

# GEOMORPHORUM

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

2011-2012, Issue No. 1

Robert Pavlowsky, Editor

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<http://www.aag-gsg.org/geomorphorum.shtml>

### A MESSAGE FROM THE CHAIR

By Mark Fonstad

I recently was reminiscing about Red's Wolman's major works, and I recalled an article he published in the 1990's that seems to have not garnered much general attention but has meant a lot to me. It is his 1995 ESPL article, "Play: The Handmaiden of Work". It is very unusual geomorphology article, and I here reprint the abstract.

*"The natural habitat of geomorphologists is at play in the fields of the Lord. Picnics, not the work ethic, often motivate the most productive. As in the field, so too in the mind, creative insights derive from the play of ideas. As in much of science today, Earth scientists are called upon to "solve" immediate problems, but problems whose solutions lie at the cutting edge of the research frontier. The impact of anthropogenic activities in the context of natural processes, the playground where many geomorphologists work, requires continuous reciprocal exchange between research and application. Apologies are not needed for choices of orientation, but only for destructive separation."*  
(Wolman, 1995)

I bring up this article because, for me, it came at an extremely important time in my own education: when I was a beginning graduate student. I think the difficulties I was having as a new graduate student were not by any means uncommon, so please forgive my indulgence of describing my state of mind at that time. As an undergraduate, I had learned a lot of different geomorphic theory and many techniques, and I had some amount of field experience. My writing at the time was really

mainly in the form of literature reviews and in solving problems for which there were fairly well-understood methodological solutions. But I still felt very intimidated by research, and the reason was quite straightforward: many of the articles I read started out with or contained bold hypotheses that were either tested or otherwise elucidated in the rest of the work. What I couldn't understand was, where did these hypotheses come from? How could I produce them myself?

It is not enough to tell a young researcher that they should just take up someone else's hypothesis and spend their own time focusing instead on perfecting their methodological abilities. It might yield useful results, but that doesn't yield new insight nor does it help solve the feelings of intellectual inadequacy for those who have a hard time producing hypotheses and insight. Luckily, I was very fortunate at that moment not only to find Red's article, but also to become aware that there was a whole field of research into how scientists and other creative people actually go about coming up with hypotheses and insights. There is a very considerable history of people being astonished at how their insights came about, and there are a lot of commonalities amongst these individual case histories. In geography, both the human geographer Peter Gould ("Expose Yourself to Geographic Research") and Jonathan Phillips ("Methodology, Scale, and Field of Dreams") both wrote skillfully about how they thought they actually went about research, and how real research seemed very different than what went into a research article.

The take home message from these various publications is that what we see in a finished article is not how real research is really done, but rather a logical reconstruction of both events and ideas. This recasting of the research is to make it both clear and rational why the study went from point A to point B and so on. The problem is, these logical reconstructions necessarily leave out the problem of the origin of hypothesis; they read instead that hypothesis comes from either someone else, or is somehow generated by the other rational processes in the study. But this is not usually the case. Revealing the mechanism of the origin of hypothesis in many insightful geomorphic studies reveals a cognitive can of worms, a flurry of irrational pictures and motivations, the importance of geomorphic picnics and personal conversations

with the earth, of playing with seemingly irrelevant geomorphic ideas and images while in the field instead of getting Real Work done. No wonder editors and reviewers would rather authors just 'stick with the facts'. I suspect this manner of article construction and publication isn't going to change anytime soon. But we still need to teach people how to come up with those pesky bold hypotheses...

In Gould's case, he felt that the whole enterprise of the research proposal, done before the actual research, was in many ways a fraud. He said that what he really wanted to do was to go to this new place and poke around a bit until he figured out what the really interesting questions were and then also some new ideas for answering those questions. We need not take such an extreme stance to still recognize the value of time in the field to play with ideas and time at home to play with them as well. There are many ways to encourage such intellectual play; these might include the production of alternative (indeed opposing hypotheses), the pushing of models to their breaking point, the application of existing conceptual models to realms for which they were not originally intended, the glee of being the Devil's Advocate, or perhaps the contemplation of counterfactuals – what would happen if we went back in time and changed this one thing? Would the landscape end up being similar or not?

In their Journal of Geoscience Education article "Lessons on the Role of Fun/Playfulness from a Geology Undergraduate Summer Research Program", Jarrett and Burnley showed that undergraduate students do better in introductory research when a portion of their time is spent in playful modes of inquiry. Another geologist, Leon Borgman, has documented the scientific literature for methods and motivations of scientists as they grapple with the origin of hypothesis ("The Zen of Research", Journal of Geoscience Education), and he suggests a general framework for focusing all the capabilities of the brain on a research problem: (1) intense analytic and logical preparation, (2) frustration and incubation within the subconscious and preconscious, (3) emergence of insights, (4) logical reconstruction and verification of the discovered relations, and (5) a return to step 1. A very recent publication about creative insight in general gives almost exactly the same sequence of mental processes (Tony Schwartz's "How to Think

Creatively”, The Atlantic, Nov. 10, 2011). It is not enough just to play with ideas. That is likely to be a waste of time without the intense analytic and logical preparation of filling the mind with existing theories, previous research, helpful analogies, related problems, and so on. But it is just as dangerous to try to attempt research without the knowledge of how to playfully produce hypotheses when required.

I now delight when I have reached a stage in a research project where I both have prepared for specific problems as much as possible, with all the literature and methods I could, and also have reached a place of considerable frustration where I don’t know how to remedy the problem through previously understood means. And I have an intense desire and compulsion to solve the problem. It is a scary time, yes, but I know that it is usually required to bring about solutions. I have both my own experience and the weight of scientific research on how insights are generated, and they basically agree on the next course of action – play with ideas boldly, and occasionally irrationally. It should be thoughtful play, intellectual play, play that forces the mind to wander through analogies and past experiences and crazy hunches and irrational mental images of the problem. For me, it has become clear that my own insights nearly always come in the form of visual analogies between seemingly unrelated problems, some solved, some unsolved. But there are many forms of insight. It is a part of graduate education to become comfortable in learning your own ways. For those of us who are practicing researchers and know we can’t publish articles containing exactly how we actually came up with our insights, then at least we can tell these experiences in talks, in classes, in private discussions with students searching for ways to improve.

What Reds was saying in his article was that, in the long run, being a skilled and hard worker is not enough in order to reveal new advances in geomorphology. Just as important is the elucidation of new insights and hypotheses. To obtain these requires considerable mental preparation, but it also requires irrational, “right brain” processes of the mind and a seemingly endless supply of interest from those that are endeavoring for insight. To grease the wheels of both the insightful mind and the long-term inquisitiveness, Reds suggests the

serious cultivation of a geomorphic culture of play. Geomorphology can be extremely exciting and fun!

I once again wish to thank the other officers of the GSG and the many others who have helped in organizing our activities this year. I look forward to seeing many of you at the AAG meeting in New York or in other venues.

Cheers,  
Mark

## **BUSINESS MEETING MINUTES**

### **2011 GSG BUSINESS MEETING MINUTES Seattle, April 13, 2011**

**Submitted by Scott Lecce**

Mark Fonstad called the meeting to order at 7:30 pm.

#### I. General Announcements

From the Specialty Group Chairs Meeting  
More than 7300 registered for this year’s meeting. Next year, the annual meeting will be in New York in late February. The GSG has a total of 411 members, 192 students and 219 non students. Other news at the meeting: the AAG has a new networking system and has issued a statement of support for Bill Cronon.

Taylor-Francis/Routledge Distinguished Lecture on Geomorphology and Society  
All were encouraged to attend this year’s lecture by David Montgomery from the University of Washington on Friday. The title of the lecture is “Dirt and the King of Fish.”

#### Physical Geography Reception

Although the GSG promised funds to help support the reception, we were apparently in the minority so this year’s gathering was cancelled. As an alternative, GSG members were invited to gather at Pike’s Brewing Company immediately following the business meeting.

#### II. Specialty Group Reports

#### Approval of the Minutes

A motion to approve the minutes of the 2010 meeting as published in *Geomorphorum* was made, seconded, and passed by acclamation.

Treasurer’s Report

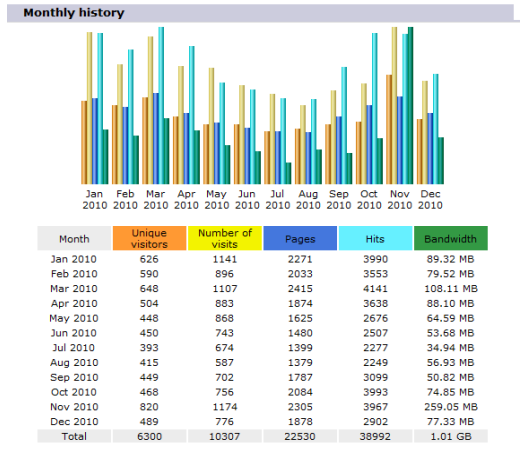
Since last year’s meeting we have collected \$1,623 in income from dues, and received \$750 in miscellaneous contributions, for a total receipt of \$2,373. Expenditures were \$603.32 for student awards, \$250 to support the AAG Physical Geography Reception, and \$215 for the T-F/R Lecture speaker registration costs. No funds were allocated for support of the GSG web site. The total for disbursements was \$1,068.32. The resulting balance at the time of the meeting, including carryover from the previous year of \$1,979.42, was \$3,284.10.

Interest earnings from the Mel Marcus Fund were estimated by the AAG to be approximately \$756.76, compared with the \$800 accrued during the previous year. The addition of this interest would bring the current total balance to \$4,040.86. Several expenditures and disbursements are pending at the time of the meeting: (1) \$1,082.45 for the 2010 & 2011 payment to the IAG, (2) \$125 from Wiley for *Geomorphorum* advertisement, and (3) \$125 from Elsevier for *Geomorphorum* advertisement. Adding in these items would bring our balance to \$2,708.41.

GSG Website Report

We have been collecting statistics on the GSG website since August of 2006. Overall, visitation has not changed significantly in the last couple of years. Not surprisingly, IP addresses of origin indicate that the site is mostly accessed from academic locations within the US. As in years past, visitation spikes on days when *Geomorphorum* is published.

However, there remains significant visitation from locations outside the US and those unaffiliated with colleges or universities. As configured, there is no content directly aimed at the general public who may run across our site during searches.



While we do not have the resources to develop and maintain a website with a large degree of dedicated content that would serve as public outreach, I think it would be wise for us to generate some modest amount of content that can serve to represent the face of Geomorphology to the general public. In a small way, we could be providing some outreach to those members of the public stumbling across the GSG website. I would like to propose that the Chair of the Specialty Group in consultation with the Advisory Board request volunteers or appoint a few members to serve on a panel to develop recommendations and ideas for how we can best present a public face for the science of geomorphology. I do not believe that we need to re-develop the site or turn it into something it is not but rather provide something for those outside the realm of professional geomorphology that explains what it is we do and why it is a critically important environmental science. Michael Urban

III. Old Business

Award Competition Participation Numbers

In response to various concerns expressed regarding the organization of special sessions consisting solely of student award competitors, this year the students gave their papers in regular GSG special sessions. It was noted that the number of student award participants has increased this year.

#### IV. New Business

##### Gilbert Award Solicitation Language

The Awards Committee proposed that we modify language used in the solicitation for the Gilbert Award so that the possibility of nominations for multiple works would be eliminated. The motion to accept this proposal was approved, with the new language as follows:

*The Grove Karl Gilbert Award is presented to the author(s) of a significant contribution to the published research literature in geomorphology during the past three years. Only a single book, refereed journal article, or monograph will be considered with an emphasis on refereed research articles.*

*Nominations for the Grove Karl Gilbert Award remain active for two years. The nomination package should include:*

*A copy of the relevant publication  
A statement as to why the publication deserves the award, and  
(Optional) supporting letters from colleagues*

#### V. Announcements

##### Journals

Don Friend encouraged submissions to the *Journal of Mountain Science* by promising quick turn-around times.

Dick Marston reported that *Geomorphology* is now publishing 4000 pages per year, with 800,000 downloads in the last 2 months.

The impact factor continues to increase (2.119 currently) and the editors continue to encourage proposals for special issues. Next year will be the journal's 25<sup>th</sup> year.

Jack Schroder encouraged book proposals to *Elsevier*.

Jon Harbor encouraged the submission of review articles to *Earth Science Reviews*, and noted that the journal has a higher impact factor than *Geomorphology*.

Mark Fonstad reported that the *Annals* now automatically posts articles to the web site at the proof stage. He also noted that the GSG has fewer submissions than other environmental scientists.

##### Conferences

Carol Sawyer announced that the 42nd Annual Binghamton Geomorphology Symposium would be held at the University of South Alabama in Mobile, Alabama on October 21 - 23, 2011. The topic is Zoogeomorphology and Ecosystem Engineering. Details can be accessed at <http://www.southalabama.edu/geography/sawyer/2011Bing.html>.

##### Other

Mark Fonstad noted the recent passing of Stan Schumm.

#### VI. Appointments

Awards Committee. Don Friend of Minnesota State University, Mankato was appointed as the new member of the committee.

Secretary-Treasurer. Bob Pavlowsky of Missouri State University was nominated as the next Secretary-Treasurer of the GSG. The nomination was seconded and approved unanimously.

#### VII. Awards

##### Melvin G. Marcus Distinguished Career Award

**Michael A. Church**, Professor Emeritus, University of British Columbia.

##### Grove Carl Gilbert Award for Excellence in Geomorphological Research

**Joshua J. Roering**, Jill Marshall, Adam M. Booth, Michele Mort, Qusheng Jin, University of Oregon, (2010), Evidence for biotic controls on topography and soil production. *Earth and Planetary Science Letters* 298: 183-190.

##### Reds Wolman Student Research Award (PhD Level)

**Katie H. Costigan**, Kansas State University. *Critical Corridors in the Fluvial Ecosystem*

*Landscape; Hydraulic, Geomorphologic and Thermal Habitat Dynamics at Confluences.*

Reds Wolman Student Research Award (Masters Level)

**Andrew DeWitt**, Missouri State University. *Downstream Changes in Channel Morphology and Stream Power in an Ozarks Watershed, Southwest Missouri.*

Graduate Student Paper Award (PhD Level)

**Subhajt Ghoshal**, University of South Carolina. *Floodplain and Channel Change Analysis Using DEM Differencing: Lower Yuba River, California.*

Graduate Student Paper Award (Masters Level)

**Ping Fu**, Purdue University. *Reconstructing the Quaternary Glaciations of the Shaluli Shan, SE Tibetan Plateau.*

**AAG Geomorphology Specialty Group  
2011 Grove Carl Gilbert Award for Excellence  
in Geomorphological Research  
Award citation by Jon Harbor**

I am writing to nominate **Josh Roering** for the G.K. Gilbert Award for his publication “Evidence for biotic controls on topography and soil production,” published in *Earth and Planetary Science Letters* 298:183-190. This paper continues a long line of stellar publications by Roering (and his students and colleagues) in their studies of hillslope processes. However, what distinguishes this piece is his weaving together biotic and physical processes and his weaving together disparate methodologies.

Roering et al. go after one of the holy grails of geomorphology: what are the actual mechanisms that convert bedrock to soil? To attack this problem, they fully incorporate empirical and modeling work that explicitly considers the role of biology, and in so doing show that there is a first order control of biology on the soil-bedrock interface. But Roering et al. go much farther than this by documenting the variety of mechanisms by which biotic processes influence bedrock weathering, and they do this in a very nuanced way, working carefully through the problem, the processes, and the potential landscape

implications. Moreover, they use an enormous range of data and novel methods for the problem: field-based tromping through the woods and digging holes – of which Gilbert would certainly have approved – as well as airborne lidar and ground penetrating radar – over which Gilbert would likely have salivated.

Their conceptualization and analysis of the problem is concise and clear, using the geomorphologist’s most useful abilities of broad description coupled with process-based quantification, all distilled into a powerful 8 pages. The paper will also be one to set the stage for the future, as it presents enormous opportunities for more focused interaction between botanists/foresters and geomorphologists, as well as enough speculation to provide enormous fodder for graduate students to criticize in reading groups and possibly correct in dissertations in the coming years.

In most ways, Roering et al. are continuing the legacy of Gilbert in their taking basic landscape forms, breaking them down to the most basic elements of first principles, conceptualizing physical processes clearly, and applying simple mathematical treatment of the processes to describe what they see, and explain the processes behind what they cannot.

**Acceptance by Josh Roering**

To have one’s name associated with that of G.K. Gilbert is a great honor for a geomorphologist and I have tremendous gratitude for Martin Doyle and his efforts in recognizing our work. It’s particularly special for me to receive this award at the AAG Annual Meeting because geography departments are the roots of my academic ancestors and because I recall with great pleasure photocopying and devouring endless papers and chapters from AAG journals and edited volumes during my days as a graduate student in Berkeley. The fact that geomorphology exists today in both geology and geography departments only makes our field richer and I encourage students to take advantage of alternative views and approaches for scientific problems new and old. The work that my co-authors and I have been recognized for constitutes a contribution at the exciting intersection of

geomorphology and biology. The interplay between life and landscapes is a highly provocative topic and I have been fortunate to benefit from volumes on the matter by David Butler, Geoff Humphreys, and Randy Schaetzl among others.

In essence, our work makes the case that charismatic coniferous trees of the Pacific Northwest serve as the primary mechanism by which bedrock is mechanically converted to soil over geomorphic timescales. Our conclusions are by no means definitive, but instead provide a conceptual framework for characterizing and quantifying this process and its signature using remote sensing, shallow geophysics, and ridiculously low-tech techniques. Although specific to our “backyard” landscape, the approach we take can also be applied to assess biotic/geomorphic interactions in diverse settings. While largely empirical, our results nicely complement emerging numerical models being proposed by Manny Gabet and Simon Mudd, who have inserted biotic processes into landscape evolution models with much success. This paper was inspired by my participation in a workshop for Earth surface scientists interested in the problems at the geomorphology/biology interface and I feel fortunate to be part of such a dynamic and motivated group. Lastly, I wish to thank my graduate students, two of which, Jill Marshall and Adam Booth, were instrumental in making this paper come together.

**AAG Geomorphology Specialty Group  
2011 Melvin G. Marcus Distinguished Career Award**

**Nomination by Frank Magilligan and Judy  
Haschenburger  
Award citation by Judy Haschenburger**

It is a pleasure to stand before you as one participant in the nomination effort. With his good judgment, Frank Magilligan initiated the nomination, which I was very happy to help with when asked. I would also like to acknowledge the distinguished list of colleagues and former students who wrote letters of support, and I draw heavily upon their comments in my remarks. There are few physical geographers whose work has made as important scientific contributions as that of **Mike Church**, who is a well-respected scholar on an international scale. His research

output is as broad as it is deep, addressing a diverse array of topics from across physical geography and Quaternary Science in over 150 papers that appear in *Science*, *Nature*, and top specialty journals. His command of a wide range of literature and his ability to write groundbreaking articles about anything from river turbulence to landscape history is truly impressive. There seems to be no boundary to what problems are tackled and to what ideas are generated. He asks the right questions at the right scale. It would be very difficult indeed to find anyone else today who is more versatile in moving from the microscale to the macroscale and back again. He has also played an outstanding role in fostering rigor in both methodology and argument. The well-honed arguments found in his papers are built from field data, experimental studies, and analytical theory in a way that few have achieved. This combination of approaches, which now seems taken for granted, was, in part, pioneered by him. Mike has been an outstanding teacher and mentor, not only for the un-numerated undergraduate students and about 50 graduate students he has directly supervised but also for other graduate students, postdoctoral researchers, and colleagues of the same and younger generations who have come across his path. His patience in passing on knowledge and skills, willingness to offer rigorous critique, and ability to inspire very high standards by simple proximity are complemented by generosity with his time to edit and review, offer advice, and generally pitch in. The large number of professional geoscientists, academics, and resource managers who he has trained now hold important positions in universities, government agencies, and private companies. Mike has been selfless and dedicated in the service rendered to colleagues, students, and the discipline, playing a major role in the conduct of our science. His thoughtful and thorough reviews of manuscripts not uncommonly reveal greater insight than recognized by the originating authors, and his astute editorial commentary and decisions have brought valuable science into publishable form because he is always focused on the bigger enterprise of understanding rivers and landscapes more generally. Serving multiple terms as the chair of a national panel charged with allocating research funds, he has helped to

facilitate the best possible science. More broadly, he has willingly and successfully taken on the challenge of explaining aspects of fluvial geomorphology to other audiences, particularly ecologists and river managers, and through this has been a great ambassador for our discipline. Mike has also been an unassuming servant of society, which is evident in the application of his scientific skills and energies to problems that ultimately matter culturally, economically, and socially. This is driven by a passion to help communities make sensible, informed decisions about land and river management issues. He has used his talents wisely and courageously, getting involved in complex and often contentious public processes and issues that many scientists would go out of their way to avoid. As a result, he has had a pervasive and positive effect on policies for watershed management. In summary, the career of Mike Church is the definition of “distinguished” in all senses of the word: ground-breaking researcher, esteemed educator, prolific writer and editor, and broad-minded and engaged citizen. Having had the opportunity to interact with Mel Marcus when I was a graduate student at Arizona State University, I can't help but think that Mel would have been especially pleased with this year's recipient whose distinguished career began and continues to explore a landscape so influenced by ice. It is an honor to declare Mike Church, Professor emeritus, the University of British Columbia, as this year's recipient of the Melvin G. Marcus Distinguished Career Award.

### **Acceptance by Michael Church**

First, I must thank my citationist, Judy Haschenburger, for her overly generous citation – I hardly recognised myself. Next I wish to express my great appreciation to the AAG Geomorphology Specialty Group for electing to present me with the Award. There are two things I wish to say about that. First, it is especially important to me because it is an award from within my own scientific community of geomorphologists: recognition by one's immediate peers is always most valued and appreciated. But, in a second sense, I am not quite part of the community. I am a Canadian. That fact, juxtaposed on the award, emphasizes one of the most important and attractive features of American science: its inclusiveness – its readiness to accept

that everyone belongs to the community. This is the proper spirit of science, and American science best exemplifies it.

There is a historical note hidden in this award that I am sure none of you recognise. The second recipient of the Award (1990 – J. Ross Mackay) was my graduate studies supervisor, while the 2000 recipient (Jack D. Ives) gave me my first geographical job in 1962; that led to Baffin Island sandurs, which launched my career. So this award, in a way, closes a curious circle (not quite on the decennial schedule).

This is a career award. So news of it prompted me to think back over my career. What I've achieved has mostly been the achievement of a remarkable run of outstanding students – including my citationist -- who have chosen to work with me. Ideas and results mostly have developed out of the awkward questions they have asked. Most of my published work has been written with those students. So this really is an award to an entire group of scholars, not to me.

The other matter that stands out when I think back is how geomorphology has changed. I entered the field just at the time when the field was turning from peneplains to process. We measured water flows with Price meters and we measured hillslopes with spirit levels. Today we measure water flows with ADCP's and we infer hillslopes from LiDAR plots. I have spent most of my career counselling students how to write a thesis with regrettably few data; today I counsel them on how to find a thesis amidst far too many data. The revolutions in technique we have seen within the span of my career make today the most exciting time ever to be a geomorphologist. Geomorphology is today more fun than ever so I hope that all of us will enjoy doing geomorphology for a long time to come.

Thank you.

## **UPCOMING CONFERENCES**

### **2012 AAG MEETING**

The 2012 Annual Meeting of the Association of American Geographers (AAG) will be held in



New York City on February 24-28. The venue will be at the Hilton New York and the Sheraton New York Hotel & Towers in Manhattan. The meeting will run from Friday to Tuesday this year, for more information visit <http://www.aag.org/annualmeeting>.

### **Graduate Student Paper Competition**

The AAG-GSG has moved the student paper presentation competition to be part of the normal AAG session rather than as being part of student-only sessions. This is intended to allow students to be part of sessions based on their research rather than the fact that they are students.

### **BINGHAMTON GEOMORPHOLOGY SYMPOSIA**

**OCTOBER 2011-2013**

#### **2011 - Zoogeomorphology and Ecosystem Engineering**

October 21-23 - University of South Alabama - Mobile, AL

**Hosted By:** Dr. David Butler, Geography, Texas State University-San Marcos, and Dr. Carol Sawyer, Earth Sciences, University of South Alabama.

For further information, contact David Butler at [db25@txstate.edu](mailto:db25@txstate.edu)

#### **2012 - Isotopes in Geomorphology**

October, to be determined- Binghamton University, Binghamton, NY

**Hosted By:** Dr. Paul Bierman, Geology and Natural Resources, University of Vermont; Dr. Arjun Heimsath, Earth Exploration, Arizona State University; Dr. Peter Knuepfer, Geology, Binghamton University (SUNY); and

Dr. Kyle Nichols, Geology, Skidmore College.  
For further information, contact Pete Knuepfer at [knuepfr@binghamton.edu](mailto:knuepfr@binghamton.edu)

#### **2013 - Coastal Geomorphology and Restoration**

October 18-20 - New Jersey Institute of Technology, Newark, NJ

**Hosted By:** Dr. Karl Nordstrom, Institute of Marine and Coastal Science, Rutgers University; Russell Feagin, Department of Ecosystem Science and Management, Texas A&M University; Dr. William Smith Department of Biology, Wake Forest University; Dr. Nancy Jackson, Department of Chemistry and Environmental Science, New Jersey Institute of Technology.

### **6th AUSTRALIAN STREAM MANAGEMENT CONFERENCE** **'MANAGING FOR EXTREMES'**

**CANBERRA, ACT**  
**FEBRUARY 6-8, 2012**

The River Basin Management Society, in association with the Catchments Australia Foundation, will be hosting the 6th Australian Stream Management Conference (6ASM) in Canberra over 3 days from the 6th to 8th February 2012.

Over the past 10 years most of Australia has experienced either severe drought or devastating floods. Much of Australia has experienced both. Is this a sign of the future? 6ASM will explore the theme of 'managing for extremes'. Does successful management of stream systems lie in managing for the extremes? What are these extremes, and how do we predict and plan for them? What are the implications for ecological communities and monitoring and evaluation programs? How do we engage with communities and elected leaders to discuss these issues?

Information on the event, and calls for abstracts, will be made in April 2011. In the meantime block out the dates in your diary.

### **GEOLOGICAL SOCIETY OF AMERICA** **ANNUAL MEETING 2012**

**CHARLOTTE, NC**  
**NOVEMBER 4-7**

The Geological Society of America annual meeting 2012 will be held in Charlotte NC on November 4-7, 2012. Please consider leading a physical geography-related theme session or field trip. Online applications will be available starting in early October and are due December 1. [WWW.Geosociety.org](http://WWW.Geosociety.org).

### **OTHER ANNOUNCEMENTS**

#### **Image archives for Geomorphologists available at the University of Vermont**

We have built (and are continuing to grow) two image archives at the University of Vermont that might be of interest to a wide variety of geographers.

The first archive, the Landscape Change Program, has been on-going for more than a decade. This searchable archive of over 40,000 images shows the state of Vermont as it was and as it is. The archive includes over

150 years of images showing Vermont landscapes at the peak of forest clearance in the late 1800s, the coming of the automobile, and the construction of the Interstate Highway network. There are images of many physical geographic processes including floods, landslides, and erosion. The URL is <http://uvm.edu/landscape>

The second archive holds several thousand images useful for teaching Physical Geography and Geomorphology. These images have been gathered from many different active scientists and open-source archives and are described and cataloged by subject making them easily searchable. If you have images useful for teaching please consider sharing them with the broader geomorphology community by uploading them to the archive. The URL is <http://uvm.edu/geomorph/gallery>

For more information about either archive contact Professor Paul Bierman, University of Vermont, Department of Geology and School of Natural Resources, [pbierman@uvm.edu](mailto:pbierman@uvm.edu)

### Contribute to GeomorphLectures Wiki

Please contribute powerpoint presentations, images, movies, or links to such material to the GeomorphLectures Wiki. This online resource allows you to make new pages, upload your materials, and edit existing pages as you see fit. The goal is to share useful aids for teaching Geomorphology and related disciplines. My hope is that those with established courses will use this as an opportunity to share with their successful materials with those of us new to teaching. All content posted is available to the public for download to be used for educational purposes only.

To begin to contribute, please go to <http://geomorphlectures.caltech.edu/> and click on “log in”

As a new user, you need to “Create an account.” Next click on “My Page” and follow the instructions. You will need to send an email to [geomorphlectures@gps.caltech.edu](mailto:geomorphlectures@gps.caltech.edu) to request that your account be given full access to post and edit material.

Please contribute to make this Wiki a success!

Questions? Contact Michael P. Lamb, Geological and Planetary Sciences, California Institute of Technology at [mpl@gps.caltech.edu](mailto:mpl@gps.caltech.edu)

## Ozarks Environmental and Water Resources Institute at Missouri State University



The Ozarks Environmental and Water Resources Institute (OEWRi) is located at Missouri State University (MSU) in Springfield. The institute was chartered in 2004 to provide research expertise and technical assistance for projects in water resource quantity, quality, and distribution. It is directed by Robert T. Pavlowsky in the Department of Geography, Geology, and Planning. It works in partnership with university researchers, environmental groups, and governmental agencies.

OEWRi's mission covers all river system components within a watershed and includes the geomorphologic subfields of fluvial and soil geomorphology, watershed hydrology, and environmental geochemistry. It also provides a variety of field, GIS/RS, and laboratory services. OEWRi supports several research assistantships for MS students each year through the MS program in Geospatial Sciences at MSU.

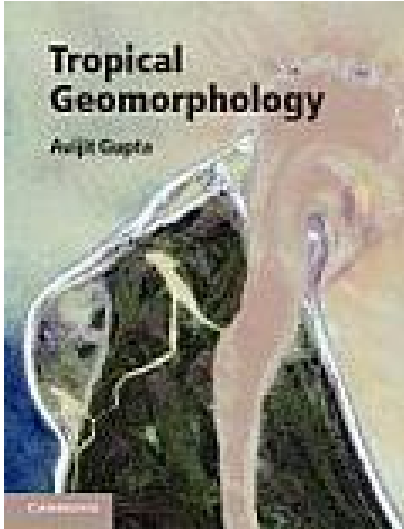
Recent MS theses completed by OEWRi graduate students in Geospatial Science:

- 1) Womble, P.J. (2009), Historical mining contamination and floodplain evolution along lower Pearson Creek, southwest Missouri.
- 2) Dryer, W.P. (2010), Catastrophic valley entrenchment and debris fan formation in the Bluefields River, Westmoreland, Jamaica.
- 3) Ebert, J.E. (2010), Integrated watershed management in Bluefields Bay, Jamaica.
- 4) Hutchison, E.C.D. (2010), Mass transport of Suspended Sediment, Dissolved Solids, Nutrients, and Anions in the James River, SW Missouri.
- 5) Young, B.M. (2011), Historical channel change and mining-contaminated sediment remobilization in the Lower Big River, eastern Missouri.

OEWRi has worked on projects in Missouri, Kansas, Arkansas, North Carolina, and Jamaica. For more information about OEWRi and its projects see <http://oewri.missouristate.edu/> or contact the director at [bobpavlowsky@missouristate.edu](mailto:bobpavlowsky@missouristate.edu).

## New Books

**Gupta, A. (2011) *Tropical Geomorphology*, Cambridge University Press, Cambridge, 386p.**



Although similar geomorphic processes take place in other regions, in the tropics these processes operate at different rates and with varying intensities. Tropical geomorphology therefore provides many new insights regarding geomorphic processes. This textbook describes both the humid and the arid tropics. It is an introduction to a very large part of the world's surface with rich and varied landforms. No single template can exist for tropical geomorphology given the wide variations in regional geology, climate, and land cover. The tropical oceanic coverage is huge and it influences the world's climate. It is surprising that, in spite of a recent spurt in case studies, our knowledge regarding the geomorphology of the tropics remains limited and that case studies from the tropics have hardly been used for generalisations and theory construction. This lacuna is fascinating, especially as all world maps on sedimentation rates indicate that huge amounts of sediment are pouring into the ocean from certain parts of the tropics, as a result of events happening inland. The book discusses thoroughly up-to-date concepts in geomorphology with relevant case studies from the tropics, and emphasises the importance of geomorphology in the management and sustainable development of the tropical environment, including climate change scenarios. The text is supported by a large number of illustrations including satellite images. Student exercises accompany each chapter.

The book highlights three areas:

- Geology, landforms and geomorphic processes in the humid and arid tropics
- Source-to-sink passage of water and sediment from the mountains to the sea

- Anthropogenic alteration of natural geomorphic rates and processes, including climate change.

*Tropical Geomorphology* is a textbook for any course on tropical geomorphology or the tropical environment, and is also invaluable as a reference text for researchers and environmental managers in the tropics.

Avijit Gupta is a Honorary Principal Fellow at the School of Earth and Environmental Sciences, University of Wollongong, Australia and a Senior Visiting Scientist at the Centre for Remote Imaging, Sensing and Processing, National University of Singapore.

## Recent Articles

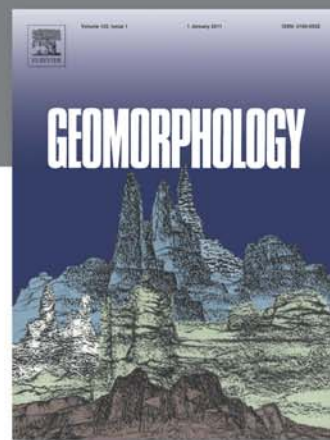
Güneralp, İ., and B. L. Rhoads (2011), Influence of floodplain erosional heterogeneity on planform complexity of meandering rivers, *Geophysical Research Letters*, 38, L14401, doi:10.1029/2011GL048134.

Owen, M.R., and R.T. Pavlowsky (2011), Base flow hydrology and water quality of an Ozarks spring and associated recharge area, southern Missouri, USA. *Environmental Earth Science* 64:169-183.

Pavlowsky, R.T., S.A. Lecce, G. Bassett, and D.J. Martin (2010), Legacy Hg-Cu contamination of active stream sediments in the Gold Hill Mining District, North Carolina, *Southeastern Geographer*, 50(4):503-522.

Special volume 32(5) of the journal *Physical Geography* (2011) on the physical geography of medium-sized rivers in Southeastern and South-central USA includes the following contributions:

- 1) "Introduction" by volume editors J. Mossa and F.T. Heitmüller;
- 2) "Contrasting geomorphic impacts of Pre- and post-Columbian land-use changes in Anglo America" by L.A. James;
- 3) "Historical disturbance and contemporary floodplain development along an Ozark River, Southwest Missouri" by M.R. Owen, R.T. Pavlowsky, and P.J. Womble;
- 4) Spatial patterns of channel instability along an Ozark River, Southwest Missouri" by D.J. Martin and R.T. Pavlowsky; and
- 5) "Metal contamination from gold mining in the Cid District, North Carolina" by S.A. Lecce, R.T. Pavlowsky, G.S. Bassett, and D.J. Martin.



## Geomorphology

**Geomorphology** publishes peer-reviewed works across the full spectrum of the discipline from fundamental theory and science to applied research of relevance to sustainable management of the environment. Our journal's scope includes geomorphic themes of: tectonics and regional structure; glacial processes and landforms; fluvial sequences, Quaternary environmental change and dating; fluvial processes and landforms; mass movement, slopes and periglacial processes; hillslopes and soil erosion; weathering, karst and soils; aeolian processes and landforms, coastal dunes and arid environments; coastal and marine processes, estuaries and lakes; modelling, theoretical and quantitative geomorphology; DEM, GIS and remote sensing methods and applications; hazards, applied and planetary geomorphology; and volcanics.

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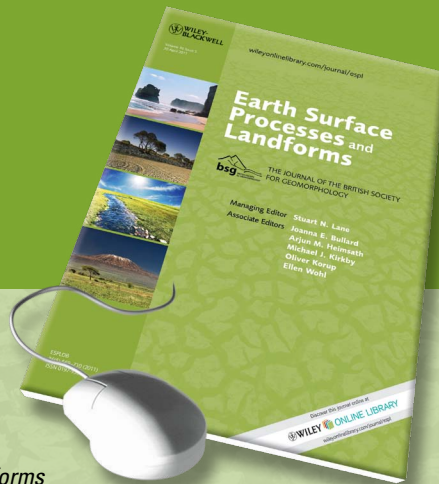


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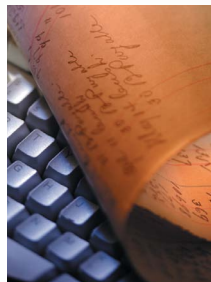
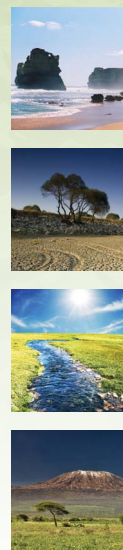
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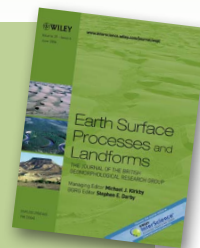
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