

## **ESiWACE3: Center of excellence for weather and climate phase 3**

### **Description**

This proposal shapes the next (third) phase of the ESiWACE Centre of Excellence. As the ability to run Earth system models at ~1km resolution efficiently on EuroHPC supercomputers has already been established in previous phases for specific model configurations, and as developments are now picked up by science-driven projects, this proposal will focus on the support of the community to reach a higher readiness level regarding exascale supercomputing and knowledge transfer between the different Earth system modelling centres and teams across Europe.

The project will focus on three main aims that are essential to prepare existing, operational weather and climate prediction systems for the exascale era through

- the transfer and establishment of knowledge and technology for efficient and scalable simulations of weather and climate across the Earth system modelling community,
- closing common technology knowledge gaps and by providing tool boxes for high-resolution Earth system modelling via joint developments and
- by serving as a sustainable community hub for training, communication and dissemination for high-performance computing for weather and climate modelling in Europe.

ESiWACE3 will bring the various approaches to address these challenges from the different modelling groups together to transfer knowledge across the weather and climate domain, to generate synergies between the local efforts, to provide targeted support of modelling groups via customised high-performance computing services, and to provide training to educate the next generation of researchers.

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