New WCRP Relevant Research Centre in Australia

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In late 2010 the Australian Research Council (ARC) announced a list of successful centres of excellence and this included the Centre of Excellence for Climate System Science. This is a multimillion-dollar initiative, over 7 years, substantially focused on the physical and biophysical climate system.

The goal of the Centre is “to resolve key uncertainties undermining the reliable projection of Australia’s climate”. To achieve this goal, the Centre will work with a suite of partners on understanding key aspects of the climate system using observations, model development with a significant focus on parameterizations, and global and regional climate models.

The Centre will directly contribute to several WCRP goals via strong research programs focused on the atmosphere, oceans and land processes and the coupling of these components in models. Hence it aligns closely with the WCRP’s foci on improving our understanding of global and regional climate variability and change, and in particular the mechanisms responsible for this change. The Centre will include a program on assessing and attributing significant trends in global and regional climates as well as to contribute strongly to the development of the Australian Community Climate and Earth Simulator model.

There are currently five research programs in development:
• The effects of tropical convection on Australia's climate (including the development of new convection parameterizations)
• Risks, mechanisms, and attribution of changes in Australian climate extremes
• The role of land surface forcing and feedbacks for regional climate (including the building of new capacity into land surface models)
• Drivers of spatial and temporal climate variability in extra tropical Australia
• Mechanisms and attribution of past and future ocean circulation change

The University of New South Wales in Sydney hosts the Centre. The partner universities involved in the Centre are: Monash University, the University of Melbourne, the Australian National University and the University of Tasmania.

The Centre collaborates with a series of key national groups like: the CSIRO, Australian Bureau of Meteorology, the National Computational Infrastructure (NCI), the Department of Climate Change and Energy Efficiency, the NSW Department of Environment, Climate Change and Water, and the Australian National Data Service. At international level the main partners are: CNRS in France, NASA, NCAR, GFDL and the University of Arizona in the USA, the Hadley Centre and the National Centre for Atmospheric Science in the UK.

A large number of research fellowship positions and PhD scholarships will be advertised through 2011. In addition, an exchange of international scholars will be encouraged over the next seven years. A web site at www.climatescience.org.au will provide details in due course. In the meantime any questions should be referred to Professor Andy Pitman, the Centre Director, at a.pitman@unsw.edu.au