



## **Earth Science Education Forum (England and Wales) Minutes of the 61st meeting**

Held in the Arthur Holmes Room, Geological Society, London. 1.00 pm, 6 December 2016.

### **Present**

Alex O'Rorke (BGS London)  
Chris King (Earth Science Education Unit)  
John Stevenson (BGS)  
Ken Addison (Oxford University)  
Martyn Bradley (Geology Trusts & U3A)  
Nikki Edwards (ESTA)  
Susan Brown (Rockwatch)

### **Apologies for absence:**

Annette Shelford (NHM Learning Team/Real World Science)  
Annette Thomas (Project Consultant at Subsea UK)  
Cally Oldershaw  
David Brook (London Geodiversity Partnership)  
Duncan Hawley (Geographical Association)  
Lesley Dunlop (English Geodiversity Forum)  
Maggie Williams (Liverpool Uni.)  
Nic Bilham (GSL)  
Steve Brace (RGS & IBG)  
Tom Hose (GeoConservationUK)

### **1. Talk /discussion**

Dr Ken Addison (Oxford University) Earth Science in the Oxford BA (Hons) Geography (declining numbers of students take physical geography after year 1).

### **2 Minutes of the 60th meeting, 04 October 2016**

The minutes of the 60<sup>th</sup> meeting were accepted as a true record. A copy has been placed on the ESEF website.

**Action: JS**

### **3 Matters arising**

#### **3.1 National Curriculum (KS3 & 4)**

GSCE- and A-level geology. Drafts, both OCR and WJEC, have been approved by OFQUAL. Both are scheduled to be ready for teaching in September 2017.

NE raised the issue of A-level choices may be reduced the three subjects and geology may get 'squeezed' as a result; OCR and undergraduates are writing a blog to reflect this.

#### **3.2 Training for secondary geology teachers:**

**CK** reported that three new geology teachers are being trained through the PGCE course running at Keele; for the first time in 4 years.

The more usual route for teacher training nowadays is via the Summer School, also based at Keele. Building Earth Science Education Resilience' (BESER) is searching for funding for 2017; BESER is initially looking for three-years funding.

Through BESER, the ESEU workshops are running 40 workshops per academic year for 2016/17 and 2017/18; aimed at primary teachers, secondary school science and geography teachers.

### 3.3 *Geology for Non-Geologists training 'Geolab':*

**NE** Reported that there are two new Geolab events planned for 4 February, in Martley, near Worcester, and October, in Stoke-on-Trent .

### 3.4 *Destination survey for A-level Geology students:*

Nothing to report. This item will be closed for the next meeting.

### 3.5 *National Geology Database*

**JS** reported that work is still ongoing, with more detail being added to the Geologists' Association guides.

### 3.6 *Geological poster map of UK and Ireland*

**JS** reported that, since Chris King had written to John Ludden, BGS Exec Director, there had been progress with the map edits and that publishing was planned to coincide with a launch of the map at the 2017 Geographical Association conference at the University of Surrey in April.

### 3.7 *Future talks and meeting dates*

#### **Tuesday 28 March 2017**

TBC London Geobus. **Action complete:** Susan Brown to contact Charlotte Pike at UCL.

#### **Tuesday 16 May 2017**

TBC from STEM to STEAM? **Action complete:** Susan Brown to provide names of suitable speakers. **Action JS:** to contact speakers nearer the date of the meeting.

Tuesday 10 October 2017

Tuesday 12 December 2017

## **4 Finance report**

No significant changes to report.

## **5 ESEF website ([www.esef.org.uk](http://www.esef.org.uk))**

The website is up to date. Presentations from the 'Mobilising workshop' have been added to the website. [www.bgs.ac.uk/esef/mobGeosci.htm](http://www.bgs.ac.uk/esef/mobGeosci.htm)

## **6 Potential collaborative projects**

None reported

## **8 ESEF Achievements**

The 'Mobilising the geoscience community behind an outreach/education initiative' meeting was considered a success. Presentations and draft strategy document have been uploaded to <http://www.bgs.ac.uk/esef/mobGeosci.htm>

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## 9 AOB

**CK:** Provided an update on the 'Mobilising the community' workshop of 17 November, which included a discussion on the online questionnaire completed by the workshop participants.

During the meeting the group agreed an outline plan; following build-up activities during 2017 a national initiative will be piloted on one day in the summer of 2018 based on introducing the public to a series of EarthCaches in the local area. This will be evaluated and further developed in following years. A draft strategy document will be drawn up, circulated to key ESEF members and comment invited. The draft strategy document and initiative background can be found at [http://www.bgs.ac.uk/ESEF/documents/Mobilising\\_strategy\\_DRAFT\\_document\\_13\\_12\\_2016.pdf](http://www.bgs.ac.uk/ESEF/documents/Mobilising_strategy_DRAFT_document_13_12_2016.pdf)

(ESEF meeting attendees had a short inspection of the building fossils in the wall immediately outside the Geological Society and the granite setts in the Royal Academy courtyard. This provided useful discussion on how to bring geology to life in an urban setting).

**A couple of email updates were provided in advance of the meeting;**

**Annette Shelford NHM**

[Dippy the Dinosaur Tour](#) is not just about dinosaurs and earth science. The tour is very much about enabling host institutions to raise levels of engagement with nature and the natural world. If there are any specific ideas about the Geoscience engagement project linking to Dippy please let Annette know.

**Duncan Hawley, Geographical Association Physical Geography Group**

### 1. Physical Geography Photo competition 2016

More students than ever entered the third Physical Geography Photo competition, organised by the Physical Geography Special Interest Group (sponsored by Páramo Directional Clothing), with over 200 entries.

The competition aims to inspire students to observe, and interact with physical geography through imagery and offer opportunity for them to apply their knowledge of physical geography in an informal context. Each year the competition sets a themed focus to help students discover aspects of physical geography in the environment in different ways. As a contribution to the 'Year of Fieldwork' the 2016 challenge was 'Earth Enquiry', which set the task of capturing an aspect of physical geography 'out there' in an image and suggesting an interesting enquiry question that would help investigate further together with a brief outline of what field information might be recorded and how it might be collected.

Perfect answers' were not expected, but the judging panel were on the look out for entries showing a sharp and curious eye for the physical environment combined with a stimulating question and 'do-able', sensible suggestion as to how to discover more in a way that provokes some insight or thinking about the physical geography.

There will be a display of winning entries in the Paramo retail shop in Keswick throughout the Spring.

Winners photos' will be published on the

The theme for the 2017 competition will be 'Landscape Story'. Details will appear on the competition website <http://gapgphotocompetition.org.uk/> in the Spring term.

### 2. Publications

'Plate Update' article to be published in Spring issue of Teaching Geography (aimed at secondary teachers)

## **GA Teacher resources** (newly published)

Key Stage 4

[GCSE Toolkit: Form, Process and People: A study of UK river and coastal landscapes](#)

GCSE Toolkit: Hot and Bothered? A study of climate change

Key Stage 3

Teachers' Toolkit: *Going to Extremes: What makes weather and climate so extreme?*

Teachers' Toolkit: *Through Thick and Thin: How does glaciation change the world?*

In preparation: Top Spec (A level) *Glaciated Landscapes* (Dr Richard Waller & Dr Peter Knight)

### **3. Geographical Association Conference 2017, University of Surrey, Guildford.**

Physical Geography programme sessions include:

#### **Updating lectures**

- The last British ice sheet  
*Dr Bethan Davies, Lecturer, Centre for Quaternary Research, Royal Holloway University, London*
- Storm impacts and shoreline recovery in the UK  
*Dr Sue Brooks, Reader in Environmental Systems Analytics, Birkbeck, University of London*
- Carbon movement in soils  
*Dr Joanna Clarke, Associate Professor, Geography and Environmental Science, University of Reading*
- Carbon and water cycles  
*Dr Alexander Antonarakis, Lecturer in Physical Geography, Department of Geography, University of Sussex*
- Restless Earth: A decision-making exercise on disaster mapping  
*Dr Alice Gadney, Restless Earth Coordinator, British Cartographic Society*
- Glaciated Landscapes – the icing on geography’s cake  
*Dr Richard Waller, Senior Lecturer in Physical Geography, School of Geography, Geology and Environment, Keele University*

#### **Debate**

Is the Anthropocene an issue of physical geography or popular culture?

*Professor Mark Williams, Department of Geology, University of Leicester*

*Dr Alex Satndish, Senior Lecturer in Geography Education UCL Institute of Education*

*Chair: Duncan Hawley (Physical Geography Special Interest Group)*

#### **Workshop KS3-P16**

What makes physical geography accessible?

*Physical Geography Special Interest Group*

#### **Workshop KS3-P16**

The plate tectonic story

*Prof. Chris King, Director of the Earth Science Education Unit, Keele University*

### **4. Supporting PG content in new A level Geography specs**

We have audited all aspects of physical geography in the new A level Geography specifications.

1. Water and Carbon Cycles - core

2. Landscape Systems (choice of Glaciated landscapes, Coastal Landscapes or Drylands) – core

3. Tectonics and hazards - compulsory/optional dependent on specification chosen.

Collaboration with the post-16 working group to develop resources to support teachers/ students in aspects where updating is identified and highlighting key ideas/concepts that teachers need to 'think about'.

**In progress** - Compilation of an 'extra curricular' or 'further reading' book list for A level physical geography – useful as a read for students and teachers. Recommended books should be informative and readable – as a supplement to more 'formal' textbooks or as useful CPD knowledge development for teachers. Focus initially to be on new A level spec topics – but stimulating books on any other topic can be included. Examples = 'Goldilocks Planet' (Jan Zalaseiwicz and Mark Williams) and 'Inventing the Earth' (Barbara Kennedy).

**Suggestions are welcomed from ESEF members.**

**In development** – a resource using selected photos submitted to the Phys Geog Photo Competition to aid students in choosing a suitable fieldwork enquiry (features/ questions/ methods) for the individual (fieldwork) enquiry component of new A level specs.

## **5. Geoscience community matters**

- a. GA/ ESTA Memorandum of Agreement signed. This should help consolidate the voice for geoscience in school education.
- b. Ongoing Liaison/collaboration with other PG outreach groups/organisations e.g. British Society for Geomorphology, Quaternary Research Group and Climatica  
<http://climatica.org.uk/>
- c. Netherlands Physical Geography Teachers' Activity booklet - *in development*. Several PG SIG workshop ideas are included. – see <http://www.geoproeven.nl/> for some activity examples.