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**Putting Science to Work:**

**State of the Art in Climate Modeling and Its Role in the CIF**

**June 24, 2011; 3:00-6:00pm**

**A G E N D A**

**3:00-3:10pm: Introduction**

The moderator, ***Daniel Kammen****, Chief Technical Specialist, World Bank*, will introduce the two sessions and the key elements to be discussed in each.

**3:10-4:30pm: SESSION 1 – Ongoing Challenges and Latest Developments in Climate Modeling**

**3:10-3:30pm: Country Needs and Challenges for Climate Modeling**

***Ulric Trotz****, Science Adviser,**Caribbean Community Climate Change Centre, Belize*

In this presentation, the speaker will identify the current needs and challenges of developing countries with regards to climate models, data and projections.

**3:30-3:50pm: Latest Developments in Global Climate Models**

***Richard Jones****,**Manager, Regional Predictions, Hadley Centre, UK*

In this presentation, the speaker will provide an overview of the state of the art in global climate models. The speaker will refer to how advancements in global models can provide better predictions of climate at the regional and local levels. He will also be asked to refer to expectations about future developments in this area.

**3:50-4:10pm: Latest Developments in Regional Climate Models**

***Bruce Hewitson****, Professor, Climate Systems Analysis Group, University of Cape Town*

This presentation will provide an overview of efforts to undertake projections of climate at the regional and local level, noting advancements in most recent years. The speaker will be invited to refer to approaches to downscaling climate models, their uses, limitations and alternatives, and expected future developments

**4:10-4:30pm: Latest Developments in Short-term Climate Prediction**

***Francisco Doblas-Reyes****, ICREA Research Professor, Institut Català de Ciències del Clima, Barcelona, Spain*

In this presentation, the speaker will provide an overview of the efforts undertaken to formulate skilful and reliable climate predictions in time scales ranging between seasons to decades.

**4:30-5:00pm: SESSION 2 – Initiatives to Develop Regional and Local Climate Projections**

**4:30-4:45pm: Initiatives to Develop Regional and Local Projections**

***Joseph Daniel Intsiful****, United Nations Development Program*

UNDP will present global initiatives to produce regional and local climate projections, referring specifically to resources available to developing countries with regards to climate projections, models and data. Their presentation should include a compilation of results achieved so far, their uses and limitations.

**4:45-5:00pm: African Initiatives to Develop Regional and Local Projections**

***Mohammed Kadi,*** *Secretary General, African Centre of Meteorological Application for Development*

This presentation will describe African efforts to generate climate projections.

**5:00-6:00pm: Dialogue with the audience and wrap up**

The moderator will provide a summary of main points and key messages identified during the meeting.

**S E S S I O N B A C K G R O U N D**

**Objectives**

This session will bring the CIF community up to date on the latest developments in climate science, in particular climate modeling and climate projections at the global and regional scales. Stakeholders will have the opportunity to discuss challenges faced by pilot countries with regards to climate data and climate projections, and explore possible means to address those challenges

**Background**

Advancements in climate science, particularly development of models and other techniques to project climate, have played a central role in describing climate change as a phenomenon and supporting action to mitigate and adapt to climate change.

On a global scale, climate projections are made possible through the use of General Circulation Models (GCMs), statistical models based on the assumption that climate is governed by general circulation of the atmosphere and oceans. Latest initiatives to model climate use so-called coupled models, which combine atmospheric and oceanic GCMs. With these models, scientists are able to project changes in climate, for example, temperature, as a result of varying conditions, such as the concentration of greenhouse gases in the atmosphere.

Typically, GCMs have a resolution of 150-300 km by 150-300 km. Many impact models used in vulnerability and adaptation require information at scales of 50 km or less. Given that GCMs are currently the only means to model climate, methods are required to estimate the smaller-scale information generated by these models. A technique known as downscaling makes it possible to use output from a GCM and add information at scales smaller than the grid spacing. This technique could be described as the act of connecting global scale climate projections with regional dynamics to generate regional climate predictions. Downscaling methods include nesting of climate models and the use of statistical regressions.

This session has been organized in view of the need for pilot countries to receive the latest information from one of the most dynamic corners of environmental science. Climate modelers and practitioners will provide a picture of the latest developments in the area of GCMs, regional downscaling and short term predictions.