



Project no. GOCE-CT-2003-505539

Project acronym: ENSEMBLES

Project title: ENSEMBLE-based Predictions of Climate Changes and their Impacts

Instrument: Integrated Project

Thematic Priority: Global Change and Ecosystems

Deliverable D4.0.3: Set up Data Archive for the RT4 coordinated experiments

Due date of deliverable: month 24

Actual submission date: 9 March 2007 (although this document is being submitted in March 2007, the data archive was in fact set up well before the original month 24 dated for the deliverable)

Start date of project: 1 September 2004

Duration: 60 Months

Organisation name of lead contractor for this deliverable: UREADMM

Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)		
Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the Consortium (including the Commission Services)	

ENSEMBLES RT4

Deliverable D4.0.3: Set up Data Archive for the RT4 coordinated experiments

1. Broad Aims of the RT4 coordinated experiments

a. Understanding climate, and climate forecast uncertainty (WP4.4), at a mechanistic/process level, particularly in terms of the role of specific feedbacks (WP4.1), the regional patterns of climate change (WP4.2), and the factors governing the frequency and characteristics of extreme events (WP4.3).

b. Add value to the information available from the core ENSEMBLE hindcasts, forecasts and scenario integrations.

c. Need a simple core set of experiments so that they can be done by all groups (including where possible, different model resolutions).

2. Experimental Design for the RT4 coordinated experiments

Boundary conditions:

UREADMM (CGAM) has supplied boundary conditions. There is no interannual variability in boundary conditions to aid analysis of extreme events (better statistics).

For control experiments, climatological monthly mean SST and sea-ice concentrations derived from HadISST observations for 1961-1990 and CO₂ at average concentration for 1961-1990. For perturbed experiments (2xCO₂), monthly mean SST anomalies are added to climatological fields used for control experiments. SST anomalies are derived from 1% pa CO₂ CMIP-type integration with HadCM3 model. The difference between two 30 year means: a) mean for period with CO₂ values near present day b) mean for period with values near 2 x present day CO₂ are used. For perturbation experiments, sea ice extent is taken from HadCM3 model of 30 year mean for period with values near 2 x present day CO₂.

Duration of experiments:

For each of control and perturbed experiments, 2 x 25 year integrations with different initial conditions will be performed. This helps to sample any drifts. e.g. associated with memory in land surface. The first 5 year of each integration will be

ignored and this gives 40 years of data to analyse for each experiment. It was suggested to use of a 360 day calendar if possible.

3. Data Archive for the RT4 coordinated experiments

Most groups have completed the experiments and data have been archived in the database. The diagnostics list and the explanation of data archive can be found (http://www.cgam.nerc.ac.uk/research/ensembles-rt4/coord_exp/diagnostics.html).

These data are available and can be downloaded for diagnostic analysing for the subprojects. All data are in CF compliant netCDF format. CGAM is managing a password protected www site (http://www.cgam.nerc.ac.uk/research/ensembles-rt4/coord_exp/data.html) giving access to the archive.

All information relevant to RT4 coordinated experiments can be accessed through http://www.cgam.nerc.ac.uk/research/ensembles-rt4/coord_exp/index.html.