

ENSEMBLES

Climate change predictions and impacts

The ENSEMBLES project is being funded through a five-year contract with the European Commission from 1st September 2004 under their Sixth Framework Programme. The project is being co-ordinated by the Hadley Centre for Climate Prediction and Research at the Met Office in the UK, and has 69 partners, mostly from Europe.

The project will, for the first time, develop a common ensemble climate forecast system for use across a range of timescales (seasonal, decadal and longer) and spatial scales (global, regional and local). This model system will be used to construct integrated scenarios of future climate change, including both non-intervention and stabilisation scenarios. This will provide a basis for quantitative risk assessment of climate change and climate variability, with emphasis on changes in extremes, including changes in storminess and precipitation and the severity and frequency of drought, and the effects of "surprises", such as the shutdown of the thermohaline circulation. Most importantly, the model system will be extensively validated. Hindcasts made by the model system for the 20th century will be compared against quality controlled, high-resolution gridded datasets for Europe. Probability forecasts made with the model system on seasonal and decadal timescales will also be validated against existing data. The exploitation of the results will be maximised by linking the outputs of the ensemble prediction system to a wide range of applications. In turn, feedbacks from these impact areas back to the climate system will also be addressed.

The contribution of the IPSL to the ENSEMBLES project is as follow:

- To develop integrated models for the Earth System (RT1),
- To realize climate change simulations integrating a wild range of emissions scenarios and to provide data (RT2A),
- To study and understand the phenomenon leading to the climate changes (clouds feedbacks, climate and carbon cycle feedbacks, etc.) (RT4),
- To evaluate the models and to quantify their systematic biases (RT5),
- To produce maps of past and future changes for the land use and for the vegetation surface (RT6).

* RT = Research theme

ENSEMBLES project site

Laboratory :
