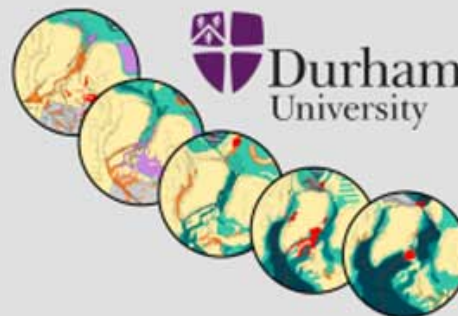


NORTH ATLANTIC DURHAM UNIVERSITY 2017

Seeking a new paradigm for the North Atlantic

St. Chad's College, Durham University, U.K.
18th – 20th April, 2017



WORKSHOP REPORT

The 2nd North Atlantic workshop was held in St. Chad's College 18 - 20 April, 2017. The organising committee comprised Gillian Foulger (Chair), Christian Schiffer and Alex Peace. Oliver Sanford provided technical support.

A total of 12 people attended. These were Tony Doré (Statoil), Gillian Foulger (Durham University, UK), Dieter Franke (Bundesanstalt für Geowissenschaften und Rohstoffe [Federal Institute for Geosciences and Natural Resources], Germany), Laurent Geoffroy (Université de Bretagne Occidentale, France), Laurent Gernigon (Geological Survey of Norway), Malcolm Hole (University of Aberdeen, UK), Ármann Höskuldsson (University of Iceland), Nick Kuszniir (University of Liverpool, UK), James Natland (University of Miami, USA), Oliver Sanford (Durham University, UK), Christian Schiffer (Durham University, UK) and Randell Stephenson (University of Aberdeen, UK).

The workshop proceeded in a similar fashion to the 1st workshop (<http://www.mantleplumes.org/NAWorkshop/FTP/NAWorkshopReport.pdf>) but with more focus on the planned *Earth-Science Reviews* papers. Attendees delivered ~ 10-min presentations illustrated by slides followed by 20 min of discussion. An additional, 30 min of discussion time was devoted to each of the 10 planned papers. The final agenda delivered is available online at <http://www.mantleplumes.org/NAWorkshop/NAWorkshop2.html>.

Contributions were broadly divided into the themes:

- Rifting & Iceland,
- Breakup: Marine province,
- Breakup: Land province,
- Thermal & melting, and
- Intraplate deformation

A final block of discussion was devoted to publication planning. The earlier plan for the *Earth-Science Reviews* special section was updated and is currently:

1. General overview (Leader: Gillian Foulger, everyone a co-author).
2. What is the nature of Iceland? Does it contain a continental sliver? Structure, gravity, kinematics. (Leader: Ármann Höskuldsson & Gillian Foulger).
3. What is the process and chronology of breakup? Conditions, rift propagation, kinematics, kinematic history up to the present. (Leaders: Laurent x 2)
4. A review of Late Cretaceous-Cenozoic intraplate deformation in the North Atlantic-

- western Tethys realm (Leader: Randell Stephenson).
5. North Atlantic thermochronology (Leader: Søren Nielsen).
 6. What are the reasons for melting? Could be whether hot or cold, or extension rate controls volcanic rate. How wet? How fertile? What do we know and what not? Relationship with extension and vertical motions. (Leader: Malcolm Hole).
 7. Inheritance. Piercing points, mantle reflectors, reactivation of Caledonian, delamination, numerical modelling, dynamic uplift. Could be from earliest known orogeny to present. (Leaders: Tony Doré & Christian Schiffer).
 8. Reykjanes Ridge (Leader: Fernando Martínez).
 9. Structure from top to bottom, crust, mantle. (Leaders: Hans Thybo & Irina Artemieva).
 10. Comparisons/extensions to other regions in particular Tristan and Réunion systems. (Possibly 2 papers on this theme with leaders: Alex Peace & Nick Kusznir)

Future plans

The following time-line for the *Earth-Science Reviews* papers was agreed:

- 30 April, 2017: Send Gillian placeholder titles & frameworks
- 31 October, 2017: Paper drafts circulated to enable coherence and cross-referencing
- 31 January, 2018: Submission deadline to *Earth-Science Reviews*

The next North Atlantic workshop will be held, probably in Durham (a venue that minimises the costs of the workshop as a whole), probably in November 2017. Christian will solicit preferences regarding venue and dates later in the summer. The objective of the 3rd workshop will be to work on coherence and structure of the *Earth-Science Reviews* paper collection. It was decided that there was insufficient time to organise a fieldtrip in Iceland for 2017 so this may be held in the summer of 2018 instead.

*Gillian R. Foulger, Christian Schiffer and Alex Peace
Durham, June 2017*