GeoBulletin is distributed weekly, by E-mail. Contributions are requested! If you have a news item, a request, an announcement etc. email it to geodept@geology.wisc.edu or leave it at the office, Room 225 by Noon on Monday.

**Weeks Lecture**

**Speaker list - Fall 2011**

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Friday, Dec 2, 2011:

Jessica Blois, UW-Madison (Host: Peters)

**WEEKS LECTURE**

**DR. JESSICA BLOIS**

*Center for Climatic Research and Department of Geography*

*University of Wisconsin-Madison*

**Friday, Dec 2nd, 2011, 3:30 PM, Weeks Hall – Room AB20**

Spatial and temporal dynamics of community responses to paleoclimate change

Climate change of the rate and magnitude projected for the future presents considerable challenges to species and communities, both in concert with and independent of other impacts by humans. Thus, understanding and predicting the ecological responses species and communities show to climate change is one of the greatest challenges facing scientists today. Climates have changed substantially in the past, particularly over the 21000 years during the transition from the last glacial maximum to the current interglacial period. My research focuses on the variety of ways mammal and plant communities have responded to these climate changes.
In this talk, I will focus on three projects that trace the influence of Quaternary climate on communities. First, I discuss changes through time in the small mammal community at one site in northern California. This community showed significant and surprising diversity loss correlated with climate change across the Pleistocene-Holocene transition. Next, I examine the influence of climate on structuring plant communities in eastern North America over the past 21,000 years, and determine whether models of the relationship between communities and climate can be used to predict communities of the future. Finally, I discuss how we might use mammal functional types to infer the distribution of biomes, today and in the past. Together, these projects demonstrate the dynamic responses communities show to climate. In the future, my work will emphasize integrating plant and mammal responses to understand their joint responses to past, present, and future climate.

Friday, Jan 27, 2012:
Department Welcome Back

Friday, Feb 03, 2012:
Peter Wilf, Penn State (Host: Geary/Peters)

Friday, Feb 10, 2012:
Greg Waite, Michigan Tech (Host: DeMets)

Friday, Feb 17, 2012:
Margaret Fraiser, UW-Milwaukee (Host: Peters)

Friday, Feb 24, 2012:
Emile Okal, Northwestern University (Host: Tobin)

Friday, Mar 9, 2012:
Aradhna Tripati, UCLA (Host: Carlson)

Friday, Mar 16, 2012:
Matt Hurtgen, Northwestern (Host: Peters)

Friday, Mar 25, 2012:
Marin Clark, Univ of Michigan (Host: Goodwin)
Friday, Apr 13, 2012:

BOV

Friday, Apr 20, 2012:

Steve Holbrook, Univ of Wyoming (Host: Tobin)

Friday, Apr 27, 2012:

Tim Masterlark, U. Alabama (Host: Feigl)

Friday, May 4, 2012:

Carl Jacobson, IOWA State (Host: Goodwin)

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**JOB OPENINGS:**

- UC Berkeley Seismological Laboratory: Six new research and technical positions
- Postdoctoral Fellowships - Department of Terrestrial Magnetism
- Post-doctoral Research Associate Program in Geological Sciences, Brown University
- The Department of Natural & Applied Sciences at the University of Wisconsin – Green Bay (UWGB) invites applications for a tenure-track position in mineralogy/petrology/structural geology
- Fulltime, 9 month, Assistant/Associate Professor, Department of Geosciences, College of Earth, Ocean, and Atmospheric Sciences at Oregon State University in Corvallis, Oregon
- The Office of Fellowships is offering an Interdisciplinary Postdoctoral Fellowship in the area of stable isotope sciences
- A postdoctoral research associate position in the Department of Earth and Environmental Sciences (EES) at the University of Texas at Arlington is available starting January 2012
- Surface Scientist position available within the Surface Analysis Laboratory at Micron Technology in Boise, Idaho.
- The University of Otago is New Zealand's top-ranked university for research quality-Lecturer in Chemical Oceanography
- Faculty Position - Global Change Ecology -Virginia Commonwealth University
- A Senior Lecturer or Reader is required to strengthen and enhance the research profile of the Department of Physical Sciences and to contribute to teaching across the broad area of physical sciences.
Research of the earthquake source, development and implementation of earthquake early warning

The UC Berkeley Seismological Laboratory (BSL) is pleased to announce six new positions, including postdoctoral and permanent positions. These positions are all to work with the earthquake source physics and earthquake early warning group lead by Prof Richard Allen. The group is working to better understand the physics of large magnitude earthquakes and to develop methodologies for earthquake early warning. The implementation of these methodologies will be tested on California’s real-time geophysical networks, where we will evaluate their current and likely future performance. Earthquake early warning is the rapid detection of earthquakes underway, estimation of the ground shaking hazard they pose, and warning of people in harm’s way. The successful applicants will work on a variety of projects related to early warning and real-time operations at the BSL. These will likely include research of the early phases of rupture nucleation and propagation, the development of seismic- and geodetic-based methods for rapid earthquake characterization, the use of new types of geophysical networks including MEMS-type sensors, the development of delivery tools to provide the warning, and the engagement of warning users.

Funding for all the positions is available beginning January 1, 2012, positions will be open until filled. Additional information about the positions, including the timeline for application evaluation, will be posted on the BSL webpage as it becomes available:

http://seismo.berkeley.edu/seismo.positions.html

To learn more about the early warning project and these positions at BSL please talk to one of the following at the upcoming AGU meeting: Richard Allen, Roland Bürgmann, Doug Dreger, Peggy Hellweg, Ingrid Johanson, Doug Neuhauser.

The six positions are:

1. **Researcher.** This fulltime staff research position is directed toward the development of seismic methodologies for early warning. This is a primarily a research position and will also involve some management of the early warning project. Applicants should have a PhD in geophysics and additional postdoctoral experience is preferred. More details will be posted on the BSL website as they become available.

2. **Academic Program Manager.** This fulltime staff position is focused on development of the BSL Earthquake Research Affiliates (ERA) Program (http://seismo.berkeley.edu/ERA/). The successful applicant will interface with existing ERA members and develop new members. He/she will help guide real-time earthquake information product development, and there is also the possibility of participating in the research and implementation if appropriate. It is anticipated that the successful applicant will have a PhD in science, if not in geophysics. More details will be posted on the BSL website as they become available.

3. **Postdoctoral Fellow in real-time geodesy.** This postdoctoral fellowship is focused on the use of real-time GPS data for the purpose of real-time earthquake information products including earthquake early warning. In addition, up to 25% of the time can be spent on independent research projects. The initial appointment will be for one year. Reappointment for a second and possibly third year is expected but dependent on satisfactory progress. The review of applications will start January 1, 2012, and continue until the position is filled. Applicants should send a letter detailing their research interests and a CV to applications@seismo.berkeley.edu. Questions about the position should be sent to the same email address.

4. **Postdoctoral Fellow in the physics of large earthquakes.** This postdoctoral fellowship is focused on study of the physics of large magnitude earthquakes and extraction of key parameters for rapid earthquake information
products including earthquake early warning. In addition, up to 25% of the time can be spent on independent research projects. The initial appointment will be for one year. Reappointment for a second and possibly third year is expected but dependent on satisfactory progress. The review of applications will start January 1, 2012, and continue until the position is filled. Applicants should send a letter detailing their research interests and a CV to applications@seismo.berkeley.edu. Questions about the position should be sent to the same email address.

5. Junior Programmer Analyst. A fulltime staff position to support the earthquake early warning project and related real-time operations. More details will be posted on the BSL website as they become available.

6. Senior Programmer Analyst. A fulltime staff position to support the earthquake early warning project and related real-time operations. More details will be posted on the BSL website as they become available.

The specific responsibilities of all the positions are negotiable, and interested applicants should contact Prof. Richard Allen (rallen@seismo.berkeley.edu) to discuss interests. If you would like to receive additional email notifications as position details and application deadlines become available send email to applications@seismo.berkeley.edu.

Postdoctoral Fellowships - Department of Terrestrial Magnetism
The Carnegie Institution of Washington anticipates openings in the Department of Terrestrial Magnetism for postdoctoral fellows in one or more of the fields of geophysics, geochemistry, cosmochemistry, planetary science, and astrobiology. Details on DTM research staff, laboratory facilities, and ongoing research can be found at www.dtm.ciw.edu under “Research.” Fellowships are normally renewable for a second year. Applications should include a curriculum vitae, description of thesis research, list of publications, and a short (2-3 page) statement of research plans for the fellowship period, plus three letters of recommendation to be sent directly to DTM by those familiar with your work. Completed applications are due 15 January 2012. Women and minority candidates are especially encouraged to apply. AAE/EOE.

Please send applications to:
Department of Terrestrial Magnetism
Carnegie Institution of Washington
5241 Broad Branch Road, NW
Washington, DC 20015-1305
Attention: Fellowships Committee
E-mail submission address: fellowships@dtm.ciw.edu

Post-doctoral Research Associate Program in Geological Sciences, Brown University
The Department of Geological Sciences at Brown University invites applications for its postdoctoral research associate program. The Department seeks outstanding candidates in the field of Earth and planetary sciences, with preference given to applicants whose research addresses key questions in Earth composition, structure, dynamics, deformation and material properties. Postdoctoral associates are encouraged to pursue their own research interests, but close interaction with Brown Geological Sciences faculty is expected. Additional program information and a description of research and facilities in the Department can be found at http://brown.edu/Departments/Geology.
These competitive, institutionally-supported postdoctoral positions are awarded for a one-year period, with anticipated extension for a second year. The initial annual stipend is $53,500 and a research/travel fund of $5,000 is provided in each year.

Applications and reference letters should be emailed (in PDF format) to geopostdocsearch@brown.edu no later than January 9, 2012. Applications should include a brief proposal for the research to be carried out at Brown (with identification of a Brown faculty sponsor), a statement of research accomplishments, and a curriculum vitae. Applicants should also arrange for three letters of reference to be emailed separately. Decisions will be made in Spring, 2012, for a position start date as early as July 1, 2012. Applicants should have a recent Ph.D. or should be 2012 degree candidates. Completion of the Ph.D. is required by the time of the appointment.

Brown University is an equal opportunity/affirmative action employer. We encourage applications from minority and women scientists.

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Tenure-Track Assistant Professor of Geoscience

The Department of Natural & Applied Sciences at the University of Wisconsin – Green Bay (UWGB) invites applications for a tenure-track position in mineralogy/petrology/structural geology beginning August of 2012. The successful candidate will have a Ph.D. in geology by August 27, 2012, but ABD candidates will be considered.

Teaching responsibilities include introductory and upper-level courses in geoscience and environmental science, including mineralogy/petrology, structural geology, and introductory geology. Other teaching assignments could include, but are not limited to, economic geology, field methods, natural hazards, and geospatial techniques. A strong commitment to undergraduate teaching and research and participation in the graduate program is expected.

Send letter of application addressing teaching and research interests, course evaluations (if available), curriculum vitae, unofficial transcripts, and 3 letters of recommendation to Geoscience Search Committee Chair, Dept. of Natural & Applied Sciences, University of Wisconsin – Green Bay, 2420 Nicolet Drive, Green Bay, WI 54311. Review of complete applications will begin December 5, 2011, but completed applications received after this date may be considered. See http://www.uwgb.edu/hr/jobs/ for a complete position description.

The University of Wisconsin-Green Bay is an AA/EEO employer committed to achieving a diverse workforce and to maintaining a community, which welcomes and values a climate supporting equal opportunity and difference among its members.

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Fulltime, 9 month, Assistant/Associate Professor, Department of Geosciences, College of Earth, Ocean, and Atmospheric Sciences at Oregon State University in Corvallis, Oregon. We seek an outstanding scholar who will develop a strong teaching, research and service program. The ideal candidate will integrate earthquake geology and active tectonic research with other disciplines, e.g. seismology, GPS-satellite geodesy, structural geology, tectonics and sedimentation, Quaternary age-dating techniques, regional tectonics, and remote sensing. The successful candidate is expected to teach graduate courses in his/her field of expertise and contribute to the undergraduate structural geology and field geology curriculum. The RS Yeats Endowment provides a substantial stipend for use in support of the endowed Professor's research, teaching, and service. Requires: Ph.D. in geology, geophysics, or a closely related field. Must demonstrate ability or significant potential for teaching excellence, be committed to educational equity in a multicultural setting, have a strong scholarly
potential that includes an active research agenda, peer-reviewed publications, and ability to obtain external research funds. For complete position description and to apply, see http://oregonstate.edu/jobs (posting 0008277). For additional information please contact: Dr. John Dilles, Search Chair, (541) 737-1245, dillesj@geo.oregonstate.edu for full consideration, applications must be received by January 16, 2012. OSU is an AA/EOE.

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The Office of Fellowships is offering an Interdisciplinary Postdoctoral Fellowship in the area of stable isotope sciences. Research proposals must integrate the use of stable isotopes (2H/1H, 13C/12C, 15N/14N, and 18O/16O) into their specific research questions. Stable isotope analysis must comprise a significant portion of the research. The successful applicant will conduct analyses at one of the two Pan-Institutional isotope facilities (OUSS/MCI Stable Isotope Mass Spectrometry Facility in Suitland, MD or at the Smithsonian Tropical Research Institute, Panama City, Panama). Applicants interested in this fellowship are strongly encouraged to contact potential advisors/hosts at any of the Smithsonian's various Museums and Research Units prior to proposal preparation and submission. Prior Isotope Fellows are not eligible. Please consult the research staff listed for the Museum, Research Units, and Offices at the links to Smithsonian Opportunities for Research and Study below.

Applicants must propose to conduct research in-residence for a period of 12 months, at least 4 months of which will be spent on-site at the MCI or STRI laboratory. Applicants must have completed or be near completion of the Ph.D. Recipients who have not completed the Ph.D. at the time of application must provide proof of completion of the degree before the fellowship begins. Please go to http://www.si.edu/research+study for details on the SI fellowship program. Applications must be submitted by Jan 15, 2012. Access to the online application system and information regarding the necessary materials can be found at http://www.si.edu/ofg/Applications/SIFELL/SIFELLapp.htm

For additional information on the OUSS/MCI Stable Isotope Mass Spectrometry Facility in Suitland, MD (http://si.edu/mci/irms/index.htm) please contact Christine France (francec@si.edu). For additional information on the Smithsonian Tropical Research Institute Mass Spectrometry Facility in Panama City, contact Ben Turner (turnerbl@si.edu).

For further information on this message, contact Peter Marra, Smithsonian Migratory Bird Center, x31594 (VoIP), 202-633-1594 (non-VoIP), marrap@si.edu.

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A postdoctoral research associate position in the Department of Earth and Environmental Sciences (EES) at the University of Texas at Arlington is available starting January 2012. Funding for this position is provided in part by NSF and NASA, through the ongoing CALIPSO project on the actively erupting Soufriere Hills volcano on Montserrat, West Indies (http://www.uta.edu/faculty/mattioli/research/CALIPSO/Intro.html). The initial appointment will be for one year and may be renewed for at least an additional year, with a satisfactory annual review.

The CALIPSO project focuses on using data from the CALIPSO Facility (borehole strain, seismometers, and surface cGPS) to develop models for the evolution and dynamics of the active SHV magmatic system over a range of temporal and spatial scales. The successful candidate should have a demonstrated background in one or more of the following areas: 1) inversion of surface deformation data; 2) FEM modeling of dynamic magmatic systems or volcano edifice instability; 3) analysis of borehole strain and/or seismic data; or 4) analysis of high-rate GPS data.
A Ph.D. in Earth Sciences or a related field is required and demonstrated computer and modeling skills are a must. Some familiarity with operation of remote geophysical data acquisition systems is desirable. Ability to work as part of a team, which includes graduate students and other CALIPSO PIs is essential. Completed applications consist of: a curriculum vitae; statement of research experience and goals; and names and contact information of at least four individuals who would be willing to provide letters of recommendation.

Applications should be submitted by December 1, 2011, but will continue to be reviewed until the position is filled. If possible, interviews will be conducted at Fall AGU, or by phone. Applications in Adobe PDF format should be submitted electronically to gmattioli@uta.edu. Print applications may be mailed to: Dr. Glen S. Mattioli, Department of Earth and Environmental Sciences, University of Texas at Arlington, 500 Yates St., Arlington, Texas 76019.

UT Arlington is an Affirmative Action/Equal Opportunity Employer. Women, minorities, veterans, and individuals with disabilities are encouraged to apply. A criminal background check will be conducted on finalists.

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Surface Scientist position available within the Surface Analysis Laboratory at Micron Technology in Boise, Idaho. This position involves the application of TOF-SIMS, XPS, XRR, and XRD to a variety of R&D and manufacturing support areas. For more details or to apply on-line, please see: https://micron.taleo.net/careersection/10000/jobdetail.ftl. XPS Surface Scientist - BOI27719

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The University of Otago is New Zealand's top-ranked university for research quality-Lecturer in Chemical Oceanography-1100548 -DEPARTMENT OF CHEMISTRY

Applications are invited for the position of Lecturer in any area of Chemical Oceanography. Candidates with interests that align with the Department's current strengths in analytical chemistry and biogeochemistry are particularly encouraged to apply. The primary criteria for appointment will be a demonstrated potential for excellence in research and a strong commitment to research-informed teaching.

The successful applicant will have a PhD degree and high-quality published research, and will be expected to establish an effective individual research programme in the Department, including seeking external funding support for research. The Department has considerable geochemical research infrastructure that will be available to the successful candidate. In addition to contributing to the teaching programme in their relevant specialist area of Chemistry, the successful applicant will also be expected to teach general Chemistry at the first-year undergraduate level.

Consideration will be given to the appointment of an exceptional candidate at the level of Senior Lecturer. Such a candidate would be expected to provide leadership in teaching and research.

Specific enquiries may be directed to Professor Lyall Hanton, Head of Department of Chemistry, Tel 03 479 7918, Email: lhanton@chemistry.otago.ac.nz

Applications will close on Monday, 12 December 2011.

To see a full job description and to apply online go to: www.otago.ac.nz/jobs

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Faculty Position - Global Change Ecology -Virginia Commonwealth University

The Department of Biology at VCU invites applications for an ecologist specializing in the effects of global change at the ecosystem or landscape level. Special consideration will be given to applicants who can
demonstrate a potential to collaborate with our current faculty. This is a nine-month, tenure-track position at the rank of Assistant Professor. Anticipated start date is August 16, 2012, contingent on funding.

The successful applicant will be expected to develop a productive, externally-funded research program and direct graduate students through the Ph.D. level. Primary teaching responsibilities will include related undergraduate and graduate courses. Postdoctoral experience is expected and demonstrated evidence of excellence in scholarship and teaching is required. In addition, applicants must have experience working in and fostering a diverse faculty, staff, and student environment or commitment to do so as a faculty member at VCU. Competitive start-up funds are available.

Virginia Commonwealth University has an enrollment of 32,000 students, including over 1,900 undergraduate and 75 graduate students in Biology. The Department of Biology (www.has.vcu.edu/bio) has 39 faculty members with diverse research interests in the following three areas of excellence: Cell Regulation, Evolution, and Ecological Processes and Applications. Additional research opportunities are available through the Center for Environmental Studies (http://www.vcu.edu/cesweb/) and at the Rice Center, VCU's nearby field station on the James River (http://www.vcu.edu/rice/).

Electronic submission of applications to: biology@vcu.edu is preferred, but hard copies of vitae, statements of research and teaching interests, and three letters of reference may be sent to: Stephanie Millican, Department of Biology, Virginia Commonwealth University, Richmond, VA 23284-2012. Closing date for receipt of applications is December 15, 2011.

Virginia Commonwealth University is an equal opportunity/affirmative action employer. Women, minorities, and persons with disabilities are encouraged to apply.

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A Senior Lecturer or Reader is required to strengthen and enhance the research profile of the Department of Physical Sciences and to contribute to teaching across the broad area of physical sciences.

Your research should complement existing areas in our Centre for Earth, Planetary, Space and Astronomical Research (CEPSAR), particularly those in Planetary and Space Sciences and in the field of Astrobiology. We particularly welcome applications from candidates whose research includes laboratory studies of fluid-rock-microbial interactions and the study of biosignatures. You will also contribute to the design and delivery of OU modules at undergraduate and postgraduate level in the Physical or Geo Sciences programmes.

Candidates should also have a strong track record in research and research management, with a recent history of winning funding. They should be familiar with recent developments in space exploration missions within and beyond the Solar System. They must be committed to principles of equality and diversity in the teaching of science, and should preferably have some experience of distance education.

Closing date: 2 December 2011.

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******** HAVE A GREAT WEEKEND ********