Quaternary Geologist and Geomorphologist

NEWSLETTER OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

VOLUME 23, NO. 2 JUNE 1983

SLATE OF CANDIDATES FOR THE DIVISION BALLOT FOR 1983

A Nominating Committee chaired by Donald F. Eschman and assisted by Parker E. Calkin and William B. Bull has compiled a slate of candidates for 1983. Nominees are:

Chairman .....Donald J. Easterbrook
1st Vice-Chairman .....Donald F. Eschman
2nd Vice-Chairmen .....Gail M. Ashley
Dale F. Ritter

Panel Members[1] (1983-85).....Steven M. Colman
John E. Costa
Jane L. Forsyth
George R. Hallberg
David M. Mickelson
Peter C. Patton
Stephen G. Wells

[1]Seven nominees have been selected rather than six because of a tie.

This year the number of nominations received from the membership increased by nearly 50 percent, and the number of nominees for the Division Panel increased correspondingly. The list is long and distinguished and is included below.

Gail M. Ashley
Victor R. Baker
Peter W. Birkeland
Arthur L. Bloom
Harold W. Borns, Jr.
William C. Bradley
Parker E. Calkin
Michael A. Church
John J. Clague
Lee Clayton
Richard G. Craig
Robert R. Curry
Aleksis Dreimanis
Rhodes W. Fairbridge
William R. Farrand
Leon R. Follmer
Richard P. Goldthwait
Margaret J. Guccione
Deborah R. Harden
Calvin J. Heusser
Linda E. Heusser
Kenneth D. Hopkins
Alan V. Jopling
Paul F. Karrow
John P. Kempton
James C. Knox
John C. Kraft
George J. Kukla
William H. Mathews
W. N. Melhorn
Gifford H. Miller
Marie Morisawa
Troy L. Pewe
Karen L. Prestegaard
John R. Reid, Jr.
William F. Ruddiman
Stanley A. Schuum
William E. Scott
Roy J. Schlemon
David B. Slemmons
Ann M. Tallman
J. Terasmae
Clyde Wahrhaftig
William J. Wayne

1983 KIRK BRYAN AWARD

The Quaternary Geology and Geomorphology Division has named Leland H. Gile, John W. Hawley, and Robert B. Grossman as 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 will be presented during the Quaternary Geology and Geomorphology luncheon that will be held during the GSA Annual Meeting in Indianapolis, October 31-November 3, 1983.

NOMINATIONS NEEDED FOR THE KIRK BRYAN AWARD FOR 1984

The Kirk Bryan Award will be made to the author or authors of a published paper of distinction advancing the science of geomorphology or some related field, such as Pleistocene geology. The award to the author of the selected paper will consist of two parts:

a. A printed or inscribed certificate of such design as is deemed suitable by the Society, and will include the words "Kirk Bryan Award."

b. A cash stipend of whatever magnitude is deemed appropriate by the Society; the amount may vary from time to time depending on the proceeds available from the Kirk Bryan Memorial Fund.

The award generally will be made annually, but in any particular year may be withheld if no suitable paper is decided on, or if available funds are considered insufficient for the award. In years when the award is not given, interest on the fund may be either allowed to accumulate or be added to the principal, at the discretion of the Council.

The paper constituting the basis of the award must fulfill the following requirements:

a. The paper will deal with geomorphology or with a bordering field, but related to geomorphology.

b. The paper will have been published not more than five years prior to its selection for the award.

In the event that the award is made for a paper written by more than one person, each author will be given a certificate as specified above, and the cash stipend will be divided equally among the several authors. (Abridged from Council Rules, Policies, and Procedures, Geological Society of America, Inc., 1974.)

A member may nominate a paper for the Kirk Bryan Award at any time by identifying the paper and supplying a statement about its significance. Send the nomination to the Division

Secretary, Richard F. Madole, U.S. Geological Survey, Box 25046, MS 913, Denver, CO 80225. Ideally, nominations for the Kirk Bryan Award for 1984 should be received by December 1, 1983.

1983 MACKIN GRANT WINNERS

Seventeen applications were received for Mackin Grants for 1983. Of these, five were from M.S. candidates and twelve were from Ph. D. candidates. The overall quality of the applications was outstanding, and it is unfortunate that more support could not be provided.

Mackin Grants for M.S.-degree candidates were awarded to Jonathan M. Harbor, University of Colorado, and to David S. Shafer, University of Tennessee. Harbor will study the chronology of Holocene climatic events, geomorphic response, and variation in the influx of eolian sediment recorded in deposits in alpine lakes in the Front Range, Colorado, under the supervision of John T. Andrews. Shafer will study late Quaternary climatic change, the record of landscape evolution, and the paleoecologic history of vegetation change preserved in sediments of high-elevation sites in the southern Appalachians of western North Carolina under the supervision of Paul A. Delcourt.

The Mackin Grant for a Ph. D. candidate went to Carolyn H. Eyles, University of Toronto for study of glacial sedimentology and geomorphology under the supervision of Andrew D. Miall. Eyles will continue her work on the Scarborough Bluffs in the Lake Ontario Basin, employing lithofacies codes and developing the depositional model of diamict deposition below floating ice.

1982 CONTRIBUTIONS TO THE J. HOOVER MACKIN FUND

Contributions to the J. Hoover Mackin Fund in 1982:

Dwight L. Schmidt $100

Contributions to the J. Hoover Mackin Fund may be made in any amount and sent to the Executive Director, The Geologial Society of America, P.O. Box 9140, Boulder, CO 80301.

GLADYS W. COLE MEMORIAL RESEARCH AWARD

No applications were received for the Cole Research Award in 1983. In accordance with the guidelines specified by the donor, this grant is restricted to investigation of the geomorphology of semiarid and arid terrains in the United States and Mexico. 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 on geomorphology.

UPDATE ON DIVISION DNAG PROJECT

Correspondence solicited through January 1983 produced ideas for thirteen different themes for the Division DNAG volume. Seven themes were principally geomorphic in scope, whereas the other six were divided between Quaternary stratigraphy and miscellaneous topics. Subsequently each member of the DNAG Committee (N. W. Rutter (chairman), W. L. Graf, Marie Morisawa, R. F. Madole) evaluated and ranked the themes according to DNAG objectives, and then discussed the rankings at a meeting held in Denver, Colo., April 25.

The concensus of the committee was that a Division volume devoted to the regional geomorphology of landscape systems of North America would be consistent with DNAG objectives and could include ideas from several of the themes suggested by Division members. A few themes were eliminated from further consideration because they lacked the data base for a regional synthesis. Other themes, including those concerned with Quaternary stratigraphy, were eliminated because they are partly or wholly the subject of other DNAG projects or other volumes from conferences and symposia.

The DNAG volume outline developed to date divides North America into thirteen regions, each composed of one or more physiographic provinces. At present, the committee is searching for potential contributors; people who know and would be willing to synthesize what is known about the geomorphology of part or all of a given region. Wil Graf has agreed to lead the editorial effort, with the help of the rest of the DNAG Committee and other Division members yet to be recruited. Nat Rutter will continue to oversee the whole effort and to serve as the Division DNAG Representative. The goals at this point are to complete a preliminary outline of the volume and to compile a list of potential contributors in time for the meeting of the GSA Council in September 1983.

FRIENDS OF THE PLEISTOCENE ROCKY MOUNTAIN CELL FIELD TRIP, AUGUST 26-28, 1983

The Rocky Mountain Cell of the Friends of the Pleistocene will hold its annual field trip August 26-28, 1983. The trip has two parts described below. For registration information, write Brian Atwater, U.S. Geological Survey, MS 75, 345 Middlefield Road, Menlo Park, CA 94025.

Part I--Number and frequencey of scabland floods into glacial Lake Columbia, northeastern Washington (Brian Atwater and Richard B. Waitt, Jr., leaders)

Lake Columbia, dammed by the Okanogan lobe of the Cordilleran ice sheet, drowned parts of the Columbia and Spokane River Valleys. No fewer than 45 last-glacial floods from Glacial Lake Missoula coursed Lake Columbia and backflooded some of its arms. We will focus on the record of Lake Columbia's Sanpoil arm, located 25 km east of the Grand Coulee. In slackwater deposits of this arm we will see both a distal facies whose normally graded beds resemble deposits of low-density turbidity currents and a proximal facies in which deposits of high-density, intra-flood turbidity currents repeatedly interrupt the normal grading. Additionally, we will correlate isolated sections by means of distinctive varves, observe an upsection decrease in the number of varves between flood beds, and use several exceptionally thin flood beds to both identify a lacustrine signature of the Fraser glacial maximum and to establish the likelihood that one or more pre-Fraser glaciations accomplished most of the cutting of the Grand Coulee. Finally, we will examine complementary deposits of Lake Columbia in the valley of Latah Creek, about 10 km south of Spokane, and visit giant current ripples and flood bars near Spirit Lake, Idaho.

Part II--Glacial sequence near McCall, Idaho (Steven M. Colman and Kenneth L. Pierce, leaders)

The glacial deposits near McCall, Idaho, were deposited on the wide, open floor of Long Valley by several glaciers descending from the large ice masses that periodically occupied the Salmon River Mountains. The glacial deposits were previously subdivided into a Pinedale/Bull Lake/pre-Bull Lake sequence. We have further subdivided the Pinedale/Bull Lake sequence into deposits of four ages. These ages probably correspond to two late Wisconsin glacial advances, one early Wisconsin advance, and at least one pre-Wisconsin advance. The tills are composed of a unique mixture of basalt from the eastern edge of the Columbia River Group and granitic rocks from the Idaho Batholith. On the field trip, we will examine the weathering-rind, soil-development, surface rock-weathering, and moraine-morphology evidence used to make these subdivisions.

ANNUAL MEETING — INDIANAPOLIS

TRIBULATIONS OF SCHEDULING DIVISION EVENTS FOR THE ANNUAL MEETING

Each summer the First Vice-Chairman represents the Division at the JTPC (Joint Technical Program Committee) Meeting in Boulder, Colo., wherein the schedule is forged for the Annual Meeting. The following message from John Andrews explains the basis for the conflicts that frequently confound us all.

"In the past I have been one, out of many, who has grumbled about the Divisional schedule of meetings at the main annual get-together. Having gone through the trauma of trying to organize the Divisional program for New Orleans, I am now in a better position to understand some of the problems and I think it will be worthwhile for the Division to understand the process.

1. At the organizing meeting, usually held in June/July, the Divisional representative is handed the schedule for the Quaternary Geology and Gemorphology general sessions as well as the times for any sponsored symposium. It is extremely difficult to alter this schedule. This past year, for example, I did some trading so as to avoid a direct conflict between the Archaeological Geology symposium and one of our general sessions, but the chance of shifting the sessions from the last day to earlier in the schedule was zero.

2. We are also told what percentage of papers shall be rejected on a simply proportional basis. For example, places for 800 abstracts but 1600 are submitted, then the ratio of rejection is 800/1600. In this current year it was 33.3 percent. However, there are many excellent papers on Geomorphology and Quaternary Geology that are submitted to other programs (e.g., marine geology) and there is some wheeling and dealing done so as to accommodate good papers--this has the net effect of increasing the rejection rate for papers solely submitted to Divisional interests. Thus our overall rejection rate for this annual meeting was closer to 45 percent." (John Andrews)

DIVISION-SPONSORED EVENTS AT THE 1983 ANNUAL MEETING, INDIANAPOLIS

The Division is sponsoring three premeeting field trips (one in cooperation with the Hydrogeology Division), one postmeeting field trip, a symposium, and a Division luncheon at the Annual Meeting in Indianapolis October 31-November 3. The Division-sponsored symposium is entitled "Quaternary Dating Methods." The Division luncheon is scheduled for Wednesday, November 2, from 1130 to 1400.

DIVISION-SPONSORED FIELD TRIPS, ANNUAL MEETING, INDIANAPOLIS, OCTOBER-NOVEMBER 1983

Trip 3--Stratigraphy of the Wedron and Trafalgar Formations (Wisconsinan) in East-Central Illinois and West-Central Indiana--John P. Kempton, Illinois State Geological Survey, Champaign; Ned K. Bleuer, Indiana Geological Survey, Bloomington; and W. Hilton Johnson, University of Illinois, Urbana--Two days.

Beginning in Peoria, the first day (October 29) of this trip will examine the stratigraphic and lithologic evidence for a proposed threefold subdivision of the Wedron Formation (Lake Michigan Lobe) by visiting new and classic sections between Peoria and Danville and by studying some subsurface cores. The second day will trace the Wedron stratigraphy into Indiana to view the characteristics of the Trafalgar Formation (eastern source) and its relationship to the Wedron. Possible facies changes in the tills and relationships of the tills to surface features will be discussed. Participants may either leave by chartered bus from Indianapolis late Friday afternoon, October 28, and travel to Peoria (overnight) or assemble in Peoria on Saturday morning, October 29.

Trip 6--Shoreline Processes and Geomorphology, Southwestern Lake Michigan--Charles Collinson, Ardith K. Hansel, and Rodney D. Norby, Illinois State Geological Survey, Champaign, and others--Two days.

Beginning in Chicago, October 29, the field trip will study the dynamics of coastal processes along the Lake Michigan shore and their role in shaping the southwestern bluffs and beaches. The effects of wave climate, weather, lake levels, sediment supply, materials composition, and coastal structures will be illustrated. The history of the shore, from the time of glacial retreat through the development of ancient and modern features, will be traced, and implications for shore management and planning will be detailed. An overview of the shore will be made from the Hancock Tower, and, weather permitting, a cruise will be used to examine features from offshore vantages. The overnight will be at a lake-front motel, where beaches can be explored at leisure during the evening and the early morning. The trip will end in Indianapolis, October 30.

Trip 7--Ground-Water Hydrology and Geomorphology of the Mammoth Cave Region, Kentucky, and of the Mitchell Plain, Indiana--Ralph O. Ewers, Eastern Kentucky University, Richmond; Noel Krothe, Indiana University, Bloomington; Richard L. Powell, Geosciences Research Associates, Inc., Bloomington, Indiana; and James F. Quinlan, National Park Service, Mammoth Cave, Kentucky
--Four days. (Cosponsored with Hydrogeology Division)

The trip will meet in Louisville on Wednesday night, October 26, for a slide presentation, overview, and social hour. On Thursday participants will review the results of an intensive study of karst ground-water basins in the Mammoth Cave region and visit Mammoth Cave itself. Emphasis will be on methods of study and instrumentation, interpretation of data, and new concepts of ground-water movement. Friday will be concerned with environmental problems of waste disposal and protection of water supplies and with the geomorphology of the Sinkhole Plain in Kentucky. Friday night will be spent in French Lick, Indiana, once renowned as a watering place. Saturday and Sunday will be concerned with mineral springs, water chemistry and isotope composition, hydrology, and karst development of the Mitchell Plain in southern Indiana and with the origin of terra rossa. Emphasis will be on the Lost River drainage system and its relationship to Middle Mississippian strata. The trip ends in Indianapolis, October 30.

Trip 13--History of Pleistocene Alluviation of the Middle and Upper Wabash Valley--Gordon S. Fraser and Ned K. Bleuer, Indiana Geological Survey, Bloomington, and Norman D. Smith, University of Illinois Chicago Circle--Two days, November 4-5.

The purpose of this trip is to reconstruct the history of late Wisconsinan sedimentation in the middle and upper Wabash Valley. Sediments include those deposited by braided streams, on alluvial fans, in lakes, as debris flows, and by catastrophic floods. They date from the Woodfordian Subage, when complex interaction of ice lobes from the north and the east were shaping the present course of the Wabash River. Participants will examine facies of the various deposits, study their lateral and vertical relationships, and explore the relationships between successive periods of glacial and meltwater deposition in the Great Bend area.

CALL FOR PAPERS--SPECIAL SESSION ON QUATERNARY EVOLUTION OF THE GREAT LAKES

A Special Session on the Quaternary Evolution of the Great Lakes is being organized for the Geological Association of Canada Annual Meeting, May 13-16, 1984, London, Ontario. Abstracts are being sought for this day-long special session. Deadline for submitting abstracts (for this session only) is October 1, 1983.

The focus of submitted papers should be on some aspect of the history of glacial lakes of the Great Lakes region, their correlation, age, relations to deglacial history, outlets, and tilting. Related papers on biogeography and archeology will also be considered for acceptance if there is space in the program. The papers here requested will be complemented by invited papers summarizing the state of knowledge of the five major lake basins.

Abstract forms and information may be obtained from Geological Association of Canada, c/o Department of Earth Sciences, Memorial University, St. Johns, Newfoundland, or from the organizers listed below:

P. F. Karrow (Committee Chairman)
Department of Earth Sciences
University of Waterloo
Waterloo, Ontario N2L 3G1 Canada

P. E. Calkin
Department of Geological Sciences
State University of New York
Buffalo, New York 14226

B. H. Feenstra
Ministry of Natural Resources
Petroleum Resources Laboratory
458 Central Avenue
London, Ontario N6B 2E5 Canada

MEETINGS

July 18-22
Fourth International Conference on Permafrost
University of Alaska
Fairbanks, Alaska

October 3-5
TERQUA (Tertiary-Quaternary studies)
Lincoln, Nebraska

October 31-November 3
Geological Society of America
Annual Meeting, Hyatt Regency
Indianapolis, Indiana

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, meetings, or other information are urged to provide the Division Secretary with the information by November 20 for inclusion in the January Newsletter and by May 1 for inclusion in the June Newsletter.

THE GEOLOGICAL SOCIETY OF AMERICA
3300 Penrose Place
P.O. Box 9140 · Boulder, Colorado 80301

GLACIAL LAKE AGASSIZ
will be available in July 1983 for $34 (Canadian), $29 (U.S.), plus $2.50 for postage and handling. Orders, with payment, should be sent (after June) to:

Geological Association of Canada Publications
Business and Economic Services
111 Peter Street, Suite 509,
Toronto, Ontario, Canada M5V 2H1

CONTENTS

Please send me _____ copies of GLACIAL LAKE AGASSIZ, Geological Association of Canada Special Paper 26. Enclosed is a cheque/money order for $_____ to cover the cost at $34 Canadian ($29 U.S.) plus $2.50 postage and handling per copy.

Name_____

Address_____

_____

City_____

Prov./State_____

Postal Code_____

GLACIAL LAKE AGASSIZ

Special Paper 26
of the
Geological Association of Canada

J. T. Teller and Lee Clayton
editors

For thousands of years, Lake Agassiz was the largest lake in North America, and deposits extend over nearly a million square kilometers of central North America. Sedimentation, from the Great Lakes and St. Lawrence region to the Gulf of Mexico to the Arctic, was influenced by Lake Agassiz.

This new book provides an overview of Lake Agassiz, summarizing all major aspects of the lake--its history, stratigraphy, hydrology, biology, and post-glacial legacy. A large colored map of the lake and related glacial margins is included. Each chapter is a synthesis of a particular major component of the lake and is written by one or more of the recognized experts.