

Past Earth Network



<http://PastEarth.net/>

The Past Earth Network

- ▶ funded by EPSRC as part of the “Living With Environmental Change” (LWEC) initiative
- ▶ PI: Jochen Voss (Univ. of Leeds, School of Mathematics)
CI: Alan Haywood (Univ. of Leeds, School of Earth and Environment)
- ▶ currently funded until January 2018
- ▶ networks funded in the same call:
 - ▶ **Past Earth Network**
 - ▶ **Maths Foresees** — uncertainties in the prediction and mitigation of severe weather events
 - ▶ **SECURE** — Statistics of Environmental Change, Resources and Ecosystems
 - ▶ **ReCoVER** — Research on Changes of Variability and Environmental Risk

We thank EPSRC for funding our network!

The Past Earth Network

short term objectives

- ▶ bring more statistics into palaeoclimate research
- ▶ raise awareness of palaeoclimate data/problems in statistics
- ▶ study how to best compare palaeoclimate data to modern climate models

longer term objectives

- ▶ use data from periods with higher CO₂ *etc.* to assess how well our climate models work in a changed environment
- ▶ assess the quality of climate forecasts
- ▶ improve the quality of climate forecasts

steering committee

- ▶ Caitlin Buck (University of Sheffield)
- ▶ Matthew Collins (University of Exeter)
- ▶ Andrew Davies (Neftex)
- ▶ Aisling Dolan (University of Leeds)
- ▶ Tamsin Edwards (Open University)
- ▶ Michael A. Ellis (British Geological Survey)
- ▶ Peter Green (University of Bristol and Univ. of Technology, Sydney)
- ▶ Alan Haywood (University of Leeds)
- ▶ Finn Lindgren (University of Bath)
- ▶ Erin McClymont (University of Durham)
- ▶ Ulrich Salzmann (Northumbria University)
- ▶ Jochen Voss (University of Leeds)

network coordinator

- ▶ Edward Yorke (University of Leeds)

Working Groups

The network has formed four working groups:

- ▶ **Quantification of error and uncertainty of data**

Working group leaders: Caroline Lear (Cardiff), Andrew Parnell (UCD), Matthew Pound (Northumbria)

- ▶ **Quantification of uncertainty in complex models**

Working group leaders: Lauren Gregoire (Leeds), Anna von der Heydt (Utrecht), Lindsay Lee (Leeds), Bette Otto-Bliesner (UCAR)

- ▶ **Methodologies which enable robust model-data comparison**

Working group leaders: Manfred Mudelsee (Climate Risk Analysis), Louise Sime (British Antarctic Survey), Richard Wilkinson (Sheffield)

- ▶ **Forecasting and future climate projections**

Working group leaders: James Annan (Blue Skies Research), Michel Crucifix (UCL), Tim Lenton (Exeter)

You can join the working groups on our web page.

Upcoming Activities

PEN - ESS Workshop

The **models** and **data-model comparison** working groups, jointly with the Environmental Section of the Royal Statistical Society, are organising a workshop this summer.

- ▶ “Assessing Paleoclimate Uncertainty”
- ▶ 24–26 August 2016
- ▶ Sidney Sussex College, Cambridge

Topics:

1. Uncertainty quantification and parameter estimation
2. Spatial-temporal modelling
3. Estimating model discrepancy
4. Spectral methods / Detecting Tipping points
5. Data assimilation

You can sign up on the network web page (remaining places are limited).

Feasibility Studies

The Past Earth Network has issued a call for feasibility studies.

- ▶ total budget £100k (£25k for each working group)
- ▶ proposals must align with the aims of the network
- ▶ proposals must align with the aims of one of the working groups
- ▶ The deadline for applications is **Friday, 30 September 2016**

For details, see the network web page.

Other Events

- ▶ The **forecasting** working group will run a workshop in spring 2017, provisional title “Hothouse worlds of the past and future”
- ▶ The **data** working group will run a workshop in summer 2017 (likely in September 2017 in Cardiff).
- ▶ There will be a network conference in summer 2017 in Leeds



Thank you for listening!

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