



Climate change simulations using the new HadGEM1 coupled climate model

J. A. Lowe, J. Ridley, A. Pardaens, P. Good, R. McDonald and J. M. Gregory
Hadley Centre, Met Office, FitzRoy Road, Exeter, Devon, UK

A new climate model has been developed by the Hadley Centre with an improved dynamical core and many new physical parameterisations. Here we describe the first transient climate change experiment to be performed using a coupled version of the model. Starting from pre industrial levels, atmospheric carbon dioxide concentrations were increased at 1% per year compounded for 80 years. A preliminary analysis suggests that the transient climate response (TCR) of the new model is around 1.9K. Surface, atmosphere, ocean and cryosphere responses, relative to a parallel pre-industrial control experiment, will be presented and compared to those of the earlier HadCM3 model.