MPE CDT

<u>C</u>entre for <u>D</u>octoral <u>T</u>raining

Director:	Prof Dan Crisan (Imperial College London)
Deputy Director:	Prof Beatrice Pelloni (University of Reading)
I am:	Dr Hilary Weller, admissions tutor, University of Reading

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A joint Centre for Doctoral Training between Imperial College London and the University of Reading, bringing together:

- ► Two great mathematics departments
- ► The awesome meteorology department at Reading
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  - European Centre for Medium Range Weather Forecasts
  - National Centre for Earth Observation
  - University of Hamburg
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  - Climate-KIC
  - Willis re-insurance
  - SSE (Renewable energy company)
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- 16 fully funded MRes+PhD positions available to start Sept 2015

Areas of Activity

- Partial Differential Equations (deterministic and stochastic)
- Dynamical systems
- Numerical modelling and computations
- Fluid dynamics
- Data and inference
- Applications to earth systems, particularly weather/ocean/climate

Relevant Experience

- Undergraduate or master's degree in mathematics or a closely related subject such as physics
  Useful experience: some but not all of:

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  - Mathematical methods
  - Fluid dynamics
  - Probability and statistics
  - Dynamical systems
  - Functional Analysis
  - Numerical Analysis
  - Computer programming
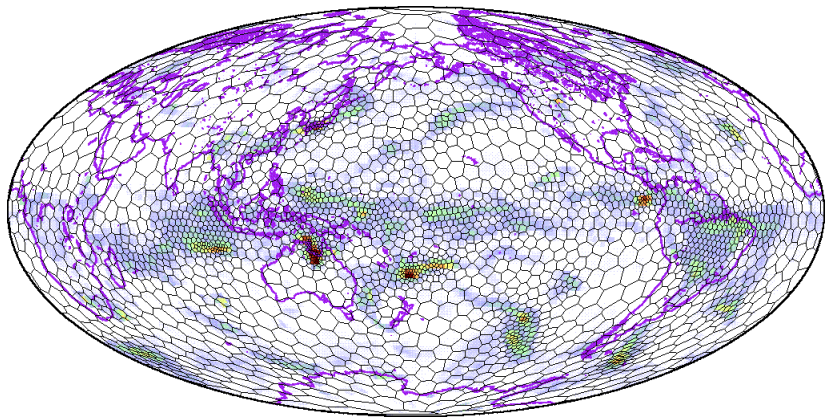 - Partial Differential Equations

Possible PhD Topics

Calculus of Variations for Weather Forecasting
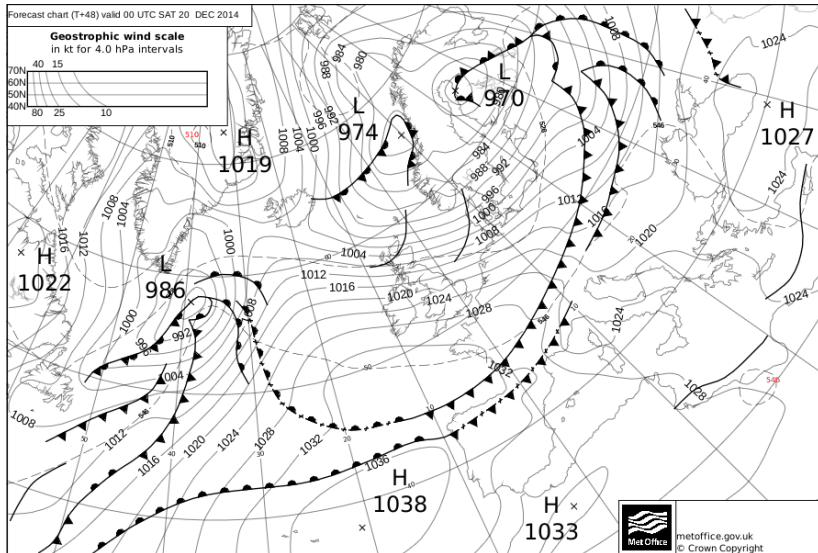
Adaptive mesh modelling of the atmosphere

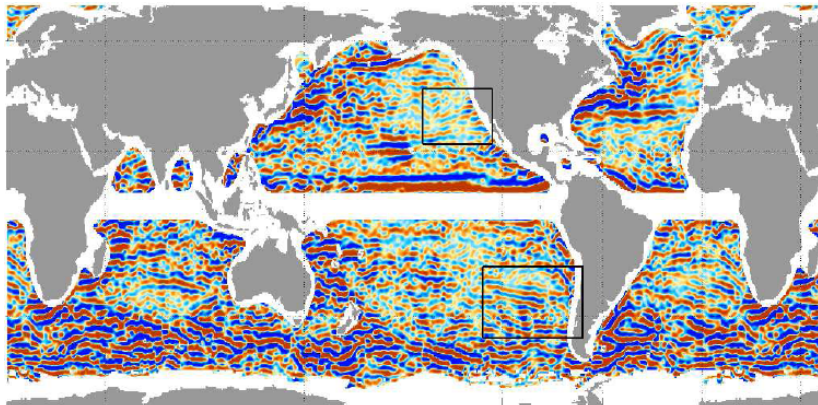# Moving meshes for predicting evolution of ice-sheets
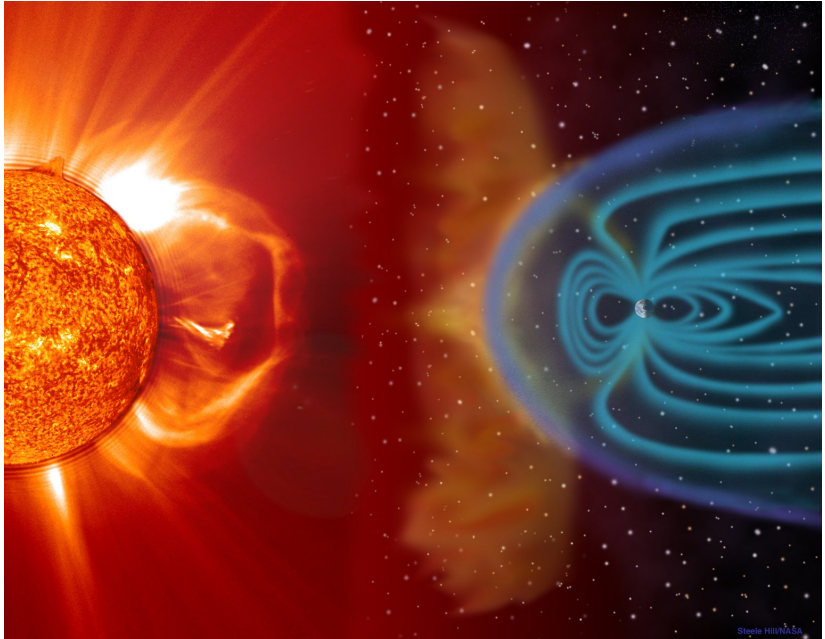
Scattering of solar radiation by ice crystals

Predicting air quality in the turbulent urban boundary layer

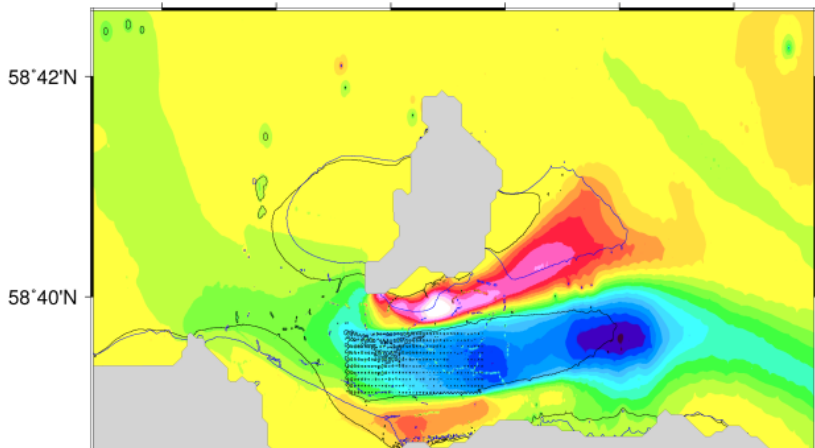# Predicting Turbulent Jets in the Ocean
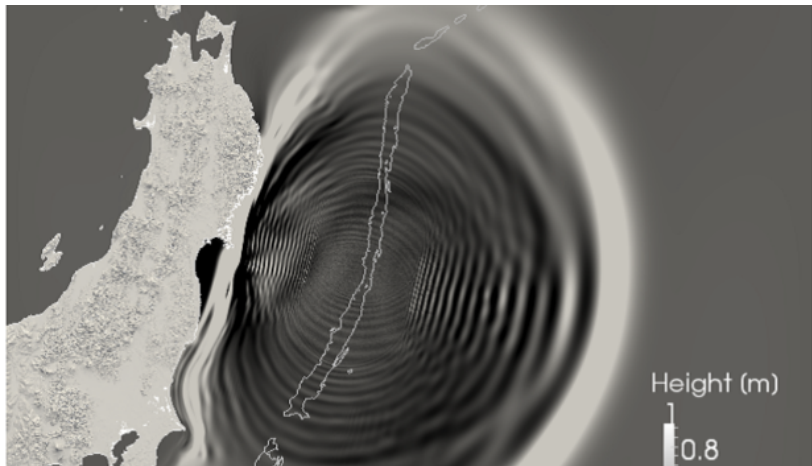
Predicting Space Weather

Optimising Power Generation from Tidal Turbine Arrays
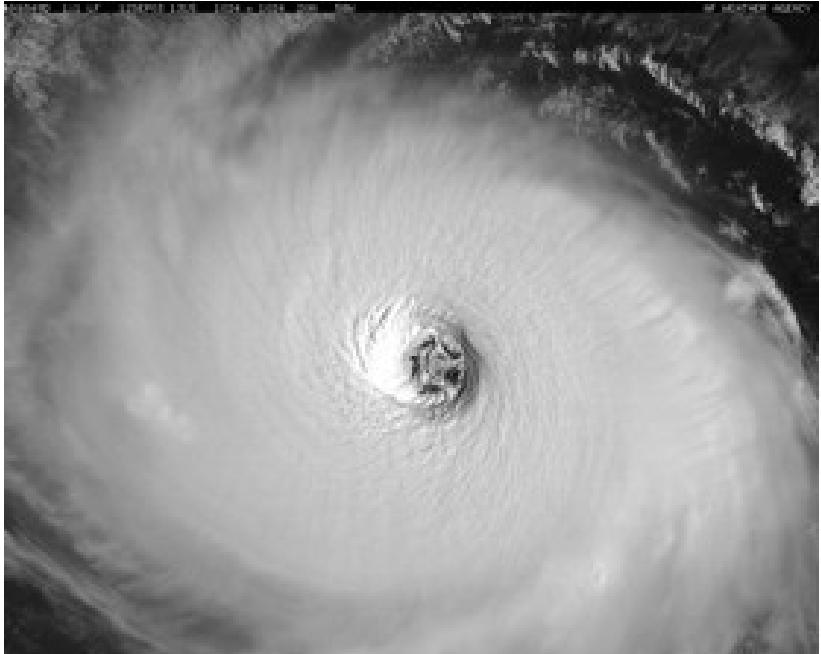
Predicting Energy Generation by Wind Turbines

Predicting Tsunamis

Height (m)
0.8

Hurricanes and Climate Change

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- Annual MPE CDT convention (Jamboree)
- Management course
- Met Office Summer School
- Internships and international placements
- Modelling week

Apply

- 16 fully funded MRes+PhD positions available to start Sept 2015
- See `mpecdt.org/` for application details
- Apply before 17 January 2015
- No need to contact potential supervisors in advance