



# Quaternary Geologist and Geomorphologist

NEWSLETTER OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

Volume 25, no. 1

January 1985

## MEMBERSHIP

The Quaternary Geology and Geomorphology Division is the second largest of the nine Divisions of the Society. Structural Geology and Tectonics is the largest Division (1818 affiliates in 1983) and Engineering Geology is the third largest Division (977 affiliates in 1983). QG&G Division membership for 1983 and 1984 is shown below.

	October 31, 1983	September 30, 1984
Members	634	616
Fellows	223	235
Honorary Fellows	1	2
Students	240	241
Exempt Members	4	5
Exempt Fellows	81	92
	<u>1,183</u>	<u>1,191</u>

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.

## NOMINATIONS FOR THE 1985 PANEL MEMBERS

Clip out and mail this ballot before February 15, 1985, 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.

- (1) \_\_\_\_\_
- (2) \_\_\_\_\_
- (3) \_\_\_\_\_

## DIVISION FINANCIAL STATEMENT

Financial condition of the QG&G Division as of December 31, 1983:

QG&G Division Fund	
Fund balance 12/31/82	\$2,046.42
Dues income 1983	2,210.00
	<u>4,256.42</u>
Total Division resources and income.....	\$4,256.42
Division expenses	\$1,893.89
Funds transferred to Mackin Fund	908.27
	<u>2,802.16</u>
Total deductions.....	\$2,802.16
Adjusted Division Fund balance as of 12/31/83.....	\$1,454.26
J. Hoover Mackin Appropriated Fund	
Fund balance 12/31/82	\$6,931.76
Earnings and contributions	\$ 417.87
Division Fund transfer	908.27
	<u>8,257.90</u>
Total income.....	\$1,326.14
Grant Awards .....	(\$1,000.00)
	<u>\$7,257.90</u>
J. Hoover Mackin Fund balance as of 12/31/83.....	\$7,257.90

## QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION ELECTIONS

A total of 915 ballots were mailed to the Division's voting affiliates for the 1984 election of Officers and Panel, and 279 valid ballots were returned. Division officers and members of the Panel elected for 1985 are:

Chairman.....	Donald F. Eschman
First Vice-Chairman.....	Gail M. Ashley
Second Vice-Chairman.....	Victor R. Baker
Secretary.....	Richard F. Madole
Panel Members (1984-86).....	Steven M. Colman John E. Costa Margaret J. Guccione

### Returning Panel Members (1983-85):

Jane L. Forsyth  
David M. Mickelson  
Stephen G. Wells







wheat fields of central Washington, where, as night fell, the only place we could find to camp was on an abandoned bridge. I remember our breakfast in the bright morning light. My memory of the scene is like a surrealist painting: our camp on the abandoned bridge in a sea of ripening wheat. I must point out that we had style and slept on, and not under, the bridge. I thought of these summer travels as intensive field work, but a colleague may have better described it as a traveling circus. Somehow during all this, Steve was laying the mental groundwork for a well-founded weathering study based on rinds from 6 different glacial successions, each succession with 2-4 different ages of deposits.

Using thin and polished sections, Steve's studies of the progressive weathering of 7 common minerals in the rinds documented their relative stability in the following order: opaque minerals, potassium feldspar, amphibole, plagioclase, pyroxene, olivine, and glass. Using scans across grains by X-ray energy spectrometry, he shows how various key elements are depleted from these different minerals. Using thin sections, X-ray energy spectrometry, X-ray diffraction, scanning electron microscopy, and differential thermal analysis, he defines 13 forms of weathering products for these minerals.

One of the many results of Steve's weathering-rind study was the discovery that the end product of 100,000 years or more of weathering is a mixture of allophane and amorphous iron oxide-hydroxide, and only poorly developed clay minerals. The occurrence of allophane rather than crystalline clay minerals casts doubt on the widely accepted assumption that long-term weathering is responsible for most of the clay minerals commonly found in Quaternary soils. Steve's finding and his interpretation of it have led to rethinking of the processes by which secondary clays accumulate in soils.

Steve also chemically analyzed the fresh core and the weathered layers of the rock, from the inner, less weathered to the outer, most weathered parts of the rinds. These chemical changes are portrayed quantitatively by 6 indices and are analyzed further by 3 methods to define absolute changes. The relative elemental mobilities are:

Ca > Na > Mg > Si > Al > K > Fe > Ti

The Quaternary Geology and Geomorphology Division commends this report as an excellent example of the scientific method, including its focus on the problem addressed, the suitability of the analytical methods, and the clear, concisely presented data and interpretations. Steve has the talent of portraying complex analytical data in formats that make clear the data's significance.

In conclusion, I have one small question to ask of Steve: How do secondary clays originate in B-horizons of Quaternary soils?

Response by Steven M. Colman

I am grateful to the Society and to the Division for the Kirk Bryan Award, and I am especially pleased to have the presentation made by Ken, who is a good friend and who won the award himself 2 years ago. Ever since I learned what the words "Quaternary" and "geomorphology" meant, I have had great respect for Kirk Bryan and the award that is named for him. In the past several months, I have run into an incredible network of students, student's students, friends, colleagues, and acquaintances of Bryan. His contributions to the scientific literature need no elaboration. This background makes the award seem slightly overwhelming, and its personal meaning to me becomes hard to express. The best I can do is simply to say that there are very few things in this world for which I would trade the Kirk Bryan Award.

At times like this, people have a strong tendency to thank everyone they ever knew. I'll try to resist this urge, but I would like to mention a few people whose professional influence has led me directly to this point. Archie McAlpin first introduced me to earth sciences on an individual level when I was an under-graduate. Dick Janda first instilled in me an interest in Quaternary geology and geomorphology and gave me my first practical experience. Pete Birkeland helped me develop those interests and taught me much about the ways of pursuing them. I'd also like to thank Pete for nominating me for the award; it's too bad he is half way around the world right now--if he were here he would keep this from getting too serious. Rocky Crandall and Steve Porter were particularly helpful in the initial stages of the weathering-rind study. And of course I've worked closely with Ken Pierce, whose innate curiosity about nature has served as such a good scientific example. I apologize to all the others I would like to thank; time and everyone's need for an after-lunch nap don't permit me to do so.

I feel fortunate for the scientific opportunities I've received, some of which led to the work for which this award is given. I consider those opportunities the most important factor in my receiving this award. I was able to work on a long-term, basic-research project that was strongly and successfully justified on practical grounds. The project addressed a problem that must be considered basic and fundamental to Quaternary geology--that is, the problem of dating Quaternary events. At the same time, the methods by which ages are estimated are critical components of a wide variety of practical issues, including topics as diverse as natural hazards and paleoclimate. In the course of trying to find out how fast weathering rinds form, I was almost forced to consider how they form. It turned out that weathering rinds contain important information about weathering processes in general; also, a wide range of analytical methods were available to me to study those processes. As a result, a research project that was justified by concrete, practical applications achieved not only its stated research goals, but yielded unexpected scientific dividends as well. I can take only partial credit for this; many others at the U.S. Geological Survey contributed to the success of the project.

In these days of tight budgets and high competition for funds, basic research seems to be increasingly constrained. I hope that this award can serve as an incentive for the Geological Survey in particular, and for the geologic community in general, to find ways of focusing on relevant, basic research.

#### ACKNOWLEDGMENTS TO PANEL MEMBERS RETIRING IN 1984

As Division Secretary and Chairman of the Division Panel, I want to thank, on behalf of the Division, those Panel members whose terms expire in 1984 for the service they gave so generously. Our thanks to **Thomas H. Hamilton, Robert C. Palmquist, and Dale F. Ritter**. 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.

#### IN MEMORIAM

Robert F. Black October 25, 1983	Sara F. Langer Unknown
Richard H. Jahns December 31, 1983	Harold B. Willman July 4, 1984
Olaf P. Jenkins October 19, 1983	Helen P. Withers June 25, 1984



## REPORT ON THE COSPONSORED SYMPOSIUM ON DEBRIS FLOWS AND DEBRIS AVALANCHES

On November 5, 1984, in Reno Nevada, approximately 700 geologists participated in the very successful Geological Society of America Symposium on Debris Flows/Avalanches: Process, Sedimentology, and Hazard Mitigation. This one-day symposium was planned in response to the great amount of debris flow and debris avalanche activity in the United States during the past decade. It was cosponsored by the Engineering Geology Division and the Quaternary Geology and Geomorphology Division of GSA, and was planned and organized by Gerald F. Wiczorek and John E. Costa of the U.S. Geological Survey.

The Symposium consisted of 21 papers by debris flow/avalanche experts on topics ranging from debris-flow dynamics to physical measures of protection from debris flows and debris avalanches. Wiczorek and Costa are in the process of assembling the Symposium papers for publication in a single volume, probably as a part of the GSA series, Reviews in Engineering Geology.

### AN INVENTORY OF DIVISION EXPERTISE

Periodically, the Division Chairman is asked to suggest the names of people who might be consulted on matters of geomorphology and Quaternary geology. These requests come from both within and outside of the Division. It would be helpful, therefore, to have ready access to information about the composition of the Division membership by special interest or subdiscipline. How to obtain this information was discussed at the Management Board meeting in Reno. It was decided that the Newsletter is the obvious means for collecting the information, but less obvious is the classification to be used. Hence, classification is left to individual members. You may list one or more specialties on the clip out form provided below. Of course, you need not list anything, if you prefer; however, your participation would be greatly appreciated. Possible classifications include geomorphology (fluvial, periglacial, desert, etc.), stratigraphy (regional, glacial, marine, lacustrine, fluvial, etc.), geochronology (radiometric dating, tephrochronology, magnetostratigraphy, aminostratigraphy, etc.), soil science, paleontology and biostratigraphy, sedimentology, nonglacial Quaternary stratigraphy, physical processes (sediment transport, landslides, mass movement, etc.), glacial geology or geomorphology, climatology, and marine geology. Many members are affiliated with more than one Division and may want to list specialties in engineering geology, hydrogeology, archeological geology, and planetary geology. This list, which is by no means exhaustive, illustrates the problem encountered in devising a useful classification for a Division characterized by a great breadth of interest and a tendency to be interdisciplinary.

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Clip out and mail by March 15, 1985, to:

Richard F. Madole, Secretary  
U.S. Geological Survey  
Box 25046, MS 966  
Denver, CO 80225

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2. \_\_\_\_\_
3. \_\_\_\_\_

## CHANGE IN NEWSLETTER PUBLICATION SCHEDULE

The publication schedule for the Newsletter is being changed to make compliance with various deadlines (grant applications, nominations, election ballots, etc.) easier. The first issue of the Newsletter will be received in March rather than January and the second issue will be received in September rather than June. Hence, the next issue, no. 2 of volume 25, will be received in September 1985. Those announcements received over the next few months that were intended for the June Newsletter will be made available to the membership by mailing them with the ballots for election of Division Officers and Panel. This mailing will occur in April or early May. 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 July 20 for inclusion in the September Newsletter and by January 15 for inclusion in the March Newsletter.

### DIVISION DNAG VOLUME

The Division DNAG Committee (W. L. Graf, chief editor; N. W. Rutter, Division Representative and associate editor; and Marie Morisawa and R. F. Madole, associate editors) met during the GSA Annual Meeting in Reno. Will Graf distributed a preliminary outline of the Division volume. The volume proposed by the QG&G Division was officially approved to be part of the Centennial Volume Series on May 2, 1984. Outlines for 13 of the 15 chapters were submitted by the October 15, 1984, deadline. During November and December 1984, the preliminary outlines will be reviewed and revised. The timetable developed to date calls for rough drafts to be completed by September 1985, the peer reviews to be done during October-December 1985 and post-review revisions to begin about January 1, 1986.

### PRELIMINARY PLANS FOR DIVISION-SPONSORED SYMPOSIA AND FIELD TRIPS AT THE 1985 ANNUAL MEETING, ORLANDO, FLORIDA

The Division will sponsor a symposium on coastal geomorphology at the Annual Meeting in Orlando, October 28-31, 1985. Gail M. Ashley, First Vice-Chairman, will coordinate this event.

Field trips for the Orlando meeting are selected and scheduled by the Local GSA Organizing Committee. The Division has no role with respect to field trips, except to encourage members to propose them. Field trips of interest include:

#### Premeeting

1. Sedimentology of a Barrier Island and Marsh Dominated Coast, West-Central Florida.  
Richard A. Davis, Jr., University of South Florida, Tampa, Florida; Albert C. Hine, University of South Florida at St. Petersburg, St. Petersburg, Florida; and Daniel F. Belknap, University of Maine, Orono, Maine. 3 days. Estimated costs: \$225. Limit: 22 participants.
2. Pleistocene and Holocene Carbonate Environments on San Salvador Island, Bahamas.  
H. Allen Curran, Smith College, Northampton, Massachusetts; Roger J. Bain, University of Akron, Akron, Ohio; James L. Carey, College of Charleston, Charleston, South Carolina; John E. Mylroie, Murray State University, Murray, Kentucky; James W. Teeter, University of Akron; and Brian White, Smith College. 3 1/2 days. Estimated costs: \$390. Limit: 25 participants.



3. Karst Hydrogeology of Central and North Florida. Barry F. Beck, University of Central Florida, Orlando, Florida. 1 day plus previous evening. Estimated costs: \$90. Limit: 90 participants.
4. Coastal Geology and the Occurrence of Beachrock: Central Florida Atlantic Coast. Donald K. Stauble, Florida Institute of Technology, Melbourne, Florida, and Donald F. McNeill, Environmental Science and Engineering, Inc., Gainesville, Florida. 3 days. Estimated costs: \$230. Limit: 40 participants.

Post-meeting

5. Geology of Jamaica. Grenville Draper, Florida International University, Miami, Florida. 4 days. Estimated costs: \$600. Limit: 30 participants.
6. Coastal Morphology of Southwest Florida and Its Relevance to Past Human Occupation of that Coast. Jerald T. Milanich, Florida State Museum, Gainesville, Florida, and Thomas M. Messimer, Messimer and Associates, Cape Coral, Florida. 3 days. Estimated costs: \$65. Limit: 18 participants.

For further information, contact the designated leaders or Douglas L. Smith, Department of Geology, University of Florida, Gainesville, FL 32611 (904/392-6766). All trips originate and end in Orlando, unless otherwise specified. Estimated costs are tentative and are for planning purposes. They cover lodging and transportation, but for some trips do not include all meals.

**FOP SOUTH-CENTRAL CELL FIELD TRIP, APRIL 12-14, 1985--  
LOESSES AND SOILS DEVELOPED IN THEM IN THE LOWER  
MISSISSIPPI VALLEY**

The South-Central Cell of the Friends of the Pleistocene will hold its annual field trip April 12-14, 1985. For registration information write Dr. Scott Burns, Department of Geosciences, Louisiana Tech University, Ruston, Louisiana 71272. He is helping Dr. Bob Miller, Louisiana State University, with the initial organization of the trip.

This 2 1/2-day field trip will include stops demonstrating all known major stratigraphic relationships for the three or more loesses identified in the lower Mississippi Valley. Supporting data will include detailed site descriptions, grain-size distribution (including Coulter counter analyses), chemical analyses including carbonate content, mineralogical analyses with emphasis on phyllosilicates, total composition of selected elements, and available radiocarbon dates. In addition to the characteristics of the loesses and the soils developed in them, discussions will include source, distribution, and times of deposition of the loesses; geosol-paleosol-modern soil relationships among soils developed in the loesses; and possible correlative relationships to loesses of the upper Mississippi Valley.

The field trip will be conducted by Dr. Bob Miller of Louisiana State University in Baton Rouge. He will be assisted by soil scientists, geologists, and geographers from across the State of Louisiana. The field trip has been conducted recently for a couple of meetings held in Louisiana, and the response has been superb. Bob has a wealth of data from many years of work on the loesses. Here is a chance to see some of the classic localities and to discuss some of the latest ideas on loess stratigraphy and soil development in loesses!

The field trip will begin in Baton Rouge, Louisiana, on Friday morning, April 12, 1985, and will finish in

Vicksburg, Mississippi, at noon on April 14, 1985. This trip will dovetail well with the Quaternary symposia planned for the South-Central meetings of the Geological Society of America in Fayetteville, Arkansas, from April 14-16.

**ABSTRACTS DEADLINE FOR ORLANDO**

The deadline for receipt of abstracts at GSA headquarters for the Annual Meeting in Orlando is June 7, 1985. Abstract forms are available from Abstracts Secretary, Geological Society of America, P.O. Box 9140, Boulder, CO 80301. Volunteered abstracts should be mailed to the same address in time to arrive on or before June 7. Members intending to submit abstracts should obtain the 1985 forms. Four new categories of classification have been added to the form and the review process. The new categories are glacial geology, oceanography, petroleum geology, and remote sensing.

**THE 16TH ANNUAL GEOMORPHOLOGY SYMPOSIUM**

"Hillslope Processes" is the theme of the 16th Annual Geomorphology Symposium to be held on Saturday and Sunday, September 28-29, 1985, at the State University of New York at Buffalo. The symposium is being organized by Athol D. Abrahams. The preliminary list of speakers and topics is as follows:

A. Young (University of East Anglia, England) and I. Saunders (Simon Fraser University, Canada) Rates of Slope Processes and Denudation.

T. Dunne (University of Washington, Seattle) Sheetwash Experiments on Savanna Hillslopes.

R.P.C. Morgan (National College of Agricultural Engineering, England) Plant Cover Effects on Hillslope Runoff and Erosion.

L.D. Meyer (U.S. Department of Agriculture, Oxford) Erosion Processes and Sediment Properties for Agricultural Cropland.

J.S. Gardner (University of Waterloo, Canada) Debris Storage and Transport in Bedrock Gullies on Mountain Slopes, Canadian Rocky Mountains.

T.N. Caine (University of Colorado, Boulder) Sediment Movement and Storage on Alpine Valley Sides.

J.C. Dixon (University of Arkansas, Fayetteville) Solute Movement on Hillslopes in the Alpine Environment of the Colorado Front Range.

M.G. Anderson and S. Howes (University of Bristol, England) Hillslope Hydrology Models for Forecasting in Ungauged Watersheds.

K. Bevan (Institute of Hydrology, England) Hillslope Runoff Processes and Flood Frequency Characteristics.

M. J. Kirkby (University of Leeds, England) A Slope-stream Model for Catchment Form and Drainage Density.

B.P. Moon (University of the Witwatersrand, South Africa) Controls on the Form and Development of Rock Slopes in Fold Terrane.

I. Statham (Ove Arup and Partners, Wales) and S.C. Francis (University of London, England) Influence of Scree Accumulation and Weathering on the Development of Steep Mountain Slopes.

(continued next page)



R.J. Chandler (Imperial College of Science and Technology, England) Processes Leading to the Development of Landslides in Clay Soils: A Review.

R.M. Iverson (U.S. Geological Survey, Vancouver) Dynamics of Slow, Persistent Hillslope Mass Movements.

M.J. Bovis (University of British Columbia, Canada) The Morphology and Mechanics of Earthflow Mass Movement, with Particular Reference to British Columbia.

T.C. Pierson (U.S. Geological Survey, Vancouver) Dynamics of Small Channelized Debris Flows.

W. Dietrich (University of California, Berkeley)  
T. Dunne (University of Washington, Seattle) S. Reneau,  
and C. Wilson (University of California, Berkeley)  
Bedrock Hollows, Colluvium, and Landslides in Soil-  
mantled Landscapes.

T.H. Nilsen (U.S. Geological Survey, Menlo Park)  
Relative Slope-stability Mapping and Land-use Planning  
in the San Francisco Bay Region, California.

For further information contact Prof. Athol D.  
Abrahams, Department of Geography, State University of  
New York at Buffalo, Buffalo, NY 14260.  
Phone: (716) 636-2289

#### AMERICAN GEOMORPHOLOGICAL FIELD GROUP--1985 FIELD CONFERENCE

Mary Savina, Co-convenor of the 1985 Field Conference, reports that the American Geomorphological Field Group will meet in the Redwood Country of northern California, from June 18-21, 1985. The meeting headquarters will be in Arcata, California.

There will be 1 day of technical sessions, with 14 papers presented orally and 15 papers presented as posters, followed by 3 days of field trips to the Van Duzen River basin, Redwood Creek basin and Jacoby Creek basin.

The objectives of the field trips will be:

1. Identification of geomorphic processes operating in different vegetational and lithologic zones; the processes include earthflows, debris slides and flows, formation of bedrock hollows and colluvial fills, fluvial sediment transport and controls on channel morphology, channel aggradation and sediment storage, active tectonism, and estuarine dynamics.
2. Overview of techniques for identifying geomorphic processes and measuring rates of processes in the Coast Ranges of northern California, including repeated surveys of channel cross sections and earthflows, piezometric measurements on hillslopes, strain measurements of landslides, and channel-reach surveys to document sediment storage changes.
3. Application of geomorphic studies to environmental problems such as effects of timber harvesting, road construction and flood levee construction; preservation of unique natural areas; determining magnitude of geological hazards from landslides, floods and earthquakes; and maintenance of estuarine habitat.

More information, including the Meeting Announcement, registration instructions, and Call for Papers, is available from the American Geomorphological Field Group Secretariat, Department of Geology and Geophysics, University of California, Berkeley, Berkeley, CA 94720. Phone: (415) 642-3993. The field conference will be limited to approximately 150 participants, chosen from the earliest registrations postmarked after March 1, 1985.

#### ROCKY MOUNTAIN SECTION, GSA, SYMPOSIA AND FIELD TRIPS

The Rocky Mountain Section, GSA, will meet in Boise, Idaho, on April 22-24, 1985. Monte D. Wilson has provided a list of symposia and field trips that should be of interest to members of the Division of Quaternary Geology and Geomorphology.

##### Symposia

Structure and Stratigraphy of the Snake River Plain. Harold E. Malde, Spencer H. Wood (208) 385-3629.

Volcanic Geology of the Western Snake River Plain and Adjacent Areas. William K. Hart (513) 529-3216, William P. Leeman.

##### Field Trips

###### Premeeting

Canyon-filling Volcanics and Lake Beds of the Pleistocene Snake River (float trip through the National Birds of Prey Natural Area). Harold E. Malde, Morlan Nelson.

Late Cenozoic Volcanic Geology of the Jordan Valley-Owyhee River Region, Southeastern Oregon. W. K. Hart, S. A. Mertzman, R. W. Carlson.

The Borah Peak Earthquake of October 28, 1983: Surface Faulting, Mass Movements and Quaternary Tectonic Setting. A. J. Crone, E. L. Harp, K. L. Pierce, C. J. Waag.

###### Postmeeting

Canyon-filling Volcanics and Lake Beds of the Pleistocene Snake River (float trip through the National Birds of Prey Natural Area). Harold E. Malde, Morlan Nelson.

Ancestral Canyons of the Snake River: Geology and Hydrology of Canyon-Fill Deposits in the Thousand Springs Area, South-Central Snake River Plain, Idaho. H. R. Covington, R. L. Whitehead, J. N. Weaver.

#### NORTH-CENTRAL SECTION, GSA, SYMPOSIA AND FIELD TRIPS

The 19th Annual Meeting of the North-Central Section, GSA, will be held at Dekalb, Illinois, April 25-26, 1985. Events of special interest to Division members include:

##### Symposium 2

Sedimentation and Stratigraphy of the Lake Michigan Basin during the Late Quaternary. Allan F. Schneider, Gordon Fraser.

##### Symposium 3

Glaciogenic Deposystem Models: Processes, Lithofacies, and Landforms. Ross D. Powell, Dan Lawson.

##### Field Trip 1

Depositional Environments and Correlation Problems of the Wedron Formation (Wisconsinan), Northeastern Illinois. Ardith Hansel, W. Hilton Johnson, Leon Follmer, Betty Socha, John M. Masters. April 27.



### THIRD INTERNATIONAL FLUVIAL SEDIMENTOLOGY CONFERENCE

The Third International Fluvial Sedimentology Conference will be held at Colorado State University from August 7-9, 1985, with pre- and post-meeting field trips. The conference organizers and sponsors invite all sedimentologists, geomorphologists, and other interested scientists to an informative and stimulating meeting.

The principal objective of the Conference is to improve our understanding of modern river processes and deposits and our interpretation of ancient fluvial deposits.

All communications and requests for information must be addressed to the Conference Office:

Office of Conference Services  
Colorado State University  
Rockwell Hall  
Fort Collins, CO 80523  
Phone: (303) 491-6222

Abstracts (for both oral and poster sessions) must be received by February 1, 1985.

Advance registration and fees for those planning to attend a Conference Field Trip must be received by July 1, 1985.

Registration and fees for the Conference Program are \$85 for advance delegate registration and \$65 for advance student registration. Advance registrations will be accepted up to July 15, 1985. After this date the registration fee will be increased.

#### Tentative Program

Wednesday -- a.m.

Keynote Address: Daryl B. Simons (Colorado State University) Sediment Transport in the Fluvial System.

Technical Session: Sediment Transport in Modern Rivers.

Wednesday -- p.m.

Technical Session: Sediment Deposition in Modern Rivers.

Thursday -- a.m.

Keynote Address: Andrew Miall (University of Toronto) Architectural Element Analysis: A New Method of Facies Analysis Applied to Fluvial Deposits.

Technical Session: Facies Models in Coarse-Grained Fluvial Deposits.

Thursday -- p.m.

Technical Session: Facies Models in Fine-Grained Fluvial Deposits.

Friday -- a.m.

Technical Session: Fluvial Sediments and Tectonics.

Friday -- p.m.

Technical Session: Fluvial Architecture and Economic Applications.

#### Field Trips Of Interest To QG&G Division Members

##### Field Trip 5

Holocene Braided and Coarse-Grained Meandering Rivers, Northeastern Colorado. Leaders: M. D. Harvey, S. G. Crews and J. Pitlick.

This trip will encompass a range of modern fluvial environments in northeastern Colorado and the Colorado Front Range. The rivers that will be visited include the South Platte, a sandy braided stream and Bijou Creek, an ephemeral sandy braided stream (Day 1), and Fall River, a meandering stream

in Rocky Mountain National Park (Day 2). Fall River is presently recovering from the effects of a dam failure which increased sediment loads and caused major channel aggradation that led to a number of cutoffs. These events provide an opportunity to see very active point bar deposition and abandoned cutoff fills.

Post-Conference: 1 1/2 days, commencing at 8 a.m. on August 10, 1985, in Fort Collins and terminating at 2 p.m. on August 11 in Fort Collins. Participants should plan for lodging in Fort Collins on Friday and Saturday night (Aug. 9 and 10). Maximum number of participants: 45. Cost per person: \$40, includes guidebook, transportation, lunches (both days) and refreshments.

##### Field Trip 6

Hydraulics and Sedimentary Processes in Low Sinuosity Calamus River (Nebraska Sand Hills): a Field Workshop. Leaders: N. D. Smith and J. S. Bridge. This trip will examine a low-sinuosity braided to meandering reach of the sand-bedded Calamus River in the Nebraska Sand Hills, 20 miles north of Taylor on Route 183. The investigation will focus on (1) examination of the channel and flood-plain topography (depositional landforms); (2) analysis of bed forms and deposits exposed in cutbanks; (3) perform some box-coring and vibracoring of channel bar deposits; and (4) examination of bridges built across one of the midstream islands and the hydraulic and sediment transport measuring equipment operated therefrom.

Post-Conference: 2 1/2 days, commencing at 2 p.m. on August 9, 1985, in Fort Collins and terminating on the evening of August 11 in Fort Collins. Note: a portion of the Friday afternoon technical session must be missed to attend this trip. Maximum number of participants: 26. Cost per person: \$80, includes guidebook, transportation, lodging, and lunches.

#### RESEARCH ON LAKE BASINS OF THE SOUTHERN HIGH PLAINS

C. C. Reeves, Jr., Texas Tech University, reports that he has obtained a new shallow-hole ( $\pm 200$  ft) drill rig and will be drilling a number of large (alkaline) and small (playa) lake basins in the Southern High Plains, beginning in the spring 1985. His work is concerned with origin(s) of the lake basins and Quaternary stratigraphy. He is willing to share data (cuttings, cores, etc.) with others interested in mineralogy, isotope geology, palynology, sedimentology, or any other aspect of these lakes. Those interested should write or telephone C. C. Reeves, Jr., Department of Geosciences, Texas Tech University, Lubbock, Texas 79409. Phone: (806) 742-3102.

#### PAST CHAIRMEN OF THE DIVISION

1984	D. J. Easterbrook	1969	A. D. Howard
1983	J. T. Andrews	1968	W. D. Thornbury
1982	T. L. Pewe	1967	H. E. Wright, Jr.
1981	M. Morisawa	1966	R. F. Black
1980	S. A. Schumm	1965	G. M. Richmond
1979	W. B. Bull	1964	A. L. Washburn
1978	A. L. Bloom	1963	L. B. Leopold
1977	W. C. Bradley	1962	J. G. Fyles
1976	L. H. Lattman	1961	J. T. Hack
1975	R. L. Nichols	1960	C. S. Denny
1974	D. R. Crandell	1959	G. W. White
1973	H. E. Malde	1958	G. W. White
1972	R. F. Flint	1957	J. H. Mackin
1971	R. P. Goldthwait	1956	J. H. Mackin
1970	D. M. Hopkins	1955	E. Blackwelder



PAST PANELS

1957-59

S. Judson  
J. C. Frye  
W. D. Thornbury  
J. T. Hack  
A. N. Strahler  
A. D. Howard

1959-61

L. B. Leopold  
J. P. Miller  
G. M. Richmond  
R. P. Sharp  
M. G. Wolman  
J. M. Zumberge

1961-62

R. F. Black  
R. P. Goldthwait  
H. E. Wright, Jr.  
C. S. Denny  
R. L. Nichols  
A. N. Strahler

1962-63

E. H. Muller  
R. R. Shaffer  
C. A. Wahrhaftig  
R. F. Black  
R. P. Goldthwait  
H. E. Wright, Jr.

1963-64

W. C. Bradley  
D. R. Crandell  
D. F. Eschman  
E. H. Muller  
P. R. Shaffer  
C. A. Wahrhaftig

1983-84

J. L. Forsyth  
T. D. Hamilton  
D. M. Mickelson  
R. C. Palmquist  
D. F. Ritter  
S. G. Wells

1964-65

S. A. Schumm  
A. N. Strahler  
S. E. White  
\*W. C. Bradley  
J. H. Mackin  
D. R. Crandell  
D. F. Eschman

1965-66

A. L. Bloom  
J. T. Hack  
C. A. Wahrhaftig  
S. A. Schumm  
A. N. Strahler  
S. E. White

1966-67

W. C. Bradley  
D. F. Eschman  
E. H. Muller  
A. L. Bloom  
J. T. Hack  
C. A. Wahrhaftig

1967-68

J. H. Hartshorn  
T. L. Pewe  
M. G. Wolman  
W. C. Bradley  
D. F. Eschman  
E. H. Muller

1968-69

D. R. Crandell  
S. C. Porter  
A. L. Washburn  
J. H. Hartshorn  
T. L. Pewe  
M. G. Wolman

1969-70 (Jan.)

W. C. Bradley  
A. L. Bloom  
R. L. Shreve  
D. R. Crandell  
S. C. Porter  
A. L. Washburn

1969-70 (Nov.)

P. W. Birkeland  
H. W. Borns, Jr.  
D. J. Easterbrook  
W. C. Bradley  
A. L. Bloom  
R. L. Shreve

1970-71

P. W. Birkeland  
H. W. Borns, Jr.  
\*D. J. Easterbrook  
M. Morisawa  
J. H. Hartshorn  
R. V. Ruhe  
S. E. White

1971-72

J. H. Hartshorn  
R. V. Ruhe  
S. E. White  
R. R. Curry  
R. J. Janda  
S. C. Porter

1972-73

P. W. Birkeland  
L. Clayton  
M. Morisawa  
R. R. Curry  
R. J. Janda  
S. C. Porter

1973-74

J. T. Andrews  
W. B. Bull  
J. H. Hartshorn  
P. B. Birkeland  
L. Clayton  
M. Morisawa

1974-75

J. T. Andrews  
W. B. Bull  
J. H. Hartshorn  
W. H. Johnson  
K. L. Pierce  
J. W. Hawley

1975-76

W. H. Johnson  
K. L. Pierce  
J. W. Hawley  
P. W. Birkeland  
E. H. Muller  
S. C. Porter

1976-77

P. W. Birkeland  
E. H. Muller  
S. C. Porter  
J. T. Andrews  
V. R. Baker  
M. Morisawa

1977-78

J. T. Andrews  
V. R. Baker  
M. Morisawa  
J. B. Benedict  
W. R. Farrand  
S. E. White

1978-79

J. B. Benedict  
W. R. Farrand  
S. E. White  
J. E. Armstrong  
P. W. Birkeland  
K. L. Pierce

1979-80

J. E. Armstrong  
P. W. Birkeland  
K. L. Pierce  
G. M. Ashley  
R. P. Goldthwait  
R. J. Janda

1980-81

G. M. Ashley  
R. P. Goldthwait  
R. J. Janda  
E. B. Evenson  
A. F. Schneider  
G. I. Smith

1981-82

E. B. Evenson  
A. F. Schneider  
G. I. Smith  
R. F. Black  
J. H. Hartshorn  
N. W. Rutter

1982-83

R. F. Black  
T. H. Hamilton  
J. H. Hartshorn  
R. C. Palmquist  
D. F. Ritter  
N. W. Rutter

\*resigned to accept office



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