

November 2013 U.S. CLIVAR Newsgram



Please forward to interested colleagues. To include an announcement in our next issue, contact [Jennifer Mays](#).

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Calendar of Upcoming Events

also see [our online calendar](#)

PMIP Ocean Workshop 2013

December 4-6, 2013
Corvallis, OR

AGU 2013 Fall Meeting

December 9-13, 2013
San Francisco, CA

CLIVAR Town Hall at AGU

December 9, 2013, 12:30-1:30 PM
2005 Moscone West, San Francisco, CA

SPARC 2014 General Assembly

January 12-17, 2014
Queenstown, New Zealand

94th AMS Annual Meeting:

“Extreme Weather - Climate and the Built Environment: New Perspectives Opportunities, and Tools”

February 2-6, 2014
Atlanta, GA

WWRP/THORPEX - WCRP International Conference on Subseasonal to Seasonal Prediction

February 10-13, 2014
NOAA Center for Weather and Climate Prediction,
College Park, MD

2014 Ocean Sciences Meeting

February 23-28, 2014
Honolulu, Hawaii

CLIVAR Town Hall at Ocean Sciences Meeting

Date TBD
Honolulu, Hawaii

IGS International Symposium on Sea Ice in a Changing Climate

March 10-14, 2014
Grand Chancellor Hotel, Hobart, Australia

WCRP Conference for Latin America and the Caribbean: Developing, linking and applying climate knowledge

March 17-21, 2014
Montevideo, Uruguay

WCRP VAMOS/CORDEX Second Workshop on Latin-America and Caribbean - CORDEX LAC II

April 7-9, 2014
Santo Domingo, Dominican Republic
Deadline for abstract submission and support applications postponed to November 30, 2013

Announcements

1. U.S. CLIVAR Hurricane WG Releases Workshop Report

The **U.S. CLIVAR Hurricane Working Group** was formed to coordinate efforts to produce a set of model experiments designed to improve understanding of the variability of tropical cyclone formation in climate models. The WG hosted a workshop this summer at GFDL that included presentations by U.S. and international scientists. The Hurricane Workshop Report, summarizing 30 presentations over the 2.5 day event, is now available online: http://usclivar.org/sites/default/files/meetings/Hurricane_Workshop_Report.pdf.

2. U.S. CLIVAR Greenland Ice Sheet Ocean Interaction Workshop Report Available for Comment

A draft report summarizing the international U.S. CLIVAR-sponsored workshop on “Understanding the Response of Greenland’s Marine-Terminating Glaciers to Oceanic and Atmospheric Forcing” is now avail-

able online at: <<http://usclivar.org/sites/default/files/GRISO-2013-Workshop-Report-To-Lists.pdf>>.

The report contains a detailed section on “How to move forward”, which is intended as a basis for discussion on requirements to advance the science of glacier-fjord interactions in Greenland. An open meeting organized by IARPC will be held to this end during AGU on Tuesday, December 10, 2013, from 6:00pm to 9:00pm, in Pacific Room J of the San Francisco Marriott Marquis, see: <<http://www.arcus.org/communitymeetings/agu/2013/schedule/one>>.

Comments on the draft report are strongly encouraged ahead of the AGU IARPC meeting. Please send comments to wggriso@gmail.com by **December 2, 2013**. More information regarding the workshop itself, which took place from June 4-7, 2013, in Beverly, MA, is available at: <<http://www.usclivar.org/meetings/griso-workshop>>.

3. 2014 Call for Applications to the Postdocs Applying Climate Expertise (PACE) Postdoctoral Fellowship Program

The UCAR Visiting Scientist Programs (VSP) announces the 2014 call for applications to the PACE Postdoctoral Fellowship Program. The program has been developed to:

- Grow the pool of scientists qualified to work at the interface between climate science and its applications;
- Transition advances in climate science and climate prediction into climate-related decision making tools and frameworks; and
- Increase and strengthen collaborations between climate research institutions and decision making institutions across all sectors.

Postdoctoral scientists undertake research projects and develop tools that will apply climate prediction information to climate-impacted decisions. The work is conducted under the specification and direction of institutional mentoring partners: a Climate Research institution and a Decision Making institution. The program seeks recent or anticipated PhDs who have expertise in climate science and who are interested in applying their knowledge of the climate system to increase decision-making capacity in climate-sensitive sectors.

The application process for post-doctorates is twofold: applicants submit a cover letter, vitae, list of references, description of PhD thesis research and PhD or Master’s thesis title and abstract by **January 3, 2014**. Applications are judged primarily on the quality of climate research education and background. Finalists are notified at the end of January and are then provided information on the 2014 hosting partner institutions. To complete the application process, Finalists write a short proposal to address the climate issues facing the hosting institutions. Proposals are due by March 1, 2014. For more information and to apply, visit: http://www.vsp.ucar.edu/pace/Recruitment_Announcement.html.

4. NRC New Report “Abrupt Impacts of Climate Change: Anticipating Surprises”

The National Research Council (NRC) will hold a briefing for the report release of “Abrupt Impacts of Climate Change: Anticipating Surprises” on Tuesday, December 3 from 11:00-12:00 EST at the Koshland Science Museum (6th & E Sts. NW, Washington, DC).

Abrupt Impacts of Climate Change examines the likelihood of various physical components of the Earth system undergoing major and rapid changes, explores how to monitor climate change for warnings of abrupt changes and emerging impacts, and identifies high-priority needs for future research directions and monitoring capabilities. The event will be [webcast here](#). If you wish to attend the release in person, please [register here](#).

5. Staff Updates at WCRP

After serving five years and half as Director of WCRP, Ghassem Asrar left WMO to face a new challenge. He is the new Director of the Joint Global Change Research Institute in Maryland, USA. Meanwhile, Valery Detemmerman has accepted to be acting Director till the position is filled. Valery has been with WCRP for 26 years and is well known among the Climate Research Community.

6. NRC Decadal Survey of Ocean Sciences

The National Research Council, at the request of the National Science Foundation, is seeking guidance from the ocean sciences community on the prioritization of research and facilities for the coming decade. The Decadal Survey of Ocean Sciences (DSOS) committee has been assembled for this task. The DSOS committee feels strongly that their report must be informed by broad and thoughtful community input from across the entire spectrum of ocean sciences supported by NSF.

The DSOS committee will be holding town hall sessions at AGU in San Francisco in December and at the Ocean Sciences Meeting in Honolulu in February 2014. In addition to soliciting comments at the professional meetings, they are seeking community input through a “virtual” town hall: <http://nas-sites.org/dsos2015/>. Please feel free to contribute your comments regarding the top ocean science priorities for the next decade, and to distribute this website broadly to the community. The website provides more detailed information on the statement of task, as well as a complete list of the DSOS committee members. Please go to the website and contribute your comments regarding the top ocean science priorities for the next decade.

7. NMME Seasonal & Monthly Mean Forecasts through June 2014 Available

The seasonal and monthly mean forecasts for December, 2013 to June, 2014 are now available at www.cpc.ncep.noaa.gov/products/NMME/.

Both NMME and International MME (IMME) forecasts can be accessed from the homepage. Forecasts are presented for the following fields:

- 2-meter surface temperature (global and North America)
- Precipitation rate (global and North America)
- Sea-surface temperature (global and Nino3.4-region)

Mean spatial anomaly forecasts and probability forecasts can both be accessed from the homepage. A preliminary verification assessment of the real-time forecasts is now available for precipitation rate and 2m temperature forecasts over North America. These may be accessed via a link on the homepage. This

November marks one year of the inclusion of probability forecasts in the NMME. Older forecasts can be accessed in the archive. Many interesting talks were presented at the NMME special session at the 38th Climate Diagnostics and Prediction Workshop in October. These talks will be available at the CDPW web page: <http://origin.cpc.ncep.noaa.gov/products/outreach/CDPW38.shtml>.

8. 'Sea Ice in a changing environment' Call for Papers

The Council of the International Glaciological Society, on recommendation from its publications committee, has decided to publish an Annals of Glaciology issue dedicated to the theme of Sea Ice in a Changing Environment. The issue will be part of Annals volume 56 issue 69 and we expect the completed issue to be published near the beginning of 2015. But papers will be published online without delay as soon as they are completed.

Deadlines:

- **December 20, 2013** – deadline for submitting manuscripts for this Annals
- April 14, 2014 – deadline for supply of final accepted papers
- Papers will be published online as soon as authors have returned their proofs and all corrections have been made
- Hard copy is scheduled for publication early in 2015

Topics:

1. Pole to pole: Large-scale change and variability in sea ice and climate.
2. Seymour Laxon & Katherine Giles celebration session: Advances in sea-ice analysis using remotely-sensed data.
3. Advances in instrumentation and observation methods.
4. The challenge of melding sea-ice modelling with observations.
5. A new regime for sea-ice growth and decay?
6. Snow on sea ice.
7. Interactions between sea-ice drift & deformation and sea-ice morphology.
8. Ocean-ice-atmosphere interactions.
9. The marginal ice zone.
10. Sea ice interaction with ice sheets, ice shelves and icebergs.
11. The role of sea ice in ecosystems dynamics.
12. Sea-ice biogeochemical properties and processes in a world of change.
13. Paleo and pre-satellite sea ice distribution.

If you have any questions about the suitability of your paper for this particular Annals issue, please contact the Annals Chief Editor Petra Heil, for further information: T: +61 3 6226 7243 or email: p_heil@postoffice.utas.edu.au

9. New MEaSURES Reflectivity Data Now Available

The NASA Goddard Earth Sciences Data and Information Services Center (GES DISC), in collaboration with Principal Investigator Jay Herman, is pleased to announce the release of data products from the "Earth Surface and Atmosphere Reflectivity Since 1979 from Multiple Satellites" project. The project is

part of the NASA Making Earth Science Data Records for Use in Research Environments (MEaSUREs) Program.

The Multi-Satellite Lambertian Equivalent Reflectivity (LER; 340 ±0.55 nm) Version 1 data include observations from the Solar Backscatter Ultraviolet Instrument (SBUV) Nimbus-7, SBUV/2 NOAA-9, -11, -14, -16, -17, -18, -19, Total Ozone Mapping Spectrometer (TOMS) Nimbus-7 and EarthProbe, Ozone Monitoring Instrument (OMI) Aura, and the Sea-viewing Wide Field-of-view Sensor (SeaWiFS) SeaStar.

Additional information on and access to these data are available at: <http://disc.sci.gsfc.nasa.gov/datareleases/msler-release-announcement>.

Announcement of Opportunity

1. NSF Decadal and Regional Climate Prediction using Earth System Models (EaSM) Solicitation

This EaSM funding opportunity enables interagency cooperation on one of the most pressing problems of the millennium: climate change and how it is likely to affect our world. It allows the partner agencies - National Science Foundation (NSF) and U.S. Department of Agriculture (USDA) - to combine resources to identify and fund the most meritorious and highest-impact projects that support their respective missions, while avoiding duplication of effort and fostering collaboration between agencies and the investigators they support.

This interdisciplinary scientific challenge calls for the development and application of next-generation Earth System Models that include coupled and interactive representations of such components as ocean and atmospheric currents, agricultural working lands and forests, biogeochemistry, atmospheric chemistry, the water cycle and land ice. This solicitation seeks to attract scientists from the disciplines of geosciences, agricultural sciences, mathematics and statistics. Successful proposals will develop intellectual excitement in the participating disciplinary communities and engage diverse interdisciplinary teams with sufficient breadth to achieve the scientific objectives. We encourage proposals that have strong broader impacts, including public access to data and other research products of general interest, as well as educational, diversity, or societal impacts.

The long-term goals of this solicitation are to improve on and extend current Earth System modeling capabilities to:

- Achieve comprehensive, reliable global and regional predictions of decadal climate variability and change through advanced understanding of the coupled interactive physical, chemical, biological, and human processes that drive the climate system, including as they pertain to agriculture , forestry or land cover/use.
- Quantify the impacts of climate variability and change on natural and human systems, and identify and quantify feedback loops.
- Maximize the utility of available observational and model data for impact, vulnerability/resilience, and risk assessments through up/downscaling activities and uncertainty characterization.
- Effectively translate climate predictions and associated uncertainties into the scientific basis for policy and management decisions related to human interventions and adaptation to the projected impacts of climate change.

This is the third EaSM solicitation. It remains focused on the prediction of future climates and their consequences for human systems on time scales of several decades and shorter and global to regional and finer spatial scales. A time span of several decades is chosen because within this timeframe modeled climate change responses appear to be insensitive to CO₂ forcing scenarios. Moreover, adaptation planning and implementation are carried out on roughly these time scales. This solicitation will not consider research involving varying CO₂ forcing scenarios beyond the next several decades. The long-term EaSM Program goals remain essentially the same; however, the EaSM-3 solicitation focuses on the subset of the specific areas of interest that are primarily related to Goal 1: to achieve comprehensive, reliable global and regional predictions of decadal climate variability and change through advanced understanding of the coupled interactive physical, chemical, biological, and human processes that drive the climate system, including as they pertain to agriculture, forestry or land cover/use.

The emphasis in EaSM-3 is only on the decadal aspect of:

- Predictability studies
- Prediction and attribution
- Research on metrics, methods, and tools for testing, evaluating, and validating climate and climate impact predictions and characterizing their uncertainty.

For each of these areas, prediction, attribution, and tools may be applicable to terrestrial (including terrestrial aquatic), oceanic, and atmospheric systems and their interactions, and may relate to scenarios of human actions and adaptation, particularly as these pertain to agriculture, forestry or land cover/use.

Full Proposal Deadline Date: **December 23, 2013**. For full solicitation details: <http://www.nsf.gov/pubs/2013/nsf13607/nsf13607.htm>.

Meetings and Workshops

1. Third International Climate Change Adaptation Conference Fortaleza Ceará, Brazil May 12-16, 2014

Co-hosted and convened by the Earth System Science Center of the National Institute for Space Studies (CCST-INPE) from Brazil and by UNEP's Program of Research on Climate Change Vulnerability, Impacts and Adaptation (PROVIA), the Conference on Adaptation Futures 2014 will be held in Fortaleza Brazil. The conference will bring together researchers, policy makers, and practitioners from developed and developing countries to share insights into the challenges and opportunities that adaptation presents, and to share strategies for decision making from the international to the local scale.

This conference follows on the success of the pioneering Climate Adaptation Futures Conference, co-hosted by Australia's National Climate Change Adaptation Research Facility and the CSIRO Climate Adaptation Flagship in Australia in 2010, and the Adaptation Futures 2012 International Conference on Climate Adaptation in Arizona in 2012. Inspired by these two conferences we hope to build on the community that comes together in Fortaleza and foster a connected, collaborative and creative international network of adaptation researchers, decision makers and interested citizens.

This conference will focus on climate impacts and adaptation options. It will bring together scientists and decision makers, and practitioners from developed and developing countries to share research

approaches, methods and results. It will explore the way forward in a world where impacts are increasingly observable and adaptation actions are increasingly required.

The abstract deadline has been extended to **December 12, 2013**. See more online: <http://adaptation-futures2014.ccst.inpe.br/>.

2. NCAR/UCAR Workshop on Partial Differential Equations on the Sphere Mesa Lab, NCAR, Boulder, CO April 7-11, 2014

A fundamental issue in climate and weather modeling is the dependence of errors in general circulation models on their basic dynamical cores and their subgrid scale parameterizations. To advance the state-of-the-art for numerical weather prediction and climate simulation, this organization encourages research on numerical algorithms and solution methods for partial differential equations (PDEs) posed in a spherical geometry. They also foster the development of tests and diagnostics for atmospheric and ocean model dynamical cores. The development of new methods in spherical geometry and how these eliminate shortcomings of current methods include applications to the shallow water equations and to complete hydrostatic and non-hydrostatic baroclinic models.

Workshop topics of interest include:

- Advection schemes
- Discretization methods and adaptive grids
- Comparison study of methods
- Computational performance
- Global hydrostatic and non-hydrostatic models
- Discussion and proposal of test cases

Abstract submission Deadline: **February 1, 2014**. See here for more details: <http://www2.cgd.ucar.edu/events/workshops/pdes2014>.

3. WCRP-ICTP Summer School on Attribution and Prediction of Extreme Events Trieste, Italy July 21-August 1, 2014

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing, in collaboration with the World Climate Research Program (WCRP), a Summer School on Attribution and Prediction of Extreme Events, to be held at ICTP, Trieste. The purpose of the proposed school is to train students with outstanding research potential in the techniques that will be required to better understand observed and future changes in extremes. There is a pressing need to educate future researchers in the techniques given the prominence and importance of societal and scientific questions about extreme events that are receiving increasingly intense attention in the minds of the public and their policy makers.

The school will be organized around three broad topic areas:

- 1) Statistical theory underpinning extreme value analysis,
- 2) Detection and attribution of observed changes in the frequency and/or intensity of extremes, and

3) Event attribution, and the physical mechanisms that are involved in amplifying and/or extending the duration of some specific extreme events such as heat waves

The school will also educate students in the development of some of the key data resources that are used to place current extremes into a historical context, and will provide insights into some of the emerging thinking on the near term prediction of the likelihood of extreme events. The school will also teach the importance of understanding the physical mechanisms that produce many of the most impactful extreme events, including “complex” hydrologic extremes such as drought and the role of coupled land-atmosphere feedback mechanisms in amplifying extreme temperature events.

For the two week duration of the school, lectures will take place in the mornings, with occasional lectures in the evenings. The afternoons and remaining evenings will be devoted to the practical application of the material covered in the lectures. This will be accomplished through introductory lab sessions and a set of research problems that will form the core of the school.

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the workshop. As it will be conducted in English, participants should have an adequate working knowledge of this language. Although the main purpose of the Centre is to help research workers from developing countries through a program of training activities within a framework of international cooperation, students and post-doctoral scientists from advanced institutes are also welcome to attend.

Due to organizational reasons, the total number of PARTICIPANTS is LIMITED. The Steering Committee will select approximately 30 students, with roughly equal numbers from developing and developed world institutions. Applicants will have the opportunity to bring a poster and present their work at the school. Additional information on which the selection will be based will be a statement of motivation and a supporting letter from the applicant’s supervisor. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available and will be awarded where possible, depending on the participants’ needs and merit. There is no registration fee.

For more information and to apply: http://cdsagenda5.ictp.trieste.it/full_display.php?ida=a13211.

Position Announcements

1. Division Director, Division of Ocean Sciences National Science Foundation, Ballston, VA

Serves as a member of the Directorate for Geosciences (GEO) leadership team and as the Foundation’s principal spokesperson in the area of ocean sciences. The mission of the Division of Ocean Sciences (OCE) is to enable fundamental research in most areas of infrastructure and education to advance the understanding of all aspects of the global oceans and ocean basins, including their interactions with people and the integrated ocean system. These activities provide knowledge critical to addressing many of our nation’s most pressing challenges involving ocean processes. OCE supports and promotes collaboration and facilitates development of a diverse scientific and educational community, including international efforts. The Division works with the U.S. ocean sciences academic community to direct funding towards advancing the frontiers of knowledge, developing the next generation of researchers, and enhancing the public’s understanding of ocean sciences.

The Division Director has managerial and oversight responsibilities for the effective use of division staff and resources in meeting organizational goals and objectives. This includes directing the activities of the Division of Ocean Sciences, assessing the needs and trends in geosciences research and education, developing breakthrough opportunities, implementing overall strategic planning, and policy setting. Supervises and provides leadership and guidance to senior OCE staff (Section Heads), program officers, administrative and support personnel. Determines funding requirements, prepares and justifies budget estimates, balances program needs, allocates resources, oversees the evaluation of proposals and recommendations for awards and declinations, and represents NSF to relevant external groups. Fosters partnerships with other Divisions, Directorates, Federal agencies, scientific organizations, and the academic community. Job

Announcement Number: OCE-2014-0003. See USAJobs website for more information: <https://www.usajobs.gov/GetJob/ViewDetails/355104000>. Application deadline: **January 06, 2014**.

2. Division Director, Division of Atmospheric and Geospace Sciences National Science Foundation, Ballston, VA

The mission of the Division of Atmospheric and Geospace Sciences (AGS) is to enable fundamental research and support relevant infrastructure and education that advances understanding of the behavior of the earth's atmosphere and its interactions with the sun. Included are studies of the physics, chemistry, and dynamics of earth's upper and lower atmosphere and its space environment, research on climate processes and variations, and studies to understand the natural global cycles of gases and particles in the earth's atmosphere. NSF also provides support for participation by the United States scientific community in international scientific research endeavors, such as the World Climate Research Program.

The Division works with individual grants and at national research facilities, including the National Center for Atmospheric Research (NCAR), and with the U.S. atmospheric sciences academic community to direct funding towards advancing the frontiers of knowledge, developing the next generation of researchers, and enhancing the public's understanding of atmospheric sciences.

The Division Director has managerial and oversight responsibilities for the effective use of division staff and resources in meeting organizational goals and objectives. This includes directing the activities of the Division of Atmospheric and Geospace Sciences, assessing the needs and trends in geosciences research and education, developing breakthrough opportunities, implementing overall strategic planning, and policy setting. Determines funding requirements, prepares and justifies budget estimates, balances program needs, allocates resources, oversees the evaluation of proposals and recommendations for awards and declinations, and represents NSF to relevant external groups. Fosters partnerships with other Divisions, Directorates, Federal agencies, scientific organizations, and the academic community.

Announcement Number: AGS-2014-0001. See USAJobs website for more information: <https://www.usajobs.gov/GetJob/ViewDetails/355344400>. Application deadline: **January 08, 2014**.

3. Ladder Faculty Position, Dynamic Meteorology UCLA Department of Atmospheric and Oceanic Sciences

The UCLA Department of Atmospheric and Oceanic Sciences seeks outstanding applicants for a ladder faculty position in dynamic meteorology. The appointment can be made at any level of seniority. Candidates with research interests in any specific sub-discipline within dynamic meteorology, including dynamics of

severe weather/extreme events and meteorology of air quality, are encouraged to apply. Those candidates with a strong background in integrating theory and observations of meteorological phenomena on spatial scales ranging from mesoscale to synoptic would help satisfy a critical teaching and research need. The UCLA Department of Atmospheric and Oceanic Sciences, is a vibrant and collaborative department whose faculty in atmospheric and ocean dynamics have long-standing strengths in the theory and modeling of large-scale circulations, moist convective processes, the general circulation, climate dynamics and the application of modern applied mathematics to problems in atmospheric and oceanic sciences. The ability of applicants to profit from, complement, and further contribute to these traditions will also be a consideration in their evaluation.

The successful applicant must hold a Ph.D. (or equivalent) degree at the time of appointment and will be expected to contribute to the teaching mission of the department, at both the graduate and undergraduate levels. He or she will also be expected to lead or develop a first rate program of research in dynamic meteorology in which context graduate and post-graduate scholars are actively recruited, supported, and mentored. Salary will be commensurate with education and experience. The target start date is on or after July 1, 2014.

Please submit your online application to the Search Committee for faculty position in Dynamic Meteorology at <https://recruit.apo.ucla.edu/apply/> (tracking #0965-1314-01). Please include: (i) a statement of teaching and research interests; (ii) curriculum vitae; (iii) a list of 3-5 individuals who are familiar with your work and can serve as a reference. Applications received prior to **December 3, 2013** will receive full consideration. Please note that the on-line application website may close without notice at any time after January 31, 2014.

4. Two Tenure-Track Assistant Professors, Earth System Science University of California, Irvine

The Earth System Science (ESS) Department at the University of California, Irvine seeks two faculty hires to bring new research on climate change, impacts and natural resources, and to strengthen the department's commitment to understanding and teaching the science underpinning global change. ESS was founded twenty-two years ago with a focus on global environmental changes that occur on human time scales. Currently, the department has twenty-one full time faculty with research and teaching in climate dynamics, atmospheric chemistry, biogeochemistry of land and oceans, cryosphere, global water cycle, ecosystems and human systems (see <http://www.ess.uci.edu/research>). ESS faculty envision the next generation department as emphasizing how climate and land-use change of the 21st century can be best understood from a physical science perspective, but also focused on the processes and scales that impact people and resources. UC Irvine seeks new colleagues who will build on core strengths in observing and interpreting the Earth system, and in helping map the physical and biogeochemical changes onto a future world. Both positions are tenure track and at the assistant professor level. Candidates must have a Ph.D. in a suitable discipline. Apply online at <https://recruit.ap.uci.edu/> or contact facultysearch@ess.uci.edu. The selection process begins **January 6, 2014**, and positions will remain open until filled.

5. Two Faculty Positions, Extreme Weather and Regional Climate Change The School of Marine and Atmospheric Sciences, Stony Brook University

The School of Marine and Atmospheric Sciences (SoMAS; <<http://www.somas.stonybrook.edu/>>) at Stony Brook University invites applications for two tenure track positions in Atmospheric Science to begin

as early as Fall 2014. We welcome applicants focusing on extreme weather and regional climate change. In particular, applicants should contribute towards improving the physical understanding of extreme weather (e.g., tropical cyclones, severe convection, flooding), novel ways to do regional climate downscaling for extreme weather, or the application of remote sensing to address these issues. Stony Brook has active research efforts to improve understanding and prediction of coastal storms, convective systems, storm surge, seasonal variability, and climate. Successful candidates are expected to develop an independent externally funded research program, to teach and direct research at both the undergraduate and graduate levels, and participate in School and University service. All candidates must have a Ph.D. in a relevant field, and have demonstrated excellence in research and a strong commitment to teaching. The positions will be filled at the Assistant Professor level.

Successful candidates will join a SoMAS faculty internationally known for their leadership in research in the atmospheric sciences and all the major disciplines of oceanography. SoMAS has collaborations with the Atmospheric Sciences Division at Brookhaven National Laboratory (BNL; <<http://www.bnl.gov/envsci/>>), located nearby, and also has extensive interactions with the New York City National Weather Service office located at BNL (<<http://www.erh.noaa.gov/okx/tour/index.html>>) on extreme weather (<<http://dendrite.somas.stonybrook.edu/CSTAR/>>).

Candidates should apply through Campus Job Opportunities (<<http://www.stonybrook.edu/cjo/>>), reference #F-8297-13-11, and submit a Stony Brook University state faculty employment application (available from the position announcement at the aforementioned jobs site), CV, a letter of introduction that conveys the candidate's teaching philosophy and proposed research plans, and names and contact information of three references (electronic submission in one PDF document is strongly preferred). Alternatively, the above-listed materials may be mailed to: Paulette Gerber, HR Assistant (ref: Faculty Positions in Atmospheric Science #F-8297-13-11) School of Marine and Atmospheric Sciences, 145 Endeavour Hall, Stony Brook University, Stony Brook, NY 11794--5000. Review of applications will begin on **January 15, 2014** and will continue until the positions are filled.

6. Tenure-Track Faculty Position, Interdisciplinary Research Data Science: Global Biogeochemistry University of Rochester, NY

The University of Rochester has made data science the centerpiece of its 5-year strategic plan, committing to 20 new faculty lines in diverse areas, a new building, and the establishment of the Institute for Data Science. UR is currently seeking applicants for tenure track positions in interdisciplinary research areas within data science. This interdisciplinary search focuses on recruiting candidates who are excited about engaging in collaborative research that connects advances in computational approaches across disciplines, ranging from engineering, to the life, social, and physical sciences. Global Biogeochemistry is a focus area for one of this year's interdisciplinary searches. UR seeks candidates who integrate biotic (e.g. microbial), chemical, and geological processes for an interdisciplinary research focus on understanding global geochemical cycling processes and/or global climate change. Applicants should have a strong computational and/or modeling component to their research aimed at mining, integrating, and/or interpreting large data sets. The rank of the position is open. Further information and instructions for this search can be found at: <<http://www.rochester.edu/rocddata/recruit/interdisciplinary.html>>.

The search will continue until the position is filled. For full consideration, individuals should provide complete applications by **January 15, 2014**. Applicants should hold a PhD and will be required to supply a set of refereed scholarly publications, names of references, and research and teaching statements. Applicants will be asked to select a set of disciplines most relevant to their research area.

7. Research Scientist, CASCADE Earth Sciences Division at Lawrence Berkeley National Laboratory

Job Number # 76352. The Earth Sciences Division at Lawrence Berkeley National Laboratory (Berkeley Lab) invites applications for a Research Scientist (career-track) appointment. We seek an interdisciplinary scientist with expertise and interests in a broad array of fundamental and applied atmospheric science to join a new project on the Calibrated and Systematic Characterization, Attribution, and Detection of Extremes (CASCADE). The position calls for an individual with expertise in climate extremes, climate modeling, and multiscale dynamics of the Earth's atmosphere. This is an excellent environment for working with a highly skilled interdisciplinary team in the Climate Sciences Department. Berkeley Lab is a renowned center of scientific expertise in many facets of climate-related fundamental and applied science.

The successful candidate will focus on systematically improving the fidelity of simulated climate extremes using state-of-the-science Earth system models. The work will focus on several important types of extremes including droughts, downpours, heat waves, atmospheric rivers, tropical cyclones, and hurricanes. The goal of this position is to determine how best to enhance long-term projections of these phenomena in future climates through systematic development of the multiscale physics in the target Earth system model. The position entails using a combination of scaling theory, short-range forecasts, and in situ and satellite data in order to identify opportunities for improved extreme simulation. The Research Scientist will actively collaborate with a multi-lab consortium to realize these opportunities through development of advanced scale-aware representations of critical atmospheric processes.

Key Responsibilities:

- Analyze hydrometeorological extremes simulated by state-of-the-science climate models.
- Perform historical simulations to evaluate the fidelity of extremes simulated by these models.
- Determine the sensitivity of model fidelity to key aspects of the model's numerical implementation.
- Develop theories for how key statistical properties of atmospheric state and extremes should vary with spatial and temporal scales.
- Apply these theoretical frameworks to quantify how simulation fidelity should vary with model resolution.
- Work with other model developers to improve the multiscale emulation of climate extremes.
- Author technical reports and peer-reviewed journal articles
- Produce and deliver high-profile oral and written presentations of scientific results
- Work collaboratively in a large multidisciplinary research team
- Successfully contribute to an active intellectual environment

Qualifications:

- Ph.D. in Atmospheric Science, Physics, Applied Mathematics, or a closely related field plus typically 3 years of relevant experience or overall equivalent experience
- Working knowledge of the multiscale processes in the Earth's climate system
- Experience in the development or use of coupled climate models
- Experience in climate model evaluation using simulations, observations, and advanced analytical techniques
- Proficient written and oral communications skills
- Proficient mathematical skills
- Demonstrated ability to initiate and conduct innovative and creative research
- Demonstrated ability to work collaboratively in interdisciplinary teams

Notes: This is a 3-year career-track term appointment with the possibility of renewal or conversion to career based on successful performance, continued funding, and ongoing need. A background check is required. Please apply at https://lbl.taleo.net/careersection/2/jobdetail.ftl?job=93440&lang=en&sns_id=.

8. Postdoctoral Fellow, Climate Change Tropics

Climate Sciences Department, Earth Sciences Division at Lawrence Berkeley National Laboratory

Job Number # 76311. The Climate Sciences Department in the Earth Sciences Division at Lawrence Berkeley National Laboratory (LBNL) has an exciting opportunity for a postdoctoral researcher to study climate change impacts on tropical forests. An important goal of this work will be the improvement and testing of forest ecosystem models in ESMs. We seek talented applicants with strong skills in (1) terrestrial ecosystem model development and algorithm coding; (2) the application of models to address complex questions at the interface of land-atmosphere interactions, ecosystem processes, vegetation demography, and ecophysiology; (3) sensitivity analysis and uncertainty quantification; and (4) the analysis and interpretation of large complex datasets (e.g., CMIP5).

The successful applicant will join a large dynamic multi-disciplinary department that is making climate and carbon cycle observations, and developing and applying ecosystem, atmospheric process, and climate models. The position is open immediately.

Responsibilities:

- Coding, development and use of state-of-the-art terrestrial ecosystem models to address complex Earth system questions
- Uncertainty and sensitivity quantification, and the use of existing experimental and observational datasets to evaluate existing and novel model structures and parameterizations
- Ability to work in a multidisciplinary team environment.
- Author peer-reviewed journal articles and contribute to grant proposals

Qualifications:

- Ph.D. in an appropriate discipline
- Graduate Student or Postdoctoral research experience in ecosystem modeling and/or analysis and interpretation of complex datasets
- Excellent written and oral communication skills
- Established record of peer reviewed articles
- Preferred - Research activities focused on tropical forests
- Preferred - Specific modeling skills in ecosystem demography, dynamic vegetation, plant water relations, ecophysiology, gap dynamics, and related processes

Notes: This is a 1-year postdoctoral appointment with the possibility of renewal for up to 5 years based upon satisfactory job performance, continuing availability of funds, and ongoing operational needs. Please apply at https://lbl.taleo.net/careersection/jobdetail.ftl?job=92541&lang=en&sns_id=.

9. Postdoctoral Fellow, Ecosystem Climate Uncertainties

Climate Sciences Department, Earth Sciences Division at Lawrence Berkeley National Laboratory

Job Number 76310. The Climate Sciences Department in the Earth Sciences Division at Lawrence Berkeley National Laboratory (LBNL) has an exciting opportunity for a postdoctoral researcher to analyze

interactions between tropical ecosystems and the atmosphere, and to use those analyses to inform observational and experimental needs for land model improvement. The project will involve analysis of Earth System Model (ESM) predictions, development of observationally-based model benchmarks, and land model development. We seek talented applicants with skills in (1) application of ESMs to analyze land-atmosphere interactions, ecosystem processes, and demography; (2) sensitivity analysis and uncertainty quantification; (3) quantification of feedback processes; (4) terrestrial ecosystem model development and algorithm coding; and (5) the analysis and interpretation of large complex datasets (e.g., CMIP5).

The successful candidate may focus on several groups of important tropical ecosystem and atmospheric interactions and analyses, including: (1) sensitivity experiments to mimic experimental manipulations; (2) conducting global model experiments to test the sensitivity of tropical forests to increasing atmospheric CO₂, nutrient limitation, rising temperature, and land use change; (3) investigating multi-model tropical ecosystem responses to climate change; (4) testing improvements to the representation of nutrient limitations relevant to tropical regions; and (5) identifying tropical ecoregions and representativeness of potential sampling locations. The successful applicant will join a large dynamic interdisciplinary department that is making climate and carbon cycle observations and developing and applying ecosystem, atmospheric process, and climate models. LBNL is a renowned center of scientific expertise in many facets of climate-related fundamental and applied science. The position is open immediately.

Responsibilities:

- Experience with coding, development and use of state-of-the-art terrestrial ecosystem models to address complex Earth system questions
- Uncertainty and sensitivity quantification, and the use of existing experimental and observational datasets to evaluate existing model structures and parameterizations
- Ability to work in a multidisciplinary team environment.
- Author peer-reviewed journal articles and contribute to grant proposals.

Qualifications:

- Ph.D. in an appropriate discipline
- Graduate Student or Postdoctoral research experience in ecosystem modeling and/or analysis and interpretation of complex datasets.
- Excellent written and oral communication skills
- Established record of peer reviewed articles
- Preferred: Research activities focused on tropical forests
- Preferred: Specific modeling skills in ecosystem demography, dynamic vegetation, plant water relations, ecophysiology, gap dynamics, and related processes

Notes: This is a 1-year term appointment with the possibility of renewal for up to 5 years based upon satisfactory job performance, continuing availability of funds, and ongoing operational needs. Please apply at https://lbl.taleo.net/careersection/jobdetail.ftl?job=92540&lang=en&sns_id=.

10. Postdoctoral Research Associate, Atmospheric Science University of Illinois

The Department of Atmospheric Sciences at the University of Illinois, Urbana-Champaign is seeking a postdoctoral research associates to conduct research aimed at improving our understanding of the interactions among earth's climate and terrestrial biogeochemical-biogeophysical systems. The candidate's

research will focus on studying the role of biogeochemistry, land cover and land use changes and their impacts on climate using an earth system model.

UI seeks a candidate with a Ph.D. in earth system science, climate science, or another related field in the sciences or engineering with a working knowledge of global biogeochemistry model, an earth system model or similar complex models. A working experience in FORTRAN is must and parallel programming and running models on super computers is preferred. Demonstrated ability to produce quality research output, good oral and verbal communication skills and an interest in working with researchers from computer and other environmental sciences will be among the selection criteria. The initial term will be for two years with the strong potential for renewal based on performance.

Applicants should send the following materials by email to Prof. Atul Jain at jain1@illinois.edu: (1) a cover letter describing research interests and experience, (2) curriculum vita, and (3) names and contact information for three references. The salary is commensurate with experience. For full consideration, applications must be received by **November 30, 2013**.

11. PhD Graduate Research Opportunities, Oceanography and Climate Change Department of Earth and Environmental Sciences, University of Pennsylvania, Philadelphia

Dr. Marinov is seeking a motivated doctoral student to join her ocean/climate modeling group at UPenn. Possible scientific research directions include:

- The role of the Southern Ocean physics in the global energy and carbon budgets.
- Impact of climate change on ocean physics, biogeochemistry (nutrients, carbon, oxygen) and ecology. How do changes in ocean physics, ecology and chemistry affect the sink for atmospheric CO₂ and how will decadal to millennial changes in that sink affect in turn climate?
- Development of theoretical understanding on what controls the oceanic sink for atmospheric CO₂.
- Including evolutionary concepts and functional traits into ecological models and coupling them to comprehensive global climate models.
- Observing ocean biology from space.

Applicants must be self-motivated and hard working, with good written and verbal communication skills. A strong background in either physics, chemistry, oceanography, or atmospheric science is ideal. Past programming experience under the Linux environment (especially programming in Fortran and Matlab) is highly desirable.

If interested please contact Dr. Irina Marinov at imarinov@sas.upenn.edu. Full applications for the graduate program in the **Earth and Environmental Science Department** are due in **December 2013**. Please include in your application a CV, transcripts, general GRE scores, writing samples, and an essay detailing your specific interests in this field, as well as your relevant science and computational experience.

12. PhD Fellowships, Climate Science University of Southern California

The Climate Science program <<http://dornsife.usc.edu/earth/climate-science/>> at the University of Southern California <<http://www.usc.edu/>> seeks applications for PhD fellowships.

The Emile-Geay lab <<http://climdyn.usc.edu/>> investigates low-frequency climate variability over the Common Era using probabilistic and deterministic modeling. USC is looking for candidates with a strong quantitative background to tackle subjects at the interface between climate physics, geostatistics, climate modeling and paleoclimatology.

The Feakins lab <<http://earth.usc.edu/feakins/>> uses isotope and organic geochemical techniques to reconstruct past climate change. USC is looking for candidates with chemistry skills and aptitude, and various bio/chem/geo/climate interests, for projects that span proxy development to paleoclimate applications.

The Stott lab <<http://earth.usc.edu/~stott/>> has openings for candidates to participate in two ongoing research initiatives. One seeks to understand the Ocean's role in regulating glacial/interglacial atmospheric CO₂ cycles. The second is investigating how ocean-atmospheric interactions influenced recurrent drought over the western US during the past three centuries. Candidates with interests in combining geochemical tracers with Earth System models are encouraged to apply.

Graduate studies at USC are expected to last 5 years and are fully supported by competitive stipends, amidst a friendly research environment and incomparable weather. Interested applicants should email a CV, undergraduate GPA and (if available) GRE scores to the professor they wish to work with. Formal applications should be completed before **Jan 1, 2013** at <<http://www.usc.edu/admission/graduate/>>.

13. PhD/MS Graduate Assistantship, Climate Dynamics Texas A&M University-Corpus Christi

The Department of Physical and Environmental Sciences at Texas A&M University-Corpus Christi is inviting applications for a fully-funded MS or PhD student. The successful applicant will work on a research project related to tropical air-sea interaction, climate dynamics, tropical meteorology, or tropical and subtropical ocean processes. A specific research topic will be selected based on the student's interest.

Applicants should have a BS degree in Atmospheric Sciences, Oceanography, Physics, Mathematics, Computer Sciences, or relevant fields. Strong physics and math background is desirable. Qualified applicants should contact Dr. Toshi Shinoda (<tshinoda@tamucc.edu>). Applications for the PhD program in Fall 2014 are due on **February 1, 2014**. More information about the Department of Physical and Environmental Sciences, MS and PhD programs can be found at <<http://pens.tamucc.edu>>.

