European Network for Earth System Modelling

(ENES)

Memorandum of Understanding

A major challenge for the climate research community is the development of comprehensive Earth system models capable of simulating natural climate variability and human-induced climate changes. Such models need to account for detailed processes occurring in the atmosphere, the ocean and on the continents including physical, chemical and biological processes on a variety of spatial and temporal scales. They have also to capture complex nonlinear interactions between the different components of the Earth system and assess how these interactions can be perturbed as a result of human activities.

Accurate scientific information is required by government and industry to make appropriate decisions regarding our global environment, with direct consequences on the economy and lifestyles. It is therefore the responsibility of the scientific community to accelerate progress towards a better understanding of the processes governing the Earth system and towards the development of an improved predictive capability. An important task is to develop an advanced software and hardware environment in Europe, under which the most advanced high resolution climate models can be developed, improved, and integrated.

The undersigned institutions agree to create a ***European Network for Earth System Modelling*** (ENES) with the purpose of working together and cooperating towards the development of a European network for Earth system modelling. These institutions include university departments, research centres, meteorological services, computer centres and industrial partners.

ENES is intended (1) to help in the development and evaluation of state-of-the-art climate and Earth system models, (2) to facilitate focused model intercomparisons in order to assess and improve these models, (3) to encourage exchanges of software and model results, and (4) to help in the development of high performance computing facilities dedicated to long high-resolution multi-model ensemble integrations.

An immediate objective of ENES is the development and implementation of the EC-supported PRISM project. The purpose of PRISM is the development of a flexible model structure in Europe with interchangeable model components, standard interfaces and a universal coupler.

Another important objective of PRISM is to provide recommendations regarding the establishment of a European supercomputing system (with associated data storage and other facilities) and a powerful network dedicated to Earth System Modelling.

ENES will organize itself along the lines described in the PRISM proposal submitted in year 2000 to the European Union.

The present Memorandum of Understanding will take effect after being signed by at least five partners. Thereafter, ENES will be open to additional partners in Europe or abroad at a two third majority of the participating members.

The Memorandum of Understanding will remain in force for a period of three years, unless the duration is modified with approval of the ENES members at a two-third majority.

December, 2006

Signatures