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Dear Peter

### **European Programme on Extremes of Weather, Climate and Computing (EPECC)**

The vision of EPECC is to develop a wholly new class of models for more accurate prediction of extremes in our weather and climate systems, and to couple these to impacts in the food, water, health, energy and insurance sectors. EPECC will give unprecedented new insights into the processes and mechanisms responsible for weather extremes, and allow us to understand how the frequency and intensity of such events will alter in response to climate change, thereby leading to increased predictive skill. This will require the development of new models of the climate system at unprecedented resolution, and with the inclusion of new physics and numerical algorithms, which will be run on the next generation of High Performance Computing platforms.

The ocean plays a critical role in the climate system and in air-sea interactions, which are important in driving weather extremes. The National Oceanography Centre (NOC) already undertakes research into the mechanisms for decadal-timescale changes in the climate system, their links to weather extremes, and the development and application of high-resolution state-of-the-art ocean models. EPECC will not only complement and enhance the current NOC modelling capability, but is essential if we are to fully understand the drivers of weather extremes and climate variability. This issue cannot be solved by a single centre and a pan-European approach is also needed to construct the next generation of ocean models that include suitable physics, and will perform effectively on the High Performance Computing platforms of the near future.

It is time for the European community to come together, using the fully-integrated approach proposed within EPECC, to address problems that are critically important for society. I therefore fully support the EPECC initiative, which will deliver critical advice to enable Europe to better plan for, and mitigate, the effects of high-impact weather events, as well as generating new scientific understanding and advancing ocean modelling technology, which will greatly benefit research and model development at the NOC.

Yours sincerely



Angela Hatton