



# Quaternary Geologist and Geomorphologist

NEWSLETTER OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

Volume 33, Number 2

September 1993

## RESULTS OF 1993 DIVISION ELECTION

904 Division members were mailed ballots and 246 valid ballots were returned to GSA headquarters. Division officers and Panel members elected for 1994 are:

### OFFICERS:

Chair	Parker E. Calkin
First Vice-Chair	Steven M. Colman
Second Vice-Chair	William L. Graf
Secretary (continuing)	Deborah R. Harden

### NEW PANEL MEMBERS (1993-1995):

Carolyn G. Olson  
Waite Osterkamp  
James T. Teller

### CURRENT (1993) OFFICERS:

Chair	Stephen G. Wells
First Vice-Chair	Parker E. Calkin
Second Vice-Chair	Steven M. Colman
Secretary	Deborah R. Harden

### CONTINUING PANEL MEMBERS (1992-94):

Alan R. Gillespie  
Ardith K. Hansel  
Thomas V. Lowell

### RETIRING PANEL MEMBERS (1991-93):

P. Thompson Davis  
Thomas W. Gardner  
William J. Wayne

## NOMINATIONS OF 1994-96 PANEL MEMBERS

Clip out and mail this ballot before December 1, 1993, to:

Deborah R. Harden  
Department of Geology  
San Jose State University  
San Jose, CA 95192-0102  
Telefax (408) 924-5053

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 nominations will appear on the annual ballot. Each voting affiliate of the Division (Members and Fellows only) may nominate up to three persons.

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

\_\_\_\_\_  
Name of Nominator

## HOW TO HAVE INPUT TO THE DIVISION

1. Submit nominations for Division offices and awards.
2. Submit suggestions, gripes, etc., for consideration by the Division Management Board.
3. Submit contributions to the Division Newsletter.

Correspondence to the Division may be sent to our Division Secretary:

Deborah R. Harden  
Department of Geology  
San Jose State University  
San Jose, CA 95192-0102  
Telefax (408) 924-5053

Or you may write directly to the Division Chair. The present Chair is:

Stephen G. Wells  
Department of Earth Sciences  
University of California, Riverside  
Riverside, CA 92521

After the Boston GSA Meeting, the Chair will be:

Parker E. Calkin  
Department of Geology  
State University of New York, Buffalo  
Buffalo, NY 14260

Newsletters are mailed in February and August of each year. Members are encouraged to use their Division newsletter to communicate with other members. Deadline for the February Newsletter is January 15 and July 15 for the August Newsletter. Please send information to the Newsletter Editor at the following address:

Richard B. Waitt  
Cascades Volcano Observatory  
U.S. Geological Survey  
5400 MacArthur Blvd.  
Vancouver, WA 98661  
Phone (206) 696-7558  
Telefax (206) 696-7866  
e-mail: waitt@pwavan.wr.usgs.gov

## CONTRIBUTE TO THE MACKIN GRANT AND HOWARD GRANT FUNDS

The funds that support the Mackin Grant and Howard Grant are administered by the GSA Foundation. You can contribute to these funds when you renew your GSA membership or by designating the Mackin Fund or Howard Fund when you contribute to the GSA Foundation. The hope is to enlarge the fund's principal so that the amount awarded annually can be increased. Please give generously so that the Division will be able to better support deserving graduate students.

## 1993 MACKIN GRANT WINNERS

The J. Hoover Mackin Grant is for outstanding student research. One grant was awarded to a M.S. candidate:

\* Joseph M. Licciardi, Department of Geosciences, Oregon State University, who is studying "Quaternary aminostratigraphy of the Palouse Loess of eastern Washington and Idaho", supervised by Peter Clark.

and one to a Ph.D. candidate:

\* Joseph A. Mason, Department of Geography, University of Wisconsin-Madison, who is studying "Effects of glacial-interglacial climate change on the accumulation and long-term storage of sediment in the Root River basin, southeastern Minnesota", supervised by Dave Mickelson.

## MACKIN AND HOWARD GRANT APPLICATIONS FOR 1994

Beginning in 1994, awards for student research in geomorphology or Quaternary geology will be given from both the J. Hoover Mackin fund and the Arthur D. Howard fund. The Howard fund was established by a bequest from the Arthur D. Howard family estate and is administered by the GSA Foundation. The deadline for receipt of applications is February 15, 1994. Both M.S. (or M.A.) and Ph.D. candidates are eligible. Winners will be selected by April 15, 1994.

Application forms are available from the Division Secretary, Deborah Harden, Department of Geology, San Jose State University, San Jose, CA 95192-0102.

## RECIPIENTS OF THE MACKIN GRANT 1974-1993

- 1974 **Louis D. Carter**, University of Southern California, Quaternary geology in Baja, California.
- 1975 **P. Thompson Davis**, University of Colorado, Cirque glacier fluctuations and lacustrine chronologies.
- 1976 Award date changed.
- 1977 **Daniel R. Muhs**, University of Colorado, Marine terraces-soil development, San Clemente Island, California.
- 1978 **Lisa Osterman**, University of Colorado, Quaternary geology of Frobisher Bay, Baffin Island.
- 1979 **Donna Marron**, University of California, Berkeley, Slope processes in Redwood National Park.
- 1980 **Susan L. Gawarecki**, Lehigh University, Origin of the Railroad Ridge diamicton.
- 1981 **Mary L. Gillam**, University of Colorado, Age and climate effects on soil development, Colorado and New Mexico.
- 1981 **Julie Brigham**, University of Colorado, Chronology of Pleistocene marine deposits in coastal Alaska.
- 1982 **Thomas F. Bullard**, University of New Mexico, Quaternary geomorphic evolution of a tributary to the Chaco River, northwestern New Mexico.
- 1982 **J. Steven Kite**, University of Wisconsin, Late-glacial and Holocene alluvial chronology, St. Johns drainage basin, northern Maine and southern New Brunswick and Quebec.
- 1983 **Jonathan M. Harbor**, University of Colorado, Chronology of Holocene events, geomorphic response, and eolian influx in alpine lakes in the Front Range, Colorado.
- 1983 **David S. Shafer**, University of Tennessee, Quaternary climatic change, landscape evolution, and paleoecologic history, southern Appalachians, western North Carolina.
- 1983 **Carolyn H. Eyles**, University of Toronto, Scarborough Bluffs, Lake Ontario basin, lithofacies codes and the model of diamict deposition below floating ice.
- 1984 **Jim E. O'Connor**, University of Arizona, Paleohydrology and hydraulics as interpreted from geologic evidence: Boulder Creek, Utah.
- 1984 **Leonard H. Thorleifson**, University of Colorado, The Quaternary stratigraphy of the Hudson Bay lowlands.
- 1985 **Karin A. Hoover**, University of Washington, The relation of fluvial processes to facies—The Holocene stratigraphy and sedimentology of the Wells Reservoir area, eastern Washington.
- 1985 **Peter E. Lea**, University of Colorado, Late-Quaternary stratigraphy and paleoenvironments of the Nushagak region, southwestern Alaska.
- 1986 **Mark A. Gonzales**, University of Wisconsin, Fluvial geomorphology, geochronology, and paleoclimatology of Paddock Creek, Little Missouri Badlands, southwestern North Dakota.
- 1986 **Christopher M. Menges**, University of New Mexico, Systematic and quantitative analyses of the landforms of a mountain front within a basin and range landscape in the northern Rio Grande rift near Taos, north-central New Mexico.
- 1986 **Dorothy I. Sack**, University of Utah, Geomorphology of alluvial fans in the Bonneville Basin, Utah—Modeling alluvial fan activity.
- 1987 **Kevin M. O'Dea**, Humboldt State University, Quaternary terrace formation and deformation on Yager Creek, Humboldt County, California.
- 1987 **Leal A.K. Mertes**, University of Washington, Morphology and construction of the Solimoes-Amazon River flood plain in Brazil.
- 1987 **Jim E. O'Connor**, University of Arizona, Hydraulics and sediment transport of Pleistocene Lake Bonneville flooding on the Snake River.
- 1988 **Jay S. Noller**, University of Colorado, History of El Nino in soil chronosequences of the Peruvian desert.
- 1988 **Donald T. Rodbell**, University of Colorado, Late Quaternary glacial and climatic history of the northern Peruvian Andes based on glacial geology, glaciolacustrine sedimentology, and soils.
- 1988 **Eric A. Oches**, University of Massachusetts, Late Quaternary paleotemperature estimates of the northern Mississippi and Illinois River valleys, U.S.A.
- 1989 **Andrew Fox**, Cornell University, Glacial history of the central Andes Mountains.
- 1989 **Garrett Jackson**, University of Arizona, Tectonic geo-morphology of the Toroweap Fault, western Grand Canyon, Arizona.
- 1990 **Grant A. Meyer**, University of New Mexico, Holocene and modern geomorphic response to wildfires and climate change in northeastern Yellowstone National Park.
- 1990 **Kellin X. Whipple**, University of Washington, The construction of alluvial-fan landforms by debris flows.
- 1990 **Robert B. Genau**, University of Delaware, A shallow land-based seismic reflection approach to mapping Quaternary paleochannel(s) of the Susquehanna River system at Taylor's Island, Maryland.
- 1990 **Martin Thomas Kammerer**, Arizona State University, The use of heavy metal concentrations and concentration-ratios to cross correlate alluvial deposits.

- 1991 **Eric Von McDonald**, University of New Mexico, The influence of climate change and dust flux on soils developed on Quaternary deposits in arid and semi-arid environments.
- 1991 **Robert S. Young**, Duke University, The impact of sea-level rise on the coastal wetlands of Albemarle and Pamlico Sounds, North Carolina: A study of wetland dynamics.
- 1992 **Matthew C. Goss**, Rutgers University, High resolution seismic and ice-marginal sedimentation in Block Island Sound and adjacent Rhode Island.
- 1992 **Judith Kay Haschenburger**, University of British Columbia, Scour and fill in gravel bed rivers.
- 1993 **Joseph M. Licciardi**, Oregon State University, Quaternary aminostratigraphy of the Palouse Loess of eastern Washington and Idaho.
- 1993 **Joseph A. Mason**, University of Wisconsin-Madison, Effects of glacial-interglacial climate change on the accumulation and long-term storage of sediment in the Root River basin, southeastern Minnesota.
- 1959 **Jack L. Hough** (University of Illinois), Geology of the Great Lakes: University of Illinois Press, 313 p., 1958.
- 1960 **John F. Nye** (University of Bristol), The distribution of stress and velocity in glaciers and ice sheets: Royal Society Academy, Proceedings A, v. 239, p. 113-133, 1957.
- 1961 **John T. Hack** (U.S. Geological Survey), Studies of longitudinal stream profiles in Virginia and Maryland: U.S. Geological Survey Professional Paper 294B, 97 p., 1957.
- 1962 **Anders Rapp** (University of Uppsala), Recent development of mountain slopes in Karkevagge and surroundings, northern Scandinavia: Geografiska Annaler, v. 42, p. 71-200, 1960.
- 1963 **Arthur H. Lachenbruch** (U.S. Geological Survey), Mechanics of thermal contraction cracks and ice-wedge polygons in permafrost: Geological Society of America Special Paper 70, 69 p., 1962.
- 1964 **Robert P. Sharp** (California Institute of Technology), Wind ripples: Journal of Geology, v. 71, p. 617-636, 1963.
- 1965 **Gerald M. Richmond** (U.S. Geological Survey), Quaternary stratigraphy of the La Sal Mountains, Utah: U.S. Geological Survey Professional Paper 324, 135 p., 1962.
- 1966 **Charles S. Denny** (U.S. Geological Survey), Alluvial fans in the Death Valley region: U.S. Geological Survey Professional Paper 466, 62 p., 1965.
- 1967 **Clyde A. Wahrhaftig** (University of California at Berkeley), Stepped topography of the southern Sierra Nevada, California: Geological Society of America Bulletin, v. 76, p. 1165-1190, 1965.
- 1968 **David M. Hopkins** (U.S. Geological Survey), Quaternary marine transgressions in Alaska, in The Bering Land Bridge: Stanford University Press, p. 47-90, 1967.
- 1969 **Ronald L. Shreve** (University of California at Los Angeles), The Blackhawk landslide: Geological Society of America Special Paper 108, 47 p., 1968.
- 1970 **Harold E. Malde** (U.S. Geological Survey), The catastrophic late Pleistocene Bonneville flood in the Snake River Plain, Idaho: U.S. Geological Survey Professional Paper 596, 52 p., 1968.
- 1971 **A. Lincoln Washburn** (University of Washington), Instrumental observations of mass wasting in the Mesters Vig district, northeast Greenland: Medd. Gronland, bd. 166, nr. 4, 1967; and Weathering, frost action, and patterned ground in the Mesters Vig district, northeast Greenland: Med. Gronland, bd. 166, nr. 4, 1969.
- 1972 **Dwight R. Crandell** (U.S. Geological Survey), Postglacial lahars from Mount Rainier volcano, Washington: U.S. Geological Survey Professional Paper 677, 75 p., 1971.
- 1973 **John T. Andrews** (University of Colorado), A geomorphological study of post-glacial uplift: London, Institute of British Geographers, Special Publication No. 2, 156 p., 1970.
- 1974 **Robert V. Ruhe** (Indiana University), Quaternary landscapes in Iowa: Iowa State University Press, 255 p., 1969.
- 1975 **James B. Benedict** (Colorado State University), Downslope soil movement in a Colorado alpine region—rates, processes and climatic significance: Arctic and Alpine Research, v. 2, p. 165-226, 1970.
- 1976 **Geoffrey S. Boulton** (University of East Anglia), Processes and patterns of glacial erosion: Binghamton, State University of New York, Proceedings of the 5th Geomorphology Symposium, 1974.

### 1993 KIRK BRYAN AWARD

The winner of the 1993 Kirk Bryan Award is William B. Bull of University of Arizona for his 1991 book, *Geomorphic responses to climate change*, published in 1991 by Oxford University Press. The award will be presented at the Annual QG&G Division's Awards and Business Meeting at GSA-Boston on Tuesday, October 26, 1993, 7:15- 9:00 PM. The following is distilled from the letter of nomination written by Les McFadden:

This book constitutes one of the most significant contributions to geomorphological research published in the past decade. For nearly thirty years Bill Bull has focused research on attempting to distinguish impacts of tectonics and climatic change on geomorphic systems. This book contains the essence of Bill Bull's innovative and creative research on geomorphic response to climate change conducted over the past two-plus decades. The response turns out in many cases to strongly overprint and even entirely overwhelm effects of active tectonism on streams and hillslopes. The research and book is strongly process oriented and emphasize the significance and necessity of multidisciplinary studies, applying new findings from paleoclimatology, paleobotany, geochronology, and pedology to geomorphic research. The book is likely to be widely read and widely debated for many years, which will almost surely encourage earth scientists to explore new avenues of research in geomorphology and its subdisciplines.

### NOMINATIONS FOR THE KIRK BRYAN AWARD FOR 1994

Nominations for the Kirk Bryan Award for 1994 will be accepted until December 1, 1993. The Kirk Bryan Award is given for a paper or book published within the past five years. The work may be single or multi-authored. Nominations are made by writing a letter that identifies the work and provides a statement about its significance. Send nominations to the Division Secretary, Deborah Harden, Department of Geology, San Jose State University, San Jose, CA 95192-0102.

### RECIPIENTS OF THE KIRK BRYAN AWARD 1958-1993

- 1958 **Luna B. Leopold and Thomas J. Maddock, Jr.** (U.S. Geological Survey), The hydraulic geometry of stream channels and some physiographic implications: U.S. Geological Survey Professional Paper 252, 57 p., 1953.

- 1977 **Michael A. Church** (University of British Columbia), Baffin Island sandurs: A study of Arctic fluvial processes: Geological Survey of Canada Bulletin 216, 208 p., 1972.
- 1978 **Richard L. Hay** (University of California at Berkeley), Geology of the Olduvai Gorge—a study of sedimentation in a semiarid basin: Berkeley, University of California Press, 1976.
- 1979 **Stanley A. Schumm** (Colorado State University), The Fluvial System: New York, John Wiley and Sons, 338 p., 1977.
- 1980 **James A. Clark** (Cornell University), **William E. Farrel** (University of California at Berkeley), and **W. Richard Peltier** (University of Toronto), Global changes in postglacial sea level—A numerical calculation: Quaternary Research, v. 9, p. 265-287, 1978.
- 1981 **J. Ross Mackay** (University of British Columbia), Pingos of the Tuktoyaktuk Peninsula area, Northwest Territories: Geographie Physique et Quaternaire, v. 33, no. 1, p. 3-61, 1979.
- 1982 **Kenneth L. Pierce** (U.S. Geological Survey), History and dynamics of glaciation in the northern Yellowstone Park area: U.S. Geological Survey Professional Paper 729-F, 90 p., 1979.
- 1983 **Leland H. Gile, John W. Hawley, Robert B. Grossman** (U.S. Soil Conservation Service), 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.
- 1984 **Steven M. Colman** (U.S. Geological Survey), Chemical weathering of basalts and andesites—Evidence from weathering rinds: U.S. Geological Survey Professional Paper 1246, 51 p., 1982.
- 1985 No award given
- 1986 **Ronald I. Dorn** (University of California at Berkeley) and **Theodore M. Oberlander** (University of California at Berkeley), Rock varnish: Progress in Physical Geography, v. 6, no. 3, p. 317-367, 1982.
- 1987 **Richard B. Waitt** (U.S. Geological Survey), Case for periodic, colossal jökulhlaups from Pleistocene glacial Lake Missoula: Geological Society of America Bulletin, v. 96, p. 1271-1286, 1985.
- 1988 **Peter W. Birkeland** (University of Colorado), Soils and Geomorphology: New York, Oxford University Press, 372 p. 1984.
- 1989 **Kevin M. Scott** (U.S. Geological Survey), Origins, behavior, and sedimentology of lahars and lahar-runout flows in the Toutle-Cowlitz river system: U.S. Geological Survey Professional Paper 1447-A, 74 p., 1988.
- 1990 **Arthur S. Dyke and Victor K. Prest** (Geological Survey of Canada), Late Wisconsinan and Holocene history of the Laurentide ice sheet: Geographie Physique et Quaternaire, v. 41, no. 2, p. 237-263, 1987.
- 1991 **Milan J. Pavich** (U.S. Geological Survey), Processes and rates of saprolite production and erosion on a foliated granitic rock of the Virginia Piedmont, in S.M. Colman and D.P. Dethier, eds., Rates of chemical weathering of rocks and minerals: New York, Academic Press, Inc., p. 552-590, 1986.
- 1992 **R. Dale Guthrie** (University of Alaska), Frozen fauna of the Mammoth Steppe: The Story of Blue Babe: Chicago, University of Chicago Press, 323 p., 1990.
- 1993 **William B. Bull** (University of Arizona), Geomorphic responses to climate change, Oxford University Press, ###p, 1991.

## 1993 DISTINGUISHED CAREER AWARD WINNER— VICTOR K. PREST

The Quaternary Geology and Geomorphology Division is pleased to announce that Dr. Victor K. Prest of the Geological Survey of Canada is the 1993 recipient of the Distinguished Career Award. The Award will be presented to Dr. Prest at the Annual QG&G Awards and Business Meeting at Boston on Tuesday, October 26, 1993, 7:15-9:00 PM. The following is excerpted from the letter of nomination by Peter Clark:

Dr. Prest has made outstanding contributions to Quaternary geology and geomorphology throughout his long and distinguished career with the Geological Survey of Canada. His major contributions are syntheses of the Quaternary geology of Canada. Synthesizing such a large and varied topic stands alone as a remarkable achievement, but more importantly these represent primary contributions whereby Dr. Prest has presented original interpretations to resolve major issues of glacial geology. His benchmark chapters on the Quaternary geology of Canada (1957, 1970) and the history of the Laurentide Ice Sheet during the last glaciation (1984, 1987) have served as standards representing masterful synthesis and insightful and innovative thinking about one of the most important yet most difficult and debated topics in the Quaternary: the history of the Laurentide Ice Sheet. His Glacial Map of Canada (1968) remains as the primary resource for the information in the glacial geology of Canada. Dr. Prest's maps showing isochrones on the retreat of the last ice sheet (1969, 1986), the last Wisconsin glacier complex over North America (1984), and paleogeography of northern North America from 18,000 to 5000 years ago (1987) represent premiere interpretations of dynamics of the late Wisconsin Laurentide Ice Sheet.

## NOMINATIONS FOR 1994 DISTINGUISHED CAREER AWARD

The Distinguished Career Award was established in 1985 to recognize Quaternary geologists and geomorphologists who have demonstrated excellence in their contributions to science. The recipient need not be a member of the Geological Society of America or the QG&G Division. Nominations will be accepted at any time during the year, but the deadline is April 15, 1994. Nominations should be sent to the Division Secretary, Deborah Harden, and require: (1) a supporting letter of nomination documenting the contributions of the nominee, (2) three letters or signatures of additional members supporting the nomination, (3) a resumé of the candidate (such as a photocopy from American Men and Women of Science), along with a bibliography of the nominee's most significant papers. The Division Chair will appoint a committee to oversee the collection and completion of award nominations. The names of unsuccessful candidates proposed for the award will remain open without renomination for the following three years. Further consideration after this period will require renomination.

## 1993 ROBERT K. FAHNESTOCK MEMORIAL RESEARCH AWARD

The Robert K. Fahnestock Memorial Research Award is given annually to the student who submits the most outstanding research proposal to the Geological Society of America in the field of fluvial geomorphology. Two recipients were named for 1993: **Diane E. Anderson** of the Department of Earth Sciences at the University of California, Riverside, for "Fluvial geomorphology and late Quaternary paleohydrology of the Amargosa River at the Great Basin and Mojave Desert boundary"; and **Kevin Cornwell** of the University of Nebraska, Lincoln for "Catastrophic breakout flood in the western Himalaya, Pakistan."

## 1993 GLADYS W. COLE MEMORIAL RESEARCH AWARD

Nicholas Lancaster of the Desert Research Institute, Reno, is the recipient of the Gladys W. Cole Memorial Research Award for 1993. Nicholas's project is titled "Initiation of Desert Dunes."

### GLADYS W. COLE MEMORIAL RESEARCH AWARD APPLICATION FOR 1994

The Gladys W. Cole Memorial Research Award provides research support for investigations of the geomorphology of semiarid and arid terrains in the U.S. and Mexico. The amount of the award in 1993 was \$7,000. It has been given annually to a GSA Fellow between the ages of 35 and 60 who has published one or more significant papers on geomorphology. Both GSA Members and GSA Fellows are now eligible for the Cole Research Award. The application form is available from the Research Grants Administrator, Geological Society of America, P.O. Box 9140, Boulder, CO 80301; phone (303) 447-2020. **Applications must be postmarked by February 15, 1994**, to be eligible; the award is made in April.

### KEY EVENTS AT 1993 ANNUAL MEETING AT BOSTON OCTOBER 25-28

The health and vitality of the Quaternary Geology and Geomorphology Division is partly measured by the number and diversity of discipline, poster, theme and symposia sessions at annual meetings. The agenda for the annual GSA meeting in Boston is rich and full. Thus some division-sponsored sessions such as theme and posters compete in time, conflicts that are unavoidable the division's endeavors are large. Division-sponsored activities are highlighted below:

#### Monday, October 25:

*a.m.*

Quaternary Geology/Geomorphology I: Quaternary Environments, Coastal Geology & Sea Level History  
Division Management Board Meeting

*p.m.*

Theme Session 20: The New England-Acadian Shoreline Revisited

#### Tuesday, October 26:

*a.m.*

Posters I: Geomorphology  
Quaternary Geology/Geomorphology II: Glacial Geology

*p.m.*

Posters II: Geomorphology Quaternary Geology/Geomorphology III: Glacial History (Also of interest is Archeology Geology Division's symposium: Analytical Techniques in Archaeological Geology)

*evening*

Division Awards, Business & Social Meeting

#### Wednesday, October 27:

*a.m.*

Theme Session 41 with NAGT: New Developments in Quaternary Geology: Implications for Geoscience Education and Research

*p.m.*

Symposium: Neogene and Quaternary Sea-level Change and Coastal Plain Evolution: U.S. East Coast

*evening*

Special Session with 3 other divisions: The Great Flood of '93

#### Thursday, October 28:

*a.m.*

Posters III: Quaternary Geology  
Quaternary Geology/Geomorphology IV: Surficial Processes

*p.m.*

Quaternary Geology/Geomorphology V: Tectonic Geomorphology & Quaternary Dating

Steve Wells highlights a special session that QG&G Division is co-sponsoring this year:

### THE GREAT FLOOD OF '93

*Wednesday, October 27, 5:45 to 8:30 p.m.; Hynes Convention Center, Ballroom A. Co-sponsored by four GSA divisions: Engineering Geology, Quaternary Geology and Geomorphology, Archaeology Geology, and Hydrogeology.*

The most important hydrogeologic event in historic times occurred this spring and summer on the Mississippi-Missouri River drainage in the agricultural heartland of the United States. Flood waters rose above the previous historic flood level of 1973 for more than three weeks, creating one of the most significant test of engineering-design assumptions and climatologic-effects modeling known to scientists and engineers. We shall hear from current investigators as well as view video and remote-sensing imagery of the effected floodplain.

We will be opening with a presentation of the historical effects of large flooding on the Mississippi river, showing a video presentation developed by the U.S. Army Corps of Engineers, discussing a Quaternary overview of climatic factors that contributed to this event, learning about USGS efforts to disseminate monitoring information, and addressing the human impacts of the event such as highway interruptions.

Co-conveners: Rhea L. Graham, Engineering Geology Division, and Stephen G. Wells, Quaternary and Geomorphology Division. Speakers are James Knox, University of Wisconsin; Wayne Wendland, University of Illinois, Nick Melsher, U.S. Geological Survey; Roy Trent, Federal Highway Administration; Joseph Kissane, Mark Alvey, and Gary Dyhouse, all of the Engineering Branch of the U.S. Army Corps of Engineers, St. Louis District.

### G.S.A. CONTINUING-EDUCATION COURSES OF INTEREST TO QG&G DIVISION MEMBERS at the Boston Meetings

- #1 GIS and the Geosciences, Saturday, 23 October, \$135 (\$115 for students).
- #6 Alternative Pedagogies in Geological Sciences: A Workshop, Sunday, 24 October, \$150 (\$130 for students).
- #8 Computer Mapping at Your Desk that Really Works, Sunday, 24 October, \$295 (\$275 for students).
- #10 Geochemistry and Stable Isotopes of Paleosols, Sunday, 24 October, \$175 (\$155 for students).
- #12 Fractals and Their Use in Earth Sciences, Friday & Saturday, 29-30 October, \$290 (\$270 for students).

### 1993 INTERNATIONAL ASSOCIATION OF GEOMORPHOLOGISTS McMasters, Hamilton, Ontario

The 1993 meeting of the International Association of Geomorphologists (IAG), held this August in Canada at the McMasters University, had about 45 countries around the world participating. The Quaternary Geology and Geomorphology Division congratulates the organizers, Professors Derek Ford and Brian McCann, and their staff for an exceptional meeting.

The QG&G Division now plays an active role in the IAG, being a co-sponsor with the American Association of Geographers and the American Geophysical Union. During the 1992 annual meeting, the QG&G Division Management Board decided to officially co-participate in the IAG by contributing \$334, or one third of the \$1,000 total annual U.S. contribution. These contributions from our professional societies allow

the United States to join the long list of adhering national bodies in the IAG (see below). Steve Wells and Parker Calkin attended the 1993 meeting as representatives for the QG&G and agree that the initial investment by our division is reasonable, necessary, and important in supporting our discipline at the international level. In that we are an official part of the IAG, the modified minutes of the Council, which for the first time incorporated the IAG, are present below. Both Parker and I encourage Division members to talk with us concerning any questions you may have regarding the investment of a portion of your QG&G dues toward the IAG.

**Meeting of Council (Incorporating Meeting of National Delegates)**  
24th August 1993

**Present:** D. Brunnsden (in the Chair), D. Barsch (Germany), O. Slaymaker (Canada), T. Suzuki (Japan), G. Wang (China), H. Bremer (Germany), G. Garland (South Africa), O. Heikkinen (Finland), A. Gupta (Singapore), G. Nanson (Australia), A. Pissart (Belgium), M. Zimmerman (Switzerland), R. Giardino (USA), D. Marston (USA), S. Wells (USA), Parker Calkin (USA), J.C. Lin (Taiwan), R.K. Rei (India), A. Kotarba (Poland), M. Inbar (Israel), J. Demek (Czech Republic), S. Gamal (Egypt), B. Taher (Nigeria), J. Palacio (Mexico), A. Coelho Netto (Brazil), A. Ferreira (Portugal), B. Dumas (France), A. Rapp (Sweden), J. Sollid (Norway), J. Shaw (Canada), B. Blackwell (Canada), H. Wolfert (Netherlands), F. Lopez Bermudez (Spain), V. Baker (USA), I. Ichim (Rumania), C. Zhiming (China), M. Pecci (Hungary), B. Andrija (Croatia), V. Jha (India), J. Boardman (U.K.), H. Maroukian (Greece), R. Allison (U.K.).

**Synopsis of reports, discussions, agreements, votes, membership:**

Professor Jan De Ploey will be remembered by IAG/AIG at the General Assembly. A Jan De Ploey prize has been established for young geomorphologists; IAG/AIG has contributed to the award.

Libraries are to be established around the world as major centers of geomorphological resource with copies of offprints, books etc.

IAG/AIG is now officially affiliated to the International Geographical Union (IGU) and the International Union of Geological Sciences (IUGS). Geophysical and other groups are currently being approached.

Regional meetings should serve two purposes: (1) to help strengthen geomorphology in country where meeting is held, and (2) to study specific parts of the world, regionally and thematically.

The Treasurer outlined income and expenditure for the last four years and a proposed budget for the next four years. The draft budget suggests that Executive Committee expenses could be increased but that expenses must be kept as low as possible. Some money should be kept in hand as a financial cushion.

Thanked: (1) Turkish national group for the publication and all other activities resulting from the first regional meeting of IAG/AIG; and (2) Professors Walker and Grabau for their work editing The History of Geomorphology.

Next International Conference: Proposals from Italy, China, and Japan for the next International Conference were presented. The vote: China, 4; Japan, 8; Italy, 21. The next (4th) International Conference in Geomorphology will be held in Bologna, Italy, 28th August to 3rd September 1997.

Officers: Prof. D. Barsch, Vice-President, succeeds to the Presidency. Prof. O. Slaymaker becomes Vice-President and will succeed to the Presidency in 1997. Dr. R.J. Allison (UK) was elected Secretary. Prof. V. Baker (USA) becomes Treasurer. Prof. A. Gupta (Singapore) was elected Publications Secretary. Dr. M.F. Andre (France) and Prof. T. Suzuki (Japan) were elected to two other Executive Committee posts.

Proposals from regional meetings have been received from Hungary and Singapore.

**Venue of Next Meeting:** Next General Assembly to be held at the 4th International Geomorphology Conference, Italy 1997.

**Adhering nations as of July 31, 1993:** Algeria, Austria, Australia, Bangladesh, Belarus, Belgium, Botswana, Brazil, Bulgaria, Canada, Chile, China, Colombia, Czechoslovakia, Denmark, Egypt, Estonia, Finland, France, Germany, Greece, Guyana Francesa, Hong Kong, Hungary, India, Iran, Iraq, Israel, Italy, Japan, Jordan, Kenya, Mexico, Netherlands, New Zealand, Nigeria, Norway, Papuangu, Poland, Portugal, Romania, Russia, Singapore, South Africa, South Pacific, Spain.

**Bodies with voting rights:** Germany, Italy, Japan, U.S.A., Belgium, Canada, France, U.K., Australia, Austria, New Zealand, Norway, Sweden, China, Finland, Greece, Singapore, South Africa, Switzerland

**Associates:** Belarus, Botswana, Egypt, Estonia, Guyana Francesa, Israel, Poland, South Pacific, Turkey, Ukraine, Zimbabwe.

**THANKS TO QG&G MEMBERS  
WHO HELPED THE DIVISION**

The Management Board, on behalf of the membership, thanks those members who generously donated their time and energy to the Division during the past year.

**Division Panel:** P. Thompson Davis, Bentley College; Thomas W. Gardner, Pennsylvania State University; William J. Wayne, University of Nebraska, Alan R. Gillespie, University of Washington; Ardith K. Hansel, Illinois Geological Survey; and Thomas V. Lowell, University of Cincinnati.

**At-Large Member, Mackin Grant Committee:** Robert Odale, US Geological Survey, Woods Hole, MA; Grahame Larson, Dept. of Geological Sciences, Michigan State University; Julie Brigham-Grette, Dept. of Geology and Geography, University of Massachusetts; and Eric Leonard, Department of Geology, Colorado College.

**Committee on Scientific Health of QG&G:** Victor R. Baker (Chair), University of Arizona; Arthur L. Bloom, Cornell University; John E. Costa, U.S. Geological Survey; William E. Dietrich, University of California-Berkeley; Waite R. Ostercamp, U.S. Geological Survey; Milan J. Pavich, U.S. Geological Survey; Kenneth L. Pierce, U.S. Geological Survey; and Cathy Whitlock, University of Oregon.

**Committee on Environment:** John Vitek, Oklahoma State University; Marie Morisawa, SUNY-Binghamton; Jack Ridge, Tufts University; Duncan Foley, Pacific Lutheran University; and Steve Wells, University of California, Riverside.

**Reviewers of Abstracts for 1993 Meeting:** Parker Calkin, P. Thompson Davis, Peter L. Knuepfer, and Stephen G. Wells.

**Newsletter Editor:** Richard B. Waitt.

**FRIENDS OF THE PLEISTOCENE  
NEWS AND 1993-94 FIELD TRIPS**

**Southeastern Cell: October 15-17, 1993**

Gerald Johnson will lead the 1993 Southeast Cell FOP on fluvial-estuarine and karst features and deposits of the York-James Peninsula and in Southside Virginia. Sinkholes contain apparently continuous sequences of pollen-bearing late Quaternary sediments. Please contact: Gerald H. Johnson or Margaret Barker, Department of Geology, P.O. Box 8795, College of William and Mary, Williamsburg, VA 23187-8795. Phone (804) 221-2445 or 2440. Telefax (804) 221-3540.

**FOP Reproduction: Pacific Cell division**

At Pacific Cell trips in 1991, 1992, and 1993, it was variously suggested or proposed to split the cell into Pacific Southwest and Pacific Northwest cells. The area of the Pacific cell being geographically huge, the split would provide participants throughout the Pacific cell with a trip closer to home—and for FOP die-hards the opportunity to attend two annual

trips in the Pacific region. Almost half the group seemed to favor the proposal in 1992 and 1993. A new Pacific Northwest Cell will be inaugurated in May 1994 (see below), a spring meeting that does not compete with the traditionally fall meetings of the Pacific (Southwest) and Rocky Mountain Cells of FOP. The Pacific Northwest Cell would sometimes join with the Pacific (Southwest) Cell or Rocky Mountain Cell on topics of overlapping interests.

#### **Pacific Northwest Cell: 13-15 May 1994**

Jim O'Connor and Richard Waitt will lead an inaugural Pacific Northwest Cell FOP trip 13-15 May 1994 on the colossal late Wisconsin floods from glacial Lake Missoula that repeatedly swept through the Columbia Gorge, Wash-Oreg and backflooded up the lower Yakima and Walla Walla valleys of southern Washington. The focus will be on new evidence discerning the number of the largest floods in Columbia Gorge; evidence for scores of floods of somewhat smaller (yet nonetheless enormous) discharges across the region will be presented and argued. Please contact: Jim O'Connor, U.S. Geological Survey, 5400 MacArthur Blvd., Vancouver, WA 98661.

#### **OTHER MEETINGS**

November 7-12, 1993: Soil Science Society of America, Annual Meeting. Cincinnati, OH. Contact: SSSA 677 S. Segoe Road, Madison, WI 53711.

February 16-21, 1994: Circumpolar Ecosystems in Winter 3. [Environments dominated by winter; theme 'People in Winter'; topics in atmospheric, earth, biological, and social sciences related to aquatic, alpine, boreal, and tundra environments and adaptations in them of plants, animals, and humans]. Contact: CEW-3, Churchill Northern Studies Centre, P.O. Box 610, Churchill, Manitoba, ROB 0E0, Canada. Phone (204) 675-2307; Fax (204) 675-2139.

March, 1994: Penrose Conference: From the inside and the outside—interdisciplinary perspectives on the history of earth sciences. San Diego, California. Contact: Leo F. Laporte, Dept Earth Sciences, U California, Santa Cruz, CA 95064.

June 5-11, 1994: Geochronology, Cosmochronology, and Isotope Geology Eighth International Conference. Berkeley, CA. Contact: Garniss H. Curtis, Institute of Human Origins-Geochronology Center, 2453 Ridge Road, Berkeley, CA 94709.

June 19-22, 1994: Biennial Meeting, AMQUA. Minneapolis, MN. Contact: P. Bartlein, Dept Geography, U Oregon, Eugene, OR 97403.

#### **ANNOUNCEMENT**

##### **New Public Outreach Program on Geology and the Environment**

The Geological Society of America's Institute for Environmental Education (IEE) seeks individuals and organizations who may wish to participate in activities that heighten public understanding of geoscience as it relates to environmental issues.

IEE is developing a public-outreach program to incorporate relevant geoscience in environmental decision-making from the community to the national level, to heighten comprehension of geoscience, and to increase the effectiveness of disseminating geoscience information to the public and decision makers.

A network of individuals and organizations is being assembled to assist in meeting objectives of the Public Outreach Program. Persons interested in participating, suggesting topics, commenting, or learning more about the program please write to: IEE, The Geological Society of America, P.O. Box 9140, Boulder, CO 80301.

#### **WINNER OF JONATHAN O. DAVIS SCHOLARSHIP Quaternary Sciences Center Desert Research Institute**

Karl D. Lillquist of the Department of Geography, University of Utah, is the 1993 winner of the Jonathan O. Davis Scholarship, from the Quaternary Sciences Center of the Desert Research Institute. Karl's study, "Lacustrine geomorphology, chemistry, and hydro-isostatic deformation of late Quaternary shorelines, Ruby valley and northern Butte valley, Nevada", is supervised by Donald R. Curry (Univ. Utah).

#### **JONATHAN O. DAVIS SCHOLARSHIP Quaternary Sciences Center Desert Research Institute**

Jonathan O. Davis, a prominent U.S. geologist and geoarchaeologist, was tragically killed in an automobile accident in December 1990. The family and friends of Jonathan have established an endowment which provides monies for the Jonathan O. Davis Scholarship. This scholarship will be given annually to support the field research of a graduate student working on the Quaternary geology of the Great Basin or surrounding areas. The grant is for \$500 or more. The scholarship, administered by the Quaternary Sciences Center of the Desert Research Institute, is open to graduate students enrolled in a M.S. or Ph.D. program at any U.S. university. Quaternary geology as used here encompasses a wide range of topics normally considered as part of Quaternary science. The research, however, must have a substantial geologic component or demonstrate a strong reliance on geologic techniques.

Applications should include (1) a current resume or vita, (2) a two-page (single-spaced) description of the thesis/dissertation research which also clearly documents the geologic orientation and research significance, and (3) a letter of recommendation from the thesis/dissertation supervisor that emphasizes the student's research ability and potential as a Quaternary scientist.

Applications must be received by February 1, 1994, so that the scholarship can be utilized in the subsequent summer. Applications should be addressed to: Executive Director, Quaternary Sciences Center, Desert Research Institute, P.O. Box 60220, Reno, NV 89506.

If you wish to help the endowment grow, contributions can be sent to the above address. Checks should be made out to the Board of Regents-DRI. Please indicate on the check or in a separate note that the donation is for the Jonathan O. Davis Scholarship Fund.

#### **SUBSCRIPTION OFFER FOR "GEOMORPHOLOGY"**

Those of you who gave your names to Debbie Harden and have been waiting to hear from Elsevier will find an enclosure in the next QG&G newsletter that explains how to obtain a reduced-rate subscription for the journal, Geomorphology.