

ENES the European Network for Earth System modelling and its infrastructure projects IS-ENES

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The scientific community working on climate modelling is organized within the European Network for Earth System modelling (ENES). In the past decade, several European university departments, research centres, meteorological services, computer centres, and industrial partners engaged in the creation of ENES with the purpose of working together and cooperating towards the further development of the network, by signing a Memorandum of Understanding. As of 2015, the consortium counts 47 partners.

The climate modelling community, and thus ENES, faces challenges which are both science-driven, i.e. analysing of the full complexity of the Earth System to improve our understanding and prediction of climate changes, and have multi-faceted societal implications, as a better representation of climate change on regional scales leads to improved understanding and prediction of impacts and to the development and provision of climate services.

ENES, promoting and endorsing projects and initiatives, helps in developing and evaluating of state-of-the-art climate and Earth system models, facilitates model inter-comparison studies, encourages exchanges of software and model results, and fosters the use of high performance computing facilities dedicated to high-resolution multi-model experiments. ENES brings together public and private partners, integrates countries underrepresented in climate modelling studies, and reaches out to different user communities, thus enhancing European expertise and competitiveness.

In this need of sophisticated models, world-class, high-performance computers, and state-of-the-art software solutions to make efficient use of models, data and hardware, a key role is played by the constitution and maintenance of a solid infrastructure, developing and providing services to the different user communities. ENES has investigated the infrastructural needs and has received funding from the EU FP7 program for the IS-ENES (InfraStructure for ENES) phase I and II projects.

We present here the case study of an existing network of institutions brought together toward common goals by a non-binding agreement, ENES, and of its two IS-ENES projects. These latter will be discussed in their double role as a means to provide and/or maintain the actual infrastructure (hardware, software, skilled human resources, services) to achieve ENES scientific goals -fulfilling the aims set in a strategy document-, but also to inform and provide to the network a structured way of working and of interacting with the extended community. The genesis and evolution of the network and the interaction network/projects will also be analysed in terms of long-term sustainability.