



THE GEOLOGICAL SOCIETY  
OF AMERICA

# Quaternary Geologist & Geomorphologist

Newsletter of the Quaternary Geology and Geomorphology Division  
<http://rock.geosociety.org/qgg>

Fall 2004

Vol. 45, No. 2



Mount St. Helens, Washington, crater eruption.

USGS photograph taken at 12:13:01 PDT on October 1, 2004, by John Pallister.

[MSH04\\_crater\\_eruption\\_image\\_1213PDT\\_10-01-04.jpg](http://vulcan.wr.usgs.gov/Volcanoes/MSH/Images/MSH04/MSH04_crater_eruption_image_1213PDT_10-01-04.jpg)

<http://vulcan.wr.usgs.gov/Volcanoes/MSH/Images/MSH04/>

## Message from the Outgoing Chair

Greetings to all Division Members:

As you will see in this Fall 2004 newsletter, the upcoming Annual Meeting in Denver has an exciting series of oral and poster sessions on various aspects of Quaternary geology and geomorphology. The QG&G Division is sponsoring 14 topical sessions, 8 regular sessions, and 1 Pardee session. Among the highlights of these sessions are special talks being given by Derek Ford, William White, Edward Keller, and A.K. Singhvi, some of this year's recipients for Division awards. Of course, the Division Awards Ceremony and Reception on Tuesday evening is always a highlight of the Annual Meeting. Please participate in as many Division-related activities as you can, and enjoy the meeting.

We hope to see you in Denver!

Ellen Wohl  
Chair, QG&G Division

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### QG&G Division Awards – 2004

The following awards will be given by the QG&G Division of GSA at the Annual Meeting in Denver.

#### Kirk Bryan Award

The Kirk Bryan Award for Research Excellence was established in 1951. The award is given for a publication (within the past 5 years) of distinction advancing the science of geomorphology or Quaternary geology, or a related field. The 2004 award will be presented to **Stephen C. Porter**, University of Washington, for his 2001 paper: *Snowline depression in the tropics during the Last Glaciation*, *Quaternary Science Reviews*, v. 20, p. 1067-1091. *Darrell Kaufman* (Citationist—Alan Gillespie will give the citation during the Annual Meeting because Darrell is unable to attend).

#### Distinguished Career Award

The Distinguished Career Award, established in 1985, is presented to Quaternary geologists and

geomorphologists who have demonstrated excellence in their contributions to science. The 2004 award will be presented jointly to **Derek C. Ford** (McMaster University) and **William B. White** (Penn State), *Russell Harmon* (Citationist).

#### Donald J. Easterbrook Distinguished Scientist Award

The Easterbrook Distinguished Scientist Award, established in 1999, is presented to an individual who has shown unusual excellence in published research, as demonstrated by a single paper of exceptional merit or a series of papers that have substantially increased knowledge in Quaternary geology or geomorphology. The Easterbrook Award for 2004 will be presented to **Edward Keller**, (University of California at Santa Barbara), *Joan Florsheim* (Citationist).

#### Farouk El-Baz Award for Desert Research

The Farouk El-Baz Research Award, established in 1999, is given annually for outstanding work in the field of warm desert research by earth scientists; it is intended to encourage and reward arid-land studies. The 2004 award will be presented to **Ashok K. Singhvi**, (Physical Research Laboratory, Ahmedabad, India), *Nick Lancaster* (Citationist).

#### Gladys W. Cole Memorial Research Award

The Gladys W. Cole Memorial Research Award is restricted to investigation of the geomorphology of semiarid and arid terrains in the United States and Mexico. It is given each year to a GSA Member or Fellow between 30 and 65 years of age who has published one or more significant papers in geomorphology. The Fund was established in 1980 by Dr. W. Storrs Cole in memory of his wife. The first award was presented in 1982. The 2004 award is awarded to **J. Elmo Rawling, III**, University of Wisconsin at Platteville, for his research proposal entitled, *Quaternary Development of the South Dakota White River Badlands*.

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## STUDENT RESEARCH AWARDS

### — Arthur D. Howard Research Award —

The Arthur D. Howard Research Award, established in 1992, provides support for Master's student research in Quaternary geology or geomorphology.

The 2004 Howard Award for M.S. research (\$2500, plaque) goes to **Nira L. Salant**, Dartmouth College, (Frank Magilligan, Advisor), *Sediment storage and sedimentation in flow-regulated streams and the impact on aquatic ecosystems (VT)*.

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### — J. Hoover Mackin Award —

The J. Hoover Mackin Research Award, established in 1974, provides support for Ph.D. student research in Quaternary geology or geomorphology.

The 2004 Mackin Award for Ph.D. research (\$2500, plaque) goes to **Anders Carlson**, Oregon State University, (Peter Clark, Advisor), *A Holocene Chronology of the Laurentide Ice Sheet, North America*.

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## QG&G Highlights of Upcoming GSA Annual Meeting in Denver

- GSA Welcoming party – Sunday 5:30-7:30pm
- QG&G Management Business Meeting, Hyatt – Far East Room, Sunday, 7-9pm
- QG&G Division Awards Ceremony and Reception, Hyatt – Grand Ballroom, Tuesday, 7-10:30pm

### **Award Lectures:**

- Edward Keller (Easterbrook Award) - Pool formation in steep-mountain streams: The role of large boulder roughness elements. (*Geomorphology I*, Sunday, 9:30am)
- Derek Ford (Distinguished Career Award) - Perspectives from the Canadian underground (*Quaternary I*, Sunday, 1:30pm)
- William White (Distinguished Career Award) - The Appalachians and south-central Kentucky:

Testbeds for new concepts in karst geomorphology (*Quaternary I*, Sunday, 2:00pm)

- A.K. Singhvi (Farouk El-Baz Award) - Luminescence dating and the paleoclimates of deserts (*Quaternary II*, Monday, 1:30pm)

### **Quaternary Geology and Geomorphology Division-sponsored sessions:**

#### **Sunday 8am-12pm**

##### *Geomorphology I*

T44. Lacustrine records of landscape evolution *Quaternary I* (posters)

#### **Sunday 1:30pm-5:30pm**

##### *Quaternary I*

T77. Pre-EarthScope synthesis of the Rocky Mountains I and II: Surface processes, geodynamics, and the role of neotectonics and climate in development of modern topography  
T102. Quaternary paleoenvironments of the Middle East

#### **Monday 8am-12pm**

##### *Geomorphology II*

T29. From subterranean crawlways to scientific hallways: Research on our public caves and karst lands  
T41. The Gulf of Mexico – past, present and future

#### **Monday 1:30pm-5:30pm**

##### *Quaternary II*

##### *Geomorphology* (posters)

T41. The Gulf of Mexico (posters)  
T95. Differentiating climatic from tectonic controls on landscape evolution (posters)

#### **Tuesday 8am-12pm**

T96. Records of late Quaternary climate change from the Americas: Interhemispheric synchronicity or not

#### **Tuesday 1:30pm-5:30pm**

P8. Weathering, slopes, climate and late-Quaternary geomorphic change in arid and semi-arid landscapes

T98. Evolution of the Great Plains landscape  
T122. Inspiring first-rate research through undergraduate teaching

**Wednesday 8am-12pm**

*Quaternary II* (posters)

T96. Records of late Quaternary climate change from the Americas: Interhemispheric Synchronicity or not (posters)

T97. Geologic history and processes of the Colorado River (posters)

**Wednesday 1:30pm-5:30pm**

*Quaternary III*

T97. Geologic history and processes of the Colorado River

T32. Geologic mapping: Providing for successful water and land-resource planning (posters)

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**Quaternary Geology &  
Geomorphology Division Officers  
and Panel Members  
2004**

**Officers** – 6 Members, three of whom serve one-year terms: Chair, First Vice-Chair, and Second Vice-Chair; and three of whom serve two-year terms: Secretary, Treasurer, and Newsletter Editor/Webmaster.

**Management Board** – 8 Members: Division officers and the Chair of the preceding year; also includes the Historian as an *ex officio* member.

**Chair (outgoing):**

**Ellen E. Wohl**

Dept of Earth Resources  
Colorado State University  
Ft. Collins, CO  
80523-1482

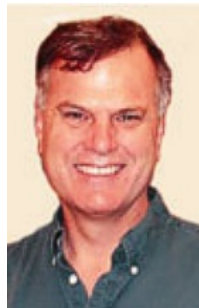


ellenw@cnr.colostate.edu

**First Vice-Chair:**

**Alan R. Gillespie**

University of Washington  
Dept Earth & Space Sciences  
PO Box 351310  
Seattle, WA 98195-1310

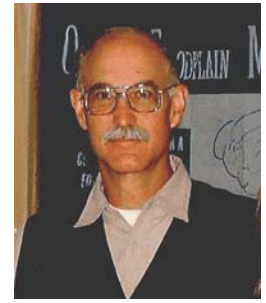


alan@ess.washington.edu

**Second Vice-Chair:**

**John E. Costa**

U.S. Geological Survey  
10615 SE Cherry Blossom Dr.  
Portland, OR 97216

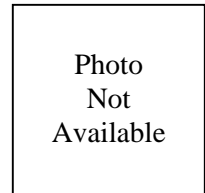


jecosta@usgs.gov

**Second Vice-Chair Elect:**

**John (Jack) F. Shroder, Jr.**

Dept of Geography & Geology  
University of Nebraska at  
Omaha  
Omaha, NE 68182



jshroder@mail.unomaha.edu

**Secretary:**

**Janet L. Slate**

U.S. Geological Survey  
Box 25046, MS 980  
Denver, CO 80225



jslate@usgs.gov

**Treasurer:**

**Scott F. Burns**

Department of Geology  
Portland State University  
PO Box 751  
Portland, OR 97207-0751



burnss@pdx.edu

**Newsletter Editor  
and Webmaster:**

**Dennis E. Dahms**

Dept of Geography  
Sabin Hall, Rm 1  
University of Northern Iowa  
Cedar Falls, IA 50614-0406



dennis.dahms@uni.edu

**Past Chair:**  
**J. Steven Kite**  
Dept of Geology  
and Geography  
West Virginia Univ.  
425 White Hall  
Morgantown, WV  
26506-6300



jkite@wvu.edu

### **Panel Members**

#### **2004-2006 Panel Elect**

Missy Eppes, meppes@email.uncc.edu  
Wendy Gerstel, wendy.gerstel@wadnr.gov  
John Gosse, jcgosse@dal.ca

#### **2003-2005 Panel**

Whitney Autin, dirtguy@esc.brockport.edu  
Mark Gonzalez, markgonzalez@fs.fed.us  
Glenn Thackray, thacglen@isu.edu

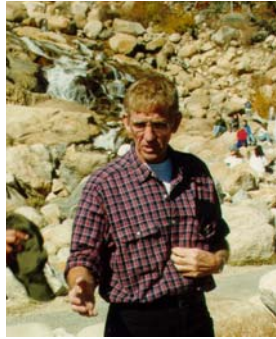
#### **2002-2004 Panel (outgoing)**

Doug Clark, doug.clark@wvu.edu  
Jon Major, jjmajor@usgs.gov  
Dorothy Sack, sack@ohiou.edu

### **Historian:**

*(Appointed by the Chair in  
consultation with the  
Management Board)*

Richard F. Madole  
Scientist Emeritus, USGS  
3075 Fremont Street  
Boulder, CO 80304-2848



rmadole376@earthlink.net

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### **2004 JTPC Representatives:**

#### **Ellen E. Wohl**

Department of Earth Resources  
Colorado State University  
Fort Collins, CO 80523-1482  
ellenw@cnr.colostate.edu

and

#### **Alan R. Gillespie**

University of Washington  
Dept Earth & Space Sciences  
PO Box 351310  
Seattle, WA 98195-1310  
alan@ess.washington.edu

**GSA Councilor/Division Liaison Representative:**  
(Appointed by the GSA President)

#### **Carolyn G. Olson**

USGS-NRCS  
Federal Bldg, Room 152, MS 34  
100 Centennial Mall N  
Lincoln, NE 68508  
carolyn.olson@nssc.nrcs.usda.gov

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## **Announcements**

Papers from the **6<sup>th</sup> International Symposium on Paleopedology** held in Mexico in 2001 are now available. Peter Jacobs (Univ. of Wisconsin at Whitewater) was co-editor of the proceedings. The first link is to an issue that contains a special section with papers related to paleopedology and archaeology. The second link is to an entire issue containing the remaining papers.

<http://satori.geociencias.unam.mx/20-3.htm>

<http://satori.geociencias.unam.mx/21-1.htm>

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### **Dendrochronology Database Online**

The Bibliography of Dendrochronology is an archive of printed documents relevant to tree-ring research worldwide, that you can search for free. It was compiled and is constantly updated by Henri D. Grissino-Mayer. It currently contains over 8200 references dating back to 1737.

<http://www01.wsl.ch/dendrobiblio>

You are welcome to contribute by sending reprints of relevant publications to:

Dr. Henri D. Grissino-Mayer  
Department of Geography  
University of Tennessee  
Knoxville, TN 37996  
865.974.6029

<http://web.utk.edu/~grissino>

Database of species used in dendrochronology:

<http://www01.wsl.ch/species>

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### **Elsevier Journals**

*Femke Wallien*, the Earth and Environmental Sciences publisher at Elsevier announces that the titles, authors and abstracts of articles published in the following journals are available online at no cost:

### **Geomorphology:**

<http://www.elsevier.com/locate/geomorph>

### **Quaternary International:**

<http://www.elsevier.com/locate/quaint>

### **Quaternary Research:**

<http://www.elsevier.com/locate/ygres>

### **Quaternary Science Reviews:**

<http://www.elsevier.com/locate/quascirev>

Also, you can also receive Tables of Contents via email as each new issue publishes. Register your email address with ContentsDirect, Elsevier's free email alerting service, at <cdsub@elsevier.co.uk> or online at <http://contentsdirect.elsevier.com/>

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## **IAG Newsletter Online**

IAG Newsletters are available on the IAG Website: <<http://www.geomorph.org>>

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## **Dust Deposition Report Available**

Dust Deposition in Nevada, California, and Utah, 1984-2002: <http://pubs.usgs.gov/of/2003/ofr-03-138>

The purpose of this report is to make available an up-to-date set of physical and chemical laboratory data and dust-deposition rates.

Contact: *Marith Reheis* <[mreheis@usgs.gov](mailto:mreheis@usgs.gov)>.

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## **PAGES**

PAst Global changES (PAGES). The core mission of PAGES is to *facilitate international collaborations and interdisciplinary science*, especially between individuals involved in national programs with overlapping interests. The PAGES scope of interest includes the physical climate system, biogeochemical cycles, ecosystem processes, biodiversity, and human dimensions. The emphasis is on high-resolution studies of global change – such as those stored in ice cores, tree rings, speleothems, corals, lakes, marine records, etc. – and the use of these data for making sound estimates of future global change.

What Is PAGES and how can a GSA/Quaternary Member get involved? <http://www.pages.unibe.ch>

PAGES even played a key role with NOAA in establishing the WDC-A for Paleoclimatology as the central depository for global paleoclimate data.

WDC-A stands for World Data Center for Paleoclimatology, which is a part of the NOAA National Climate Data Center (NCDC).

<http://www.ngdc.noaa.gov/paleo/paleo.html>

— *Julie Brigham-Grette*

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## **New Software Available**

Those interested in software for developing palaeoecological transfer functions or plotting stratigraphic diagrams may like to take a look at my new program, C2, which is now available for download at: <http://www.campus.ncl.ac.uk/staff/Stephen.Juggins/software/c2home.htm>

C2 Version 1.3 is a Windows 95/98/NT/2000/XP program for analyzing and visualizing palaeoenvironmental data.

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## **Have you logged on to the Virtual Journal of Geobiology?**

This free, online journal now includes over 200 articles from 21 source journals, including *Geomorphology*. The Virtual Journal of Geobiology is edited by Professor *Lee R. Kump* of The Pennsylvania State University. Visit today at <http://earth.elsevier.com/geobiology> and enter your email to receive free alerts as new issues go live.

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## **CGRG Bibliography of Canadian Geomorphology**

<http://cgrg.geog.uvic.ca/cgi-bin/search.cgi>

1. The Bibliography of Canadian Geomorphology is a searchable database dedicated to identifying publications and presentations describing the practice and application of geomorphology in Canada. Included are over 18,000 records related to the fields of aeolian, applied, coastal, fluvial, glacial, hillslope, karst, periglacial, permafrost and offshore geomorphology. The database also includes records describing Canadian Quaternary/Holocene environments and a substantial body of records related to Canadian hydrology.

2. Recent Publications in Canadian Geomorphology <http://cgrg.geog.uvic.ca/list.htm>

The CGRG regularly posts a bulletin on the CANGEORG listserver entitled Recent Publications in Canadian Geomorphology. The citations recorded in these postings are archived in the Bibliography of Canadian Geomorphology, where they form part of searchable database that presently contains over 18,100 records. The intention of this page is to provide access to the CANGEORG postings and any related abstracts contained in the bibliography. — *Dan Smith*, University of Victoria Tree-Ring Laboratory.

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## Glacial history and paleoenvironmental change in glaciated North America

### Special Issue in Honour of Vic Prest

With the passing of Vic Prest on September 26, 2003, Canada lost one of its foremost Quaternary geologists. Vic is perhaps best known for his depictions of the Late Wisconsin and Holocene retreat of the Laurentide Ice Sheet. Much of the ongoing research into the timing and events associated with the deglaciation of North America are placed in the context of this work. In addition, no research on the paleoecology of Canada is complete without a reference to the influence of retreating ice sheets on climate and vegetation change during the late Quaternary and Holocene.

In honour of Vic Prest, a special issue of *Géographie physique et Quaternaire* is being prepared that will highlight ongoing research into glacial history and paleoenvironmental change in glaciated North America. Three main themes to be addressed in this issue, include glacial history, paleogeography and paleoenvironments:

1. **Glacial history:** Papers may include new research or re-interpretations of regional-scale ice movement, deglacial history and associated landforms, and glacial dispersal with interpretation of ice flow, among other topics.
2. **Paleogeography:** Papers may include research associated with ice-marginal drainage, shoreline configurations, sea-levels and isostatic adjustments associated with deglaciation, among other topics.
3. **Paleoenvironments:** Papers may include new topical research or significant regional summaries, placed within a spatial or temporal context of the deglaciation of Canada, among other topics.

Potential authors should contact *Stephen Wolfe* at their earliest convenience, and provide a tentative title, list of potential authors, and a brief description of the paper to be prepared.

To be eligible for publication in this special issue, four single-sided paper copies of the manuscript must be submitted to *Stephen Wolfe* for external review by June, 2005. Submitted manuscripts must follow instructions to authors as outlined in the 2002 volumes of GpQ. Additional guidelines for internal consistency of papers will be sent to potential authors subsequent to their submission of a tentative title.

In addition to this issue of GpQ, a session in honour of Vic Prest will be held at the CANQUA Annual Meeting in at the University of Manitoba, Winnipeg, June 5-9, 2005. Presenters in this session need not submit a paper to GpQ.

Stephen Wolfe  
Geological Survey of Canada  
601 Booth St., Ottawa, ON K1A 0E8  
Ph: 613-992-7670; Email: [swolfe@nrcan.gc.ca](mailto:swolfe@nrcan.gc.ca)

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## IGCP-500: Dryland Change: Past, Present, Future

The International Geological Correlation Program (IGCP) has approved nine new 5-year projects. The full title of one is: *Westerlies and Monsoons: Impacts of Climate Change and Variability on Dryland Environments, Hydrogeology and People*.

### The objectives of IGCP-500 are:

1. To enhance the welfare of dryland societies by contributing to a better understanding of what drives climate change and variability, environmental change and key resource availability over timescales ranging from millennia to subdecadal.
2. To investigate the dynamics of key dryland landscape and resource elements, especially hydrological dynamics and aeolian system dynamics, and their impacts on and interactions with the human use of drylands.
3. Through the above scientific goals, enhance capacity in cutting edge dryland science and to provide a significant dryland input to the co-IGCP CHANGES initiative.

If you are interested in participating in the Canadian component of IGCP-500, please contact:

Dave Sauchyn, Canadian Rep, IGCP-500 Mgmt Team  
Research Professor  
Prairie Adaptation Research Collaborative  
150 - 10 Research Drive  
University of Regina, Regina, SK, S4S 7J7  
306-337-2299, 306-337-2301 (fax)  
[sauchyn@uregina.ca](mailto:sauchyn@uregina.ca)

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## Friends of the Pleistocene - 2004 Southeast Cell

### The Incision History of a Passive Margin River: The Potomac near Great Falls

October 22-23 Great Falls Park, Va.

#### Trip Leaders:

Paul Bierman, UVM  
E-an Zen, UMD  
Milan Pavich, USGS  
Luke Reusser, UVM

This one-day field trip will focus on the ages of bedrock strath terraces bordering the Potomac River above and below Great Falls. Recent cosmogenic exposure dating shows that the Potomac incised rapidly into Piedmont crystalline bedrock during the Last Glacial Maximum. Incision of more than 20 m occurred after 35 ka to form Mather Gorge, a spectacular geomorphic feature in an unglaciated basin in a passive margin setting. The geomorphology of the Potomac and factors that contributed to this rapid channel adjustment will be discussed. See details online at:  
<http://geology.er.usgs.gov/eespteam/SEOFOP/>

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## Friends of the Pleistocene - 2005 Rocky Mountain Cell

### Glacial Stratigraphy, Valley Erosion Rates, and Paleoenvironments of the Southern Wind River Range Sinks Canyon, Lander, Wyo.

Tentative date: late August, 2005

#### Trip leader (preliminary):

Dennis Dahms, University of Northern Iowa

#### Tentative schedule:

##### • Saturday:

*Morning* – Overview of deposits in Sinks Canyon that may represent as many as 6 first-order glacial events.

*Afternoon* – 2 mile hike (round trip) to Popo Agie Falls to view cross-sections used to define patterns of glacial erosion in the Middle Popo Agie valley.

##### • Sunday:

*Morning* – Table Mountain (possible strenuous hike)

- Deposits mapped as pre-Sacajawea Ridge moraine/outwash.
- Boulders that yield  $^{10}\text{Be}$  ages of ~800 ka.
- Buried soil exposure.
- Pinedale-age landslide scar.

*Afternoon* – Drive to lateral moraine-dammed lakes to talk about preliminary results from sediment cores. Lakes occupy unglaciated tributaries of the Little Popo Agie River & initially may have been dammed by Bull Lake moraines. Evening meal in Atlantic City, Wyoming.

Monday-Wednesday: Unofficial part of the fieldtrip.

Backpack into Stough Creek Basin (~4 hrs) to see post-Pinedale glacial succession described in the southern WRR. We'll see soils, lichens, weathered boulders and lots of lakes for fly-fishing. (Please note that will be an unofficial part of the fieldtrip. USFS Popo Agie Wilderness regulations limit the size of *organized* groups to <10. Anyone wishing to go into Stough Basin should consider themselves as separate groups, as we *may not* be able to camp together.

**Please indicate your interest in attending by sending an email to: [dennis.dahms@uni.edu](mailto:dennis.dahms@uni.edu) by Dec. 30, 2004. A second announcement will be sent to respondents via email in January, 2005.**

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## Upcoming Conferences

### Joint British Geomorphological Research Group and British Sedimentological Research Group Conference:

DRYLANDS: LINKING LANDSCAPE PROCESSES  
TO SEDIMENTARY ENVIRONMENTS

February 2-4, 2005

Geological Society, Burlington House, London  
OVERALL AIM

The aim of this international conference is to bring together researchers working in modern and ancient dryland environments, in order to improve our understanding of arid-zone processes and

landforms and the preservation potential of dryland sediment successions in the geological record. We anticipate that the meeting will not only promote interaction between geomorphologists and sedimentologists, but will also enhance our knowledge of contemporary dryland environments and the factors influencing subsurface sedimentary architecture. This conference will also be of considerable interest to practitioners working in the water and hydrocarbon industries.

### CONFERENCE THEMES

We specifically wish to attract oral and poster presentations on the following themes:

- 1) Factors influencing sediment mobilisation, transport and deposition in the range of earth surface process domains operating within dryland environments;
- 2) Impacts of external tectonic, climatic and base-level controls upon sedimentation patterns in drylands;
- 3) Interactions between process domains (e.g., weathering, fluvial, hillslope, playa lake and aeolian processes) and their impacts upon dryland sedimentary systems;
- 4) Preservation potential and sedimentary records produced by the various components of dryland landscapes;
- 5) Impacts of near-surface geochemical sedimentation upon preservation potential within dryland systems;
- 6) Modern analogues for dryland sediments in the geological record;
- 7) Predictive models for spatial and temporal lithofacies distribution in dryland settings;
- 8) Behaviour and sedimentary records of drylands that existed before the evolution of plant life on land.

### KEYNOTE SPEAKERS

Keynote speakers so far confirmed include:

Prof. *Kevin Bohacs* (Exxonmobil, Houston, USA - provisional); Prof. *Gary Kocurek* (University of Texas, Austin, USA); Prof. *Jonathon Laronne* (Ben Gurion University, Israel).

### REGISTRATION & SUBMISSION OF ABSTRACTS

All delegates planning to attend the conference should register before December 1, 2004. Details of how to register are available on the conference website (see below). Registrations received after this date are subject to a 20% surcharge. Abstracts

of no more than 300 words should be submitted by 17 September 2004. See the website for details.

### FURTHER INFORMATION

For further information, visit:

<http://www.bton.ac.uk/environment/drylands/>

To register your interest in the meeting and to receive regular updates, email your contact details to: <drylands.2005@lboro.ac.uk>

### CONVENORS

*Dr David Nash* (University of Brighton, UK)

*Dr Joanna Bullard* (Loughborough University, UK)

*Dr Colin North* (University of Aberdeen, UK)

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## Association of American Geographers (AAG) Annual Meeting

April 5-9, 2005

Denver, Colorado

The following sessions which may be of interest to members of the QG&G Division are currently being organized. Abstract deadlines are:

Paper: October 21

Illustrated paper: October 21

Poster: October 28

### MOUNTAIN RIVERS

Sponsored by the Geomorphology Specialty Group and Mountain Geography Specialty Group  
Organizers: *Anne Chin*, Texas A&M University;  
*Ellen Wohl*, Colorado State University

Mountain rivers are major sources for the water and sediment of large downstream basins. Yet, most theories developed from knowledge of lowland rivers do not adequately explain the operation of mountain rivers. Recent research on the hydrology, hydraulics, sediment dynamics, channel morphology, and disturbance regimes is gradually elucidating the unique characteristics of these systems. This session seeks to bring together those working on diverse aspects of mountain rivers in order to foster awareness of recent research and discussion among investigators. We invite papers on any aspect of mountain rivers, including watershed and hillslope processes that influence river channels, in addition to channel dynamics. Papers reporting technological advances applicable to the study of mountain rivers are also welcomed, as well as contributions on the management and restoration of mountain channels.

Participants interested in this special session must first register for the conference at the AAG website <http://www.aag.org>, submit their abstracts online, and obtain a Presenter Identification Number (PIN), which is provided during the abstract submission process. Then, the following information should be forwarded to *Anne Chin* at [chin@tamu.edu](mailto:chin@tamu.edu): (1) presenter name(s); (2) paper title; (3) abstract; and (4) the PIN. We must receive this information no later than October 20, 2004, in order to meet the AAG submission deadline of October 21, 2004, for organized sessions.

**ADVANCES IN PALEOCLIMATOLOGY:  
QUANTITATIVE, MULTIPROXY, AND NOVEL  
APPROACHES TO CLIMATE  
RECONSTRUCTION**

Organizers:

*Kevin Anchukaitis* [kanchuka@ltrr.arizona.edu](mailto:kanchuka@ltrr.arizona.edu)

*Kurt Kipfmüller* [kurt@umn.edu](mailto:kurt@umn.edu)

*Bryan Shuman* [bshuman@umn.edu](mailto:bshuman@umn.edu)

Our understanding of climate-system dynamics at interannual to millennial timescales continues to advance as new techniques and improved technologies expand and refine the process of proxy data collection, assimilation, and analysis. Robust paleoclimatic reconstructions are necessary for the analysis of past climate dynamics as well as assessment of observed trends and behavior over the last century. This in turn requires an improved, quantitative and mechanistic understanding of the nature of the physical, chemical, and biological processes controlling proxy formation. At the same time, new proxies—including expanded archives and novel methods for using existing ones—are likely necessary to overcome the disadvantages of existing proxies related to geographic distribution, sensitivity, and bias. Integrating multiple proxies has also been shown to improve the skill of climate reconstructions and overcome weaknesses in single-archive approaches.

Accomplishing this requires methods, techniques, and knowledge drawn from a number of diverse disciplines. This organized session will bring together scientists involved in using a diverse array of archives for paleoclimatology, including (but not limited to) tree rings, lake sediments, speleothems, corals, ice cores, cryostratigraphy, and periglacial evidence. We also encourage the participation of modelers, as well as those involved in research on

modern systems we exploit for proxy information which would enhance our understanding of the mechanisms driving proxy-climate relationships.

The session will highlight (1) improved calibration, chronology, and/or quantitative approaches for existing proxies; (2) the investigation and development of new archives; and (3) the combination of multiple proxies. We hope to bring together a diverse group of faculty and students to share and discuss recent progress toward improved assessments of past climates and future applications for these proxy-based reconstructions in modeling, prediction, and analysis of future climatic change.

We are currently planning to convene two paper sessions (10 papers total). Those interested in participating in these sessions should contact one of the organizers to check space availability and discuss potential paper topics prior to submission of an abstract to the AAG. We will provide more details on submission guidelines to interested participants.

**CLIMATE AND CRYOSPHERE**

Co-Sponsored by the AAG Cryosphere, Climate, Geomorphology, and Mountain Geography Specialty Groups

Organizers: *Jerry Brown* [jerrybrown@igc.org](mailto:jerrybrown@igc.org),  
*R.G. Barry*, and *Fritz E. Nelson* [fnelson@udel.edu](mailto:fnelson@udel.edu)

Earth's cold environments have received unprecedented attention in recent decades as development pressures have intensified and the challenges of climate change become increasingly apparent. The World Climate Research Programme's new "Climate and Cryosphere" (CliC) project is a global program aimed at improving understanding of the cryosphere, its interactions with the climate system, and use of cryospheric phenomena to detect and monitor climate change. CliC's principal goals are to assess the impacts of climatic variability and change on the cryosphere and climate system and to determine the stability of the cryosphere.

This will be the most general of the cryosphere-oriented sessions at the Denver AAG meeting, and is intended to correspond broadly with CliC's four main project areas: (1) interactions between the atmosphere and snow and ice on the land surface; (2) interactions between glaciers, ice sheets and

sea level; (3) interactions between sea ice, oceans, and the atmosphere; and (4) cryosphere-climate interactions over a range of temporal and spatial scales. Contributions are welcome on any aspect of cold-regions research, including snow, glaciers, ice sheets, permafrost and seasonally frozen ground, geomorphic processes, sea-, lake- and river-ice, human impacts, and interactions between these phenomena and climate. The session will feature a lecture by Professor *Roger Barry*, University of Colorado, about CliC's status and plans.

To contribute to this session, you will first register for the meeting and submit your abstract online at the Association of American Geographers' web site <http://www.aag.org>. When this process is complete you will receive a Presenter Identification Number (PIN). Please email your abstract and PIN to *Jerry Brown* or *Fritz Nelson* no later than October 14. For general information about registration fees, abstract instructions, and other items please consult the AAG web site.

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## COMLAND

**May 16-22, 2005**  
**Uberlandia, Brazil**

The website: <http://www.ig.ufu.br/comland/enindex2.htm> has the registration form, information on the program themes, costs, accommodation, field trips and how to get to Uberlandia.

The conference themes are:  
S1 Soil erosion and possibilities of recovery;  
S2 Rivers, Fluvial systems and Land Degradation;  
S3 Deforestation and its consequences on the soil and landscape;  
S4 Sustainable development and politics of management;  
S5 Remote Sensing, GIS and their applications to the study of land degradation;  
S6 Eco-tourism and Rural Tourism and their implications;  
S7 Urbanization and Land Degradation; and  
S8 Desertification and Land Degradation in Dry lands.

All geomorphologists are warmly invited to travel to Uberlandia, to discuss their research, renew friendships (and make new ones), and to participate

in one of the three field trips. The deadline for abstracts and payment of the early bird registration fee is December 15, 2004. Registration has been reduced considerably for students and retired persons.

*Dr. Silvio C. Rodrigues*, Organizing Committee

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## The Canadian Quaternary Association (CANQUA)

**June 5-9, 2005**

**Winnipeg (June 5-6) & Regina (June 8-9), with a 1-day mid-meeting fieldtrip linking these two cities**

There also will be:

- A pre-meeting fieldtrip in the Lake Agassiz basin
- A post-meeting fieldtrip across the western Canadian Prairies

Three special sessions are planned:

- 1) Paleoenvironmental change in glaciated North America: a special session in honor of Vic Prest (see below)
- 2) Lakes in transition
- 3) Climate at the edge

For more details see the CANQUA web site [www.mun.ca/canqua/index.html](http://www.mun.ca/canqua/index.html) or contact Co-Chair Jim Teller [tellerjt@ms.umanitoba.ca](mailto:tellerjt@ms.umanitoba.ca) or Dave Sauchyn [sauchyn@leroy.cc.uregina.ca](mailto:sauchyn@leroy.cc.uregina.ca)

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## 2<sup>nd</sup> Earth Systems Processes Meeting (ESP2)

**August 8-11, 2005**  
**Calgary, Alberta, Canada**

Co-convened by the Geological Society of America (GSA) and the Geological Association of Canada (GAC), and co-sponsored by the European Geosciences Union (EGU).

This meeting will promote global scientific cooperation and exchange, and stimulate interactions between the geosciences and allied sciences by focusing on integrative discovery in earth systems science.

**10<sup>th</sup> International Conference on  
Accelerator Mass Spectrometry: AMS-10  
September 5-10, 2005  
Berkeley, California**

The 10th International Conference on Accelerator Mass Spectrometry (AMS-10) is being hosted by the Lawrence Livermore National Laboratory's Center for Accelerator Mass Spectrometry (CAMS) on the campus of the University of California at Berkeley. The conference will provide a forum for scientists to present and discuss recent developments in AMS technology and applications.

**Schedule**

The technical agenda will start on Monday, Sept 5<sup>th</sup> and will conclude on Friday, Sept 9<sup>th</sup>. A welcoming reception will be held Sunday evening, and a banquet will be held Thursday evening. Wednesday will be a free day for local excursions, including a day trip to the Monterey Bay Aquarium and a tour of the Center for Accelerator Mass Spectrometry. Saturday, Sept. 10<sup>th</sup> will be available for workshops.

**Proposals for technical sessions & workshops**

A special session in honor of Roy Middleton is currently being organized. In addition, a one-day workshop entitled "Accelerator Mass Spectrometry in Low-Dose Bioscience" is currently being planned in conjunction with the 9<sup>th</sup> International Congress on Environmental Mutagenesis. This workshop will explore the applications of AMS to micro-dosing in nutrition and pharmaceutical research, environmentally relevant genetic damage, and elemental tracing.

Individuals or groups interested in developing specific platform sessions and/or post-conference workshops should submit a brief proposal including title and content of the session or workshop, suggested speakers, and a session chair.

**Registration and accommodations**

Registration fees will be similar to the previous AMS conference (approx. US\$450). Berkeley is served by international airports in Oakland & San Francisco, and several local hotels are available at reasonable rates.

**Schedule**

*January 2005* - 2<sup>nd</sup> ann'c't and call for abstracts  
*May 2005* - Deadline for submission of abstracts and early registration

*July 2005* - Registration deadline  
*August 2005* - Conference program distributed to participants

**Contact**

For questions about the conference and the submission of proposed technical sessions and workshops, please contact:

John Knezovich  
Center for Accelerator Mass Spectrometry, L-397  
Lawrence Livermore National Laboratory  
Livermore, California 94550 USA  
Phone: 925-422-0925  
E-mail: [knezovich1@llnl.gov](mailto:knezovich1@llnl.gov)  
URL: <http://cams.llnl.gov/>

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**International Association of  
Geomorphologists (IAG) — Sixth  
International Conference on  
Geomorphology**

**September 7-11, 2005  
Zaragoza, Spain**

Chairman: *Eric Fouache* (France)  
Vice Chairmen: *Morgan de Dapper* (Belgium) and  
*Zhongyuan Chen* (China)

During the Sixth International Conference on Geomorphology, the Working Group on Geoarchaeology (WG3) will organise a special half-day session dedicated to two sub-workshops:  
**WG3/ A** Geoarchaeology: Global perspectives (lectures and poster session)  
**WG3/ B** Geoarchaeology of the Hispanic and Pre-Hispanic American World (lectures and poster session)

To register to one of these sessions, please visit the web site of the conference <http://wzar.unizar.es/actos/SEG> and use the online registration form. Please state which sub-workshop you choose between WG3/A and WG3/B and send a copy of this form with the abstract of your proposal to: *Jean-Michel Carozza* at: [carozza@equinoxe.u-strasbg.fr](mailto:carozza@equinoxe.u-strasbg.fr)

*Eric Fouache*, Chairman

Jean-Michel CAROZZA  
Maître de Conférence  
Université L.Pasteur  
Faculté de Géographie  
3, rue de l'Argonne

F-67083 Strasbourg Cedex  
(33) 03 90 24 09 22

**Working group on: Hydrology and  
Geomorphology of Bedrock Rivers (WG6)**

*Paul Carling* (University of Southampton, UK) is the convenor for this session and can be contacted at [P.A.Carling@soton.ac.uk](mailto:P.A.Carling@soton.ac.uk)

To register for this session, please visit the web site of the conference <http://wzar.unizar.es/actos/SEG> and use the online registration form.

Send your abstract to the secretariat as per the web site instructions and also e-mail copy to [P.A.Carling@soton.ac.uk](mailto:P.A.Carling@soton.ac.uk). Further details will be posted on the bedrock forum website in due course: <http://www.geog.soton.ac.uk/research/bedrock/>

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## **Career Opportunities**

### **U.S. Geological Survey (USGS) Mendenhall Postdoctoral Research Fellowship Program**

#### **Opportunity for Quaternary geochronology and seismic hazards in the Basin and Range**

The U.S. Geological Survey (USGS) invites applications for the Mendenhall Postdoctoral Research Fellowship Program for Fiscal Year 2006. The Mendenhall Program provides opportunities to conduct research in association with selected members of the USGS professional staff. Through this Program the USGS will acquire current expertise in science to assist in implementation of the science strategy of its programs. Fiscal Year 2006 begins in October 2005.

The Basin and Range (B&R) province is the most active region of extension in the U.S. and is expanding in a northwestward direction at a rate of 10-11 mm/yr. GPS data acquired during the past decade document the present-day spatial distribution and characteristics of B&R deformation. In some cases, these geodetic signals reveal perplexing and unexplained deformation patterns that are inconsistent with geologic expectations, such as surprisingly high extension rates along parts of the Wasatch fault zone and continued extension in the Central Nevada seismic belt. For seismic hazard analysis, it is important to reconcile

the apparent discrepancy between the short-term distribution of strain as determined from geodesy and the longer term distribution of deformation as determined from late Quaternary faulting. This research opportunity focuses on developing a better understanding of the long-term behavior of potentially seismogenic faults in the province through an improved knowledge of the regional Quaternary stratigraphic framework. We seek a postdoctoral scientist who can apply cosmogenic-nuclide surface-exposure dating to determine the age of major geomorphic elements of B&R landscapes. Information about the age of these landscape elements will allow us to learn more about landscape evolution and will substantially expand the temporal record of B&R paleoearthquakes, earthquake recurrence intervals, and fault slip rates. Such paleoseismic data are crucial to understanding the characteristics of fault behavior on geologically significant time scales and to accurately assessing the region's seismic hazards.

Most of the Quaternary age control in the Basin and Range province is based on correlating deposits to late Pleistocene lakes (Lahontan and Bonneville), on tectonic geomorphology, and on comparing the topographic position of deposits in the landscape. Material for radiocarbon dating is generally sparse in this arid region, and although locally very useful, luminescence dating is mostly applicable for dating eolian deposits. A crucial gap exists in establishing a Quaternary stratigraphic and geomorphic framework in the B&R because of limitations in dating deposits in the age range of 30 ka to 140 ka. Much of this time span is beyond the practical limits of radiocarbon dating, but covers a time span that encompasses several earthquake (seismic) cycles for typical B&R faults. Fortunately, newly evolving techniques of cosmogenic-nuclide dating of in-situ produced  $^{26}\text{Al}$ ,  $^{10}\text{Be}$ , and/or  $^{36}\text{Cl}$  allows for the accurate dating of alluvial and colluvial deposits of middle and late Quaternary age, which is the time frame most relevant to the region's seismic hazards. Application of these techniques to fault activity studies will allow the incumbent to establish a well-founded stratigraphic framework that can be used to compare short-term (GPS) and long-term (geologic) slip histories and to judge if the contemporary or the late Quaternary deformation rates realistically define the fault's modern behavior.

Opportunities for research through the Mendenhall

Postdoctoral Program are available in a wide range of topics. The postdoctoral fellowships are 2-year appointments. **The closing date for applications is December 1, 2004.** Appointments will start October 2005 or later, depending on availability of funds. A description of the program and the application process are available at <http://geology.usgs.gov/postdoc>. Descriptions of the FY 2006 research opportunities will be posted on this web site on or about September 1, 2004. The U.S. Geological Survey is an equal opportunity employer.

Individuals interested in this specific opportunity should contact one of the research advisors listed below for additional details and information.

Proposed Duty Station: Golden, CO

Areas of Ph.D: Geochronology with emphasis in cosmogenic-nuclide dating, Quaternary geology and geomorphology, paleoseismology, earthquake geology

Research Advisors:

*Anthony Crone*, 303-273-8591, [crone@usgs.gov](mailto:crone@usgs.gov)

*Michael Machette*, 303-273-8612,

[machette@usgs.gov](mailto:machette@usgs.gov)

*Stephen Personius*, 303-273-8611,

[personius@usgs.gov](mailto:personius@usgs.gov)

Qualifications: Applicants must meet the qualifications for a Research Geologist position. (This type of research is typically performed by those who have backgrounds for the occupation stated above. However, other job titles may be applicable depending on the applicant's background, education, and research proposal. The final classification of the position will be made by the Personnel specialist.)

Personnel Office contact: *Kathleen Scheich*, (303) 236-9581, [kscheich@usgs.gov](mailto:kscheich@usgs.gov)

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## **Stratigraphic Revision: Extension of the Neogene System to the Present**

### ***Discussion continued ...***

*The Spring 2004 Newsletter included a summary of a discussion concerning the status and stratigraphic position of the Quaternary. John Clague summarized the issue as follows:*

“A proposed revision of great consequence to the Quaternary community is an extension of the Neogene System to the present. The Pleistocene and Holocene would be retained as Series, but the Quaternary would be eliminated as a System. An argument made by ICS is that the "Quaternary" and "Tertiary" are archaic terms. Elimination of Quaternary as a System is clearly a highly charged issue, but ICS seems determined to make the change, whether or not Quaternarists agree.

“INQUA does not accept the elimination of the word "Quaternary" from the Geological Time Scale. Accordingly, its Commission on Stratigraphy and Geochronology has suggested a compromise to the INQUA Executive Committee that may or may not be acceptable to both the larger Quaternary community and ICS... The gist of the proposal is to define a Quaternary Subsystem that encompasses the present Pleistocene and Holocene Series, as well as the Gelasian Stage (2.6-1.8 Ma). Under this proposal, the boundaries of the Pleistocene and Holocene would remain unchanged.”

**In September, it was announced that a Task Force has been struck to decide on the stratigraphic meaning of the Quaternary. Please look at the announcement below and send any comments you might have directly to John Clague.**

From Felix Gradstein and John Clague:

### **Rationale**

For over a century, the status and stratigraphic position of the Quaternary have been debated. Authoritative papers on the history of Quaternary, and its recommended stratigraphic definition and status include Berggren (1998), Lourens et al. (2004), Ogg (2004), and Pillans (2004). The INQUA Executive, through consultation with the Quaternary community in 2004, has found widespread support for defining the Quaternary as a chronostratigraphic unit with a base at 2.6 Ma. As a consequence, ICS and INQUA consider it timely to decide on the stratigraphic meaning of the Quaternary, so that it can be unequivocally placed in the standard global time scale. John Clague, President of INQUA, Felix Gradstein, Chair of ICS, assisted by outgoing IUGS President Ed de Mulder, have agreed that a task force be struck that will make a recommendation to ICS on the definition of the Quaternary in 2005.

## Task force

The task force on the Quaternary will comprise members of INQUA and ICS, and will be charged with the single task of defining the Quaternary in a stratigraphic sense. It will formulate a single proposal that will be discussed at the Second ICS Workshop on the Future of Stratigraphy, September 2005 in Leuven, Belgium. The workshop will be attended by chairs of all Subcommissions of ICS, and the President of the INQUA Commission on Stratigraphy and Geochronology. If the task force recommends definition in a formal chronostratigraphic sense, its proposal will go through the standard ICS consultation, voting, and ratification procedures.

The task force will consist of 8 members and will receive advice and input from its wider constituency. The members of the task force are:

- Chair: *James Gehling*, Australia
- Vice-Chair: *Brad Pillans*, Australia
- Secretary: *James Ogg*, USA
- Two members of INQUA Commission on Stratigraphy & Geochronology, appointed by the executive of INQUA
- Three members of ICS Subcommission on Quaternary Stratigraphy, appointed by the ICS executive.

## References

- Berggen, 1989. The Cenozoic Era: Lyellian (chrono) stratigraphy and nomenclatural reform at the millennium. In: Blundell, D.J. & Scott, A.C. (eds) *Lyell: the past is the key to the Present*. Geological Society, London, Special Publication 143, 11-132.
- Lourens, L., F. Hilgen, N.J. Shackleton, J. Laskar and D. Wilson, 2004. The Neogene Period. In: Gradstein, Ogg and Smith, 2004. *Geologic Time Scale 2004*. Cambridge University Press.
- Ogg, J., 2004. Introduction to concepts and proposed standardization of the term Quaternary. *Episodes* 27 (2), 125-126.
- Pillans, B., 2004. Proposal to redefine the Quaternary. *Episodes* 27(2), 127.

*John J. Clague*  
*Gordon M. Shrum Professor of Science*  
*CRC Professor of Natural Hazard Research*  
*Department of Earth Sciences*  
*Simon Fraser University*  
*Burnaby, BC V5A 1S6 Canada*  
*Phone: 1-604-291-4924*

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## 2004 Division Newsletter Editors

Many Divisions "publish" their newsletters mainly by posting them on their Division websites. All Division websites can be accessed from:

<http://www.geosociety.org/sectdiv/divisions.htm>

Typical issue dates are approximations only. So if you wish to get the word out on some person, event or whatever...

**Archaeological Geology** – Mar, Sept  
Andrea K. Freeman <freeman@ucalgary.ca>

**Coal Geology** – July, Sept/Oct  
Thomas D. Demchuk  
<thomas.d.demchuk@usa.conoco.com>

**Engineering Geology** – Feb/Mar, June, Sept  
Jerome V. (Jerry) DeGraff  
<fishlake@worldnet.att.net>

**Geobiology & Geomicrobiology** – no schedule  
Linda Kah <lckah@utk.edu>  
David Krauss <kraussd@bc.edu>

**Geology & Society** – no set schedule  
Secty: Thomas Evans <tevans@facstaff.wisc.edu>

**Geophysics** – irregular; no named editor  
Contact: Chair Mousumi Roy <mroy@unm.edu>

**Geoscience Education** – Winter, Summer  
Mark Hafen <mhafen@chuma1.cas.usf.edu>

**History of Geology** – each quarter  
William R. (Bill) Brice <wbrice@pitt.edu>

**Hydrogeology** – June/July, Sept/Oct  
F. Edwin (Ed) Harvey <feh Harvey1@unl.edu>

**International** – irregular; no named editor  
Contact: Secty Michael Foose <mfoose@usgs.gov>

**Limnogeology** – June  
Michael R. Rosen <mrosen@usgs.gov>

**Planetary Geology** – Summer or Fall  
R. Aileen Yingst <yingsta@uwgb.edu>

**QG&G** – March, September  
Dennis Dahms <dennis.dahms@uni.edu>

**Sedimentary Geology** – Feb/Mar, Sept/Oct  
Mariana L. Rhoades <mrhoades@sjfc.edu>

**Structural Geology & Tectonics** – Mar, Sept  
Barbara E. John <bjohn@uwyo.edu>  
Barbara M. Sheffels <barbsheffels@aol.co

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