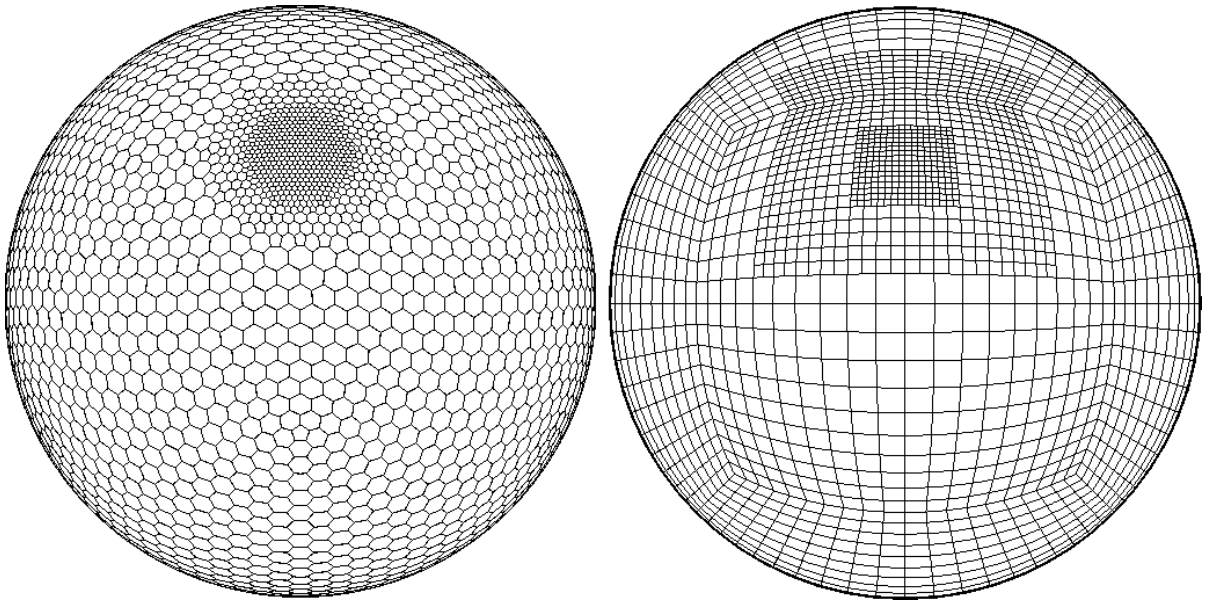
NERC Funded PhD Position in Meteorology, University of Reading

Multi-resolution Modelling of the Global Atmosphere

Supervisors: Hilary Weller, John Methven, Markus Gross (Met Office)

This is a very exciting time to be working in numerical modelling. A number of international forecasting centres are planning major re-writes of their models and so radically different numerical methods may soon be used for operational weather and climate forecasts. This is the time to make a difference.

Operational weather forecasting models use nested grids in order to achieve more accurate, high resolution forecasts over an area of interest. However the forecasts can have spurious weather features near the boundary of the nested region, such as rainfall occurring only along the boundary. This project will test alternative approaches such as gradual refinement and unstructured refinement. The results will provide input for the design of the next Met-Office weather and climate forecasting model. The student will receive training and support to use and develop an existing C++ simulation package. The final conclusions drawn from this work may be explored in a real climate model towards the end of the project, which may include an extended visit working at the Met Office.



Two local refinement strategies for regional forecasting, gradual unstructured (left), nested grids (right)

Student profile:
BSc or MSc degree in mathematics, physics, engineering or a closely related physical science with an aptitude for programming.

Funding particulars:
This post is funded under a NERC studentship and as such the successful applicant must have settled status in the UK. The project may also be eligible for CASE sponsorship from the Met Office.

Contact:
h.weller@reading.ac.uk for further details.