

NEW STRATEGIES FOR EVALUATING ENSO PROCESSES IN CLIMATE MODELS

CLIVAR Workshop, Paris, France, 17-19 November 2010

El Niño – Southern Oscillation is the dominant mode of interannual climate variability with worldwide weather and societal impacts. Because ENSO involves a complex interplay of numerous ocean and atmospheric processes, accurately modelling this climate phenomenon with coupled General Circulation Models (GCMs) and understanding and anticipating its behaviour on seasonal to decadal and longer time scales still poses a formidable challenge. Over the past few years, new promising methods have emerged which can improve ENSO simulation, for example by combining ENSO theoretical frameworks and GCM modelling or by using initialised hindcasts and by utilising the recent wealth of high-quality observations to understand errors and their growth in forecast systems. By focusing on the very key processes affecting ENSO dynamics, these new approaches have a strong potential to accelerate progress and improve representation of ENSO in complex climate models. Not only can these new methods help address the question of whether ENSO is changing in a changing climate, but potentially they can also improve reliability of centennial-scale climate projections.

The World Climate Research Program has long recognised the central importance of an improved understanding and predictability of ENSO by encouraging coordinated research in tropical climate variability via its different expert Panels (Pacific, Indian, Seasonal to Interannual Prediction,...). The next Coordinated Model Intercomparison Project (CMIP5), which will feed into the IPCC 5th Assessment, provides a new opportunity to evaluate current research in the process-based evaluation of ENSO in GCMs.

The main goal:

The workshop aims to present and discuss emerging new methods for the process-based evaluation of ENSO in GCMs, their use in multi-model assessments and identify future directions and associated challenges.

Specific goals:

- To make an inventory of the existing approaches to evaluate ENSO processes in GCMs; compare, contrast and discuss the relative merits of these approaches as for example applied to CMIP3
- To review the potential of methods bridging ENSO theoretical frameworks and GCM modelling
- To review the observing system and available data for the evaluation of ENSO in GCMs

Format:

The workshop will be limited to 50 active researchers of which 30 will be invited.

Advanced PhD students and Postdoctoral researchers will be invited to submit a presentation (poster or oral) and a selection of 20 will be made by the Scientific Steering Group.

Best practices and future directions will be discussed in plenary presentations and working groups.

The outcome will be a report and/or a series of papers that contains an inventory of the existing approaches to evaluate ENSO processes in GCM and advice on future directions.

Registration: http://www.clivar.org/meetings/enso_ipcc.php

Program Committee:

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