Please forward to interested colleagues. If you do not wish to receive further newsgrams, please send a message to Cathy Stephens in the US CLIVAR Office (**cstephens@usclivar.org**)

June 2010 U.S. CLIVAR News-gram

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CALENDAR of UPCOMING EVENTS
(for more information-www.usclivar.org/calendar.html)

June 2010
7-9: US AMOC Meeting (Miami, FL)
21-23: CLIVAR Extremes Workshop (Paris, France)
22-25: AGU Western Geophysics Meeting (Taiwan)
28 – 2 July: CCSM Annual Meeting (Breckenridge, CO)

July 2010
7-9: US CLIVAR Summit (Denver, CO)
19-21: Aquarius Meeting (Seattle, WA)

August 2010
23-27: Pan-GEWEX Conference (Seattle, WA)
25-27: XBT Fall rate meeting (Hamburg, Germany)

Research Opportunities
1. NASA Announcement of Opportunity - Enhancing the Capability of Computational Earth System Models and NASA Data for Operation and Assessment

This solicitation offers investigators an opportunity to analyze, assess, and increase the impact of NASA data in research and operational environments, particularly in the areas of weather prediction, climate projection assessment, and global carbon cycle modeling in anticipation of carbon management regulations. This solicitation seeks three areas of proposals: (a) Acceleration of Operational Use of Research Data including Joint Center for Satellite Data Assimilation (JCSDA), (b) data for IPCC climate projection assessment, and (c) computational support of Earth system modeling.

Amendment 4 releases the final version of the text of Appendix A.24, which replaces the draft text in its entirety. **Notices of Intent to are due July 15, 2010** and Proposals are due September 17, 2010. Expected program budget for first year of new awards is ~$3M.

This Amendment to the NASA Research Announcement "Research Opportunities in Space and Earth Sciences (ROSES) 2010" (NNH10ZDA001N) is now posted on the NASA research opportunity homepage at http://nspires.nasaprs.com/ (select "Solicitations" then "Open Solicitations" then "NNH10ZDA001N"). You can now track amendments, clarifications and corrections to ROSES and subscribe to an RSS feed at: http://nasascience.nasa.gov/researchers/sara/grant-solicitations/roses-2010

Questions concerning this program may be addressed to Tsengdar Lee, Earth Science Division, Science Mission Directorate, NASA Headquarters, Washington, DC 20546-0001; Telephone: (202) 358-0860; E-mail: tsengdar.j.lee@nasa.gov.

Position Announcements
2. Computational Scientist at The National Center for Computational Sciences in the Computing and Computational Sciences Directorate at the Oak Ridge National Laboratory (ORNL)

ORNL seeks to hire a Computational Scientist in the area of Climate Sciences to serve as a liaison between the National Center for Computational Sciences (NCCS) and the users of the NCCS computing resources.

The National Center for Computational Sciences (NCCS) provides the most powerful computing resources in the world for open scientific research. It is one of the world's premier science facilities—an unparalled research environment that supports dramatic advances in understanding how the physical world works and using that knowledge to address our most pressing national and international concerns.

The NCCS was founded in 1992 to advance the state of the art in high-performance computing by putting new generations of powerful parallel supercomputers into the hands of the scientists who can use them the most productively. It is a managed activity of the Advanced Scientific

Computing Research program of the Department of Energy Office of Science (DOE-SC) and is located at the Oak Ridge National Laboratory.

The Center is host to the Cray XT5 "Jaguar" supercomputer, ranked No. 1 on the Top500 list of the world's fastest supercomputers in November 2009. With a peak speed of 2.33 petaflops (over two thousand trillion calculations per second), Jaguar is the fastest and most powerful supercomputer in the world. To support its extraordinary concentration of computing power, the NCCS has put in place high-speed fiber-optic networks to expedite data movement, a scientific visualization center that enables researchers to analyze their simulation results quickly and comprehensively, and a high-performance data archiving and retrieval system

Basic Functions of the Position:
The selected candidate will work with application scientists to develop, integrate, port, and tune applications to take advantage of the capabilities of the NCCS leadership computing environment. The candidates will represent the needs of application communities for NCCS planning and decision-making.

Qualifications Required
A Ph.D. or a Masters with substantial experience in the computational climate domain, applied mathematics, computer science, or related scientific discipline is essential. Experience with numerical methods, parallel algorithms, MPI, Fortran and parallel software development on large-scale computational resources is required. Experience in the various climate areas, atmosphere, ocean, and/or weather simulation and other science domains aligned with US DOE Office of Science mission areas is desirable. Experience with C, C++, vectorization or one-sided asynchronous programming models is a plus. Excellent interpersonal skills, oral and written communications skills, organizational skills, and strong personal motivation are necessary. Ability to work in a dynamic, team environment is required. For more information about the organization, please visit: http://www.nccs.gov/
For immediate consideration, please contact Kate Carter, Recruiter, carterka@ornl.gov

3. **New Climate Process Team seeks four physical oceanography postdoctoral students**
Applicants are sought for postdoctoral scientists to join a recently NSF and NOAA funded Climate Process Team. The ultimate goal of the project is to better parameterize internal wave driven mixing in ocean climate models. The team consists of 15+ PIs from leading institutions, with combined expertise in modeling, observational analysis, and theoretical work. We seek four postdoctoral fellows to work on various aspects of internal-wave driven mixing in the ocean, including numerical process studies, careful theory and data comparison, and development of parameterizations for use in global high-resolution and climate models.

Funding is available for up to three years of support, depending on the performance of the successful applicants. The postdoctoral scientists will be located at Scripps Institution of Oceanography (UCSD), Woods Hole Oceanographic Institution, University of Michigan, and Princeton University / GFDL (Geophysical Fluid Dynamics Laboratory). All of the successful applicants will be encouraged to visit with collaborators at other participating institutions, and frequent workshops will offer additional opportunities for the postdocs to network with scientists throughout the country. All of the participating institutions offer competitive salary and benefits packages for postdoctoral scientists. More details are available at http://www-pord.ucsd.edu/~jen/cpt/

Each successful applicant will have a PhD in physical oceanography or in related fields such as applied mathematics, fluid dynamics, or atmospheric science. Applications and inquiries should

be sent to Dr. Jennifer MacKinnon (jmackinn@ucsd.edu) Applicants should send a curriculum vitae including a list of publications and presentations, contact information for three references, and a cover letter describing which aspects of the problem they are most interested in or qualified to work on. Review of applications will begin on **June 20, 2010**. Women and minorities are encouraged to apply.

4. Science Communicator/Web Content Manager at the US Global Change Research Program (USGCRP) Office
http://tinyurl.com/395ba46
BASIC JOB FUNCTION: Serves as USGCRP Integration and Coordination Office (ICO) focal point for (1) promoting and disseminating the results of USGCRP activities, and (2) making USGCRP science findings and products easily accessible to a diverse set of audiences. The individual staffs the Communications and the Education Interagency Working Groups, providing professional-level support and serving as liaison to senior Federal program managers and Public Affairs officers to promote interagency collaboration on climate change communication and education. Provides technical and project management support to the ICO Director and undertakes special assignments as defined by USGCRP management team. Will report to the ICO director.

Meetings and Workshops
5. Conference Announcement: Building Delta Networks
29 September - 1 October 2010
Registration now open! www.climatedeltaconference.org

At this conference, researchers will exchange the latest scientific insights on topics such as flood risk management, salt water intrusion and governance. In addition, sessions will be organised by and for policy makers, senior political officials and the business community. Panels of leading figures from the political and business communities will discuss subjects such as international cooperation and financing mechanisms for adaptation.

The Delta Alliance, an international alliance promoting effective cooperation among deltas worldwide, will be launched. Connecting Delta Cities, now celebrating its second anniversary, will organise sessions to plan for further cooperation. These networks will link scientists, experts and policymakers, strengthen international cooperation and offer opportunities to develop innovative delta management techniques. Water Mondiaal, the Dutch programme for international cooperation on water management in delta areas, will use the conference to further elaborate its programme in close cooperation with its partners.

6. Workshop on Continuity of Earth Radiation Budget (CERB) Observations: Post-CERES Requirements
13-14 July 2010 Asheville, NC

The Earth-atmosphere system equilibrium temperature is determined by the balance between the incoming solar radiation, the amount of that incoming radiation reflected back to space by the Earth's surface and clouds, and the longwave Earth-emitted radiation that is largely regulated by clouds and greenhouse gases. Accurate observations of the Earth's radiation are essential to determine the causes of climate variability and change.

A new era in monitoring the Earth radiation budget began in 2000 with the launch of CERES instruments on the TERRA spacecraft which also included the MODIS instrument. As noted by

the NRC's decadal study, 'the CERES project has demonstrated the capability of obtaining highly accurate radiative fluxes when the broadband radiances obtained with the radiometer are interpreted through scene identification achieved through the collocation of multispectral imagery data'. To ensure continuity of these critical climate records, a CERES FM-5 instrument will fly on the NPP spacecraft and a CERES FM-6 instrument will fly on the first NOAA-NASA Joint Polar Satellite System JPSS spacecraft (now J1; formerly NPOESS C1).

Following the recommendation of the NRC Decadal Study, NOAA is planning for the Continuity of Earth Radiation Budget (CERB) observations and seeks community input to update requirements in order to begin planning the next generation of instruments. NOAA's National Climatic Data Center (NCDC) will be hosting a 1 ½ day meeting July 13 and ending noon July 14 in Asheville, NC, to kick off this process.

The Workshop will seek to 1) identify the purposes and current uses of Earth radiation budget observations, 2) document the current status of research and applications of Earth radiation budget, and 3) identify observing system requirements for the continuity of the Earth radiation budget climate data record. We seek input from instrument scientists, observationalists, and the modeling community to ensure wide community input.

Logistical information and further details will be posted as a link on the NCDC web site www.ncdc.noaa.gov in the near future. For more information regarding the scientific content of the Workshop, you can contact John Bates (john.j.bates at noaa.gov) or Xuepeng (Tom) Zhao (xuepeng.zhao at noaa.gov). For logistical information, please contact Anne Markel (anne.markel at noaa.gov).

7. CLIVAR WGOMD–GSOP Workshop on Decadal Variability, Predictability and Prediction
NCAR, Boulder, Colorado, USA 20-23 September 2010

The main goals of the workshop are:

- To assess how well the ocean models and ocean syntheses reproduce observed decadal variability,
- To understand and evaluate the robustness of simulated ocean internal variability,
- To identify the underlying physical mechanisms in the ocean in decadal climate variability,
- To evaluate the outcomes of the CMIP5 decadal prediction experiments.

Sessions will cover i) Observed and simulated oceanic decadal variability, ii) Decadal Climate Variability and the Role of the Ocean, iii) Initialization, Predictability, and Predictions: The Role of Ocean Synthesis and Hindcasts, iv) Ocean and coupled syntheses, and v) Climate Observations Required for Understanding Predictions.

The workshop will consist of invited plenary speakers and contributed talks and posters. The plenary talks will review and encourage the discussion of the current state of research related to a particular topic with candid and critical comments. Session discussions will assess community consensus and future coordinated directions and the workshop will culminate in a final summary discussion session on what could be achieved by a joint effort, looking at whether the community could develop a common framework.

For more information, to register, submit abstracts and apply for travel support see:
http://www.clivar.org/decadal.php

ANNOUNCEMENTS:

- **National Research Council releases three reports on May 19 from the America's Climate Choices suite of studies that emphasize the need for U.S. action in response to climate change.**
  The archived video webcast of the public briefing can be viewed at http://www.vodium.com/goto/portal/pn100882/launch.asp.
  The full reports and all the materials based on the reports can be found at http://americasclimatechoices.org .

  Advancing the Science of Climate Change: Climate Change Poses Significant Risks

  Advancing the Science of Climate Change concludes that a strong, credible body of scientific evidence shows that climate change is occurring, is caused largely by human activities, and poses significant risks for a broad range of human and natural systems. As decision makers respond to these risks, the nation's scientific enterprise can contribute both by continuing to improve understanding of the causes and consequences of climate change, and by improving and expanding the options available to limit the magnitude of climate change and adapt to its impacts. To make this possible, the nation needs a comprehensive, integrated, and flexible climate change research enterprise that is closely linked with action-oriented programs at all levels.

  The report recommends that a single federal entity or program be given the authority and resources to coordinate a national research effort integrated across many disciplines and aimed at improving both understanding and responses to climate change. The U.S. Global Change Research Program, established in 1990, could fulfill this role, but it would need to form partnerships with action-oriented programs and address weaknesses in its current program. A comprehensive climate observing system, improved climate models and other analytical tools, investment in human capital, and better linkages between research and decision making are also essential to a complete understanding of climate change.

  Limiting the Magnitude of Climate Change: Beyond 'Business as Usual'

  Limiting the Magnitude of Climate Change concludes that meeting internationally discussed targets for limiting atmospheric greenhouse gas concentrations and associated increases in global average temperatures will require a major departure from business as usual in how the world uses and produces energy. This report recommends that a U.S. policy goal be stated in terms of a budget for cumulative greenhouse gas emissions over the period 2012-2050. With only so much to "spend" during this period, the nation should act now to: (1) take advantage of key near-term opportunities to limit greenhouse gas emissions and to create new and better emission reduction opportunities for the longer term; (2) create a national policy framework within which actors at all levels can work toward a common goal; and (3) develop policy mechanisms durable enough to persist for decades but flexible enough to adapt to new information and understanding.

  The report concludes that a carbon pricing system (either cap-and-trade, taxes, or a combination of the two) is the most important step for providing needed incentives to reduce emissions. There is also a need, however, for complementary policies aimed at ensuring rapid progress to: increase energy efficiency; accelerate the development of renewable energy sources; advance full-scale demonstration of nuclear power and carbon capture and storage systems; and retrofit or replace existing emissions-intensive energy

infrastructure. Research and development of new technologies that could help reduce emissions further in the long term also should be strongly supported.

Adapting to the Impacts of Climate Change: Managing the Risks

Much of the nation's experience to date in managing and protecting its people, resources, and infrastructure is based on the historic record of climate variability during a period of relatively stable climate. Adapting to the Impacts of Climate Change concludes that adaptation to climate change calls for a new paradigm-one that considers a range of possible future climate conditions and associated impacts, some well outside the realm of past experience. Adaptation is a process that requires actions from many decision-makers in federal, state, tribal, and local governments, the private sector, non-governmental organizations, and community groups. However, current adaptation efforts are hampered by a lack of solid information about the benefits, costs, and effectiveness of various adaptation options, by uncertainty about future climate impacts at a scale necessary for decision-making, and by a lack of coordination.

The report calls for a national adaptation strategy to support and coordinate decentralized efforts. As part of this strategy, the federal government should provide technical and scientific resources that are currently lacking at the local or regional scale, incentives for local and state authorities to begin adaptation planning, guidance across jurisdictions, shared lessons learned, and support of scientific research to expand knowledge of impacts and adaptation.

- **David Conover named as new Director, NSF Division of Ocean Sciences**
  http://www.nsf.gov/geo/oce/pubs/conover.jsp
  Dr. Conover currently serves as Dean of the School of Marine and Atmospheric Sciences (SoMAS) at Stony Brook University. He has served in that position since 2003 and has been a Professor at the School of Marine and Atmospheric Sciences at Stony Brook University since 1981. During 1997-98, Dr. Conover also served as the Mote Eminent Scholar Chair in Fisheries Ecology at the Department of Biological Sciences, Florida State University.

  During Dr. Conover's tenure at Stony Brook, he has led several activities that expanded the undergraduate program as well as the breadth of research and education in the geosciences at the university. He has demonstrated extensive skill working with the legislative branch of government both at the state and federal level. As a valued member of numerous boards of Directors and advisory panels, he has had a positive influence on the ocean sciences.

  Dr. Conover received his B.S.(1975 with honors) in Biology from Eckerd College in St. Petersburg, FL and his M.S.(1979) and Ph.D.(1982) in Fisheries Biology from the University of Massachusetts, Amherst. In 2005, Dr. Conover became an Aldo Leopold Leadership Fellow.

- **Coordinated Ocean-ice Reference Experiments - Phase II (CORE-II) experimental protocol finalized**
  These are hindcasts forced with interannually varying surface data sets for the period 1948-2007 (Large and Yeager, 2008). Two sets of CORE-II experiments have been archived by NCAR on the Earth System Grid (ESG) for anyone interested to look at and analyze. These experiments have been conducted using the nominal 1-degree horizontal

resolution version of the CCSM4 ocean model. Both are forced with the CORE v2 IAF data sets (Large and Yeager, 2008). One is with an active sea-ice model and the other has a data ice model.

Please see the CORE-II webpage for more details and links to access the data: http://www.clivar.org/organization/wgomd/core/core_II.php

- **GO-SHIP Update**
  New maps and tables of cruise plans are now available on the GO-SHIP Web site at www.go-ship.org. The new map is color-coded by country, with black lines showing sections where plans for repeat occupations are pending. The new tables provide a list of proposed measurements to be made on each section. This table has been developed to facilitate collaborations to ensure a full suite of measurements on each section. For comments or corrections, please contact Maria Hood (maria.hood@ioccp.org).

  The GO-SHIP strategy will be presented as an Information Document to the 43rd Session of the IOC Executive Council, 8-16 June 2010. The revised hydrography manual will be published at the end of May / beginning of June.