



Quaternary Geologist and Geomorphologist

NEWSLETTER OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

Volume 34, Number 2

September 1994

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	Steven M. Colman
First Vice-Chair	William L. Graf
Second Vice-Chair	Karen L. Prestegard
Secretary (new)	J. Steven Kite

NEW PANEL MEMBERS (1994–1996):

Michael N. Machette
Ellen A. Cowan
Robert S. Anderson

CURRENT (1994) OFFICERS:

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

CONTINUING PANEL MEMBERS (1993–95):

Carolyn G. Olson
Waite Osterkamp
James T. Teller

RETIRING PANEL MEMBERS (1992–94):

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

NOMINATIONS OF 1995–97 PANEL MEMBERS

Clip out and mail this ballot before December 1, 1994 to:

J. Steven Kite
Department of Geology & Geography
P.O. Box 6300
West Virginia University
Morgantown, WV 26506-6300

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 as many as 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 (new) Division Secretary:

J. Steven Kite
Department of Geology & Geography
P.O. Box 6300
West Virginia University
Morgantown, WV 26506-6300
Telephone: (304) 293-5606
Telefax: (304) 293-6522
e-mail: kite@wvugeo.wvnet.edu

Or you may contact the (new) Division Chair, preferably by e-mail:

Steven M. Colman
IGBP/PAGES
Barenplatz 2
Bern, Switzerland CH-3011
Telephone: 41-31-312-3133
Telefax: 41-31-312-3168
Phonemail in U.S.A.: (508) 457-2341
e-mail: pages@ubclu.unibe.ch

Until the Seattle GSA Meeting, the Chair will be:

Parker Calkin
Department of Geological Sciences
415 Fronczak Hall
State University of New York
Buffalo, NY 14260
Tel: (716) 645-3985
e-mail: glgparkr@ubvms.cc.buffalo.edu

Newsletters are mailed in February and August (one hopes) of each year. Members are encouraged to use their Division newsletter to communicate with other members. Deadline is January 15 for the February Newsletter 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

The current editor wishes to stand down. Any QG&G member who would like a tour as Newsletter editor please contact the new Secretary (Steve Kite) at his address above. Please contact current Editor (Waitt) at address above for information on what editorship entails.

1994 MACKIN GRANT WINNERS

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

* **Amy B. Church**, Department of , University of Vermont, who is studying "Geomorphic response to Colonial land-use changes in Vermont", supervised by Paul Bierman.

and to one Ph.D. candidate:

* **Robert J. Viens**, Department of Geological Sciences, University of Washington, who is studying " The dynamic response to tidewater and freshwater calving glaciers to millennial-scale climatic change", supervised by Stephen Porter.

MACKIN AND HOWARD GRANT APPLICATIONS FOR 1995

Beginning in 1994, awards for student research in geomorphology or Quaternary geology are 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, 1995. Both M.S. (or M.A.) and Ph.D. candidates are eligible. Winners will be selected by April 15, 1995.

Application forms are available from the (new) Division Secretary: J. Steven Kite, Department of Geology & Geography, P.O. Box 6300, West Virginia University, Morgantown, WV 26506-6300.

CONTRIBUTE TO THE MACKIN GRANT AND HOWARD GRANT FUNDS

The fund that supports the Mackin Grant and Howard Grant is administered by the GSA Foundation. You can contribute to the fund when you renew your GSA membership or by designating the Mackin Grant or Howard Grant when you contribute to the GSA Foundation through the Century Challenge or Geostar. 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.

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 Pad-dock 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 geomorphology 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 **Kelin 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 seismics 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.

1994 KIRK BRYAN AWARD

The winner of the 1994 Kirk Bryan Award is **Arthur N. Palmer** of State University of New York, College at Oneonta for his paper, **Origin and morphology of limestone caves**, published in 1991 Geological Society of America Bulletin, v. 103, p. 1–21. The award will be presented at the Annual QG&G Division's Awards and Business Meeting at GSA-Seattle on Tuesday, October 25, 1994, 7:15–9:00 pm.

The following comments are excerpted (and slightly paraphrased) from three letters of nomination—by John Costa, by Paul Heller, and by James Quinlan.

The paper is a masterful synthesis of observations made over a period of 25 years. It is an original synthesis, now *the* definitive work on the origin and development of caves. There is no other contribution in the field of speleology as broad, sweeping, or insightful as this paper; it is a significant advancement into the origin of caves systems. This paper received the *only* unanimous ranking of "excellent" by referees, Associate Editor, and Editor of any manuscript submitted to the Bulletin in the past three years—a clue on the significance of this paper.

NOMINATIONS FOR THE KIRK BRYAN AWARD FOR 1995

Nominations for the Kirk Bryan Award for 1995 will be accepted until December 1, 1994. 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 (new) Division Secretary: J. Steven Kite, Department of Geology & Geography, P.O. Box 6300, West Virginia University, Morgantown, WV 26506-6300.

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.
- 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.
- 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: *Géographie 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.

1994 DISTINGUISHED CAREER AWARD WINNER—WILLIAM C. BRADLEY

The Quaternary Geology and Geomorphology Division is pleased to announce that Dr. William C. Bradley of the University of Colorado is the 1994 recipient of the Distinguished Career Award. The Award will be presented to Dr. Bradley at the Annual QG&G Awards and Business Meeting at Seattle on Tuesday, October 25, 1994, 7:15–9:00 pm. The following comments are distilled from a letter of nomination by John Pitlick, Peter Birkland, John Andrews, and Nel Caine.

Bill's papers stand as models for scientific inquiry in the earth sciences. His work can be grouped into four topics: age and genesis of marine terraces, sediment sorting longitudinally along rivers, development of various weathering forms such as exfoliation and tafoni, and erosion surfaces in the Rocky Mountains. Bill sometimes conducted laboratory experiments to complement his careful field observations. He is also known for having been a superb and inspirational teacher, often described by students as "the best teacher I ever had."

NOMINATIONS FOR 1995 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, 1995**. 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.

1994 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. The recipient for 1994: **Lawrence C. Smith** of the Department of Geological Sciences at Cornell University, for "A new method of discharge estimation for braided glacial outwash streams", supervised by Arthur Bloom and Bryan Isacks.

1994 GLADYS W. COLE MEMORIAL RESEARCH AWARD

Ellen E. Wohl of Colorado State University is the recipient of the Gladys W. Cole Memorial Research Award for 1994. Ellen's project is titled "Energy expenditure in deep, narrow bedrock canyons of the Colorado Plateau."

GLADYS W. COLE MEMORIAL RESEARCH AWARD APPLICATION FOR 1995

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 1995 will be \$9,000. 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, 1995, to be eligible; the award is made in April.

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: Patricia Fall, Arizona State Univ.; Nicholas Lancaster, Desert Research Institute, Reno; Hugh Mills, Tennessee Tech. Univ.; Dallas Rhodes, Whittier 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.

Newsletter Editor: Richard B. Waitt

KEY EVENTS AT 1994 ANNUAL MEETING AT SEATTLE OCTOBER 24-27

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 Seattle 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 24:

a.m.

- Quaternary Geology/Geomorphology I: Landscape and Climate Change

- Division Management Board Meeting

p.m.

- Quaternary Geology/Geomorphology II: Glaciers and Glaciation
- Theme Session 27: Late Quaternary Evolution of the Eastern Aleutian Arc: Volcanoes, Earthquakes, Glaciers, and Shorelines

Tuesday, October 25:

a.m.

- QG&G III: Glacial and Coastal Geomorphology
- Theme 24: Tectonics and Landforms around the Pacific Rim

p.m.

- Posters II: Geomorphology
- QG&G IV: Floods, Sediment Transport, and River Channel Development: A memorial to Marie Morisawa
- QG&G V: Records through the Last Interglacial
- Theme 26: Quaternary Dating Methods

Tuesday Evening, 25 October

evening (Sheraton Grand Ballroom A) —ALL INVITED—

- QG&G Division Business Meeting and Awards (7:15 to 9:00)
- Reception (9:00 to 10:30). Harvard Press is kindly co-hosting the QG&G reception this year in honor of Luna Leopold's book *A View of the River*, published by Harvard Press 1994.

Wednesday, October 26:

a.m.

- QG&G VI: (Mostly tectonic Geomorphology)
- Theme Session 22: Paleoclimate Records from Arctic Lakes and Estuaries
- QG&G POSTERS

p.m.

- QG&G Symposium (#11): Hydrology and Active Volcanism at the Leading Edge

Thursday, October 27:

a.m.

- Theme 20: Records of Glaciation and Climate Change along the Leading Edge during the last Glacial Maximum and the Pleistocene-Holocene Transition

p.m.

- Theme 20 (continued from a.m.)
- Theme 21: The Last Interglacial: Timing and Environment

GSA ANNUAL MEETING 1995, NEW ORLEANS

The QG&G Division is soliciting proposals for symposia (Invited papers), Theme Sessions (volunteered papers), and Continuing Education/Short Courses for the 1995 Annual Meeting at New Orleans 6-9 November 1995. Proposals should be sent through normal GSA channels (see recent issues of *GSA Today* for details). For possible QG&G sponsorship please contact: Steven M. Colman c/o IGBP/PAGES, Barenplatz 2, Bern, Switzerland CH-3011. Telephone: 4131-312-3133. Telefax: 4131-312-3168. e-mail: pages@ubclu.unibe.ch OR Parker Calkin (716-645-6800 ext 3985; e-mail glgparkr@ubvms.cc.buffalo.edu).

FRIENDS OF THE PLEISTOCENE NEWS AND 1994-95 FIELD TRIPS

Southeastern Cell: November 11-12, 1994

Kelvin Ramsey will lead the 1994 Southeast Cell FOP on geomorphology and stratigraphy of the Quaternary of Delaware, an area beyond but still within the influence of Quaternary glacial margins and climate. Please contact: Kelvin Ramsey, Delaware Geological Survey, University of Delaware, Delaware Geological Survey Bldg., Newark, DE 19716. Phone (302) 831-3586. Telefax (302) 831-3579. E-mail: 04432@brahms.udel.edu

(New) Pacific Northwest Cell

A new Pacific Northwest Cell of FOP was inaugurated by a trip 13-15 May 1994 led by Jim O'Connor and Richard Waitt on the colossal late Wisconsin floods from glacial Lake Missoula in Columbia Gorge and backflooded tributary valleys. A spring PNWFOP meeting doesn't compete with the fall meetings of the adjacent Pacific-South and Rocky Mountain Cells.

The second-annual meeting of Pacific Northwest Cell will be in Boise valley, southern Idaho in mid-May 1995, led by Kurt L. Othberg. Please contact Othberg at Idaho Geological Survey, University of Idaho, Moscow, ID 83843. Tel: (208) 885-7560.

OTHER MEETINGS

November 7-11, 1994: **Cenozoic Tectonics and Volcanism of Mexico.** Puerto Vallarta, Jalisco, Mexico. Contact: Hugo Delgado Granados, Instituto de Geofísica, UNAM, Circuito Exterior, C.U., Coyoacán 04510, Mexico, D.F., (525) 622-4145; fax (525) 550-2486; e-mail: hugo@tonatiuh.igcofcu.unam.mx.

November 13-18, 1994: **Soil Science Society of America Annual Meeting.** Seattle, WA. Contact: SSSA, 667 S. Segeor Rd., Madison, WI 53711.

May 8-10, 1995: **Climate, Landscape, Vegetation Change, Canadian Prairie Provinces.** Edmonton, Alberta. Abstract deadline: 15 February 1995. To receive second circular with abstract & registration guides Contact (before 30 November 1994): Ian D. Campbell, Canadian Forest Service, 5320-122 St., Edmonton, Alberta, T6H 3S5, Canada. (403) 435-7300; Fax: 435-7359; e-mail: icampbell@nofc.forestry.ca

June 18-23, 1995: **International Association of Geomorphologists, Southeast Asia Conference.** Singapore. Contact: Avijit Gupta, IAG-SEA Conference, Kent Ridge, P.O. Box 1135, Singapore 9111, Singapore.

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, 1995, 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.

QG&G DIVISION AND THE U.S. NATIONAL COMMITTEE FOR INQUA

The USNC/INQUA (U.S. National Committee for the International Union of Quaternary Research) meets each year during the annual meeting of the Geological Society of America and in alternate years also meets during the biennial meetings of AMQUA. The purpose of the U.S. National Committee is to represent the scientific societies and professional organizations in the U.S. that are involved in Quaternary research. Membership in international unions like INQUA is by country rather than by individuals. Thus international unions consist of dues-paying member nations, each represented by delegates (national committees) who in turn represent national scientific interests. Obviously, communication between the U.S. National Committee and professional

organizations, such as the QG&G Division, is vital for effective representation of U.S. Quaternary-research interests. This report describing the structure of the USNC/INQUA and some of its current activities is a step toward improving communication.

The NRC (National Research Council) manages U.S. participation in the affairs of ICSU (International Council of Scientific Unions) with funding from the National Science Foundation. Dues are paid to 21 international scientific unions through U.S. national committees. The NRC is organized into Commissions that consist of Boards; the Boards oversee the activities of the national committees. The Board on Earth Sciences and Resources oversees the activities of the USNC/INQUA. Other NRC Boards that oversee activities of interest to Quaternary scientists include the Polar Research Board, Water Science and Technology Board, and Board on Global Change.

For several years Bruce B. Hanshaw has served as NRC Staff Officer for USNC/INQUA and three other National Committees, including The International Union of Geological Sciences. Recently Bruce announced his retirement and is in the process of winding down his NRC activities. Anne M. Linn is the new NRC Staff Officer for the USNC/INQUA. The terms of the present members of the U.S. National Committee expire December 31, 1995. The present Committee members are Victor R. Baker (Chairman), William R. Farrand (Vice-Chair), Richard F. Madole (Secretary), Leon R. Follmer, Yvonne Herman, Malcolm Hughes, Gail M. Ashley, Kam-biu Liu, Thure E. Cerling, Dorothy M. Peteet, Warren L. Prell, Lonnie Thompson, and Ex Officio members Stephen C. Porter (AMQUA President), Anne M. Linn (NRC Staff Officer), James B. Wyngaarden (NAS Foreign Secretary), Theodore L. Hullar (Chrm., Board on Agriculture), Thomas D. Pollard (Chrm., Commission on Life Sciences), William L. Fisher (Chrm., Board on Earth Sciences and Resources), and John A. Swets (Chrm., CBASSE).

Planning for involvement of U.S. Quaternary-science interests in the quadrennial INQUA Congresses, including acquisition of funding for and management of travel grants, is one of the primary responsibilities of the USNC/INQUA. Also the Committee has continuing interest in the status and health of Quaternary Science, a topic explored in a QG&G Division-sponsored forum at the annual meeting of the Geological Society of America, October 1991. In 1992-1993, the USNC/INQUA formulated a two-step plan for producing a White Paper on the status and health of Quaternary science. The first step of the plan was completed in April 1994 when a working group convened at the NRC Conference Center in Irvine, California, drafted a document entitled *The Earth's Dynamic Surface: Environmental Change and Society*. The working group consisted of USNC/INQUA members and invited guests. The USNC was represented by Victor R. Baker, William R. Farrand, Leon R. Follmer, Yvonne Herman, Malcolm Hughes, Thure E. Cerling, Warren L. Prell, Lonnie Thompson, and Stephen C. Porter. Invited guests (nominated by the QG&G Division and the Geomorphology Specialty Group of the Association of American Geographers) included Bernard O. Bauer, Deborah Harden, Julie Laity, Andrew Marcus, Waite Osterkamp, Milan J. Pavich, Kenneth L. Pierce, Dale F. Ritter, Stephen G. Wells, Ellen Wohl, and John Wolcott. Bruce Hanshaw represented the NRC, and Nicole petit-Maire, Centre National de la Recherche Scientifique, France, attended as an observer, representing the International Union of Geological Sciences. In May 1994, the results of the Irvine workshop were presented to the Board on Earth Sciences and Resources by USNC/INQUA Chairman, Vic Baker. Subsequently, the NRC Commission on Geosciences, Environment and Resources approved the USNC/INQUA prospectus for making the report an official NRC document. The report *Earth's Dynamic*

Surface: Environmental Change and Society is now being revised in order to achieve a final draft.

QG&G Division members who are interested in applying for a travel grant for the INQUA Congress in Berlin, August 3-10, 1995, should note that the deadline date for application will probably be in early January 1995. Also, note that funding for travel grants has not yet been secured. Although the USNC/INQUA anticipates that funding for travel will be forthcoming from NSF, funding is not guaranteed. The availability of travel-grant funds probably will be known by the end of September 1994. Individual travel grants will be in amount of \$1000, and anyone interested in attending the INQUA Congress is eligible to apply. Factors considered in evaluating applications include (1) the quality and timeliness of a paper to be presented at the Congress, (2) the role of the applicant as an active member or official of INQUA Commissions or Working Groups in the administration of INQUA affairs, (3) the likelihood of his or her contributing to discussions, and (4) the expected ability of the individual to increase his or her potential scientific productivity through attendance (the perceived potential of the individual will be especially important for younger applicants). Grantees will be required to travel on U.S. flag carriers, in accordance with current NSF guidelines. Grantees will provide a trip report within two months of the end of the Congress featuring benefits that have accrued both to themselves and American Quaternary science in general.

QUATERNARY LISTSERVER

A new listserver has been created for all interested in Quaternary research, particularly but not exclusively in Canada. I is established through the Canadian Quaternary Association, especially Dana Naldret and Dave Liverman, with assistance of the Memorial University of Newfoundland and the Newfoundland Department of Mines and Energy. This listserver may be of use to geologists, geomorphologists, soil scientists, paleoenvironmentalists, archeologists, geotechnical engineers, and others.

A listserver is an automated mailing list. Any message sent to the list automatically passes to all subscribers. Typical messages include announcement of conferences, field trips, job vacancies, new papers, new books, requests for assistance in locating people and resources, discussion of research ideas, and exchange of news. The more new members, the more effective the service.

Many items of interest to CANQUA members appear on the list, including the newsletter, meeting announcements, and other CANQUA business. But anyone, CANQUA or otherwise, can subscribe.

To subscribe send the following message to `listserv@morgan.ucs.mun.ca`: SUBSCRIBE QUATERNARY your name. You should receive acknowledgment of your subscription.

To sign off the list send the message: SIGNOFF QUATERNARY to the same address.

Messages to the list should be sent to: `QUATERNARY@morgan.ucs.mun.ca`.

Listowner is Dave Liverman: Please contact him if you have problems:

Dave Liverman
Newfoundland Geological Survey
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St. John's, Newfoundland, AqB 4J6
Internet: `dgl@zeppo.geosurv.gov.nf.ca`

SUBSCRIPTION OFFER FOR "GEOMORPHOLOGY"

Elsevier offers the journal *GEOMORPHOLOGY* to QG&G members at a special rate of \$70 for 1995.

QUATERNARY SCIENCE REVIEWS

David Q. Bowen, Editor-in-Chief

William R. Farrand, Regional Editor (North America)

** Special Subscription Rate **

Members of the Quaternary Geology and Geomorphology Division of the Geological Society of America qualify for the special group rate of \$90/year (six issues). While this is a price increase over last year, it still is a relative bargain (regular rate is \$599/year). The offer is for *personal subscriptions only*. Subscription orders with payment (and/or Free Sample Copy) can be sent directly to: Agnes Impellitteri, Pergamon Press Inc, 395 Saw Mill River Road, Elmsford, NY 10523. Please identify yourself as a QG&G Division member of GSA.

Bill Farrand is soliciting manuscripts for QSR. Prospective authors should write:

Bill Farrand
Regional Editor QSR
Exhibit Museum
University of Michigan
Ann Arbor, MI 48109-1079

THE HOLOCENE

The Holocene, Cambridge University Press, edited by John A. Matthews of the University of Wales, is advertised as "dedicated to fundamental scientific research at the interface of the long Quaternary record and the natural and human-induced environmental processes operating per year." For more information contact: Cambridge University Press, 40 West 20th St., New York, NY 10011.

GEOARCHAEOLOGY: Now Six Issues per Year

Members of the Quaternary Geology & Geomorphology Division, like members of Archaeological Geology Division, of Geological Society of America, qualify for the group rate of \$75/year. The rate for Division members outside North America is \$105. *The offer is for personal subscriptions only* (subscription orders must include GSA membership number). Payment can be sent directly to: Subscription Department, John Wiley & Sons, Inc, P.O. Box 7247-8491, Philadelphia, PA 19170-8491. U.S. members should include appropriate state sales tax and Canadian members should add 7% GST, which Wiley is obliged to collect.

New Journal

QUATERNARY GEOCHRONOLOGY

Rainer Grun, Editor

Quaternary Geochronology is part of *Quaternary Science Reviews* (Pergamon Press) and its purpose is to provide Quaternary geologists, geomorphologists, and archaeologists with a reference source that discusses progress and problems of dating techniques applicable to Quaternary materials. The scope of *QG*

is to focus on review papers, systematic studies, intercomparisons, progress reports, and occasional conference proceedings. The methods that are covered will range from simple counting methods such as dendrochronology and varve chronology, well established radiometric techniques such as radiocarbon and U-series to more experimental techniques such as OSL and cosmic spallation products. Minor interest lies in relative dating techniques. The publication of purely stratigraphic papers is generally discouraged and articles that contain the occasional dating results will not be considered for publication. In addition to refereed articles, we encourage short papers on technical notes and we will consider a similar format for short reports of dating results. The first issue appeared in 1994. Send manuscripts to: Rainer Grun, Quaternary Dating Research Centre, RSPacS, ANU, Canberra ACT 0200, Australia, Tel: + 61 6 249 3122, fax: + 61 6 249 0315.

MEMORIALS

Marie E. Morisawa

Marie E. Morisawa died June 10, 1994 of injuries sustained in a car accident. Her unexpected death came at a time when she was very active in geomorphology. Marie organized the 25th "Binghampton Geomorphology Symposium", which will be held this September and edited the symposium volume, which is in press. Marie was also editor of the journal *Geomorphology*. Marie has made significant contributions to geomorphology since the late 1950s when she began publishing a series of papers on drainage basin morphology and evolution. She also made significant contributions to the teaching of geomorphology. She wrote two textbooks on rivers: *Streams, their dynamics and morphology and Rivers, form and process* as well as a geomorphology laboratory manual, which she was revising at the time of her death. Marie was active in GSA; she recently completed her term on GSA council. Her contributions to geomorphology and to the people who study geomorphology will be greatly missed. She was an advocate for women in science, and was recognized in her efforts on the behalf of young women scientists by the Association of Women Geologists.

—Karen Prestegard, Dept. of Geology, Univ. of Maryland

Clyde Wahrhaftig: Geologist, Professor, conservationist, humanitarian

Clyde Wahrhaftig, retired geologist with the U.S. Geological Survey, and retired professor of geology at the University of California, Berkeley, died in his sleep on April 7, 1994, at his home in San Francisco, Calif., ending a long, distinguished career in geological research and teaching. Clyde's significant activities included work toward the preservation of natural and scenic lands and resources in the San Francisco Bay area. He was also a humanitarian and a strong proponent of individual rights, including those of homosexuals.

Clyde graduated from California Institute of Technology in 1941 with a B.S. in geology, soon joined the U.S. Geological Survey, and after World War II went to Japan to evaluate coal deposits. His visits to Hiroshima and Nagasaki in 1945 within six months after the atomic bombing of these cities influenced him profoundly and underscored his commitment to the practice of nonviolence and a lifelong refusal to undertake research related to nuclear materials.

Clyde received Masters (1949) and Ph.D. (1953) degrees from Harvard University. On returning to the U.S.G.S., he continued his field studies in Alaska, where he carried out research on the

geology, structure, coal resources, and geomorphology of the central Alaska Range and adjacent areas.

In 1960, he was appointed professor of geology at the University of California at Berkeley, continuing his research at the U.S.G.S. in Menlo Park part time. He retired from U.C. Berkeley in 1982, and from the U.S.G.S. in 1990, but continued active research as emeritus at both institutions until his last day.

Clyde authored or coauthored more than 80 maps, reports, and journal articles. He coauthored the college-level textbook, *The Earth, an Introduction to Physical Geology*. He also wrote several popular geologic field guides, including *The Hayward Fault in Hayward and Fremont, via BART* (Bay Area Rapid Transit System), *A Walker's Guide to the Geology of San Francisco*, and the widely admired *A Streetcar to Subduction*. Besides being excellent guides to the local geology and history of the San Francisco Bay region, these three reports are an ecological statement in support of public transportation.

In 1967 the Geological Society of America awarded Clyde its Kirk Bryan Award for his work on the stepped topography of the

southern Sierra Nevada, California. He proposed and documented a model of landscape development based on differential weathering and lateral planation in a granitic terrane, an alternative to the theories of landscape development of William Morris Davis and Walther Penck. In 1989 Wahrhaftig was awarded the GSA's QG&G Division Distinguished Career Award.

Important and lasting achievement were his contributions to studies of the coastal areas of the San Francisco Bay region and his advocacy for the preservation of these areas as natural resources for the educational and recreational benefit of the public. His efforts contributed to the establishment of the Point Reyes National Seashore and the Golden Gate National Recreation Area as natural sanctuaries, where the ecosystem and the landscape are now protected and preserved for the education and enjoyment of future generations.

—Pat Jorgenson and Andrei Sarna-Wojcicki, USGS, Menlo Park, CA

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