Geophysical Research Abstracts,
Vol. 10, EGU2008-A-03878, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-03878
EGU General Assembly 2008

Model errors and climate change feedbacks in multi-model and perturbed-physics ensembles

M. Collins, B. Bhaskaran, B.Booth, G. Harris, J. Murphy, D. Sexton, M. Webb
Met Office Hadley Centre, UK (matthew.collins@metoffice.gov.uk)

A comparison of multi-model and perturbed-physics ensemble experiments will be presented (the latter meaning experiments with a single model structure and perturbations to uncertainty physical parameters). We use multi-model output from CMIP3 and CFMIP from both coupled atmosphere-ocean models and atmosphere models coupled to mixed-layer (slab) oceans. We contrast errors in the ability of the models to simulate present-day mean fields and investigate both systematic and random components of error in the two types of ensemble. We also contrast differences in the components of climate change feedbacks in all models and investigate differences in the role of the ocean in the transient response of the coupled models. Finally, we investigate links between model errors and feedback with a view to constraining the ensemble simulations with observations.