.S. Geological Survey, Box 25046, MS 966, Denver, CO 80225. The Kirk Bryan Award is for a specific work published within the past 5 years.

#### **MEMBERSHIP**

As of October 31, 1983, Division membership was 1,183. The distribution by membership category is as follows:

| Members                             | 634   |
|-------------------------------------|-------|
|                                     |       |
| Fellows                             |       |
| Honorary Fellows                    | 1     |
| Students                            | 240   |
| Exempt Members                      | 4     |
| Exempt Fellows                      |       |
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|                                     | 1,183 |

Exempt Members and Fellows include persons who have reached the age of 70 years and have paid dues for 30 years or who have reached the age of 65 years and have paid dues for 25 years, and specifically request exemption from payment of further dues.

#### BUDGET

| QG&G Division Fund as of 12/31/8<br>Fund balance<br>Dues income 1982   | \$3,496.60<br>2,020.00                  |             |
|--|---|-------------|
| Total Division resources and in  | come                                    | .\$5,516.60 |
| Division expenses<br>Funds transferred   | \$1,423.76                              |             |
| to Mackin Fund   | 2,046.62                                |             |
| Total deductions   | • | .\$3,470.18 |
| Adjusted Division fund balance as of 12/31/82  |   | .\$2,046.42 |
| J. Hoover Mackin appropriated fur<br>Fund balance 12/31/82<br>Earnings and contributions<br>Division fund transfer |   | .\$5,515.19 |
| Total income   |   | .\$2,416.57 |
| But the second second second second  |   |             |
| Grant Awards   |   |             |
| Fund balance 12/31/82  |   | .\$6,931.76 |

#### MACKIN GRANT APPLICATIONS FOR 1984

The deadline for receipt of applications for the Mackin Grant for research in geomorphology or

Quaternary geology is February 15. Two awards will be made, one to a Master's degree candidate and one to a Ph. D. candidate. Winners will be decided by April 15, 1984.

Application forms for the Mackin Grants have been revised for 1984. Hence, do not use the old forms. you do, the information for evaluations on your application will be incomplete. The new application forms may be obtained from the Division Secretary Richard F. Madole, U.S. Geological Survey, Box 25046, MS 966, Denver, CO 80225.

#### COLE GRANT APPLICATIONS FOR 1984

Application forms for the Cole Grant may be obtained from the Executive Director, The Geological Society of America, P.O. Box 9140, Boulder, CO 80301; Phone (303)447-2020. Applications must be postmarked by February 15, 1984, to be eligible. This award will be restricted to investigation of the geomorphology of semiarid and arid terrains in the United States and It will be given each year to a GSA Fellow between 35 and 60 years of age who has published one or more significant papers in geomorphology. Funds cannot be used for work already accomplished. The grant will be used for work already accomplished. The grant w be for \$1,000 or more, depending upon the amount of interest accumulated in the Cole Grant fund.

## ACKNOWLEDGMENTS TO RETIRED PANEL MEMBERS, 1982 AND 1983

In serving as Division Secretary and Committee Chairman with the past two Division Panels, I have become aware of the magnitude of the service provided by the Panel members, and of their generosity in the giving of time and energy. Hence, on behalf of the Division, I want to acknowledge the service of Nathaniel W. Rutter, Joseph H. Hartshorn, and the late Robert F. Black, who retired from the Panel this year, and George I. Smith, Allan F. Schneider, and Edward B. Evenson, who retired in 1982. These individuals devoted considerable time and energy to deciding the Kirk Bryan Award. In addition, they served on other committees appointed by Division chairmen and provided counsel to the Management Board on a variety of matters.

#### MANAGEMENT BOARD MEETING INDIANAPOLIS, INDIANA, NOVEMBER 1, 1983

The annual business meeting of the Division Management Board was held in Indianapolis, Ind. Tuesday, November 1, 3:00-5:15 p.m. Division Chairman John T. Andrews presided. Attending were: Donald J. Easterbrook, First Vice-Chairman; Donald F. Eschman, Second Vice-Chairman; Gail M. Ashley, Second Vice-Chairman, elect; Richard F. Madole, Secretary; Jane L. Forsyth and David M. Mickelson, Panel members; Nathaniel W. Rutter, Division DNAG Representative and Committee Chairman; Wil L. Graf, Division DNAG Volume Editor; and Robert L. Schuster, Secretary, Engineering Geology Division. Much of the meeting agenda--such as election results, membership, budget, grants, planning for Division-sponsored symposia and field trips, and the DNAG volume--is reported on elsewhere in this Newsletter. In addition to these items, the agenda at Indianapolis included discussions about modifying the system used to evaluate the Mackin Grants, modifying the Mackin Grant application form, amending the bylaws so that a system will exist for resolving a tie vote for Second Vice-Chairman should that ever occur, and developing a procedure whereby the Division can provide continuing support to the GSA Editorial Board in identifying potential candidates for Associate Editor.

#### 1983 KIRK BRYAN AWARD PRESENTATION

Leland H. Gile, John W. Hawley, and Robert B. Grossman were the recipients of the 1983 Kirk Bryan Award for their paper "Soils and Geomorphology in the Basin and Range Area of Southern New Mexico--Guidebook to the Desert Project," New Mexico Bureau of Mines and Mineral Resources Memoir 39, 222 p., 1981. The award was presented at the Quaternary Geology and Geomorphology luncheon on November 2 during the GSA Annual Meeting in Indianapolis. Peter W. Birkeland made the award citation, and Gile and Hawley were present to accept the award. The entertaining speeches provided by these three individuals will be published in a forthcoming issue of the Bulletin.

#### DIVISION DNAG VOLUME

Identification of topics and potential contributors for the Division DNAG volume on "Landscape Systems of North America" is progressing. The chapter leaders identified to date by N. W. Rutter, Division DNAG Representative and Committee Chairman, and Will L. Graf, DNAG volume editor, include: (1) Appalachians, H. H. Mills; (2) Arctic Lowlands, L. D. Carter; (3) Central Lowlands, J. C. Knox; (4) Coastal Plain, H. J. Walker; (5) Colorado Plateau, W. L. Graf; (6) Columbia Plateau, V. R. Baker; (7) Great Plains, Wakefield Dort, Jr.; (8) Interior Mountains and Plateaus, M. J. Bovis; (9) Pacific Coast and Mountains, D. R. Muhs; and (10) Rocky Mountains, R. F. Madole. Chapters for which leaders have not yet been identified include the Basin and Range and Canadian Shield. Chapter leaders will have received a policy statement and guidelines from Will L. Graf by the time this Newsletter is circulated. The schedule developed to date calls for completion of chapter outlines by October 1984, first drafts by October 1985, and publication in 1986.

#### FRIENDS OF THE PLEISTOCENE (SOUTH-CENTRAL CELL) FIELD TRIP, APRIL 6-8, 1984

The South-Central Cell of the Friends of the Pleistocene will hold its annual field trip April 6-8, 1984. For registration information write Dr. Thomas C. Gustavson (Field Trip Organizer), Bureau of Economic Geology, The University of Texas at Austin, University Station, Box X, Austin, TX 78712. The number of registrants will be limited to 50 due to transportation and housing limitations.

The 2½-day field trip will focus on the geomorphology, Quaternary stratigraphy, paleoclimate, and archaeology of selected areas of the Southern High Plains and Rolling Plains of the Texas Panhandle. The effect of dissolution of Permian bedded salt and collapse of overburden on the geomorphic evolution and the Quaternary stratigraphy of the High Plains and Rolling Plains will be discussed. A variety of collapse features in the vicinity of Lake Mackenzie and Caprock Canyons State Park will be visited.

Recently recognized sequences of alluvial fan sediments in Hall, Briscoe, and Motley Counties will be discussed and examined. The fan sequences, locally as thick as 250 feet, cover several hundred square Basal gravels within one sequence contain a molluskan fauna dated as approximately 30,000 years old. Locally the upper portion of the same fan sequence contains evidence of Paleoindian and Archaic occupation. Lacustrine sediments, preserved in sag ponds related to dissolution and subsidence, occur in several areas within the fan sequences. sediments contain shells of aquatic snails no longer indigenous to the area.

Evidence of Paleoindian and Archaic occupation in the

Lake Theo and Lake Mackenzie areas will be described.

#### SPECIAL SESSION ON QUATERNARY EVOLUTION OF THE GREAT LAKES, MAY 13-16, 1984

Quaternary Evolution of the Great Lakes is the subject of a Special Session being held at the Annual Meeting of the Geological Association of Canada, at the University of Western Ontario, in London, Ontario, May 13-16, 1984. Five review papers, one on each of the major basins (Superior: Farrand et al; Michigan: Hansen et al; Huron: Eschman and Karrow; Erie: Call and Feenstra; Ontario: Muller and Prest), will be Calkin complemented by submitted papers. For further information contact the Chairman of the Organizing Committee (P. F. Karrow, Earth Sciences, University of Waterloo, Waterloo, Ontario N2L 3G1) or the Program Coordinator (G. M. Young, Geology Department, University of Western Ontario, London, Ontario N6A 5B7).

#### SIXTH INTERNATIONAL PALYNOLOGICAL CONFERENCE, CALGARY, AUGUST 26-SEPTEMBER 1, 1984

The Sixth International Palynological Conference will convene at Calgary, Alberta, Canada, from August 26 to September 1, 1984. The conference is sponsored by the International Union of Geological Sciences, International Commission for Palynology, The University of Calgary, Canadian Association of Palynologists, Canadian Society of Petroleum Geologists, and the Arctic Institute of North America. For information contact:

Sixth International Palynological Conference c/o Ms. Lois Kokoski, Conference Office Faculty of Continuing Education The University of Calgary Education Tower Room 102 Calgary, Alberta, Canada T2N 1N4

Phone: (403)284-5051

# PRELIMINARY PLANS FOR DIVISION-SPONSORED SYMPOSIA AND FIELD TRIPS AT THE 1984 ANNUAL MEETING, RENO,

The Division will cosponsor with the Engineering Geology Division a one-day (two-session) symposium on debris flows and avalanches at the Annual meeting in Reno, Nev., November 1984. Donald F. Eschman, who as First Vice-Chairman is the Division's representative on the Joint Technical Program Committee, will coordinate planning for Division-sponsored events at the Reno meeting. He has appointed John E. Costa, Water Resources Division, U.S. Geological Survey, Denver, to be in charge of organization for the QG&G Division. Jerry Wieczorek, U.S. Geological Survey, Menlo Park, is in charge of organization for the Engineering Geology Division.

The Division also has endorsed sponsorship of an atlarge symposium entitled "Quaternary Lacustrine Sediments of the Western U.S.--Dating and Environmental Analysis." Kenneth L. Verosub, Department of Geology, University of California, Davis, CA 95616, is in charge

of this proposal.

Field trips for the Reno meeting are selected and scheduled by the Local GSA Organizing Committee. Division has no role with respect to field trips except to encourage members to propose them. Although still in preliminary planning, the list of proposed field trips that deal with Quaternary geology and geomorphology include:

Quaternary tectonics of Walker Lane area, J. Bell, R. B. Morrison and others, leaders (pre-meeting trip) Quaternary stratigraphy of the eastern Mojave Desert, J. C. Dohrenwend, leader (post-meeting trip)

Archaeological geology, Pershing County, Nevada, Jonathan Davis and R. B. Morrison, leaders (premeeting trip, cosponsored by Quaternary Geology and Geomorphology Division and Archaeological Geology Division)

Quaternary geology of western Nevada, Jonathan Davis, leader (tentative)

Geomorphology of Washoe Valley, S. Ellen, leader (onehalf day concurrent trip)

#### REPORT ON THE FOURTH INTERNATIONAL CONFERENCE ON PERMAFROST

The Conference was held on the University of Alaska campus, Fairbanks, July 17-22. Approximately 900 individuals from 25 countries participated. themes addressed included pipeline construction, climatic change and geothermal regime, deep foundations and embankments, permafrost terrain and environmental protection, frost heave and ice segregation, and subsea permafrost. Approximately 360 abstracts of papers and posters were published in the Abstract and Program

Volume and program supplement.

A total of 276 papers with over 460 co-authors are They will appear in November 1983 in two now in press. volumes totaling 1,600 pages published by the Academy Press. Twenty-two countries contributed papers. An additional 40 contributed papers will be published along with panel and plenary discussions in a final The additional Soviet contributions include papers that were not in camera-ready form when Volumes I and II went to press and abstracts of 34 Soviet papers published and available in Russian at the Conference. In all, the Soviets provided 98 contributed papers and three major review papers.

Publications of the Fourth International Conference on Permafrost

#### Proceedings

Permafrost: Fourth International Conference, Proceedings Abstracts and Program. Fairbanks, University of Alaska, 1983, 278 p. with supplement, \$10.00.

Permafrost: Fourth International Conference. Proceedings, v. 1 and 2, Washington, Academy Press (in press), approx. 1,600 p., est. \$90.00/set.

Permafrost: Fourth International Conference, Proceedings, v. 3, est. 500 p. (in preparation).

#### DEADLINE FOR RECEIPT OF NEWSLETTER NEWS

Newsletters will be mailed in early January and again in June. Members wishing to use the newsletter as a means of announcing field trips or meetings, or as a means of communicating with a part or all of the Division membership are urged to provide the necessary information to the Division Secretary by November 20 for inclusion in the January newsletter and by May 1 for inclusion in the June newsletter.

### IN MEMORIAM

Robert F. Black October 25, 1983 Robert L. Sutton December 28, 1982

John C. Frye November 12, 1982 Sigurdur Thorarinsson February 8, 1983

John B. Lucke October 2, 1982  ${\tt Glacial}$   ${\tt Geology:}$  An Introduction for Engineers and  ${\tt Earth}$   ${\tt Scientists.}$ 

Pergamon Press, Ltd., 430 p., 200 Illus., 807 lit references. \$60, hard cover; \$17.95, soft cover. Edited by: N. Eyles, University of Toronto, Toronto, Canada.

An introduction for mid to senior undergraduates and college students engaged in a wide range of civil engineering, geological engineering, geology, geography, and environmental earth science courses that involve some knowledge of glacial geology and sediments of formerly glaciated terrains.

Contents: Glacial geology: a landsystems approach, N. Eyles. The subglacial landsystem, N. Eyles and J. Menzies. The supraglacial landsystem, M. A. Paul. The glaciated valley landsystem, N. Eyles. Landforms and sediments resulting from former periglacial climates, N. Eyles and M. A. Paul. Glaciolacustrine and glaciomarine clay deposition: A North American perspective. R. M. Quigley. Glaciofluvial transport and deposition, A. D. Miall. Geotechnical properties of lodgement till, J. A. Sladen and W. Wrigley. The distribution of glacial landsystems in Britain and North America, N. Eyles, W. R. Dearman, T. D. Douglas. Engineering geological mapping in glaciated terrain, A. Strachan, and W. R. Dearman. Site investigation procedures and engineering testing of glacial sediments, S. Somerville. Foundation engineering in glaciated terrain, W. F. Anderson. Road construction in glaciated terrain, J. E. Cocksedge. Dam and reservoir construction in glaciated valleys, M. S. Money. Hydrogeological investigations in glaciated terrains, J. W. Lloyd. Appendices: Commonly used grain-size scales for sediments. S. I. units and conversion factors. Notation for chapter 8. References. Index.

#### Guidebooks

Published by the Alaska Division of Geological and Geophysical Surveys, Fairbanks

Guidebook 1: Richardson and Glenn Highways, Alaska. T. L. Pewe and R. D. Reger, eds., 1983, 263 p., \$7.50.

Guidebook 2: Colville River Delta, Alaska. H. J. Walker, ed., 1983, 34 p., \$2.00.

Guidebook 3: Northern Yukon Territory and Mackenzie Delta, Canada. H. M. French and J. A. Heginbottom, eds., 1983, 186 p., \$8.50.

Guidebook 4: Elliott and Dalton Highways, Fox to Prudhoe Bay, Alaska. J. Brown and R. A. Kreig, eds., 1983, 230 p., \$7.50.

Guidebook 5: Prudhoe Bay, Alaska. S. E. Rawlinson, ed. (in press), approx. 200 p.

Guidebook 6: The Alaskan Railroad Between Anchorage and Fairbanks. T. C. Fuglestad, ed. (in preparation), approx. 130 p.

Guidebook 7: Fairbanks Area Geology. R. D. Reger and T. L. Pewe, eds. (in preparation).

Guidebook 8: Fairbanks Area Engineering. A. J. Atler, ed. (in preparation).

#### Other

Permafrost: A Bibliography, 1978-82. Glaciological Data Report GD-14, Boulder, World Data Center for Glaciology, 1983, 172 p., \$10.00.



# THE GEOLOGICAL SOCIETY OF AMERICA

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