D1.5: ESM session at the RT1+RT2A meeting at ECMWF, June 2006

WP1.1: Construction of ESMs for ensemble climate prediction

Participants: DMI, CNRM, INGV, IPSL, LGGE, METO-HC, MPI-M

Task 1.1.a: Assembly of component modules
Task 1.1.b: Test simulations to ensure realistic performance
Task 1.1.c: Preparation for use in ensemble system development (WP1.2 and/or WP1.3)

Major Milestone 1.1 by month 24:
Provision of a set of tested Earth System Models.

Deliverable by month 24:
Report on construction and testing of ESMs.

Model development

- Which models have been developed and tested already or are expected to be ready until August 2006?

- Classification of ESMs and aspects to be discussed:
  - **Physical models** (AOGCMs)
    have been used already for stream 1. It is expected that the highest number of models wil belong to this class. New stream 2 integrations using these models may be comparable to the centennial model ensemble of stream 1, if the same boundary conditions/scenarios are used.
  - **Carbon cycle models** (with or without prognostic vegetation maps)
    need CO2 emissions and consistent land use maps for the past and future scenario. Prescribed land use change must be coupled to the carbon budgets of the models.
  - **Aerosol models**
    need emissions of sulfate, BC, OC, ... depending on the model. Can this be provided for past and future?

Existing models

Group	Physical	Carbon	Aerosol
DMI	x		
CNRM	x		
INGV	x	x	
IPSL	x	x	x
METO-HC		?	x
MPIMET	x	x	x
FUB	x		

If existing models can be employed depends on the available computational resources. Important factors are:

> number of scenarios (baseline and stabilization)

> number of realizations

→ RT2A summary