MEETINGS

IPRC Annual Symposium

The IPRC held its 12th Annual Symposium at the East-West Center on November 19, 2012. At the “all poster” symposium, IPRC’s scientists presented 29 excellent posters ranging over all the major themes of IPRC research. In addition to the posters, the staff of the Asia-Pacific Data-Research Center showed off their data server and products on a large-screen video display. The format made for energetic discourse and animated exchange of research ideas among the IPRC and other UH Mānoa scientists who attended. The stimulating discussion concluded in the early evening with pupus and refreshments.
The 5th OFES International Workshop

Since the establishment of the Earth Simulator in 2002, our colleagues at the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) have been conducting unprecedented high-resolution ocean, atmosphere, and atmosphere–ocean coupled general circulation model simulations. The development and application of OFES (Ocean General Circulation Model For the Earth Simulator) has been one of the great successes of the Earth Simulator enterprise. Results from the very fine resolution OFES global simulations have been analyzed by scientists worldwide, resulting in important research outcomes.

IPRC scientists have worked closely with their JAMSTEC colleagues on analyses of OFES simulation results, leading to joint sponsorship of a series of international workshops devoted to OFES and related numerical climate modeling efforts. Following the success of the first four OFES International Workshops (in 2008, 2009, 2010 and 2011), the fifth workshop was organized as a special meeting that celebrated the tenth anniversary of the Earth Simulator and featured both a look at past modeling achievements made possible by the computational power of the Earth Simulator (ES) and a look at future possibilities of fine-resolution climate modeling.

The 5th OFES International Workshop: 10-Year Progress of GCMs for the ES and Future Strategic Perspective was sponsored and organized by the IPRC, the JAMSTEC Earth Simulator Center (ESC), the JAMSTEC Research Institute for Global Change (RIGC), and the JAMSTEC Data Research Center for Marine-Earth Science. The meeting was held January 24–25 at the JAMSTEC Global Oceanographic Data Center in Nago on the island of Okinawa. Six IPRC scientists attended, joining our JAMSTEC colleagues as well as other participants from Japan, China, Hong Kong and India. Presentations included projects on analyses of results from OFES, AFES (Atmospheric General Circulation Model For the Earth Simulator) and CFES (Coupled General Circulation Model For the Earth Simulator), as well as other modeling and observational studies. The final workshop session consisted of a general discussion of prospects for further development and applications of OFES, AFES, and CFES and of related data-management challenges.

Hideharu Sasaki of the ESC served as lead convener and Yukio Masumoto (RIGC) and Kevin Hamilton (IPRC) as co-conveners of the workshop. The meeting agenda is available at tinyurl.com/IPRCofoes5.
**Minisymposium on Climate Variability, Predictability, and Change**

The IPRC has a tradition of holding "minisymposia" during visits of distinguished scientists. These half-day or day-long meetings feature mainly talks by IPRC’s younger scientists. The Minisymposium on Climate Variability, Predictability, and Change was held during Robert Dickinson’s and Rong Fu’s visit from the University of Texas. Dickinson, a member of both the National Academy of Sciences and the National Academy of Engineering, is a leader in dynamical meteorology and climate modeling, with seminal contributions to such subfields as stratospheric dynamics, thermospheric science and modeling, planetary atmospheres and modeling of earth surface processes. Rong Fu, since 2008 a faculty at the Jackson School of Geosciences at the University of Texas at Austin, has expertise in satellite remote sensing applications, convection, cloud- and precipitation-processes, and atmosphere-ocean-land interaction. Fu has served for some years on the IPRC Science Advisory Committee.

The minisymposium featured 11 talks from IPRC faculty, researchers, postdoctoral fellows, visitors, and graduate students on such topics as monsoon predictability, the structure of global warming in the troposphere, and effects of climate change on tropical cyclones. The IPRC participants appreciated the helpful comments from the Texas visitors. Associate Researcher June-Yi Lee and UH Meteorology graduate student Owen Shieh organized the symposium. The meeting agenda is at tinyurl.com/IPRCrdrf.

**Final Meeting of NASA Ocean Mixing Project**

In 2010 a joint UH/IPRC–University of Hamburg–Scripps partnership was funded by NASA to study detailed ocean-mixing processes and their parameterization in ocean models. The key scientists from the three centers have held several workshops at the IPRC, and in March 2013 they held their final meeting. The participants discussed the manuscripts completed and to be written on the project by the research teams.

Chuanyu Liu, Armin Koehl, and Detlef Stammer of the Hamburg team have completed a paper on the global optimization of mixing parameters in a coarse-resolution model. They found that the estimated distributions of mixing parameters are dynamically sound.

Bruce Cornuelle and Nidia Martinez Avellaneda of Scripps Institution of Oceanography (SIO) have been writing about short-term optimization of mixing parameters in an eddy-permitting model. Their adjoint sensitivity analysis gives a dynamical interpretation to the Hamburg team’s result on vertical diffusivity. They have demonstrated that changes in vertical mixing in the western equatorial Pacific affect the thermocline in the eastern Pacific by advection and wave propagation.

The IPRC–University of Hawai’i Team (Ryo Furue, Jay McCreary, Peter Müller, Kelvin Richards, and Niklas Schneider) conducted a forward sensitivity study with the SIO team’s model and demonstrated the same sensitivity to vertical mixing as in the adjoint runs of the SIO results. The team also explored long-term signal propagation and decided to write about using Green’s functions to obtain optimal vertical mixing coefficients.