

U.S. CLIVAR Climate Model Evaluation Project (CMEP)
By Cathy Stephens, U.S. CLIVAR Office

Currently, modeling groups in the U.S. and internationally are conducting late 19th - 20th century simulation experiments and 21st - 23rd century projection experiments for assessment in the IPCC Fourth Assessment Report (AR4). To support diagnostic analyses leading to the evaluation of U.S. coupled climate model simulations of the late 19th - 20th century, NSF, NOAA, NASA and DOE agreed to award 15-20 small grants to PIs for such efforts. The objective of these grants is to increase community-wide diagnostic research into the quality of model simulations, leading to more robust evaluations of model predictions and a better quantification of uncertainty in projections of future climate. The results of this research will be used for the subsequent evaluations of the quality of U.S. model global and regional climate projections of the 21st century and beyond in the context of an international multi-model dataset.

An announcement of opportunity was issued on behalf of the agencies by the U.S. CLIVAR in May 2004. As the climate models will project 21st – 23rd century climate, it is anticipated that the results of the diagnostic studies of their late 19th - 20th century simulations, funded under this opportunity, will aid in understanding and assessing the uncertainty of the future climate change projections for the IPCC AR4 at global and regional scales. Over sixty proposals were submitted to the U.S. CLIVAR Project Office with topics ranging from tropical variability, inter-annual decadal variability, monsoons, fluxes, heat budgets, detection and attribution, and weather. In the end, 17 proposals were selected for funding by the agencies.

These selected Principal Investigators are expected to participate and discuss their results in a workshop to be convened by U.S. CLIVAR and hosted by the International Pacific Research Center (IPRC) at the University of Hawaii from 1-4 March 2005. Scientific papers describing the results of the multi-model analyses for IPCC will be presented at the workshop. There will be a workshop report summarizing the presentations that will be furnished to the lead authors of the relevant chapters for the AR4. Results from the analysis projects must then be written up by the respective investigators, and submitted to peer-reviewed journals by the time of the Second Lead Author Meeting in May 2005, in order to be fully included and assessed in the AR4 as specified by the guidelines of IPCC.

The workshop organizing committee consists of members of the U.S. CLIVAR Scientific Steering Committee: Gerald Meehl (NCAR), James Hurrell (NCAR), Lisa Goddard (IRI), and Dave Gutzler (University of New Mexico). Additional information, including abstracts of the grants awarded, can be found at www.usclivar.org/science.html. For information regarding model output and access, visit http://www.pcmdi.llnl.gov/ipcc/about_ipcc.php.

CLIVAR/CMEP Grants Awarded

Author	Title	Affiliation
A. Capotondi	Interannual and Decadal Variability in the Topical Pacific Ocean: Description and Mechanisms	NOAA CIRES/CDC
D. Chelton and E. Maloney	An Investigation of SST Influence on Surface Wind Stress in Climate Models	Oregon State University
K. Cook	Sensitivity of the West African Monsoon to Gulf of Guinea SSTs	Dept of Earth and Atmospheric Sciences, Cornell University
R. Curran and W. Lau	Hydrological Cycles in the Tropics	University of Maryland, Baltimore Campus
K. Hamilton and H. Annamalai	South Asian Summer Monsoon Climatology and Variability in the Control and 20th Century IPCC AR4 Simulations	IPRC, University of Hawaii
I. Kamenkovich	Subantarctic Mode Water and Antarctic Intermediate Water: How well are they represented in climate models?	University of Washington
D. Karoly	Simple Indices of Climate Variability and Change	University of Oklahoma
B. Leipert	Evaluation of Surface Solar Irradiance in Coupled Climate Models	Lamont Doherty Earth Observatory - Columbia University
J. Lin, B. Mapes and K. Weickmann	Intraseasonal Variabilities: Structure and Feedback Analysis	NOAA CIRES/CDC
M. McPhaden	Assessing Tropical Pacific Decadal Variability in Climate Models	NOAA – PMEL
S. Nigam and R. Joseph	Teleconnection Structure and Evolution in the coupled Model Simulations	University of Maryland
J. Overland and M. Wang	Evaluation of the coupled Climate Model Simulations over the Arctic - Contrasting the Warming in the 1990s versus 1930-50s	NOAA – PMEL
M. Raphael and M. Holland	Model Simulation of the Southern Hemisphere Atmospheric Circulation, Antarctic Sea Ice, and their Interaction: An Evaluation	UCLA
A. Ruiz-Barradas and S. Nigam	Diagnosis of North American Hydroclimate Variability in Coupled Model Simulations	University of Maryland
A. Solomon	Pacific Subtropical Cells in coupled climate model simulations of the late 19th-20th century	NOAA CIRES/CDC
S. Sun	Model Intercomparison: Thermohaline Circulation and Its Relation to Surface Fluxes	Massachusetts Institute of Technology
G. Tselioudis and M. Chandler	Evaluation of Midlatitude Storm Characteristics and Variability in IPCC Coupled Models	Columbia University
M. Wehner	Multivariate Climate Change Detections	Lawrence Berkeley National Laboratory