



Quaternary Geologist and Geomorphologist

NEWSLETTER OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

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Stream Gage Numbers Dwindling Nationwide

Like the proverbial outhouses of old, stream gages and their small outhouse-like structures are slowly dwindling throughout the U.S. Monitoring of surface water quantity requires effective monitoring of stream flow. Across the country, stream flow in our rivers is measured by a series of stream gage networks operated primarily by the U.S. Geological Survey and funded mainly through the USGS Cooperative Programs. Cooperators at the federal, state and local levels use the stream discharge data for many purposes: flood and drought prediction, model calibration, water quality evaluation, contaminant load estimation to name but a few of the many uses.

The slow erosion of the streamflow data collection networks results from a combination of inflation and cutbacks in federal, state and local governments. To ensure that government agencies give this important data collection sufficient funding, I would suggest individuals contact the agencies that fund the gaging networks in their regions as well as their local, state and federal legislators. To find out the situation in your state, you should contact the District Office of the Water Resources Division (USGS) in your region.

--Emery Cleves, Maryland Geological Survey

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International Geomorphology Conference in Bologna

The Fourth International Conference on Geomorphology took place at the University of Bologna, August 28 - September 3, 1997 in association with the 28th Annual Binghamton Symposium. Attended by 969 delegates from 67 nations, it was the largest of the four conferences held to date. Topics of the 8 symposia included Antarctic Geomorphology, Engineering Geomorphology, Environmental Impact Assessment, Geomorphology and Global Change, Global Tectonics, Landslides, Magnitude and Frequency and Methods and Tools in Geomorphology. There were 12 sessions of submitted papers that dealt with Applied, Arid and Sub-arid, Fluvial, Glacial, Karst, Littoral and Submarine, Periglacial, Tectonic, Theoretical, Tropical, Volcanic and Weathering and Soils. Nearly 80% of the 750 submitted papers presented in poster sessions, a radical innovation for this meeting. Plenary lectures were presented by Leszek Starkel (Poland), Ana L. Coelho Netto

(Brazil), and Clifford D. Ollier (Australia) representing the international community, and by Angelo Varni and Giovanni Battista Castiglioni from Italy. The presentations by Dr. Netto ("Catastrophic landscape evolution in humid environments") and by Dr. Castiglioni ("Geomorphology of the Po Plain") were particularly memorable.

Field trips during the conference visited the gypsum karst of Bologna and the Po Delta. A pre-conference excursion traversed the central and southern Alps and five post-conference excursions visited north-western Italy, central Italy, Rome and its region, Naples and its volcanoes, and Sardinia. Also, 4 special field meetings were organised in co-operation with other associations: Mediterranean erosion (IGU Commission), Badland processes (IGU Commission), Classical karst (UIS) and Mountain permafrost (IPA).

A significant innovation at this meeting was a Workshop for Young Geomorphologists. Although none was prepared to define "young geomorphologists", over 70 young researchers attended and fired questions at a panel of experienced international geomorphologists. At the closing General Assembly, Honorary Fellowships were awarded to Denys Brunnsden (UK), Richard Chorley (UK), Luna Leopold (USA) and Anders Rapp (Sweden). Stuart M. Lane (UK) was the winner of the Jan De Ploey Prize.

The Abstracts of presentations and the Guide Book for Excursions were published in the journal "Geografia Fisica e Dinamica Quaternaria" as Supplements III T.1 and T.2. In 1998, volume T.3 of the same supplement will appear with complete transcripts of the Plenary Lectures and summaries of the contents of each session and symposium. Contact the Editor, Paola Roberta Federici, Dipartimento di Scienze della Terra, Via S.Maria 53, 56126 PISA, Italy. Research papers be published in Earth Surface Processes and Landforms, Geomorphologie, Geomorphology, Transactions of the Japanese Geomorphological Union, Zeitschrift fuer Geomorphologie and the International Association of Geomorphologists' Series published by John Wiley and Sons Ltd.

The Fifth International Conference on Geomorphology is scheduled for Tokyo, Japan in 2001.

-- Paola Forti (from the International Association of
Geomorphology Newsletter)

Two years ago Will Graf noted in his Chair's Message that rapid changes in the geosciences in the 1990s were having substantial, generally negative impacts on QG&G (e.g. USGS and academic departmental downsizing or elimination, diminished research funding, etc.), impacts at least partly reflected by significant declines in GSA and QG&G Division membership and other indicators. Past Chair Graf further advised that we should continue trends to "re-invent" ourselves through actions such as asking more societally relevant research questions and becoming more aware of the significance of outreach, science education, and interaction with lay people). Both Past Chairs Graf and Karen Prestegard encouraged the Division to initiate a variety of more interdisciplinary activities to help increase interest in and promote awareness of the QG&G Division. Two years after Past Chair Graf's comments, what is the "State of the QG&G Sciences" ? Certainly, in only two years, most of the larger problems are still with us; nevertheless, I believe there are several reasons to justify the optimistic view that many things are "looking up" for Quaternary geologists and geomorphologists. For example, the QG&G Division has:

-- improved services to its members by developing a plan to put an electronic version of the Division newsletter on the GSA web site, one of the top priorities indicated by respondents to the 1996 survey of GSA Meeting registrants (with a hats off to Rich Whittecar, our able Newsletter Editor);

-- significantly increased the use of list-servers and other aspects of the internet to help notify in a timely manner a larger fraction of Division members as well as other scientists of important Division activities and news (e.g., calls for proposals for sessions, field trips, nominations for various research awards);

-- received a commitment of substantial funds from one of our members, Dr. Don Easterbrook, that will enable the Division to give a prestigious award for outstanding research in Quaternary Geology and Geomorphology, an award that has the potential to raise our discipline's profile significantly;

-- helped sponsor or encourage the presentation of exciting, well attended interdisciplinary symposia, theme sessions, field trips and short courses at the recent Salt Lake meetings. Similarly exciting activities seem assured for the upcoming Toronto meeting (e.g., environmental response of the Great Plains to climate change; the Late Quaternary record of Ice Sheets of North America, environmental and stratigraphic significance of soils);

-- seen its membership begin to increase again, following a five-year downturn. In fact of the largest six divisions, QG&G is the only Division that has increased its membership above that of 1992. This increase would seem to at least partly reflect the perceptions of student respondents to the 1996 GSA Meeting survey who identified "surficial processes" by a wide margin as their primary geologic interest.

As a Society, GSA has recently placed a greater emphasis on the importance of strengthening the Divisions, and efforts to develop and test various options for accomplishing this objective continue. GSA has also recently recognized the importance of encouraging more interdisciplinary scientific endeavors. As just one example, the replacement of symposia with "Keynote Sessions" that emphasize broader themes of interest to a wider cross-section of scientists reflects this concern. As perhaps one of the most truly interdisciplinary fields represented by the Divisions, Quaternary geologists and geomorphologists may regard such changes in GSA as

a particularly encouraging trend. We can also take some pride in the fact that GSA has also recently honored three of our own, by electing as the current President of GSA Dr. Victor Baker and Vice-President Dr. Gail Ashley (both Past Chairs of QG&G), and awarding Dr. Paul Bierman the prestigious Donath Medal (Young Scientist award) in 1996.

I believe we have additional reasons to be a bit more optimistic as the year 2000 rapidly approaches. For example, while a substantial number of geoscience departments have stopped growing or continue to be downsized, it seems every month faculty positions are advertised in geoscience and/or geography departments (or in a new species of department emphasizing "environmental dynamics and global change") with a focus in "surficial processes", climate, environmental geology or geohydrology/geomorphology (or some combination of these). An increasing number of planned national and international conferences emphasize strongly interdisciplinary themes and applied research. Consider, for example, an upcoming conference entitled, "Dust Aerosols, Loess and Global Change" (co-sponsored by INQUA, U.S.D.A. and the Washington State University Department of Crop and Soil Sciences) at which participants from the environmental/agricultural and geologic communities will explore "the connections between human uses of loess soils, wind erosion of fine aerosol particulates, and global-geologic cycles of dust deposition". There are even positive signs regarding the future funding of scientific research. A Senate Bill with bipartisan support will be introduced in the spring to double support for basic science research --AND-- Quaternary geologists and geomorphologists should be encouraged by the development of initiatives in NSF funded by these monies that emphasize highly interdisciplinary research involving our disciplinary interests (e.g., the program linking the geo- and biosciences, WEAVE--Water and Energy: Atmospheric, vegetative and earth interactions).

The January 1998 issue of *Atlantic Monthly* featured an article entitled "The great climate flip-flop" (by W.H. Calvin). It described the sobering implications of large, rapid climate changes for global agriculture. The attention to this issue in print media, on television news, and in educational programming is contributing to the growing public awareness of the importance of environmental issues and global climate change to mankind. Remarkably, geoscience education in the majority of public schools continues to get little emphasis. Compounding this problem at both the state and local level are school board members who are unfriendly toward any discipline that seeks a scientific explanation for the evolution of the earth and its biota over time scales of billions of years. This viewpoint has actually led some school boards to reject proposals by scientists and educators to increase the emphasis in earth sciences for K-12 science curriculum, as advocated by the recently-published National Science Education Standards developed by the National Research Council of the N.A.S. I have had personal experiences with this conflict in California and New Mexico where scientists' opinions on the matter have been met with hostility and derision from school boards. One thing each of us can do to address this problem is to find out which school board candidates are scientifically literate--and unambiguously pro-science--and to vote for those who are!

-- Leslie D. McFadden, Division Chair

The complete citation and acceptances for the Kirk Bryan Award, the Society Award bestowed by the QG&G Division, will be published in the March 1998 GSA Today. Only excerpts, edited for economy, are printed here. The Distinguished Career Award is solely a QG&G Award; its citation and response are not published elsewhere and are printed in full here. For photographs of the winners, visit the Division web site (www.geology.ou.edu/qggdiv.htm).

DISTINGUISHED CAREER AWARD: Stanley Schumm

Citation read by Ellen Wohl

In nominating Stanley A. Schumm for the Division's Distinguished Career Award, we felt that it was appropriate to recognize one of the most productive and insightful members of our discipline during the past few decades. Stan has made significant contributions to several lines of research in both Quaternary geology and geomorphology, and the abundant citations of his research by workers in several disciplines attest to the continuing importance of his ideas.

Stan began his career while completing his doctoral dissertation at Columbia University with Arthur Strahler. Several of his early papers that grew from the dissertation focused on the development of slope and channel systems in badlands, with particular emphasis on the processes transporting sediment and water in these environments. In these papers, Stan used the approach favored by Strahler, developing conceptual models of slope processes from the basis of detailed quantification of slope forms. The badland studies lead to Stan's work on arroyos, and the relations between sediment yield and climate, which included the Langbein-Schumm curve of sediment yield versus precipitation. This work has provided the basis for much of the mined-land reclamation in the western United States. This research was recognized when Stan received the 1957 Horton Award from the American Geophysical Union.

During the period 1954-1967 Stan was a research geologist with the Water Resources Division of the U.S. Geological Survey, and he published with some of the most innovative geomorphologists of that era. His research with the Survey during this period also focused on alluvial channels in relation to sediment type, channel and floodplain change, and alluvial channel classification, with much of his fieldwork centered on the American Great Plains. During the later part of this period, Stan published his first papers on paleohydrology and the philosophy of geomorphology, the latter paper being the often-cited "Time, space and causality in geomorphology". During this period Stan pioneered a quantitative approach to fluvial paleohydrology with his work on the Murrumbidgee channels of Australia.

In 1967 Stan joined the faculty of the Dept. of Earth Resources at Colorado State University, where he was asked to build the department's research program in surficial processes. He succeeded spectacularly, creating an internationally known program, and attracting numerous excellent graduate students. In the succeeding 30 years, Stan's research has resulted in approximately 130 publications on a wide variety of subjects, including experimental flume studies, channels on Mars and on the Moon, the Mississippi and other large alluvial rivers, the influence of neotectonics on channel morphology, incised channels, baselevel change, and alluvial valleys. The studies of the Murrumbidgee, South Platte, and Arkansas Rivers demonstrated the role of both climate shift and human intervention. Stan greatly expanded the applications and techniques of experimental fluvial geomorphology

through work at Colorado State University's Rainfall-Erosion Facility. He introduced the concepts of river metamorphosis, and of thresholds and complex response that have subsequently proven to be so powerful for interpreting rate and manner of channel change, by providing alternate explanations to tectonic and climatic causes for system change and response. He developed a stream classification based on the nature of the stream's sediment load that provided a powerful interpretive tool for geomorphologists, sedimentologists, and stratigraphers. During this period Stan also wrote or edited books on river morphology, slope morphology, drainage basin morphology, experimental fluvial geomorphology, and the philosophy of geomorphology, as well as texts on fluvial and general geomorphology.

The significance of Stan's numerous and varied contributions has been recognized by many awards, including GSA's Kirk Bryan Award (1979), the British Geomorphological Research Group's David Linton Award (1982), the National Academy of Science's G.K. Warren Prize (1986), selection as a Colorado State University Distinguished Professor (1986), and selection as a Fellow of the American Association for the Advancement of Science (1989).

Stan's contributions to Quaternary geology and geomorphology have extended beyond research. He has served in an editorial capacity for the journals *Progress in Geography*, *Water Resources Research*, *GSA Bulletin*, *Journal of Geology*, and *Physical Geography*. He has also served as a committee or panel member for GSA, the International Union for Quaternary Research, the American Geophysical Union, the U.S. Geological Survey, NASA, the American Geographical Union, the International Geographical Union, the American Society of Civil Engineers, the American Quaternary Association, the National Academy of Science-National Research Council, the National Science Foundation, and the International Union of Geological Science. Stan has been a visiting professor at institutions in Australia, Canada, Poland, South Africa, Taiwan, Venezuela, the United Kingdom, and throughout the United States, and has received special fellowships from Australia, New Zealand, and Japan. During his career at Colorado State University, Stan served as principal advisor to 17 PhD and 46 MS students, many of whom went on to distinguished careers of their own, serving as faculty members and research scientists in the governments and industries of seven countries.

Above all, Stanley Schumm has provided a source of inspiration for those individuals fortunate enough to work with him in some capacity. As one of his former students wrote in a supporting letter for this nomination, "Stan didn't just teach me geomorphology, he taught me basic research techniques, how to define a problem before trying to solve one, technical writing skills and much more. Stan took the basic values I learned from my parents and early teachers and reinforced them, things like teamwork, responsibility, working with others and honesty in your work." As a colleague and a mentor, Stan embodies the ideal of a man who is both a scholar and a gentleman. His career is characterized by a deep intellect, unswerving honesty and integrity, unselfish assistance with ideas and

support for others, and the utmost modesty for his very substantial contributions to process geomorphology. The warm hospitality that he and his wife, Ethel, have extended to generations of underfed graduate students is fondly remembered, as are the "Schumposiums", informal evening seminars held at their home.

Stan's continuing fascination with the processes that shape the Earth's surface extends across traditional disciplinary boundaries, encompassing issues in meteorology and climatology, aquatic biology, history, civil engineering, economic geology, sedimentology and sedimentary petrology, geologic hazards and geotechnical engineering, planetary geology, and the philosophy of science. He has worked with individuals specializing in each of these disciplines, and his work continues to be cited in these diverse fields. Stan's ability to identify and to explore the fundamental questions in his field is reflected by a quote from Thoreau that hangs in his office at Colorado State University: "It is not enough to be busy ... the question is: what are we busy about?" As a scholar whose versatile mind has led him to reflect on topics ranging from W.M. Davis' essays on geography, to diatreme emplacement by fluidization, to erroneous perceptions of fluvial hazards, Stanley Schumm is a scientist who has always been careful to be busy about the right things.

-- *Ellen Wohl, Frank Ethridge, Richard Madole, Donald Doehring, Deborah Anthony, Michael Harvey, R. Michael Beathard, Randolph Parker, Pierre Julien, Ian Rutherford*

Response by Stanley A. Schumm

It is difficult to know how to respond to Ellen's praise so I will simply reply that I believe every word of it. But if what she said is true I owe a great deal to helpful colleagues, many of whom are in the audience tonight.

In the past I have reflected on the reasons that I became a geomorphologist, and I decided that there were three primary factors that influenced my decision. First, my parents took me to the 1936 World's Fair in Chicago, where the Sinclair Oil Company had a dinosaur exhibit. This convinced me at an early age that I wanted to be a geologist, but unfortunately I was a poor student in high school and lacked motivation. Then in 1944 I joined the U.S. Navy, and very quickly decided to be strongly motivated and to be a geologist rather than a sailor. Therefore, after a few years I was in graduate school planning to be a structural geologist, although I was Art Strahler's teaching assistant. Finally, at the end of my first year of graduate school I contracted rheumatic fever and went to bed for a couple of months. While recuperating, Art sent me his map of the Perth Amboy badlands and asked me to do a Horton analysis of the drainage network. I found myself becoming interested in the orderly nature of the network and discussed the results with Strahler. He suggested that I had done enough to consider working toward a PhD on drainage networks and hillslope evolution. I was very interested, but with a wife and child I was concerned about employment opportunities and told Strahler that I was worried that if I became a geomorphologist I would be unemployable. His response was "The Survey will hire anybody", and, of course, that was where I went to work. Therefore, I owe my career to Big Oil, World War II, and illness.

At that time, the mid-1950s, geomorphology was not held in high regard by geologists in general and to claim to be a geomorphologist then took some courage. Now, however, we have shown how an understanding of landforms has both academic interest

and practical benefits, and some groups consider it advantageous to be a geomorphologist. In fact, my civil engineering friends all claim to be fluvial geomorphologists. I find this hard to accept, but in response I claim to be an engineer, which infuriates them. Something else has changed in forty years. In 1956 I published my dissertation in its entirety -- all 50 pages of it. This would be impossible today.

Our situation has improved greatly during the past forty years, therefore, I wish you all distinguished careers. Thank you.

-- *Stan Schumm*

KIRK BRYAN AWARD:

Grant A. Meyer, Steven G. Wells, and A.J.T. Jull

Citation by Frank Pazzaglia

Across old Route 66 from the University of New Mexico there is a greasy-spoon diner with a distinct New Mexican flavor. For years now, the students and faculty of the UNM Quaternary Studies Group have held all of their official business there, inspired by the oil on black velvet paintings. Such was the setting in the early spring of 1989 when a new Ph.D. student convened a meeting with his advisor and about a dozen student colleagues. Among the green chile, this student laid out several potential dissertation topics ranging from active tectonics to glacial geology, and one by one, his perhaps overly-critical peers found too many problems with them. At the end of the meeting, only two things were clear, the Ph.D. student did not yet have a dissertation project, but when he did formulate one it would be done in Yellowstone National Park. The meeting dispersed with the student and his advisor making one more suggestion: "we could do something with the fires; we should do something with the fires...."

In the summer of 1988, Yellowstone National Park experienced the most widespread and severe forest fires in the Park's recorded history. In the northeastern portion of the park, many low-order drainage basins were almost entirely decimated by intense, stand-replacing burns. These basins produced numerous debris flows and floods between 1989 and 1991 that served as excellent modern analogues for similar fire-related debris-flow events throughout the Holocene. It would have been a fine and important contribution for a Quaternary scientist to simply document the hydrologic, sedimentologic, or ecologic response to the fires, but the work of the 1997 Kirk Bryan recipients went well beyond those contributions. Their work stands as an outstanding field-based study that illustrates the links between form and process, hillslope and fluvial systems, and climate change and landscape response.

Tonight we present the 1997 Kirk Bryan award for the paper entitled "Fire and Alluvial Chronology in Yellowstone National Park: Climatic and intrinsic controls on Holocene geomorphic processes" published in 1995 in the Bulletin of the Geological Society of America. The first author and passion behind the paper's research is Dr. Grant Meyer of Middlebury College. The paper encapsulates Grant's dissertation research performed at the University of New Mexico under the guidance and inspiration of his advisor Dr. Steve Wells. Steve, who is now a director at the Desert Research Institute and Dr. Tim Jull of the University of Arizona are Grant's co-authors. Our honorees tonight vividly illustrate how collaborative research and personal expertise can be and should be constructively coordinated to produce a sum far greater than any single effort could realize. For example, the paper shines in the area of debris flow processes and sedimentology reflecting just one of the expertises of Steve Wells, a geomorphologist who has the unique

inspiration and insight of Kirk Bryan's last student Dr. Charles Stern. There are many individuals in this room tonight, including Grant and me, who have the distinct honor to have been instructed in field-based process geomorphology in the spirit of Kirk Bryan by Steve. The paper leaves nothing to the imagination with respect to age-control which underscores the importance of researchers like Dr. Timothy Jull who have devoted their careers to developing and perfecting reliable Quaternary dating techniques. Our discipline owes an important measure of gratitude to these colleagues. It takes a special individual to assimilate and integrate the substantial contributions of collaborators into a paper of the Kirk Bryan award caliber, but this is precisely what Grant Meyer has accomplished. As both a friend and colleague, I hope you will allow me to devote the balance of this citation to Grant's substantial contributions to the field of process geomorphology.

Grant's research focuses on the northeastern portion of Yellowstone National Park, in particular the Soda Butte, Slough Creek, and Lamar River drainages. The Holocene valleys of these drainages consist of relatively flat, wide valley bottoms with well-preserved fluvial terraces, flanked by alluvial fans at the valley bottom - hillslope transition. The paper's first important contribution comes in its carefully laid out stratigraphic and sedimentologic criteria for field identification of fire-related, probable fire-related, and possible fire-related debris flow deposits in the alluvial fans and their relative correlation to terrace deposits. Outstanding age control for the fan and terrace deposits is provided by no less than 78 radiocarbon dates, most of them from Dr. Tim Jull's Lab at the University of Arizona. Grant describes how the morphology of the terraces and the fans suggested that the Holocene valleys have at least two relatively stable configurations: one characterized by a low-sinuosity stream in a relatively narrow valley bottom overridden by prograding alluvial fans, and a second characterized by a higher-sinuosity stream in a wide valley bottom where the toes of the alluvial fans are truncated by fluvial processes. Deposit ages nicely show the processes of floodplain deposition and widening, out of phase with the processes of alluvial fan aggradation by fire-related debris flow activity.

The implications of these data are profound. Here, there is an opportunity to propose a clear and irrefutable link between hillslope and fluvial processes. But what is the common thread that ties the changes in hillslopes and rivers together? In the paper's most important contribution, Grant shows that it is basin hydrology, a hydrologic cycle that not surprisingly beats to the pulse of millennial-scale changes in Holocene climate. Fire-related debris flow activity, and the subsequent aggradation of alluvial fans, is promoted by relatively dry climatic conditions when moisture is concentrated in few, but intense convective summer storms. Hillslopes are more likely to dry out during these times, producing fires and debris-flow activity, while at the same time promoting a lower base flow and more flashy character for a narrow, incising stream in the valley bottom. In contrast, a climate that favors a slightly wetter, winter-dominated precipitation which remains as a snowpack longer into the year, suppresses large fires, subsequent debris flows, and promotes a higher, more stable discharge for a meandering stream that does not vertically incise as it intercepts sediment from the fan toes it cuts during valley bottom widening.

All of us young geomorphologists, including Grant, have the distinct advantage of conducting our research in the context of the contributions of the Bulls, Schumms, Ritters, Leopolds, and their students and colleagues who have taught us about complex response

and the conceptual links between fluvial and hillslope processes. In my opinion the greatest contribution of Grant's research and what will probably stand as its most enduring legacy is his careful field verification of the various process-response models proposed by the previous generation of process geomorphologists. The next generation of process geomorphology textbooks should rightfully use the research we honor tonight as the field-based example of precisely how fluvial systems are linked to their hillslopes, both in the sedimentologic and hydrologic sense, where all processes dance to the beat of a changing climate.

On the inside Grant Meyer is intensely passionate about his geomorphologic research and equally passionate about the role that geomorphologic research should appropriately play in the understanding and protection of our nation's greatest treasures - our National Parks. On the outside, he is a quiet, humble, and unassuming man who has, no doubt by this time, concluded that I have spoken too long. I will close. But before I do, I wish to leave you with one last thought. At this and all recent GSA meetings, we could treat ourselves to numerous fine presentations of Quaternary paleoclimatic research, most of which focus on the acquisition and interpretation of high resolution paleoclimatic proxies. The research we honor with the Kirk Bryan Award tonight is one of the very few, special examples of geomorphologic research which answers that far more difficult and in my opinion, important question: "How are changes in climate, especially those that occur on human timescales, manifested in the landscape and the processes that shape them?" In essence, process geomorphology should occupy a critical niche in our ever expanding pursuit of Earth system science and global change issues. These are the questions and challenges for the future of process geomorphology and the field is in good hands with young scientists like Grant Meyer assuming the challenge. I hope you will join with me in acknowledging the accomplishments and reception of the Kirk Bryan award to our tri-authors, Dr. Steve Wells, Dr. Tim Jull, and to a very special friend of mine and a most deserving young geomorphologist, Dr. Grant Meyer.

-- Frank J. Pazzaglia

Response by Grant A. Meyer

My colleagues and I are very grateful to be the recipients of the Kirk Bryan Award. I'm glad to be in the company of so many colleagues and friends for this occasion, and I'd like to express my deepest appreciation to Frank and everyone who is here tonight to share in this honor. I'd like to explain some of the details of how I got started on the work that resulted in the fire and alluvial chronology paper. In late June of 1988, when the Yellowstone fires were still small, the only significant thunderstorm to occur that summer generated flash floods that incised alluvial fan channels in the Soda Butte Creek drainage. In exploring the resulting exposures I saw that charcoal-rich debris-flow deposits were quite common, and wondered if the debris flows were a product of past fires. An appropriate modern analog is really necessary to test such an idea. Little did I know that the fires would grow into major complexes containing almost one million acres, and that numerous debris flows and floods would issue from the steeper burned basins in subsequent years. More than once I've been accused of helping the fires out with some matches and gasoline! I believe that we have learned, however, that it takes much more than an ignition source for Yellowstone to burn catastrophically, as it did in 1988; it takes severe summer drought. The Holocene record suggests that drought of this severity develops rarely, but is more common during rather discrete climatic

notification (a) that applications were received and (b) of their success or lack of success as soon as possible after the winners have been decided.

4. The Secretary acts on the recommendations of the Nominating Committee and (a) obtains acknowledgments from candidates that they are willing to stand for election, (b) instructs candidates about preparation of required biographic data, and (c) notifies all candidates of the outcome of election results as soon as they are known.

5. The Secretary provides input into the Division Newsletter through the newsletter Editor and, with the Newsletter Editor, shares the responsibility that the Newsletter deadlines are met.

6. The Secretary prepares and distributes copies of minutes of the annual Management Board meeting and submits an annual Report to Council that summarizes yearly Division activities, current initiatives and future plans.

7. The Secretary, with assistance of the Division Chairman and other officers, responds to inquiries and requests for information from the Society, Division members, and other individuals and organizations.

Treasurer's Duties

1. The Treasurer manages Division finances, arranges for disbursement of funds, and annually reports on finances to the Management Board (at the annual meeting) and Division Membership (via the Division Newsletter).

2. The Treasurer is responsible for recommending the amount of each monetary award, including the annual award disbursed from the Society's Kirk Bryan Award Fund. The Management Board will determine guidelines for the amount of each award, balancing long-term growth of funds with maintaining awards at attractive levels.

3. The Treasurer handles all space and refreshment requests for Division activities at the annual meeting, and together with the Chairman, prepares the request for scheduling Division-sponsored symposia, theme sessions, and technical sessions.

4. The Treasurer, in cooperation with the Secretary, prepares an inexpensive flyer listing recipients of all Division-affiliated awards. The flyer will be distributed at the annual awards ceremony and business meeting.

5. The Treasurer serves on the committees that evaluates the Cole Award proposals and the Distinguished Career Award Nominations.

6. The Treasurer manages all data and communications related to Cole Award proposals, and relays this information to the Society.

Newsletter Report:

The Newsletter Committee (Costa, Machette, Whittecar and Kite) is exploring means to distribute information via download on demand. Under the current proposal paper copies will be sent to members who do not download their newsletter from the Division Web pages within a prescribed time (4-6 weeks).

Second Vice-Chair's Report:

1997 J. Hoover Mackin (Ph.D.) Award (\$1500) winner: Joel Lawrence Pederson, University of New Mexico, "Variable hillslope processes and sediment delivery to tectonically quiescent basins: a Late Miocene to Quaternary record of buried, relict and modern hillslopes and their deposits"

1997 Arthur D. Howard (M.S.) Award (\$1200 each) winners: Jason Briner, Utah State University, "Pleistocene glacial chronology of the southwestern Ahklun Mountains, Alaska"; Daniel John Koning, University of New Mexico, "Fault segmentation and tectonic geomorphology of the central section of the Alamogordo Fault, New Mexico". Two other outstanding Mackin proposals were cited for honorable mention; there were 14 applicants for Mackin Award, 19 for the Howard Award.

The Board approved guidelines for future Mackin and Howard committees. Each award will have separate evaluation committees. Faculty from an applicant's current university will be excluded from deliberations.

First Vice-Chair's Report:

The 1997 Distinguished Career Award winner was Stanley A. Schumm, Colorado State University. Ellen Wohl, Colorado State University, was citationist.

1998 Meeting plans include 6 proposed Division-related field trips. At least four symposia and theme sessions have been proposed. McFadden will serve as the 1998 External Awards Committee Representative. McFadden and Hansel will serve as 1998 JTPC representatives.

Two items were approved for inclusion in the Division Guidelines:

(1) A JTPC representative (normally the Chair) will serve on the Keynote Symposium Committee every 4th year.

(2) The Chair, in coordination with the AAG Geomorphology Specialty Group Chair, is responsible for the February Quaternary Geology and Geomorphology Review Article in *Geotimes*.

Chair's Report:

A review of the 1997 GSA Program shows the Division well represented. A successful short course on Applications of Cosmogenic Isotopes was organized and run by Paul Bierman and Alan Gillespie.

Plans for GSA Keynote Symposia were presented and endorsed by the Management Board. Our Division is one of the strongest in GSA and should benefit from merit-based symposium selection. Early submittal of proposals for theme sessions and symposia will become more important under the new format.

Other Business:

The Long-Range Planning Committee has suspended operations, pending new membership and new initiatives on long-range planning by the Society.

The meeting was adjourned at 10:05 p.m.

- J. Steven Kite, *QGG Division Secretary*

trusted friend during my professional career. He set levels for my scientific standards and gave me the confidence to take those exceptional chances in life's journey. My sincere gratitude goes to a long list of field comrades who have provided intellectual stimulation, creative inspiration, and great friendship in variety settings, including soil trenches, deep arroyos, and flickering campfires. Special among these colleagues are Les McFadden, Ray Ingersoll, Tom Gardner, John Hawley, Adrian Harvey, and Aaron Yair.

Finally, I have been fortunate to live, work and teach in New Mexico where Kirk Bryan was a native son, introduced to geology, and later carried out his scholarly studies. I would like to thank a colleague and friend who tutored me through his historical narratives of Kirk Bryan and his knowledge of the Rio Grande rift during my 15 years in New Mexico. Charles Stearns was Kirk Bryan's graduate student in 1950 when Bryan died "with his boots on" at an archaeological conference in Cody, Wyoming. Charles has given me insights into the man for whom we acknowledge and revere with this award. In receiving this award, I would like to share some of Charles' insights which have touched my life. Kirk Bryan was an extraordinary teacher who considered nothing more important than his students and who found no greater satisfaction than when one of his students successfully led him to new concepts and thoughts. He guided his students to be independent thinkers and to be active collaborators, "not passive disciples." Bryan used the Rio Grande depression as a training ground because he fundamentally considered geomorphology to be a field science through which that geologic debate eventually must be founded on thorough field observations. Finally, Bryan had an abiding concern for the relationship of humans to their environment that may have ultimately led him to scholarly studies involving geology and archaeology. Through this Award, Kirk Bryan's achievements should serve as a measure for all geomorphologists and Quaternary geologists whose passion lies in teaching and in applying their knowledge to better the stewardship of landscapes.

-- S. G. Wells

Response by Tim Jull

I also would like to thank the Quaternary Geology and Geomorphology Division for this prestigious award. It certainly came as a complete surprise to me. Grant and Steve have already discussed many aspects of the work which is honored here. This work is an excellent example of what can be achieved by scientific collaboration. This collaborative project is also an excellent example of what can be achieved with accurate and precise dating of very small samples. We can get a lot of information from less than a milligram of carbon. I should also say it has been a pleasure to be able to work with two such dedicated scientists, whom I would describe as "gentlemen of science." I would like to acknowledge the dedicated work of my colleagues and co-workers at the Accelerator Mass Spectrometry (AMS) laboratory at the University of Arizona. Without their dedication to both precision and accuracy, and long hours of work, this particular study would not have been possible. I would stress it is easy to forget how much effort is expended by these less visible co-workers, who are no less important to the project. Many people in the QG&G division have no doubt requested radiocarbon measurements from our laboratory and sometimes wait a little longer than they might like for the results, at times.

The work honored tonight would not have been possible even 15 years ago. It is the continued development of AMS and its

wide acceptance which made this type of work feasible. I think this award is an acknowledgement by the QG&G division of the contribution of those who do the painstaking dating work in the laboratory, in support of field studies in geomorphology. Clearly, the results of our study which is honored here, and which Grant has so ably described, shows how important the measurements are. A casual glance at GSA's program shows the number and detail of many radiocarbon and AMS applications, and how quickly they have become integrated into all manner of studies.

I have been extremely lucky to be able to contribute to the AMS program at the University of Arizona. I can remember going to Tucson in 1981 and expecting to stay on a short-term postdoctoral position of 2-3 years. Little did I know at that time how successful this field and this particular enterprise would become. I accept this award not only for myself but also in recognition of the contribution of all my colleagues at the University of Arizona, whose dedication and support made this possible.

-- A.J.T. Jull

MEMORIAL

William Hilton "Hilt" Johnson passed away on November 30, 1997 at his home in Las Cruces, NM, after suffering from cancer for 7 months. Hilt retired from the University of Illinois as professor and associate head emeritus of the Department of Geology in August of 1995, after 33 years as a faculty member and 4 years as a graduate teaching assistant. He earned his B.S. from Earlham College in 1956, served in the U.S. Army from 1956 to 1958, and earned his M.S. (1961) and Ph.D. (1962) degrees from the University of Illinois, both in Geology. Hilt was a dedicated and popular teacher of both undergraduate and graduate students and spent many years in the 1960s and 1970s teaching field camp in the Big Horn Mountains, Wyoming and in 1992-93 in the Wasatch-Unita Mountains, Utah. He was a well-respected Quaternary geologist known for his many years of research on the stratigraphy, sedimentology, and geomorphology of glacial and periglacial deposits of the Midwest.

BIOGRAPHIES OF THE CANDIDATES

QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

BRIGHAM-GRETTE, JULIE, B. Albion, MI, 1-11-55. QUATERNARY STRATIGRAPHY, ARCTIC PALEOCLIMATE, AMINO ACID GEOCHRONOLOGY. Educ.: Albion College BA, 77; Univ. Colorado-Boulder, MS 80; Univ. Colorado-Boulder, Ph.D., 85. Post-Doctoral Fellow, Univ. Bergen 84, Univ. Alberta 85-86; Assist. Prof., Dept. of Geosciences, Univ. of Massachusetts-Amherst 87-93; ASSOC. PROF. UMASS 93-present UMass Lilly Teaching Fellow 95-96. Mem. AMQUA Sec 90-98, CANQUA, GSA, Sigma Xi, Arctic Institute of NAM, AWG, IGS. Ed. Boards: Arctic, Quaternary International, Quaternary Science Reviews. Res: Arctic Quaternary stratigraphy and paleoclimate history, esp of Alaska, NE Russia and Bering Strait regions, deglaciations and glaciolacustrine history of Conn Valley, Arctic/Subarctic amino acid geochronology and applications. Mailing address: Dept. Geosciences, Univ. of Mass, Amherst, MA 01003-5820 USA; (email: brigham-grette@geo.umass.edu).

CLARK, PETER U., b. Waterbury, CT, 12-7-56; m. 87, C. 1. QUATERNARY GEOLOGY. Education: St. Lawrence Univ., B.S. (Hons.), 78; Univ. Waterloo, M.Sc., 80; Univ. Colorado, Ph.D., 84. Professional Experience: Lecturer-Asst. Prof., Univ. Illinois, Chicago, 84-88; Asst.-ASSOC. PROF., OREGON STATE UNIV., 88-present. Awards: Silver Circle Award, Excellence in Teaching, Univ. Illinois, Chicago, 87; T.T. Sugihara Young Faculty Research Award, Oregon State Univ., 95. Memberships: GSA, AGU, AMQUA, CANQUA. Professional Service: Assoc. Ed., *Journal Sedimentary Petrology*, 85-88; Gov. Board, Water Resources Res. Inst., Oregon State Univ., 89-91; Councilor, AMQUA, 94-98; Advisory Panel, NSF-OPP, 95-96; Editorial Board, *Geology*, 95-97; Panel Member, Quat. Geol. Geomorph. Div., GSA, 95-97; Editorial Advisory Board, *Quaternary Science Reviews*, 96-present; Steering Committee, TESH-NSF, 96-present; Member, Snow, Ice and Permafrost Committee, AGU, 96-98. Research: history and dynamics of former glaciers and ice sheets, climate change. Mailing Address: Department of Geosciences, Oregon State University, Corvallis, OR 97331.

FURBISH, DAVID JON. ENVIRONMENTAL FLUID MECHANICS, GEOMORPHOLOGY, HYDROLOGY. EDUC.: Univ. North Carolina, Chapel Hill, BS, 78; Humboldt State Univ., MS, 81; Univ. Colorado, Ph.D., 85. PROF. EXP.: Geologist, USFS, 80-81; Asst. Prof., Water Resources Laboratory, Univ. Louisville, 85-87; Asst. Prof., Dept. of Geology, Florida State Univ., 87-92; Assoc. Prof., 92-97; Prof., 97-present; Faculty Assoc., Geophysical Fluid Dynamics Inst., 90-present; Assoc., Computational Science & Engineering Program, 96-present; Affiliate, Center for Ocean-Atmospheric Prediction Studies, 97-present; Visiting Prof., Dept. of Geology, Duke Univ., 96; Visiting Scholar, Dept. of Earth Sciences, Dartmouth College, 95. MEM.: AGU, GSA (Comm. on Continuing Education, 94-97; Q&G Division Nomination Comm., 97; Editorial Board, *Geology*, 98-00), IAMG. RES.: mechanics of flow and sediment transport in mountain river systems; long-term nonlinear dynamics and sediment balances of meandering rivers; dissolution-driven instabilities in porous-media flows; bioturbation-driven mass transport in soils and soil creep; hydrodynamics of foraminifera. MAILING ADDRESS: Dept. of Geology, Florida State Univ., Tallahassee, FL 32306-4100 (e-mail: dfurbish@garnet.acns.fsu.edu).

HANSEL, ARDITH K., QUATERNARY GEOLOGY, GLACIAL SEDIMENTOLOGY. Education: Univ. of Northern Iowa, B.A., 1970, M.A. 1976; Univ. of Illinois, Ph.D., 1980. Professional Experience: Asst.-SENIOR GEOL., ILLINOIS STATE GEOLOGICAL SURVEY, 1981-present. Memberships and Professional Service: GSA (fellow, North-Central Section management board, 1994-97, Q&G panel, 1993-95, ~ vice chair, 1997-98), AMQUA (council, 1988-92), INQUA (Commission on Glaciation secretary, 1995-98), North American Commission on Stratigraphic Nomenclature (GSA's representative, 1998-2001). Research: glacial geology and sedimentology, late Quaternary stratigraphy of the Lake Michigan lobe, glacial and postglacial lake level fluctuations in the Lake Michigan basin. Mailing address: Illinois State Geological Survey, 615 E Peabody Drive, Champaign, IL 61820; e-mail: hansel@geoserv.isgs.uiuc.edu.

HILL, CHRISTOPHER L., PLEISTOCENE GEOLOGY, GEOMORPHOLOGY, GEOECOLOGY. Educ: Univ. Minnesota, Duluth, B.A., 1982; South. Meth. Univ. (SMU), M.A. 1989, Ph.D., 1992. Prof. Exp.: res. fellow-assoc., Univ. Minn, 1982-; vis. assist. prof., Tulane Univ., 1993; assoc. curator, Mus. Rockies, Montana State Univ. (MSU), 1994-; adj. assis. prof., Dept. Earth Sci., MSU, 1995; Dir. Ice Age Res., Mus. Rockies, MSU, 1997-; Awards: C. Albritton, Jr. Award, Institute for the Study of Earth and Man, SMU, 1991; Weber Fellowship, SMU, 1989; Mem: GSA, AMQUA, SAS, Sigma Xi (assoc., 1990); Res: Late Cenozoic stratigraphy, geomorphology, and paleoecology of western Great Lakes, Missouri River basin, Rocky Mountains, Saharan North Africa, Nile Valley, southeast Turkey, eastern Mediterranean.

KITE, J. STEVEN. QUATERNARY GEOLOGY, GEOMORPHOLOGY. Education: James Madison Univ., B.S., 1976, Univ. of Maine, Orono, M.S. 1979; Univ. of Wisconsin, Madison, Ph.D., 1983; Professional Experience: Instr., James Madison Univ., 1978-80, Asst.-ASSOC. PROF., WEST VIRGINIA UNIV., 1983-date; Memberships: GSA, AGU, WV Arch. Soc., Southeastern FOP (executive officer); Research: Late Cenozoic history of the Appalachian Mountains, paleohydrology of the Ohio River basin, sedimentology & geomorphology of debris flows & related events; Mailing Address: Dept. of Geology & Geography, West Virginia Univ., Morgantown, WV 26506-6300

KOCHEL, R. CRAIG, b. Lancaster, PA, 12-16-53. GEOMORPHOLOGY, ENVIRONMENTAL GEOLOGY. Educ.: Franklin & Marshall College, AB 75; Southern Illinois Univ., MS 77; Univ. Texas at Austin, Ph.D. 80. Prof. Exp.: Asst. Prof., Dept. of Environmental Sciences, Univ. Virginia 80-81 and 82-83; Asst. Prof., Dept. of Geology, SUNY Fredonia 81-82; Asst. Prof., Dept. of Geology, Southern Illinois Univ. 84-87; Assoc. Prof. 87-90; Prof. and MacArthur Chair, Dept. of Geology, Bucknell Univ. 90-95; Prof. and Dept. Chair 94-present. Mem.: GSA (fellow), Sigma Xi, YBRA. Res.: Flood geomorphology, with emphasis upon magnitude and frequency issues, flood impacts, and recovery processes; Appalachian debris flow processes, frequency, and role in evolution of alluvial fans (recent emphasis on Madison County, VA floods of 1995); interactions between storm overwash, hydrology, and vegetation on Virginia barrier islands; effects of short-term climate changes on desert slope and fluvial systems in southern California; paleoflood hydrology and slackwater deposits; evidence for water on Mars - planetary images, terrestrial analogs, and experimental flume studies. Mailing address: Department of Geology, Bucknell Univ., Lewisburg, PA 17837 (e-mail: kochel@bucknell.edu).

MILLER, GIFFORD H., b. Washington, D.C. 28 Feb, 1946. QUATERNARY STRATIGRAPHY, GEOCHRONOLOGY, PALEOCLIMATOLOGY. Education: Univ. Colorado, Boulder, BA 1970; Ph.D. 1975. Prof. Exp.: PostDoc, Geophys. Lab, Carnegie Inst. Wash.: 1974-1976, Rsch Assoc., INSTAAR, Univ. Colorado 1975-1985; Visiting Professor, Geologist Inst., Univ. Bergen, Norway 1979-1980, Assoc. Prof. Geological Sciences, 1986-1992; Fellow INSTAAR and Director, Center for Geochronological Research, 1986-present; Prof. 1992-present; Chair, Geological Sciences, 1993-1998. Visiting Fellow, Research School of Earth Sciences, Australian National University, Canberra, Australia, 1991-1992. Mem. AMQUA (Councilor, 1986-1990), GSA (Elected Fellow, 1986), AGU, QRA(UK). Res.: Quaternary history of the Eastern Canadian Arctic and Russian Arctic; history of the Australian monsoon and human impacts on ecosystems in Australia; applications of amino acid racemization to geochronology and paleothermometry. Mailing address: INSTAAR, Univ. Colorado, Boulder, CO 80309-0450 (e-mail: gmiller@colorado.edu).

NELSON, ALAN R., QUATERNARY GEOLOGY, PALEOSEISMOLOGY. Education: Univ. of Wisconsin-Madison, B.S. 1971, M.S. 1973; Univ. of Colorado, Ph.D. 1978. Professional Experience: Geologist, U.S. Bureau of Reclamation, Denver, 1979-1985; Research Affiliate, INSTAAR, Univ. of Colorado, 1981-present; RESEARCH GEOLOGIST, USGS, GOLDEN, CO 1985-present. Awards: Univ. of Colorado Graduate Fellowship 1975-78; Killam Fellowship, Dalhousie Univ., 1978-79; Gilbert Fellowship, USGS, 1989; Memberships: GSA 1972-, AMQUA 1972-, SEPM, AGU, AEG, SSA, IGCP274,367. Editorial Board: GEOLOGY. Research: Paleoseismology and tsunami hazards in U.S. Pacific Northwest; intertidal stratigraphy and micropaleontology applied to coastal tectonics; paleoseismic records in lakes; active deformation recorded by Holocene sea-level change; paleoseismology of strike-slip faults in The Philippines; paleoseismology of normal faults in Utah; neotectonics, geomorphology, amino acid dating, and soils in Basin and Range, western U.S. Mailing Address: Geologic Hazards Team, MS 966, U.S. Geological Survey, P.O. Box 25046, Denver CO 80225 (anelson@usgs.gov).

O'CONNOR, Jim E., GEOMORPHOLOGY, QUATERNARY GEOLOGY. Educ.: University of Washington, B.S., 1982 (Geol. Sciences); University of Arizona, M.S., 1985, Ph.D., 1990 (Major, Geosciences; Minor, Hydrology). Prof. Exp.: Hydrologist, Pima County Flood Control District, 1985-1986; National Research Council Post-Doctoral Fellow, U.S.G.S., 1991-1994; Research Hydrologist, U.S. Forest Service, 1994-1996; Hydrologist, U.S.G.S., 1996-present. Member: GSA, AGU, AMQUA. GSA Service: Committee on Research Grants, 1998-2000. Awards: Kirk Bryan Award (GSA, 1995), Robert K. Fahnestock Award (GSA, 1988), Hoover Mackin Award (GSA, 1987, 1985). Res: Fluvial Geomorphology, Quaternary Geology. Mailing Address: U.S. Geological Survey, 1061 S.E. Cherry Blossom Dr., Portland, OR 97216. Email: oconnor@usgs.gov

PAZZAGLIA, FRANK J., b. New Brunswick, NJ, 05-09-64; M 87, C 3. TECTONIC GEOMORPHOLOGY, QUATERNARY GEOLOGY. Education: Penn State Univ., B.S., 1986, Univ. of New Mexico, M.S., 1989, Penn State Univ., Ph.D., 1993; Professional Experience: Assistant Geologist, State of New Jersey Dept. of Env. Prot., 1986-87, NSF Post-Doctoral Research Fellow, Yale University, 1993-94, ASSISTANT PROFESSOR OF GEOLOGY, UNIVERSITY OF NEW MEXICO, 1994-present; Memberships: GSA, AGU, NAGT; Service: Editor, *New Mexico Geology*, Associate Editor, *Geology*; Research: Tectonic geomorphology and long term landscape evolution of passive (U.S. Atlantic) and active (Cascadia) continental margins, active tectonics, fluvial geomorphology and the genesis of fluvial terraces, record of late Cenozoic climate change in terrestrial stratigraphy; Mailing address: Dept. of Earth and Planetary Sciences, University of New Mexico, Albuquerque, NM, 87131-1116, (505) 277-5384, email: fjp@unm.edu

RODBELL, DONALD T., QUATERNARY GEOLOGY, GEOMORPHOLOGY. EDUCATION: St. Lawrence University, BS, 1983; University Colorado, MS, 1986; Ph.D., 1991; PROFESSIONAL EXPERIENCE: Geologist, Branch Geologic Risk Assessment, USGS, 1991-1992; Byrd Polar Research Center, Ohio State University, 1993-1994; Asst. Prof., Union College, 1994-present. AWARDS: GSA Mackin, 1988; Fulbright, 1988, John D. and Catherine T. MacArthur Assistant Professorship, Union College, 1994; MEMBERSHIPS: GSA, AGU, AMQUA, CUR, NAGT, Sigma Xi.; PROFESSIONAL ACTIVITIES: Panelist, National Earthquake Hazard Reduction Program (USGS) External Research Program, 1997; RESEARCH: Glacial chronology, lacustrine sedimentology, tephrochronology, tropical Andes; tectonic geomorphology New Madrid seismic zone; stratigraphy, mineral magnetism, TL geochronology Mississippi Valley loess; soil geomorphology Southern Alps, New Zealand. Mailing Address: Geology Dept., Union College, Schenectady, NY 12308-2311; rodbell@union.edu.



QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

To Fellows and Members of the Division:

Proposal To Add Position of Treasurer to the Division Management Board

The Division Management Board, at the 1997 Annual Meeting, voted to create a new position of Treasurer in response to an increased workload on the Division Secretary. The new Treasurer will initially be elected for one year (1998-1999); thereafter election will be for 2-year terms. A detailed discussion of this proposal is in the spring 1998 QG&G Newsletter under Minutes of the 1997 Management Board Meeting. The new position must be approved by a majority of voting Division Members. Please vote in the space below.

- _____ For the Proposal To Add Position of Treasurer.
_____ Against the Proposal To Add Position of Treasurer.

The slate of officers of the Division, presented by the Nominating Committee, is submitted herewith. Please vote by checking the appropriate box or by writing in the name of your nominee in the space provided. Biographical data for the nominees is enclosed. This ballot must be returned no later than July 1, 1998, and must be signed in the space provided on the reverse side to constitute a valid ballot. Please fold the completed ballot as shown so that the proper address shows, and place a stamp for the appropriate postage. If you use an envelope, please address it as shown on the back of this ballot.

The election results will be announced at the business meeting of the Division in Toronto, Ontario, in October.

FOR THE ELECTION OF OFFICERS OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION FOR 1998.

Table with 3 columns: Position, Candidate Name, and BALLOT. Rows include CHAIR (Ardith K. Hansel), FIRST VICE-CHAIR (Peter U. Clark), SECOND VICE-CHAIR (R. Craig Kochel, Gifford H. Miller), SECRETARY (Alan R. Nelson), and TREASURER (J. Steven Kite).

FOR MEMBERS OF THE PANEL (Two year teams) VOTE FOR THREE

Table with 3 columns: Candidate Name, Position, and BALLOT. Candidates include Julie Brigham-Grette, David Jon Furbish, Christopher L. Hill, Jim E. O'Conner, Frank J. Pazzaglia, and Donald T. Rodbell.

Please return your ballot to GSA Headquarters by July 1, 1998

Fold here, & staple or tape

For a legal vote, this sheet must bear the signature of the voter.

From _____
Signature _____
Address _____
Date _____

BALLOT

Place
Stamp
Here

Geological Society of America
P.O. Box 9140
Boulder, CO 80301-9140

Fold here, & staple or tape

QG&G MANAGEMENT BOARD MEETING SALT LAKE CITY, UTAH -- October 19, 1997

Attending the 1997 QG&G Management Board Meeting: Chair K. Prestegard; 1st Vice Chair L. McFadden; 2nd Vice Chair A. Hansel; Rising 2nd Vice Chair P. Clark; Past President W. Graf; Secretary S. Kite; Newsletter Editor R. Whittecar; 1997 Panelists S. Burns, L. Ely, D. Merritts, E. Wohl; 1998 Panelists B. Burke, E. Muller; AAG Rep A. James; D. Easterbrook; J. Bartley.

Prestegard convened the meeting at 7:10 p.m. on Sunday, October 19 in Wyoming Room in the Little America Hotel, Salt Lake City, Utah.

The Board discussed the creation of a new Division award in support of research excellence. The Board named this award the Don J. Easterbrook Award in honor of the benefactor. More information on the Easterbrook Award will be announced after details are ironed out. We hope to finalize these plans before the Toronto meeting.

Secretary's Report

Election Results: 252 (23.2%) of 1084 ballots were returned. The return rate was down from 29% in 1996, probably because the 2nd Vice Chair race was uncontested because of miscommunication. The following individuals were elected:

Chair: Les McFadden, University of New Mexico
1st Vice Chair: Ardith Hansel, Illinois Geological Survey
2nd Vice Chair: Peter Clark, Oregon State University
1997-99 Panel:
Raymond M. "Bud" Burke, Humboldt State University
Jennifer W. Harden, USGS-Menlo Park
Ernest H. Muller, Syracuse University

Finances:

A complete 1997 financial statement will be published in the September Newsletter. Accounts for Kirk Bryan, Mackin, and Howard awards have done very well in recent years. However, revenues coming into the Division Account are barely sufficient to cover expenditures. A dues increase may be required in the near future.

Membership:

As of 8 December 1997, Division membership is 1330, an increase of 6.8 percent over 1245 members on 31 Dec 1996. We had 1179 members in 1995. Among other GSA Divisions, our numbers rank behind only Structure & Tectonics (1449) and Hydrogeology (1352), but QG&G has grown more rapidly than either of these divisions in recent years.

Awards:

The Kirk Bryan Award is given to the author or authors of a published paper of distinction advancing the science of Quaternary geology, geomorphology, or a related field. The 1997 Kirk Bryan Award winner: Meyer, Grant, Wells, Steve, and Jull, A.J. Timothy, 1995, Fire and alluvial chronology in Yellowstone National Park: climatic and intrinsic controls on Holocene geomorphic process:

Geological Society of America Bulletin, v. 107, no. 10, p. 1211-1230. Frank Pazzaglia was the citationist. Three nominations will carry over to 1998.

The 1997 Gladys W. Cole Memorial Research Award: Peter U. Clark, Oregon State, "Developing an Improved Chronology of Late-Pleistocene Alpine Glaciation, Western U.S."

The 1997 Robert K. Fahnestock Award: Ronald B. Zelt, Colorado State University, "Silvertip Watersheds: erosion and sedimentation study"

The Management Board decided to keep the 15 February deadline for Howard and Mackin Research Awards.

Treasurer Added to Division Management Board:

The Division Management Board voted to create a new position of Treasurer and to redefine the duties of the existing position of Secretary. The new position must be approved by GSA Council and by Division Membership by a ballot to be sent out in the Spring Newsletter. This action is taken in response to an increased workload on the Secretary, caused by the growth and vitality of the Division and a significant increase in Division correspondence, mostly via the Internet.

The Secretary position will continue to be elected for a two year term during even-year elections. Pending approval by Council and Division Members, the Treasurer's position will initially run for one year (1998-99), but thereafter will be elected for a two year term during odd-year elections. This election schedule will make it unlikely that both offices will turn over in the same year. The addition of a Treasurer will also provide more continuity and institutional memory on the Management Board, and avoid some of the turmoil experienced when a new Secretary takes office. The reallocation of some of the Secretary's tasks should make this important position more attractive to good candidates for the position, a concern that will grow as many of our Division members experience expanding time demands and restructuring in their workplace. In short, the Treasurer will pick up most of the responsibilities related to finances and the annual GSA meeting. The Treasurer will also pick up the responsibility of the Cole Award, which tended to fall coincident with the Secretary's busy Mackin-Howard deliberations. As outlined below, the Treasurer will assume about 30 percent of the existing Secretary's workload. A complete description of the two officers' duties are listed below.

Secretary's Duties

1. The Secretary is Chairman of the Kirk Bryan Award committee (also called the Division Panel). Although the Secretary does not evaluate the nominated papers with the Panel, it may be necessary to do so in case of a tie vote. The Secretary is authorized to resolve ties either by voting or by arranging a runoff or revote.
2. The Secretary serves on the committees that evaluate the Cole Award proposals and the Distinguished Career Award Nominations.
3. The Secretary assembles, distributes and manages all data and communications related to Mackin and Howard grant applications, and Distinguished Career Award nominations. Correspondence with applicants for the Mackin and Howard grants include prompt

notification (a) that applications were received and (b) of their success or lack of success as soon as possible after the winners have been decided.

4. The Secretary acts on the recommendations of the Nominating Committee and (a) obtains acknowledgments from candidates that they are willing to stand for election, (b) instructs candidates about preparation of required biographic data, and (c) notifies all candidates of the outcome of election results as soon as they are known.

5. The Secretary provides input into the Division Newsletter through the newsletter Editor and, with the Newsletter Editor, shares the responsibility that the Newsletter deadlines are met.

6. The Secretary prepares and distributes copies of minutes of the annual Management Board meeting and submits an annual Report to Council that summarizes yearly Division activities, current initiatives and future plans.

7. The Secretary, with assistance of the Division Chairman and other officers, responds to inquiries and requests for information from the Society, Division members, and other individuals and organizations.

Treasurer's Duties

1. The Treasurer manages Division finances, arranges for disbursement of funds, and annually reports on finances to the Management Board (at the annual meeting) and Division Membership (via the Division Newsletter).

2. The Treasurer is responsible for recommending the amount of each monetary award, including the annual award disbursed from the Society's Kirk Bryan Award Fund. The Management Board will determine guidelines for the amount of each award, balancing long-term growth of funds with maintaining awards at attractive levels.

3. The Treasurer handles all space and refreshment requests for Division activities at the annual meeting, and together with the Chairman, prepares the request for scheduling Division-sponsored symposia, theme sessions, and technical sessions.

4. The Treasurer, in cooperation with the Secretary, prepares an inexpensive flyer listing recipients of all Division-affiliated awards. The flyer will be distributed at the annual awards ceremony and business meeting.

5. The Treasurer serves on the committees that evaluates the Cole Award proposals and the Distinguished Career Award Nominations.

6. The Treasurer manages all data and communications related to Cole Award proposals, and relays this information to the Society.

Newsletter Report:

The Newsletter Committee (Costa, Machette, Whittecar and Kite) is exploring means to distribute information via download on demand. Under the current proposal paper copies will be sent to members who do not download their newsletter from the Division Web pages within a prescribed time (4-6 weeks).

Second Vice-Chair's Report:

1997 J. Hoover Mackin (Ph.D.) Award (\$1500) winner: Joel Lawrence Pederson, University of New Mexico, "Variable hillslope processes and sediment delivery to tectonically quiescent basins: a Late Miocene to Quaternary record of buried, relict and modern hillslopes and their deposits"

1997 Arthur D. Howard (M.S.) Award (\$1200 each) winners: Jason Briner, Utah State University, "Pleistocene glacial chronology of the southwestern Ahklun Mountains, Alaska"; Daniel John Koning, University of New Mexico, "Fault segmentation and tectonic geomorphology of the central section of the Alamogordo Fault, New Mexico". Two other outstanding Mackin proposals were cited for honorable mention; there were 14 applicants for Mackin Award, 19 for the Howard Award.

The Board approved guidelines for future Mackin and Howard committees. Each award will have separate evaluation committees. Faculty from an applicant's current university will be excluded from deliberations.

First Vice-Chair's Report:

The 1997 Distinguished Career Award winner was Stanley A. Schumm, Colorado State University. Ellen Wohl, Colorado State University, was citationist.

1998 Meeting plans include 6 proposed Division-related field trips. At least four symposia and theme sessions have been proposed. McFadden will serve as the 1998 External Awards Committee Representative. McFadden and Hansel will serve as 1998 JTPC representatives.

Two items were approved for inclusion in the Division Guidelines:

(1) A JTPC representative (normally the Chair) will serve on the Keynote Symposium Committee every 4th year.

(2) The Chair, in coordination with the AAG Geomorphology Specialty Group Chair, is responsible for the February Quaternary Geology and Geomorphology Review Article in *Geotimes*.

Chair's Report:

A review of the 1997 GSA Program shows the Division well represented. A successful short course on Applications of Cosmogenic Isotopes was organized and run by Paul Bierman and Alan Gillespie.

Plans for GSA Keynote Symposia were presented and endorsed by the Management Board. Our Division is one of the strongest in GSA and should benefit from merit-based symposium selection. Early submittal of proposals for theme sessions and symposia will become more important under the new format.

Other Business:

The Long-Range Planning Committee has suspended operations, pending new membership and new initiatives on long-range planning by the Society.

The meeting was adjourned at 10:05 p.m.

- J. Steven Kite, *QGG Division Secretary*

NOMINATIONS: 1998 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 1, 1998**.

Nominations should be sent to the Division Secretary, Steve Kite, 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 résumé 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.

Recipients of the Distinguished Service Award

Year	Recipient	Citationist(s)
1986	Richard P. Goldthwait	D.M. Mickelson
1987	Aleksis Dreimanis	S.R. Hickock, P.F.Karrow
1988	A. Lincoln Washburn	S.C. Porter
1989	Clyde Wahrhaftig	R. Janda
1990	John T. Hack	M.G. Wolman
1991	Luna Leopold	M.G. Wolman
1992	Herbert E. Wright, Jr.	A.F. Schneider
1993	Victor K. Prest	D.A. St. Onge
1994	William C. Bradley	J. Andrews, P. Birkeland, N. Caine, J. Pitlick
1995	David M. Hopkins	J. Brigham Grette
1996	Robert P. Sharp	A. Gillespie, D. Easterbrook
1997	Stanley A. Schumm	E. Wohl

QG&G DIVISION COMMITTEES FOR 1997-1998

Division officers: Leslie McFadden (Chair); Ardith Hansel (First Vice Chair); Peter U. Clark (Second Vice Chair); J. Steven Kite (Secretary).

Division Panel: Peter U. Clark, Lisa L. Ely, Dorothy J. Merritts (1996-1998); Raymond "Bud" Burke, Jennifer Hardin, Ernest Mueller (1997-1999).

The 1998 Nominations Committee consisted of Jenifer Hardin (Chair), Peter Church, and John Ritter. They produced a slate of candidates for this year's elections and are thanked for this work.

Newsletter Articles Needed !

Send information for the Newsletter to Rich Whittecar, Editor, Ocean, Earth and Atmospheric Sciences, Old Dominion University, Norfolk VA 23529 <rwhittec@odu.edu>

OPPORTUNITIES FOR DIVISION MEMBERS

SPECIAL JOURNAL SUBSCRIPTION RATES for QG&G Division Members

GEOMORPHOLOGY Elsevier offers the journal *Geomorphology* to QG&G members at a special rate of \$88 for 1998. Contact Customer Services at (212)633-3750. Send your manuscripts to the Journal Editor, Jack Vitek, Dept. Geography, Oklahoma State University, Stillwater OK 74078.

QUATERNARY GEOCHRONOLOGY/

QUATERNARY SCIENCE REVIEWS Members of the QG&G Division also qualify to get both *Quaternary Science Reviews* AND *Quaternary Geochronology* for the special group rate of \$110/year (ten issues total). This offer is for personal subscriptions only. Subscription orders with payment (and/or Free Sample Copy) can be sent directly to: Agnes Impellitiere, Elsevier Science Inc., 660 White Plains Road, Tarrytown NY 10591. Please identify yourself as a QG&G Division member of GSA. Bill Farrand, Regional Editor for QSR, is soliciting manuscripts. Prospective authors should write him at Exhibit Museum, University of Michigan, Ann Arbor, MI 48109-1079. Send manuscripts for QC to Rainer Grun, Quaternary Dating Research Centre, RSPacS, ANU, Canberra ACT 0200, Australia, Tel: + 61 6 249 3122, fax: + 61 6 249 0315.

GEOARCHEOLOGY QG&G Division members can get *Geochronology* for the group rate of \$95/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.

RESEARCH GRANTS FOR ISOTOPIC ANALYSES Geochron Laboratories

Geochron Laboratories, a division of Krueger Enterprises, Inc., annually awards a series of research grants to graduate students requiring interesting or new applications of isotopic analyses. The awards consist of analytical services to be performed free of charge to the winner in each category. For the past several years awards have been offered in K-Ar dating, C-14 dating, and stable isotope ratio analyses (SIRA), SIRA in dietary studies, and SIRA of fluid inclusions in minerals. The awards are offered by Geochron Labs to encourage the application of isotopic analytical techniques to solve original and significant problems. The deadline for applications is May 1, 1998. Early application is suggested to assist with prompt evaluation and notification of winners. For Research Award Program Guidelines and official rules, call 617-876-3691, fax 617-661-0148 or write 711 Concord Ave, Cambridge, MA 02138.

DATA SETS AND RECENT PUBLICATIONS

Yan Yuanliang <hceis@mx.cei.gov.cn> sent out notice of the following publications via IAG-Geomorphlist: **Glaciers and Environment in the Qinghai-Xizang (Tibet) Plateau (I)--The Gongga Mountain**. Compiled by Lanzhou Institute of Geography English Ed., 1994, 201 pg; Paperback: US\$36; and **Quaternary Coastline Changes in China**. Edited by Qin Yunshan and Zhao Songling, English Ed. 1991. 198 pages, Hardback: US\$35.

From Matthias Jakob via IAG-Geomorphlist: Together with Nigel Skermer, I have just completed the translation of Joseph Stiny's book: "Die Mure" (debris flow). This book is the first monograph on debris flows. It was written in 1910 and published by the Wagner'sche Universitaetsbuchhandlung in Innsbruck, Austria. The book is an extremely interesting and fascinating overview of the knowledge gathered in the Alps on debris flows until that time. Apart from numerous case studies, it is interesting to note that Stiny seemed to have developed the concept of weathering-limited vs. transport-limited systems, which he applies in his treatment. Published in-house, the book is available for US \$39.00. The book has 105 pages, and numerous figures and photographs. If you are interested in obtaining a copy, please e-mail me at jakob@eba.ca.

The **Global Climate Change Student Guide** is available both in hard copy (US\$18.50) and Windows software with site licence (US\$27.00): www.doc.mmu.ac.uk/aric/student.html. Contents include chapters on The Climate System, Causes of Climate Change, Empirical Study of the Climate, Climate Modelling, Palaeo-Climate Change, and Contemporary Climate Change. Contact: Joe Buchdahl, Global Climate Change Information Programme, Atmospheric Research and Information Centre, Manchester Metropolitan University, Chester Street, Manchester M1 5GD England <j.buchdahl@mmu.ac.uk>

From Phil Buckland via Quaternary listserver: **Quaternary Bibliography of Palaeoentomology** (Coope, Buckland and Sadler) with about 1500 references is available online at www.umu.se/envarchlab/BUGS/QBIB/QBIBFRAM.HTM.

Hass, H.C. & Kaminski, M.A. (eds.) 1997. **Contributions to the Micropaleontology and Paleoceanography of the Northern North Atlantic**. Grzybowski Foundation Special Publication No. 5, 271 pp. (ISBN 83-901164-5-6). Contact: Christian Hass <hass@sfb313.uni-kiel.de>

From Jacopo Pasotti <jacopo@pobox.infomark.it>: A poster that compares GIS systems used in soil erosion research is available for teaching and comparison purposes. The research was developed at the Agricultural Engineering Research Centre in Gent, Belgium as we examined soil erosion in highly productive rural areas in North-Western Flanders. We compared GIS capabilities of Arc/Info and IDRISI to evaluate Wischmeier's model (USLE equation). Send me an e-mail and I will attach a zipped Powerpoint file (about 140 K) to the reply.

Digital Raster Graphics of several types (DEMs, DRGs, DOPs, DLGs, etc.) are available from USGS. Check out mcmcweb.er.usgs.gov/drg/.

Hebda, R.J. & J.C. Haggarty. [eds.] 1997. **Brooks Peninsula: An Ice-age refugium on Vancouver Island**. Occasional Paper No. 5, B.C. Ministry of Environment, Lands and Parks, Victoria. Irregular pagination. ISBN 0-7726-3139-5 [soft cover] Price: CD\$40.00. Crown Publications Inc., 521 Fort Street, Victoria, B.C. Canada V8W 1E7, Phone: (250) 386-4636

From Peter Birkeland, Dept. Geological Sciences, Univ. of Colorado, CB 399, Boulder, CO 80309-0399: **Latest Quaternary Glacial and Periglacial Deposits, Wind River Range, Wyoming**, by P.W. Birkeland, C.D. Miller, and R. Kihl. This article has been in preparation for most of my geological life, and is based on work in the early 1970's. For various reasons it was never published, and because I am retired, it will never be published. We missed our opportunity to get the maps published through the USGS. This is text and maps of late Pinedale and Holocene deposits in the Gannett and Dinwoody Glacier areas, and in the cirques between Baptiste Lake and Temple Peak. In addition there are tables of data used in age estimation: lichenometry, rock weathering features and soils (some analysed, some field data only). There are a couple C-14 dates, but they do not tightly constrain the deposit ages. These data might be of interest to people travelling through the range, to people who want to work in the range, people working on Holocene chronologies, or to young professors who want to publish it in hopes that it will help them get tenure (as long as they send us a reprint!). You get this at my cost to photocopy: \$8 for text and maps; \$11 for text, maps, and tables. This includes postage. Cash required ahead of time.

From Allan James via GEOMORPHLIST: **Geomorphology From Space: A Global Overview of Regional Landforms**, by Nicholas M. Short and Robert W. Blair, Jr. NASA SP 486, 1986; 717pp, has been re-released on CD-ROM by the Jet Propulsion Laboratory. The book went out of print several years ago, so the re-release on CD-ROM is welcome news. A review of the CD will be published in the Professional Geographer (in August?) but this announcement will steer you toward the web version. Furthermore, the book is on a web page created by the NASA Goddard DAAC: <http://daac.gsfc.nasa.gov> (click on the Education icon, then GFS) or go directly to http://daac.gsfc.nasa.gov/DAAC_DOCS/geomorphology/GEO_HOME_PAGE.html.

From Jonathan Adams via GEOMORPHLIST: **Dust-Flux Working Group** URL is <http://www.esd.ornl.gov/ern/qen/dust.html>. The objective is to get a bunch of people focused on the (potentially very important) role which dust had in reinforcing past climate changes.

From Koji Okumura: A 3D geologic map of central Japan at <http://www.ipc.hiroshima-u.ac.jp/~kojiok/naganmap.htm>

Regional Hydrologic Response to Climate Change, 1997. Edited by Jones, J.A.A. and others. 25 chapters. Kluwer Publishers, Hingham MA, 440 pg. \$199.

Taniguchi, M. 1997. **Subsurface Hydrologic Responses to Land Cover and Land Use Changes**. Kluwer Publishers, Hingham MA, 240 pg. \$120. Changes of Water Balance; Change of Solute and Heat Balances; Modelling and Remote Sensing.

MEETINGS

- Apr 20-22, 1998: Applications of Stable Isotope Techniques to Ecological Studies, Saskatoon, Saskatchewan, Canada. Contact: Keith A. Hobson, Canadian Wildlife Service, 115 Perimeter Road, Saskatoon, SK Canada, S7N 0X4 **Tel:** (306) 975-4102 **Fax:** (306) 975-4089 <Keith.Hobson@EC.GC.CA>
- Apr 20-24, 1998: European Geophysical Society, Nice, France. Includes symposia on Geomorphological Hazards: Extent, Evaluation, and Mapping Techniques; Sources and Transfer of Water and Sediment in Mediterranean River Basins; and Measurement of Bedload & Suspended Sediment in Turbulent Flow. Contact: Fausto Guzzetti <F.Guzzetti@irpi.pg.cnr.it> or Robert Allison <R.J.Allison@durham.ac.uk>
- May 3-6, 1998: Watershed Management: Moving From Theory to Implementation. Denver, CO. Contact: Water Environment Federation, 601 Wythe St, Alexandria, VA 22314 (703)684-2400
- May 18-20, 1998: Geological Association of Canada, Annual Meeting. Includes Special Session on "Relative sea-level variations and isostatic recovery across Canada, from Late-Wisconsin to Present day". Contact: J.-C. Dionne, Geographie, Universite Laval, Quebec, Canada G1K 7P4
- May 26-29, 1998: American Geophysical Union, Boston, Mass. Includes symposia on Geomorphic Responses to Environmental Change; Bedform Processes and Patterns; and Soil Mechanics and Geotechnical Controls of Channel and Hillslope Processes. Meeting info: www.agu.org.
- May 27-30, 1998: International Conference on Ground-Penetrating Radar, Lawrence, Kansas. Contact: Richard Plumb **Tel:** (913) 864-7735 <gpr98@rsl.ukans.edu>
- Jun 2-6, 1998: Canadian Association of Geographers Annual Conference. Ottawa, Ontario, Canada. Includes session on Impacts of Global Climate Change in Southwest Yukon. Symposium Contact: Peter G. Johnson <peter@aix1.uottawa.ca>
- June 3-6, 1998: 4th Congress of Polish Geomorphologists. Lublin. Contact: Mgr Wojciech Zglobicki, Zaklad Geologii, Instytut Nauk o Ziemi, Uniwersytet im. Marii Curie-Sklodowskiej, Akademicka 19, 20-033 Lublin, Poland, **Tel:** +81 5375023, **Fax:** +81 5333669, <zglobek@biotop.umcs.lublin.pl>
- June 23-27, 1998: 7th International Conference on Permafrost, Yellowknife, NWT, Canada. Contact: J.A. Heginbottom, Geological Survey of Canada, 601 Booth Street, Ottawa, Ontario, Canada K1A 0E8. Circular: www.nrcan.gc.ca/gsc/permaf_e.html
- Jun 28- Jul 1, 1998: Southern African Association of Geomorphologists, Grahamstown, South Africa. Contact: SAAG Conference Secretary, Dept Geography, Rhodes University, P.O. Box 94, Grahamstown 6140, South Africa **Tel:** +27-46-6038320 **Fax:** +27-46-6225049 <saag98@warthog.ru.ac.za>
- Aug 20-26, 1998: 9th International Conference on Geochronology, Cosmochronology and Isotope Geology. Beijing, China. Chinese Academy of Geological Sciences, Baiwanzhuang Road 26, Beijing 100037, China. **Tel:** 0086-10-68311545 **Fax:** 0086-10-68311545, <liudunyi@public.bta.net.cn>
- Aug 23-29, 1998: 8th International Congress of the International Council for Archaeozoology (ICAZ). Victoria, B.C. Canada. Includes a symposium on High Resolution Faunas at the Pleistocene/Holocene Boundary. Symposium Contact: Jon Driver, Dept of Archaeology, Simon Fraser University, Burnaby, BC, Canada, V5A 1S6 <driver@sfu.ca>
- Aug 26-29, 1998: Significance of Cold Environments in the Upper Quaternary of Central Portugal, Symposium and field trip; Commission on Climate Change and Periglacial Environments. Contact: Goncalo Vieira <goncalo.vieira@reitoria.ul.pt>
- Aug 23-29, 1998: World Deltas Conference, New Orleans. Contact: Greg Stone <gagreg@unix1.sncc.lsu.edu> **WWW:** opal.ga.lsu.edu/deltas98
- Sept 4-11, 1998: Global Continental Paleohydrology, Third International Meeting, Kumagaya and the Japan Alps. Contact: Hiroshi Shimazu, GLOCOPH '98, Dept. Geography, Rishso University, 4-2-16 Osaki, Shinagawa-ku, Tokyo 141, Japan.
- Sept 5-7, 1998: 15th Biennial AMQUA Meeting. Puerto Vallarta, Mexico. Meeting theme: "Northern Hemisphere-Southern Hemisphere Interconnections." Contact: Eric C. Grimm, 1011 East Ash Street, Springfield, IL 62703 **Tel:** (217)785-4846 <grimm@museau.state.il.us> **WWW:** www.usu.edu/~amqua/
- Sept 10-19, 1998: Rapid Coastal Changes in the Late Quaternary. Corinth and Samos, Greece. IGCP Project 367 final meeting. Contact: Stathis Stiros <stiros@prometheus.hol.gr>
- Sept 18-20, 1998: Tracers in Geomorphology, BGRG Annual Conference. Coventry, U.K. Contact: Ian Foster, NES (Geography), Coventry University, Coventry CV1 5FB, UK, **Tel:** +44(0)1203 838404/838444 <gex002@coventry.ac.uk>
- Sept 23-24, 1998: Friends of Karst and The International Geological Correlation Program Project 379 ("Karst Processes and the Global Carbon Cycle"), Bowling Green and Mammoth Cave, Kentucky. Abstracts by March 1 to Joe Meiman, Division of Science and Resource Management, Mammoth Cave National Park, Mammoth Cave, KY 42259 **Tel:** 502-749-2508 **WWW:** www2.wku.edu/~grovecg
- Sept 25-28, 1998: Work Group on Geospatial Analysis of Glaciated Environments (GAGE), INQUA Commission on Glaciation. Warsaw, Poland. Contact: Andrzej Ber, Dept. Quaternary Geology, Polish Geological Institute, 4 Rakowiecka, Warszawa, 00-975, Poland **Tel:** 48-22-495351, **Fax:** 48-22-495342, <aber@pgi.waw.pl>
- Oct 26-29, 1998: GSA Annual Meeting, Toronto, Ontario.
- Nov 15-20, 1998: Eighth Biennial Australian and New Zealand Geomorphology Conference, Goolwa. Contact: Robert Bourman <robert.bourman@unisa.edu.au>
- Aug 3-11, 1999: INQUA Congress. Durban, South Africa. "The Environmental Background to Hominid Evolution in Africa." Contact: Conference Africa, P.O.Box 1722, Parklands, 2121, Johannesburg, South Africa <cafrica@iafrica.com>
- "Fall 1999": 2nd International Paleoflood Conference, Central Arizona. Contact: P. Kyle House <khouse@maxey.dri.edu>
- Oct 25-28, 1999: GSA Annual Meeting, Denver, Colorado.
- Aug-Sept, 2001: 5th International Conference on Geomorphology, International Association of Geomorphologists. Tokyo. Contact: Japanese Geomorphological Union, **Fax:** +81-774-38-4105 <jgu@slope.dpri.kyoto-u.ac.jp> c/o Disaster Prevention Research Institute, Kyoto University, Gokasho, Uji, Kyoto 611, Japan

FRIENDS OF THE PLEISTOCENE FIELD TRIPS

Pacific Cell

Quaternary Geology of the Yucca Mountain Area, Southern Nevada. October 9-11, 1998. Topics include soils and stratigraphy; advances in the dating of Quaternary deposits and surfaces; the influence of climate change on eolian, fluvial, and hillslope processes; and the characteristics of long-recurrence Great Basin faults. Contact: John Whitney or Emily Taylor, USGS MS 425, Denver, 80225; Larry Anderson or Ralph Klinger, Bureau of Reclamation, Denver <rklinger@do.usgr.gov> WWW: chroma.cr.usgs.gov.

Rocky Mountain Cell

The 1998 Rocky Mountain FOP may be led by Bruce Harrison of New Mexico Tech, who was nominated and selected in absentia.

Eastern Cell

Glacial geology of eastern Long Island. May 15-17, 1998, with headquarters in Montauk, New York. The meeting will include a Friday evening program and reunion and Saturday and Sunday field trips. Trips will highlight the nature of the terminal moraine and recessional moraines, evidence of two glaciations, and the late glacial erosion of the terminal moraine south of the Montauk Peninsula by the rising sea. A boat trip to Block Island is planned (depending on the weather) to compare the drift sheets and the moraines. Contact: Les Sirkin, Earth Sciences, Adelphi University, Garden City, NY 11530. Guidebooks of the 1997 trip in New Jersey are available for \$10 from Scott Stanford, New Jersey Geological Survey, P.O. Box 427, Trenton, NJ 08625 <scotts@njgs.dep.state.nj.us>

Midwest Cell

Processes and Environments: Laurentide Ice Sheet Margin, North-Central Wisconsin. May 29-31, 1998. Merrill, Wisconsin. The field trips will offer the opportunity to evaluate processes and environments along the margin of the Laurentide Ice Sheet in north-central Wisconsin. Specific topics will include complex ice-flow patterns, the pattern and sequence of ice disintegration and landform development, depositional processes, and the influence of late glacial climate on landscape evolution. Leaders: John W. Attig, Nelson R. Ham, and David M. Mickelson. Contact: John W. Attig, University of Wisconsin-Extension, Wisconsin Geological and Natural History Survey, 3817 Mineral Point Road, Madison, WI 53705; <jwattig@facstaff.wisc.edu>

South-Central Cell

Geography and Geology of the Grand and Black Prairies of Texas April 3-4, 1998; Waco, Texas. The principal interests of this trip are the Grand and Black Prairies, that together form the Cretaceous Prairies of Texas. Where they were, what they were, what they have become, and how they and their evolutionary successors have influenced the human history of Central Texas are all interests of this trip. Differences in geology have contributed to significant variations in landform, soils, vegetation, indigenous animal populations, human history and changing land use. Field trip leaders: Peter Allen (Baylor); David Amsbury (NASA); Paul N. Dolliver (Geomap); O.T. Hayward (Baylor); Lee Nordt (Baylor); Joe Yelderman (Baylor). Contact: O. T. Hayward or Joe Yelderman; 254 755-2361; fax: -2673; O_T_Hayward@baylor.edu; yelderman@baylor.edu

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