GEOMORPHORUM

Newsletter of the Geomorphology Specialty Group of the Association of American Geographers

Issue No. 2, 1995 Bruce Rhoads, editor

Table of Contents

Introduction

Geomorphorum is issued twice a year by the ***Geomorphology Specialty Group*** (GSG) of the Association of American Geographers (AAG). (see Mission Statement) If you are a member of the GSG and download the newsletter from Geomor phlist, to help save mailing costs, please notify the editor that you do not need a hard copy of the newsletter. (Just send an e-mail communication with your name and the message "no hard copy "). The contents of this newsletter depend on contributions from members and from anyone who has an interest in geomorphology. Please send to the editor relevant thoughts, comments, reports, news, lists of recent publications or activities, program updates, or any other item you would like to have considered for inclusion in the next edition.

Notes from the Chair

It is the best of times; it is the worst of times. Recent promising breakthroughs in science and technology make this an exciting time to be practicing geomorphology. For example, the use of *cosmogenic nuclides* for surface-exposure dating and measuring erosion rates may begin to provide stratigraphic information about erosional surfaces analogous to the breakthroughs in depositional sequences that followed Liddy's development of 14C dating in the 1950s. In Quaternary science, Greenland ice-core data are providing a high-resolution measure of environmental change that indicate more rapid and frequent climate shifts than was previously supposed.

Understanding of modern geomorphic processes is being greatly facilitated by the development of data sensors and data loggers and by analytical process-response models. When coupled with geographic techniques, these models can be made linked to cartographic data bases; and spatially distributed process modeling is finally coming into its own.

Even as major breakthroughs are being made in our knowledge of Quaternary environmental change, earth surface processes, and technologies with which to monitor them, so *lean economic times in Academe* are to be anticipated. OK, so it may not be the worst of times... but budget cuts at high levels of government to both higher education and granting institutions will soon be making their way down to geography departments. We should recognize that tight budgets are likely to continue and respond by taking proactive measures to insure the continued vitality of our discipline. I recommend three general areas where geomorphologists can work to maintain a solid institutional standing: (1) emphasize our long-held, broad traditions in

earth science, (2) continue to develop in the technical, geophysical, and geochemical aspects of our field, and (3) maintain communications and out-reach with others.

We have a long tradition in landscape evolution stemming from the old-time physiographers. An understanding of and fascination with landform changes, geomorphic processes, and interactions between humans and the Earth's surface are not mere fads for us. Geographers have been engaged in these endeavors since before our Association was founded. General training in allied earth science fields such as soils, climate, hydrology, and ecology gives geomorphologists an earth view that is indispensable as research needs emphasize global change and environmental concerns. When combined with our traditional concerns and training in human-land interactions, this background becomes particularly relevant to the modern national research and education agenda.

While maintaining pride and constancy with our geomorphic traditions, we should also embrace modern technologies such as GIS, GPS, remote sensing, mathematical modeling, automated data-collection platforms, and geophysical and geochemical methods of dating and materials analysis. There is a delicate balance between attaining an appropriate level of understanding of how a technology works and maintaining concentration on initial research objectives. Historically, some poorly conceived work is associated with the use of any incipient technology, and we must not become infatuated with the tools at the expense of our research questions. Yet, there are considerable gains to be made through the use of these techniques and the use of any sophisticated technology requires some basic level of understanding.

In particular, the use of GIS, remote sensing, and GPS is no longer severely constrained by lack of software, data, and expertise, but provides an operational set of spatial data management, mapping, and modeling tools that, once installed, can be utilized with a modicum of computer training. For example, digital soil, geologic, vegetation, and elevation maps, as well as remotely sensed imagery, can simply be overlain onto one another or algebraically manipulated. Such a database can be queried at a variety of scales as a seamless map through a moving window. Mapping and modeling can be done without these tools, but the information and capabilities gained not only facilitate our work, but also reveal relationships that are difficult to discover with conventional paper maps. To this end, let me point out an opportunity to participate in a training session on the use of digital elevation models (DEMs) for hydrologic, geomorphic, and ecologic modeling. John Wilson is offering a workshop on "Terrain modeling and analysis" to be given from 1:00 to 5:00 p.m. on Tuesday, April 9th at the Charlotte meetings. Not only will this workshop be relevant to those interested in DEMs, but John has generously offered surplus proceeds to our group.

As a final strategy for maintaining our institutional well-being, we should maintain and broaden communications with others. This can include interactions with government officials, other scientific disciplines, local communities, and our students. It will not be enough to simply speak to ourselves by presenting research at geography meetings and publishing in geography journals. Our traditions and environmental perspective should be emphasized by publishing in journals of other disciplines and by communicating what we do with Deans, Provosts, government agencies, politicians, and the media. From a pragmatic standpoint, we should emphasize the practical aspects of our work in such out-reach efforts, while asking the broad questions that motivate our basic research. Finally, the vitality of a discipline may best be measured and communicated by the students it produces. Students are best encouraged by enthusiasm, creativity, and example in the classroom, the field, and academic venues. When was the last time you took students to a professional meeting? Further, advanced students should be encouraged to participate in meetings. The GSG now has two new student research awards in addition to the paper competition; each with a substantial cash prize. Participation in meetings can also serve to resolve another burning issue; that is, what '*real geomorphologists*' do. I will not attempt to resolve this complex question in such a short column, but if you really want to know, come to Charlotte, attend as many geomorphology paper and poster sessions as possible, come to the business meeting, and talk to the people around you. I suspect there is no better measure of the creed to be found.

Allan James - South Carolina

Treasurer's Report

No activity has taken place on the GSG funds (other than a small charge f or printing checks) since I opened up a new account in July after receiving the funds from the pre vious treasurer, Allan James. We should receive our 1996 allocation from the AAG Central Office in mid-March. Upcoming expenses will include copying and mailing of the newsletter and student awards.

Date	Transaction	Deposits	Expenditures	Balance
7/6/95	Open Act.	1577.80		1577.80
8/7/95	chk. fee		12.80	1565.00

Balance as of 2/12/95: 1565.00

Musings from the Secretary

I write this after having just read Allan James' Notes from the Chair and Claude Allegre's response to being named the 1995 Bowie Medalist by the American Geophysical Union. These two messages, while different in detail, stress some common themes: 1) the influence of modern technology on the earth sciences, 2) the need to consider the practical importance of earth-science research in today's political climate, 3) the growing emphases on analyses that cover large (global) scales and on the use of mathematical models and modeling, 4) the increasing influence of geophysics and geochemistry on earth-science research, and 5) the importance of intradisciplinary and interdisciplinary collaboration. Allegre, in particular, emphasizes the last point and calls for more "border-crossing" meetings.

This past year I had the pleasure of attending two scientific meetings that demonstrated firsthand the value of interdisciplinary interaction. In early April I traveled to Leeds, England for a conference on "Coherent Flow Structures in Open Channels". The organizers of this meeting were Phil Ashworth and Stuart McLelland from the Department of Geography and Sean Bennett and Jim Best from the Department of Earth Sciences, University of Leeds. The purpose of the conference was to explore the origins of coherent flow structures at various scales in open channels and to examine the role that these structures play in sediment movement and channel dynamics. The intensive program included 54 papers presented over 3 days 2E The papers, which covered topics ranging from grain-scale processes to planform-scale processes, were divided into 4 sessions - 1) Coherent Flow Structures and Particle Entrainment in Flat Bed Turbulent Boundary Layers, 2) Grain Roughness and Bedform Initiated Flow Structures , 3) Bar-Scale Flow Structures and Their Impact on River Morphology, and 4) Channel Scale and Planform-Controlled Flow Structures (a proceedings volume will be published by John Wiley in 1996). Academic affiliations of the speakers included geography, geology , earth science, ocean science, civil engineering, environmental science, mechanical engineering , hydraulic engineering and hydrodynamics, freshwater ecology, environmental engineering, applied mathematics and theoretical physics, hydromechanics and water resources management, hydrology, and earth systems science. In addition, several private consulting firms and government agencies were represented at the conference. Attendees came from many countries throughout the world, including Austria, Canada, Denmark, France, Germany, Israel, Italy, Japan , Mexico, the Netherlands, Russia, Switzerland, the US, and the UK.

Although the schedule was exhausting, the exchange of diverse ideas and perspectives generated an enthusiastic, intellectually envigorating atmosphere. On the last evening of the conference, after all of the papers had been presented, a large group assembled to relax, unwind, and socialize. As I listened to the informal conversations within this group, it was clear that many felt it was one of the best conferences they had ever attended. I was struck most by the comments offered by the engineers, who were genuinely impressed by the high quality of scientific research presented by the geographers, geologists, and earth scientists. Moreover, when making these comments, the engineers did not identify the affiliations of these scientists; instead, they merely mentioned the quality of a specific paper. This "border-crossing" conference achieved an important goal - it increased the respect of earth-science research among a broad community of international scholars and at the same time broke down disciplinary barriers by producing an inclusive sense of scientific camaraderie.

In October, I attended the 26th Binghamton geomorphology symposium on "Biogeomorphology, Terrestrial and Freshwater Systems" organized by Cliff Hupp, Waite

Osterkamp, and Alan Howard. This symposium, while less diverse than the Leeds conference, nevertheless had somewhat of an interdisciplinary flavor in that it included geomorphologists, biologists, and ecologists. The symposium upheld and enhanced the reputation of excellence associated with the Binghamton symposia. It demonstrated that the integration of ecology and geomorphology is a fertile area for future research and interdisciplinary collaboration. Once again, I experienced firsthand the value of such interdisciplinary themes for enhancing the visibility of, and respect for, geomorphology. I attended the conference with a Ph.D. student from the Plant Biology Department here at Illinois who is interested in the interaction between riparian vegetation and fluvial processes. This student came away impressed by the high quality of the research presented at the symposium and excited about geomorphology and what it has to offer.

Demonstrating the value of geomorphological research to the scientific community at large is an activity in which all of us should assume an active role. Nevertheless, to be an effective ambassador for geomorphology, it is important to have a clear sense of disciplinary identity. An exploration of this identity will serve as the theme for the upcoming Binghamton symposium on "The Scientific Nature of Geomorphology" to be hosted by myself and Colin Thorn in Urbana-Champaign, Illinois. The symposium is offered in the belief that it is as important to attend to our intradisciplinary health as it is to promote interdisciplinary ties. I invite you to join us in this exploration of geomorphology. (Further details are provided below under the section on meetings and conferences.)

Awards

By the time this newsletter reaches you it will probably be too late to nominate someone for this year's GSG awards, but don't let this stop you from nominating a deserving colleague. The Awards Committee will accept nominations at any time.

The ***Geomorphology Specialty Group*** of the Association of American Geographers invites geomorphologists to nominate a worthy individual for its ***Gilbert Award*** and its ***Distinguished Career Award***, as well as applications for student awards. A ***Best Student Paper*** award will be presented at the Charlotte AAG meeting, based on presentations in a special session already organized. The ***Gilbert Award*** is given on the basis of a major research contribution in the form of a paper, monograph, or book, whereas the ***Distinguished Career Award*** recognizes the geomorphic contributions of a career. Nominations for the Gilbert and Distinguished Career Awards, and requests for information concerning student awards, should be sent to:

Dr. David R. Butler, Department of Geography, University of North Carolina, Chapel Hill, NC 27599-3220 USA, butler@geog.unc.edu

The Honors/Awards Committee of the Geomorphology Specialty Group for 1995/96 is comprised of David Butler, Bill Nickling, and Ron Dorn.

AGU Awards and Honors

(contributed by Alan Howard)

William E. Dietrich won the 1995 Horton Award from the Hydrology Section of the American Geophysical Union. The citation is as follows: For major con tributions to the understanding of sedimentary processes in rivers and the hydrology and geomorphic evolution of headwater drainage basins. On behalf of the GSG, congratulations, Bill!

The Spring 1995 AGU meeting in Baltimore featured two sessions and a post-meeting field trip honoring the geomorphic and hydrologic accomplishments of M. Gordon (Reds) Wolman. The Fall 1995 AGU meeting had a similar session honoring Ronald Shreve on his retirement.

Student Research Grants

Two research grants are being offered by the GSG for Spring 1996 to facilitate graduate research. The awards will be presented at the Charlotte business meeting of the GSG 2E Proposals are requested from student members of the GSG who are enrolled full-time in a graduate degree program and who matriculated into the program less than 20 months prior to the

business meeting.
Prizes: $200 for the best Master's thesis resea rch proposal; $400 for the best Ph.D research proposal.
To enter submit a completed application form, a short proposal (5 pages or less), and three letters of recommendation to David Butler, Chair, Awards Committee, at the address above. Application forms can be obtained from Dave Butler or from the WWW site:
http://lorax.geog.scarolina.edu/gsgdocs/gsg srg.html [obsolete address]
The deadline is two months prior to the meeting, but if you hurry the committee may consider it.

Business Meeting

The Business Meeting of the GSG at the Charlotte AAG meeting is scheduled for 6:45 to 8:00 p.m. Friday, April 12, 1996. Be sure to look for the room location and an y last minute time changes when you pick up your registration materials at the meeting. The re will be customary, complimentary refreshments following the meeting so be sure to attend.

Important Agenda Item for the Business Meeting

Randy Schaetzl submits the following item for consideration at the business meeting.

To the members of the Geomorphology Specialty Group:

I am requesting your input, either now or at the Charlotte meeting, regarding your views on current GSG officer election protocol. In the past, GSG officers (secret ary-treasurer, and hence, president elect) have been nominated and elected at the GSG business meeting. This process, while democratic enough, does not allow everyone to vote, or to nominate. Those who may be absent from the meeting cannot participate in this important process. (More importantly, they may be elected!) I expect to bring this topic up for discussion at the business meeting.

Many other specialty groups have mail ballots and/or nominations, allowing for all members of the specialty group to participate. Obviously, this also comes at a cost.

I suggest that nominations be made either of two ways: (1) solicited in the spring Geomorphorum (which usually comes out a few weeks prior to the AAG meeting), and (2) from the floor at the meeting. Perhaps more importantly, I also suggest that election of the nominees, if there be more than one, be by mail ballot in the six (?) weeks immediately following the meeting.

Let's hope this matter is not so complicated as to require a task force or working group to study it over the winter and bring recommendations forward at Fort Worth. Nonetheless, this remains an option. I welcome your input on this important matter.

Randy Schaetzl, Dept. of Geography, Michigan State University

East Lansing, MI 48824-1115, 517-353-7726 (voice) 517-432-16 71 (fax)

(schaetzl@pilot.msu.edu)

Meetings and Calls for Papers

Association of American Geographers Annual Meeting.

Charlotte, N.C.; Apr 9-13, 1996:
Sessions of interest to geomorphologists include (asterisk denotes session sponsored by GSG):
Tuesday April 9 - Terrain Modeling and Analysis* (4 hr. workshop, requires preregistration)
Wednesday April 10 - Coastal Geomorphology*, Coastal Aeolian Systems*, Drylands Geomorphology, Student Honors*, Coastal Hazards, Geomorphology: Weathering
Thursday April 11 - Coastal Plain Rivers*, Coastal Systems, Geoarcheology and Paleoenvironmental Records, Sediment Transport in Fluvial Systems I*, Sediment Transport i n Fluvial Systems II*, Soils and Paleosols, Environmental and Geomorphic Processes (Poster session)
Friday April 12 - Fluvial Forms and Processes*, Geomorphological Investigations: Linking Form and Process, Fluvial Geomorphology and Sediment Dynamics, Soil Geomorphology I: Arid Regions,
Soil Geomorphology II: Humid Regions, Sediment,

Soil, and Fire Dynamics
Saturday April 13 - Geomorphology: Anthropogenic Impacts and Consequences, Sediment Storage and Remobilization in Rivers*, The Environment of Gender and Science: Women in Physical Geography, Biogeomorphology in Fluvial Systems*, Landslides, Debris Flows and Block Gliding

27th Binghamton Geomorphology Symposium

"The Scientific Nature of Geomorphology", September 27-29, 1996 Urbana-Ch ampaign, IL, Bruce L. Rhoads and Colin E. Thorn, Organizers. The slate of participants has been finalized for this meeting, which will explore methodological and philosophical issues in geomorphology. If you are interested in rece iving registration information please contact me at the address on the front of this newslet ter. Preparations are now being made for local arrangements. Detailed information will be sent out in the early summer.

List of Participants and Paper Topics:
Philosophical Issues -
The Methodological Roles of Theory in Science, Harold I. Brown
Observation in Geomorphology, Bruce L. Rhoads and Colin E. Thorn
Hypotheses and Geomorphological Reasoning, Victor R. Baker
Fashion in Geomorphology, Douglas J. Sherman
Toward a Philosophy of Geomorphology, Bruce L. Rhoads and Colin E. Thorn
Methodological Issues -
Space, Time and the Mountain -- How Do We Order What We See?, Michael Church
Samples and Cases: Generalisation and Explanation in Geomorphology, Keith Richards
Climatic Hypotheses of Alluvial-Fan Evolution in Death Valley are not Testable, Ronald I. Dorn
Physical Modelling in Fluvial Geomorphology: Principles, Applications, and Unresolved Issues
Jeff Peakall, Phil Ashworth, and Jim Best

Modeling: Prospects and Problems -
A Role for Theoretical Models in Geomorphology? Michael J. Kirkby
Physically Based Modelling and the Analysis of Landscape Development, Deborah Lawrence
Equifinality and Uncertainty in Geomorphological Modelling, Keith Beven
Deterministic Complexity, Explanation, and Predictability in Geomorphology, Jonathan Phillips
Limitations on Predictive Modeling in Geomorphology, Peter K. Haff

Interdisciplinary and Intradisciplinary Contexts -
Derivation and Innovation in Improper Geology, aka Geomorphology, C. Rowland Twidale
Geomorphology, Geography, and Science, Bernard O. Bauer
The Evolution of Geomorphology, Ecology, and Other Composite Sciences,
Waite R. Osterkamp and Cliff R. Hupp
Geomorphology and Policy for Restoration of Impounded American Rivers: What is "Natural?"
William L. Graf

International Conference on Geography and Environmental Consultancy *:*

Present Problems and Future Prospects,
The University of Birmingham, UK, 9 - 10 April 1997, Preliminary Announcement and Call for papers - Dr. Damian Lawler and Professor Geoff Petts of the University of Birmingham, UK, are convening the above 2-day conference on behalf of The Environmental Research Group (ERG) of the Royal Geographical Society/Institute of British Geographers. The aim of this meeting is to examine, through critical reviews of past experiences (good and bad!), present problems and future prospects, the ways in which Geography is responding to the challenges associated with Environmental Consultancy.

Specific objectives, reinforced in a linked edited volume, are to:
1. Stimulate debate between geographers, other scientists, professional consultants, environmental regulators, planners and industry, illustrated from international perspectives;
2. Exchange consultancy experiences and solutions, and highlight out standing needs;
3. Evaluate and publicise geographical contributions to environment al research and consultancy, and to alert geographers to consultancy opportunities;
4. Assist progress towards a 'Code of Best Practice'. Contributions from all areas of Geography and cognate disciplines are invited.

The convenors are aiming to produce a coherent, fully refereed, edited volume based on the conference papers. Please send titles and 250-word Abstracts by 30 Apri l 1996 to:
Dr Damian Lawler, School of Geography, The University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK. Tel: +44-121-414-

5532/5544 Fax: +44-12 1-414-5528 Email: D.M.Lawler@bham.ac.uk
Full papers will be needed in December 1996.

Other meetings:

Apr 17-19, 1996: **Workshop on Glaciation and Hydrogeology** 2E Stockholm, Sweden. Nordic Nuclear Safety Research. Contact: Louisa King-Clayton, Intera Information Technologies Ltd., 47 Burton Street, Melton Mowbray. Leics., LE13 IAF, U.K. email: lkc@int era.co.uk

Apr 22-26, 1996: 8th **International Conference on Luminescence and ESR Dating** . Canberra, Australia. Contact: Secretary General, International Glaciological Societ y, Lensfield Road, Cambridge, CB2 1ER, U.K.

May 2-3, 1996 **Northcentral Sectional Meeting of Geological Soc iety of America, Symposium on the Soil-Geomorphology Projects of Robert V. Ruhe** Half-day session on the originial projects, invited speakers from the projects, volunteer paper seesion for those curently involved in soil-geomorphology research based on the principles of Ruhe's approach to soil-geomorphology. Pre-meeting field trip to Greenfield Quadrangle, one of the original projects in Iowa. Field trips May 1 and May 4,5. Web site info http://www.public.iastate.edu/ ~geat/nc gsa/intro.html. Also watch next issues of GSA Today newsletter for details on abstract submission

May 20-22, 1996: **American Quaternary Association,** 14t h Biennial Meeting. Flagstaff, Arizona. *Global Warming: Interglacials, Interstadials, Climatic Optima, and Other Events* . 14 pre- and post- symposium field trips planned. Contact: Jim Mead, Dept. G eology, Northern Arizona University, Flagstaff AZ (520)523-9220 email: jim@vishnu.glg.nau 2Eedu.

May 20-24 **American Geophysical Union Spring Meeting** , Baltimore, MD SM-REQUEST@EARTH.AGU.ORG

Aug 5-10, 1996: 28th **International Geographical Congress. The Hague, Netherlands.** Contact: Congress Secretariate 28th IGC, Faculteit Ruimtelijke Wetneschappen Universiteit Utrecht, Postbus 80.155, 3508 TC Utrecht, The Netherlands email: r.vanderlinden@fr w.ruu.nl.

Aug. 17 - 23,1996 **Workshop on: *The Geomorphic, Kinematic, and Climatic Significance of Rock Glaciers*,** D. H. Clark, N. Potter, E. Steig, B. Whalley, conveners. This workshop will be based in northwest Wyoming adjacent to the Absaroka Mountains east of Yellowstone National Park, at the Northwest College Field Station on Dead Indian Hill next to Sunlight Basin. The conference schedule tentatively includes 3-4 days of talks and discussions at the field station, with a 2-day field trip to inspect the Galena Creek rock glacier sometime during the meeting. For further information, please contact Brian Whalley (b.whalley@qub.ac.uk).

Oct 28-31, 1996: **GSA Annual Meeting. Denver, Colorado 2E**

18 - 19 June 1997, ***Late Quaternary Coastal Tectonics,*** Geological Society of London, Burlington House, London, UK. Convenors: Dr Ian Stewart (Brunel University, Borough Road, Isleworth TW7 5DU, UK; tel: 44 181 8910121; fax: 0044 181 5699198; e-mail : iain.stewart@brunel.ac.uk) & Prof. Claudio Vita-Finzi (University College London, Gower Street, London W1E 6BT, UK; tel: 44 171 3877050 x2383; fax:0044 171 38876 14;e-mail: ucfbcvf@ucl.ac.uk) Abstract deadline is January 1, 1997, but early proposals are welcome. A conference volume is planned.

Aug 28-Sept 3, 1997: **4th International Conference on Geomorphology. Bologna, Italy.** Second announcement will be sent to those who request information before Sept 30, 1996. Contact: I.C.G., Planning Congress s.r.l., Via Crociali 2, I-40138 Bologna, Italy email: forti@geomin.unibo.it. 28th Binghamton Geomorphology Symposium , *Engineering Geomorphology* , will be held at the 4th ICG in Bologna. Contact: Rick Giardino (giardino@astra.tamu.edu).

Glacier Borehole Video.

As part of a research project on the Arolla Glacier in Switzerland we have used a miniature borehole video camera to look at the internal structure of

a glacier. We have produced a 22 minute composite video ("*A Glimpse at the Guts of a Glacier*") that we think will be useful in teaching geomorphology and glaciology. It includes sections on: 1. The process of hot water drilling through a glacier 2. A journey down a borehole to look at changes in ice structure 3. Englacial voids and channels 4. The glacier bed 5. Changes in water turbidity in a borehole 6. Drilling problems. If you would like a copy of this video they will be available at the AAG meeting in Charlotte (April, 1996) or we can mail you a copy. Send inquiries to:

Luke Copland / Jon Harbor, Dept. Earth and Atmospheric Sciences, Purdue University, West Lafayette IN 47907-1397.

We are asking for a contribution of $10 to help with costs of production and mailing to North American addresses, and to help cover the cost of providing free copies to scientists and educators who are not able to make a donation. A donation is not required to receive a copy of the tape. If you can make a donation, please make checks payable to Purdue University and add a note on the check that reads "unrestricted gift to Harbor's research" (this allows us to get around lots of red tape). For international requests we are able to translate the tape to any standard format - please contact us by email with tape translation reque sts (luke@geo.purdue.edu or jharbor@geo.purdue.edu).

WWW SITES

For those of you who "cruise" the Web, you may be interested in the foll owing sites.

The Association of Polish Geomorphologists is open under the following URL address: http://hum.amu.edu.pl/~sgp/welcome.html On this server you can find the following topics: The Constitution (PL only), Organizational structure, Members of Honour, Ordinary members, News, Conferences, Contest of the best Ph.D. Thesis, Publications, The Virtual Geomorphology. Useful links: The Earth Science Site of the Week, Geomorphological organizations, Related institutions, Information and data, On-line publications, Libraries and indexes, Publishers, Education, Newsgroups, GeoWWWservers, Search engines.

A massive, **international listing of scientific conferences (**including those in the earth sciences and geomorphology) can be found at: http://www.lib.uwaterloo.ca/society/meetings.html

The **Illinois State Geological Survey** has started a **Geoscience Information** on the WWW Page at: http://denr1.igis.uiuc.edu/isgsroot/dinos/earthsci_links.html

Larry Mayer, Miami University of Ohio maintains a nice Web resource page for **geomorphology** at: http://tgl.geology.muohio.edu/gbook/gresources.html

Also, check out the **Geomorphology Lab at the University of Iowa** at: http://weirich320h.geography.uiowa.edu/geomorphology.html

One of the best pages I have found is the **Color Landform Atlas of the United States**, which contains color shaded relief maps of all 50 states. Nice!! See them at: http://fermi.jhuapl.edu/states/states.html

And of course be sure to visit the **GSG and Geomorphlist (I.A.G.) home pages at:**

Geomorphology (GSG):
http://www.cla.sc.edu/geog/gsgdocs/index.html

Geomorphology:
http://www.ttu.edu/~geomorph [obsolete]

If you come across, or have developed, an interesting home page that y ou think may be of interest to geomorphologists please send me the server information so I can report it in the next newsletter.

News from Members and Friends

David Butler (*University of North Carolina*) spent two weeks in August in Glacier National Park, continuing his collaborative research on beaver pond sedimentation with George Malanson of the University of Iowa. He is also engaged in a study with a graduate student on the effects of trampling on the subalpine environment in the Park. In February 1995 he visited the Park with doctoral student Forrest Wilkerson, and observed several recent and in-

progress mass movements at a variety of scales. With doctoral student Marilyn Wyrick, he is examining the soils and geomorphic history of the floodplain of the lower Roanoke River in North Carolina, funded by the Nature Conservancy. Recent grants include a renewal of a Quick Response

Grant from the Natural Hazards Research and Applications Information Center, 1995-1996, in the event of major snow-avalanche closures of transportation links along southern Glacier National Park; a UNC University Research Council Grant on Assessing the Historical Role of Trampling as a Disturbance at Alpine Treeline; and a UNC Institute for R esearch in Social Sciences Grant in support of a summer research assistant for Impact of T ourism on the Alpine Landscape. In March, David Butler served as a Consultant to The College Board and Educational Testing Service, which are examining the question of an Adva nced Placement Exam for Geography, at a meeting in New York City. He has recently been reap pointed to the Editorial Advisory Board of the AAG's Resource Publications in Geography Series for 1995-1998, and has just been appointed Book Review Editor for the journa l Geomorphology, effective January 1 1996.

Recent publications include:

Butler, D.R., and G.P. Malanson, 1995. Sedimentation rates and patter ns in beaver ponds in a mountain environment. Geomorphology 13(1-4): 255-269. Also reprinted i n the Elsevier book Biogeomorphology, Terrestrial and Freshwater Systems, 1995, ed. by C.R. Hupp, W.R. Osterkamp, and A.D. Howard.

Allen, T.R., D.G. Brown, D.R. Butler, and S.J. Walsh, 1995. Local and regional patterns of modern glacier equilibrium-line altitudes in Glacier National Park, north west Montana. Proceedings, ASPRS/ACSM Annual Meeting, Charlotte, NC, pp. 112-122.

Townsend, P.A., S.J. Walsh, and D.R. Butler, 1995. Beaver pond identif ication through a satellite-based ecological habitat classification. Proceedings, ASPRS/A CSM Annual Meeting, Charlotte, NC, pp. 102-111.

Butler, D.R., and G.P. Malanson, 1996, in press. A major sediment puls e in a subalpine river caused by debris flows. Zeitschrift fur Geomorphologie.

Meentemeyer, R.K., and D.R. Butler, 1996, in press. Temporal and spat ial changes in beaver pond locations, eastern Glacier National Park, Montana, USA. The Geograp hical Bulletin 38.

Nicholas, J.W., and D.R. Butler, 1996, in press. Application of relat ive age-dating techniques on rock glaciers of the LaSal Mountains, Utah: an interpretation of Holocene paleoclimates. Geografiska Annaler.

Finally, the Department of Geography at UNC-Chapel Hill now has a Home Page on the World Wide Web, which contains information about research facilities, the gradu ate program, information about each faculty member, and so forth. Potential graduate students can examine the Home Page by going to http://www.geog.unc.edu

Pascale Biron and Andre Roy (*Universite de Montreal*)

Roy, A.G., Buffin-Belanger, T. and Deland, S. (in press) Scales of turbulent coherent structures over rough gravel beds in natural rivers, Proceedings Coherent Flow Struc ture Conference, Leeds University, Wiley.

Ferguson, R.I., Kirkbride, A. and Roy, A.G. (in press) Markov analysis of velocity fluctuations in gravel-bed rivers, Proceedings Coherent Flow Structure Conference, Leeds University, Wiley.

Lapointe, M.F., De Serres, B., Biron, P. and Roy, A.G. (in press) Usin g spectral analysis to detect sensor noise and correct turbulence intensity and shear stress estimates from EMCM flow records, Earth Surface Processes and Landforms.

Robert, A., Roy, A.G. and De Serres, B. (in press) Turbulence at a rou ghness transition in a depth limited flow over a gravel bed, Geomorphology.

Mathier, L. and Roy, A.G. (in press) A study on the effect of spatial scale on the parameters of a sediment transport equation, Catena.

Roy, A.G., Biron, P. and De Serres, B. (in press) On the necessity of applying a rotation to instantaneous velocity measurements in river flows, Earth Surface Proces ses and Landforms.

Biron, P., Best, J.L. and Roy, A.G. (in press) Effects of bed discorda nce on flow dynamics at open channel confluences. Journal of Hydraulic Engineering, ASCE.

Biron, P., Roy, A.G. and Best, J.L. (1995) A scheme for resampling, fi ltering and subsampling unevenly spaced laser Doppler anemometer data, Mathematical Geology, 27, 731-748.

Gaudet, J.M. and Roy, A.G. (1995) Effect of bed morphology on flow mix ing length at river confluences, Nature, 373, 138-139.

***Geomorphology at Purdue* -- Jon Harbor**

Purdue University is located in the topographically-challenged landscape of north central Indiana, but is home to a number of good research facilities, including the USDA National

Soil Erosion Lab, the Purdue Rare Isotope Measurement Lab (PRIME Lab) for AMS measure ments of cosmogenic nuclides, and the Laboratory for Applied Remote Sensing (LARS). I joined the Department of Earth and Atmospheric Sciences at Purdue in Fall 1994, and now have a thriving Geomorphology Lab research group involved in two discrete areas of study: Environmental Management and Glacial Geomorphology.

In environmental management we are focusing on assessing and m anaging the impact of development on both the quantity and quality of surface water runoff. I n particular we are working with several of my former colleagues at Kent State University on detailed monitoring of runoff from construction sites, including evaluation of management pract ices designed to reduce off-site pollution. On a larger scale, John Teufert (Ph.D. student) and Budhendra Bhaduri (Ph.D. student) are involved in remote sensing, GIS and watershed modeling to a ssess the impact of management techniques on watershed-wide water quality. In addition we a re working on techniques and products for planners and land managers to use in assessin g probable impacts of land use change on hydrology, and to use in designing management practice s. Finally, Wes Hawthorne (sophomore professorial research assistant) and Martha Herzog (MS student) are involved in an integrated watershed study examining a wide array of geomo rphic and hydrologic problems associated with rapid land use change in a wetland watershed nea r the Purdue campus.

In glacial geomorphology we are working both on field/modeling stu dies of ice flow and landform development, and on using cosmogenic isotope studies to refine g lacial chronologies and to investigate long term rates and patterns of glacial erosion in alpine areas. Luke Copland (MS Student) and Marie Minner (undergraduate) are involved in a field program in Switzerland to collect detailed information on glacier flow and sliding, and are workin g with Andrew Elmore (undergraduate) on numerical modeling of these data to better constrain the forms of glacier flow and sliding laws.

In cosmogenic nuclide studies, Melanie McQuinn (MS student) is co llecting exposure age data for glacial deposits in Indiana to refine the deglaciation history of th e state, and Linda Horn (Ph.D. student) is collecting samples in alpine valleys to assess valley -scale patterns and rates of glacial erosion.

1995 Publications

Harbor, J.M., Development of glacial-valley cross sections under cond itions of spatially variable resistance to erosion. Geomorphology. (In Press).

Harbor, J.M. and Keattch, S.E., An undergraduate laboratory exercise i ntroducing form-development modeling in glacial geomorphology. Journal of Geologic al Education Vol 43(5), p.529-33.

Harbor, J.M., Snyder, J. and Storer, J., Reducing nonpoint source pol lution from construction sites using rapid seeding. Physical Geography Vol 16 (5), p.371-388.

Angelaki, V. and Harbor, J.M., Impacts of flow diversion for small hy droelectric power plants on sediment transport, NW Washington. Physical Geography Vol 16 (5), p.432 -443.

Bhaduri, B.L., Harbor, J.M. and Maurice, P., Chemical trap efficiency of a construction site stormwater retention basin. Physical Geography Vol 16 (5), p.389-401.

Hoy, R.G., Harbor, J.M. and Carlson, E., Origin of the fine-grained se diments in the Ohio Caverns. Northeastern Geology, Vol. 17(1) p.83-88.

McClintock, K.A. and Harbor, J.M., Assessing and Managing the Potentia l Impacts of Development on the Quantity of Sediment Supplied to Adjacent Areas. Phys ical Geography Vol 16 (5), p.359-370.

McClintock, K.A., Harbor, J.M. and Wilson, T.P., Assessing the hydrolo gic impact of land use change in wetland watersheds, a case study from northern Ohio, USA. In: McGregor, D. and Thompson, D. (eds.) Geomorphology and Land Management in a Changing Environment, Wiley, London. pp. 107-119.

Physical Geography at the *University of South Carolina* - Allan James

I am happy to report a young, vigorous, and rapidly growing program in physical geography here in Columbia. Last year we grew to three full-time physical geography professors (two assistant professors and an associate). David Cairns is involved in landscape ecology and is involved in modelling alpine tree-growth processes. Greg Carbone is a climatologist and does research on water budget modelling and the integration of doppler radar data into geographic information systems to aid in flood forecasting. Allan James is a fluvial geomorphologist studying flood hydrology, historical sedimentation, and Quaternary landforms. In addition, we are well represented in environmental studies with Susan Cutter (chair), who is in volved in hazards research, and Bob Janiskee who teaches environmental courses. We are presently interviewing candidates for an additional position in environmental geography to begin in the fall of 1996. In addition to our faculty strengths in physical geography and environmental studies,

USC is internationally known for its research expertise and educational program in geographic information processing (GIP), including GIS, cartography, and remote sensing. Our reputation in GIP is based on research productivity, six full-time GIP faculty, excelle nt computing facilities including three labs in the building and the college lab nearby (directed by Dave Cowen a member of our faculty), and a quality graduate-level educational program in these fields.

We are a large department soon to have 20 faculty and with about 60 graduate students in residence, and are very well endowed with equipment and facilities. A large lab is dedicated to research and teaching of physical geography and has a wide variety of equipment for the analysis of sediment, soils, tree rings, and other earth materials. Equipment includes a large-capacity fume hood, binocular microscope, gravity oven, muffle furnace, hotplate, magnetic stirrer, glassware, soil grinders, seive-shaker, sonic sifter with micro-sieves for precision grain-size analysis, oscillating agitator, hydrometers, pipettes, timer, balances, still, buch nell filters, vacuum pump, centrifuge, dessicators, gas, water, refrigerator, data logger, and 486 PC. The lab also functions as a storage and staging area for field work. Field equipment includes a transit, tripod, surveying rod, plumb-bob, pins, tapes, stakes, rain gages, PVC bottles, pH wand, increment borers, soil augers, slip-spoon probes, brass and plastic sieves, and a Munsell color chart. Two high-precision DGPS units are available within the department in the Geographic Hazards Lab.

We have abundant computer facilities in the department including a Unix-lab with a Sun Server, seven Sun Sparc stations, Numonics Digitizing table, and tape back-ups in various formats. We expect a major up-grade of Unix facilities in the near future. A PC lab in the building has 8 IBM 486s and a Mac lab has 22 Mac IIci's and a Microtek Scanmaker IIxe Color scanner with resolutions up to 1200 dpi. Software available on line includes Arc Info (GIS), ERDAS (remote sensing digital image interpretation), and an array of PC applications. The computer equipment and software are networked and are accessible across t he University.

If you are interested in visiting the department during the Charlotte meetings (we're about a 2 hour drive away), let me know and I'll make arrangements to have someone available to show you around.

From Randy Schaetzl , *Michigan State University*

The Geography Department at Michigan State University is currently undergoing two exciting developments, and has just compoleted a third. First, we are nearing com pletion of our new Geomorphology Laboratory. A converted Cartography darkroom, this newly re furbished lab will house standard lab equipment needed for soil and sedimentological analyse s. Equipment (most newer than 3 years) includes two petrographic microscopes, a binocular mi croscope, image analysis software for one of the petrographic scopes, a Pentium laptop PC for the image ananlysis, a sieve shaker, a 4-decimal a 2-decimal balance, centrifuge, pH and ion-s pecific meter, EC meter, ovens, muffle furnace, dessicators, etc. Field equipment in support of th e new lab includes our John Deere backhoe and a new Honda ATV (both including trailers). Second, the Department is in the middle of a major faculty and equipment initiative involving Digit al Remote Sensing, which will have a strong emphasis on physical systems analysis. We expect to h ire three or more faculty with interests in these areas over the next few years, with a least one h ire at the Associate Professor level or higher. Third and last, we hired Alan Arbogast (PhD Ka nsas) this year. A geomorphologist, he is interested in late-Quaternary landscape evolution and climate change, with a particular focus on desertification and eolian sand mobilization in the continental interior. Although he is continuing to do some research in the Great Plains, Alan i s developing a research agenda in the Great Lakes region by concentrating on the Holocene develop ment and paleoclimatic significance of inland dune fields.

Physical Geography at the *University of Illinois* (i.e. shameless plug by the editor)

The geography department at Illinois now offers a graduate program in Environmental Studies in Physical Geography. Areas of specialization within the program include f luvial geomorphology (Bruce Rhoads), periglacial geomorphology (Colin Thorn), soil geomorpholo gy and geoarcheology (Donald Johnson), physical climatology and aerobiology (Sc ott Isard), biophysical remote sensing (Tom Frank), and ecological/environmental modeling (Bruce Hannon). In each of these areas of specialization faculty members pursue research directed at evaluating interaction between natural processes and human activity. The program is designed to provide students with sets of skills they can use to help achieve solutions to important scient ific problems related to the natural environment. Courses in the program train students in the

multip le dimensions of environmental issues, theoretical aspects of natural processes, field tec hniques, laboratory methods, GIS/remote sensing, and mathematical and statistical modeling. Facilities in the department include: 1) a modern GIS Laboratory maintained in collaboratio n with the Departments of Anthropology, Landscape Architecture, and Urban Planning, and with the U.S. Army Corps of Engineers' Construction Engineering Research Laboratory (CE RL), which is located near campus, 2) an Image Processing Laboratory, 3) a Computer Map ping Laboratory, 4) a Soils/Sedimentology Laboratory, and 5) a full array of modern field equipment for microclimatic and geomorphologic research (I will forgo the itemized lis t of equipment in these facilities; if interested contact me). Other major research facilities a nd laboratories are available at the Illinois Geological Survey, the Illinois Natural History Survey, and the Illinois Water Survey, all of which are located on campus. Faculty in the department have stron g ties with scientists at these surveys and with colleagues in other academic units on campus inclu ding Anthropology, Environmental Engineering, Hydrosystems Engineering, Natural Resources a nd Environmental Sciences, the Institute for Environmental Studies, and the Illinois Water Resources Center. The University of Illinois has the third largest academic library in the United States (behind Harvard and Yale) and also is home to the National Center for Supercomputing Applications (NCSA). For more info see the WWW Pages:

http://ux1.cso.uiuc.edu/~jejd/ htt p://www.uiuc.edu

Jeff Lee (*Texas Tech University*)

I continue to moderate IAG-GEOMORPHLIST and maintain the IAG WWW page. These duties have landed me a position on the IAG Executive Committee.

Recent publications:

Gregory, J. M., Lee, J. A., Wilson, G. R., and Singh, U. B., 1995, Mod eling Seasonal Patterns of Blowing Dust on the Southern High Plains; in, Tchakerian, V. P., ed., Des ert Aeolian Processes, Chapman & Hall, London, p. 233-250.

Williams, S. H. and Lee, J. A., 1995, Aeolian Saltation Transport Rate : An Example of the Effect of Sediment Supply: Journal of Arid Environments, v. 30, p. 153-160.

Lee, J. A., 1995, Book Review: 'Coastal Dunes: form and process': Geomorphology, v. 11, p.347.

Lee, J. A. and Tchakerian, V. T., 1995, Magnitude and Frequency of Blowing Dust on the Southern High Plains of the United States, 1947-1989: Annals of the Assoc iation of American Geographers, v. 85, p. 684-693.

Lee, J. A., 1995, The International System of Units and its Use in Geography and Related Disciplines; Journal of Geography, v. 94, p. 592-598.

The Journal of Geography paper was written as a fairly thorough introduction to SI for students and others. It concludes with my recommendations for how units should be used in geographic research.

Richard Marston, Professor of Geography at the Un iversity of Wyoming , has been appointed as Director of the Foundation for Glacier and Environmental Rese arch (FGER). FGER is a non-profit, tax-exempt corporation organized to provide expeditionary fie ld training and multidisciplinary research in earth system science of arctic and alpine e nvironments. In particular, FGER has served as the organizational structure for the Junea u Icefield Research Program (JIRP) which celebrates its 50th anniversary year in 1996. FGER and JIRP have been directed since their inception by Dr. Maynard M. Miller of the University of Idaho 2E Over 3000 participants have benefitted from JIRP experience which involves a 7-8 week traverse o f the 4000 km2 Juneau Icefield. Each summer, 50-75 talented students and an international team of researchers move between 17 permanent camps and utilize equipment to study glaciology, geo morphology, hydrology, geophysics, meteorology, geology, and field surveying and mapp ing. Over 1000 technical reports, refereed publications, and theses/dissertations have b een produced as a result of this program.

From Dorothy Sack (*Ohio University*)

The History of the Earth Sciences Society (HESS), founded in 1982, is an international society whose membership includes historians of science as well as earth scientists interested in the history of their fields. HESS publishes the refereed journal, E arth Sciences History, twice a year. Recent issues have featured such authors as David Stoddart, Leo L aporte, Ellis Yochelson, and Keith Young, and papers on Darwin, Simpson, Agassiz and Lyell, the Continental Drift debate, the history of Canadian geoscience, and the history of oceanograp hy, to name a few. More information may be obtained by writing HESS Secretary Ron Rainger a t the Dept of History, Texas Tech University, Lubbock TX 79409, or you may become a m ember (i.e., subscribe to the journal) by sending a check made out to HESS to

Dorothy Sack, HESS Treasurer, Dept of Geography, 122 Clippinger Labs, Ohio Univ, Athens OH 45701. Dues are $30 per year ($35 for members outside the U.S.). Institutional subscript ions are also inexpensive, $50/yr within and $55/yr for institutions outside the U.S.

From Stuart McLelland, Leeds University
Postgraduate Research in Geomorphology: Selected Papers from the 17t h BGRG Postgraduate Symposium. Edited by: Stuart J. McLelland, Andrew R. Skellern and Philip R. Porter (106 pp.) This book is a collection of 15 papers from the BGRG Postgraduate Symposi um, held at Leeds University, 17-19 March 1995. The book contains a summary of research bei ng undertaken by postgraduate members of the BGRG and covers a wide range of topics from e nvironmental reconstruction and conservation to monitoring and modelling of flow proce sses and sediment dynamics. Copies of the book can be ordered from the Editors at: School o f Geography, The University of Leeds, Leeds LS2 9JT. At a cost of 5 pounds sterling each (Cheques made payable to 'The University of Leeds').

from Lisa Wells
Beginning in January, 1996, Jay Noller and Lisa Wells will join the faculty of the Department of Geology, Vanderbilt University. These new positions will build a strong emphasis in Geomorphology, Quaternary Geology and Geoarchaeology. We hope to attract high quality Masters students to the programs to work on ongoing projects in: Quatern ary Stratigraphy of the San Francisco Estuary, Geoarchaeology and Human/Landscape Interactions in Peru and Cyprus, Neotectonics of Northern California.

from Brian Whalley, University of Belfast
GLACIAL GEOLOGY and GEOMORPHOLOGY is a fully -refereed electronic journal , published by John Wiley and Sons on behalf of the British geomorphologic al Research Group. It seeks previously unpublished, high quality articles in the general field of glacial processes, sediments and related landforms. Each article will be reviewed by at le ast two referees. Reviewers will be asked to return articles within 4 weeks of receipt and the intention is to speed publication in all ways possible by using electronic media. Articles are published in English. Volume 1 will start in March 1996. For more info contact: Prof. W. Brian Whalley,,School of Geosciences, The Queen's University of Belfast, Belfast, BT7 1NN, UK b.whalley@qub.ac.uk e.journal@qub.ac.uk

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