



The Abdus Salam
International Centre for Theoretical Physics



Workshop on

'High Resolution Climate Modeling'

August 10-14, 2009
ICTP, Trieste, Italy

In early 2007, the World Climate Research Program/CLIVAR recognized the importance of high resolution modeling, particularly in the simulation of high impact weather events and tropical cyclones, and endorsed a special program entitled "High Resolution Climate Model Simulations of Recent Hurricane and Typhoon Activity: The Impact of SSTs and the Madden Julian Oscillation." This program seeks to co-ordinate among interested institutions and groups, a well-defined set of high-resolution simulations of tropical storm activity with a number of state-of-the-art global climate models.

In May 2008, the World Climate Research Program organized a World Modeling Summit for Climate Prediction. The Summit concluded that it is both necessary and possible to revolutionize climate prediction. The world community needs step increases in scientific capacity and computational power. Next generation high-resolution models will also help realize tremendous additional value from high-resolution space observations.

The workshop will bring together the scientists working on high resolution climate models with conventional parameterizations, cloud system modeling, and cloud system resolving global climate models, *with special emphasis to the impact of SST changes and the MJO on Tropical Cyclones*. The workshop will also provide a forum for exchanging experiences and results of related modeling efforts and discussing the future direction of global climate modeling in a seamless framework for weather and climate prediction. It will also provide opportunities for scientists in developing countries to learn about the current state-of-the-art climate models, and to access existing high-resolution model data for their own studies. In particular, it is important that the data be shared among the institutions and scientists generating the model data, as well as by those of developing countries that are particularly vulnerable to these severe weather and climate phenomena, yet do not have the resources to support high-resolution weather and climate modeling.

Primary Workshop Goals:

- To report on our current understanding of the advantages and limitations of high-resolution global climate models for simulating and predicting high impact weather events including any changes in the characteristics of those events associated with climate variability and global warming, as well as to discuss the future direction of climate modeling;
- To identify the major problems of the climate models in simulating tropical cyclones and the Madden and Julian Oscillation, and to discuss possible solutions to overcome those problems;
- To identify best strategy for developing the next generation cloud system resolving global climate models and to find a way of maximizing the computational resources;
- To discuss ways of sharing the high-cost simulation data sets from the high-resolution models of various institutions not only among the scientists generating the data but also with the scientists from developing countries.

The workshop will consist of *invited speakers, contributing speakers* including *panel discussions* and *poster presentations*.

PARTICIPATION

The event is open to scientists and post-graduate fellows working in the areas of *climate modeling* and *prediction* from all member countries of the United Nations, UNESCO and IAEA. The main purpose of the Abdus Salam ICTP is to help researchers from developing countries through a program based on international co-operation. Limited travel funds are available primarily for applicants from, and working in, developing countries. The activity will be conducted in English. *Registration is free-of-charge.*

APPLICATION

The "On-line Application" form can be accessed at:
web page address: <http://www.ictp.it/~smr2051>

& ICTP agenda page:

http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a08174

(Please save and upload file attachments in either: RTF format, .doc or .pdf)

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*On-line Application
Deadline*

April 30, 2009