

# North Eastern Geological Society

## Newsletter May 2018

### AGM REPORT

The AGM took place on Friday 16<sup>th</sup> March. The minutes of the last AGM were accepted. All executive reports were accepted.

Derek Teasdale had previously resigned as Webmaster, Alan Denham was proposed and accepted by executive decision prior to the AGM. Gordon Liddle was voted in as Field Trip Secretary and Les Barnes was accepted as Summariser for reports of meetings when available. Chairperson and Secretary roles are to be shared by members of the Committee with Louis Golightley providing input to the secretary position.

Date of next AGM: Friday March 15<sup>th</sup> 2019.

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### UPCOMING EVENTS

**St Mary's Island to Seaton Sluice, 19<sup>th</sup> May 2018**

**Leaders: Derek Teasdale and Eric Johnson**

Meet: 10.00 at the car park at St. Mary's Island, Whitley Bay(NZ350751).

Parking: the St Mary's location has a telephone pay system. Parking is free at the cemetery, this is at the turn off for the island <400m from the east car park. The Seaton Sluice terminus for the walk has free parking, members could arrange to

ferry one another between the start and terminus or park at Seaton Sluice and walk back to the St Mary's car park for the start. It is less than 1.5 miles on the coastal path. Public toilets are at the start and terminus of the walk.

### Geological setting

A chance to view superb Carboniferous outcrops and faulting along this classic seashore section. Please note that we will be crossing the foreshore, which can be rough and slippery.

Will members please inform [negsec@gmail.com](mailto:negsec@gmail.com) of intention to attend this field trip.

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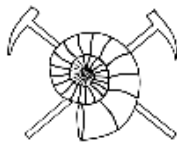
### LECTURE REPORT

After the AGM on **Friday 16<sup>th</sup> March** the very informative lecture was

### **The Anthropocene: an overview of geological assessment to date**

**Professor Colin N. Waters**, *School of Geography, Geology and the Environment, University of Leicester, University Road, Leicester LE1 7RH, UK.*

Professor Waters summarised the progress of the Anthropocene Working Group, the body investigating the potential new unit of the International Chronostratigraphic Chart. He commenced by explaining the current understanding of the term as a potential epoch, following on from the Holocene,



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commencing at a so far unspecified time in the mid-20<sup>th</sup> century. He then briefly introduced the wide range of stratigraphic markers which can be used to help correlate this unit globally. A marked upturn in <sup>239</sup>Pu and <sup>14</sup>C radioisotopes abundance, in ~1952 and 1954 respectively, broadly coincident with a downturn in stable carbon and nitrogen isotope values, is applicable across most environments. Other airborne signals, such as fly ash, nitrates, sulphur, CO<sub>2</sub> and CH<sub>4</sub> concentrations are highly resolved, widespread and provide additional means of correlation.

The main part of the presentation discussed progress with the task of assessing and selecting potential **Global Boundary Stratotype Section and Point** (golden spike) candidate sections, a requirement in seeking formalisation of the term. He explained the basic requirements for a GSSP and described the following units in terms of their extent, examples of how different markers are expressed and arguments in favour and against their hosting such a GSSP: accumulations of anthropogenic deposits, marine anoxic basins, coral reefs, estuaries and deltas, lakes, peat bogs, ice layers, speleothems and trees. In many circumstances the thickness of Anthropocene strata is only a few tens of centimetres thick, but the signals of change are still clearly resolved and laterally extensive. Many of these geographically diverse environments offer annual laminae (varves or growth rings) that can be counted and independently dated radiometrically; anthropogenic deposits and peats lack such laminae, making them less suitable as a GSSP

candidate. Anthropogenic deposits and estuarine and deltaic deposits may be affected by local influences and common gaps in succession. Decadal-scale lagged responses to environmental signals evident in speleothems and in some cases within deep waters associated with marine anoxic basins can also limit their suitability. Records within glacial ice (though not within enclosed air bubbles) and lake sediments are advantageous as settling rates of key signals are minimal. Although living organisms have not previously hosted a GSSP, very-high resolution records and relatively rapid growth rates present in corals and trees provide a potentially suitable medium.

Suggested reading:

Waters *et al.* (2016). The Anthropocene is functionally and stratigraphically distinct from the Holocene. *Science*, 351 (6269), 137.

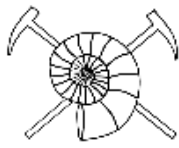
Waters *et al.* (2018). A Global Boundary Stratotype Sections and Points (GSSPs) for the Anthropocene Series: Where and how to look for a potential candidate. *Earth-Science Reviews*, 178, 379-429.

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## FIELD TRIP REPORT

**Askrigg, Sunday 22<sup>nd</sup> April 2018**

Our first field trip of 2018 found us at Askrigg in Wensleydale, seven hardy souls buffeted by the wind but raring to get to grips with the cyclothem successions of the Yoredale series at its type locality. We had the benefit of an experienced and enthusiastic leader in Lesley Collins whose



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detailed field notes included maps and sections of the eleven cycles which make up the sequence in the Dale. We began with a walk westward to Mill Gill at the lowest point of the Gayle Cyclothem and moved up the narrow valley to the impressive Mill Gill Force passing a small limekiln on the way, pausing for photographs before returning to our vehicles and driving four miles eastwards to Ballowfield Nature Reserve. The rare wild plants here thrive on the toxic waste from the quarry above (Galena, zinc, etc.,).



*Surveying an adit with discussion of the rock inside and the rock used to construct.*

The route upwards into the mined area involved a short steep climb up Disher Force, through the Middle Limestone, noting siderite and chert nodules and numerous *Gigantoproductus* brachiopods. Thence via the upper track to Wet Grooves Mine where lead was extracted from the 17<sup>th</sup> Century and the tips more recently reworked for fluorite in the 19<sup>th</sup> and 20<sup>th</sup> centuries (I have seen similar reworking in Weardale and Derbyshire). The vertical sequence of beds is well

exposed in the scarp above and of particular interest was a land slipped mass of limestone known as The Knot, which has so far defied explanation by eminent geologists who have visited.



*The Knot, Wetgrooves, Askrigg*

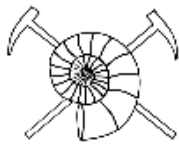
Early miners found the faults here were filled with the ore veins and could be exposed by hushing.

We returned to Ballowfield where Lesley showed us a collection of mineral she had picked up on a previous visit – yes! It's all there if you really look!

Our hearty thanks to Lesley for a day of great interest.

LRB

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## FIELD TRIP PROGRAMME

### Sunday June 3<sup>rd</sup>. 2018

Howick Bay: Led by Ian Kille

### Saturday July 7<sup>th</sup>. 2018

The Eildon Hills: Led by Louis Golightley

### Saturday August 18<sup>th</sup>. 2018

Runswick Bay (Joint meeting with NOUGS)  
Led by Karl Egeland-Eriksen

### Sunday September 16<sup>th</sup>. 2018

Tunstall Hill and Ryhope Railway Cutting  
(Joint meeting with NOUGS) Led by Karl  
Egeland-Eriksen

More detailed information available on  
the Website at <https://www.negs.org.uk/>

Please inform [negsec@gmail.com](mailto:negsec@gmail.com) of  
intention to attend these field trips.

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### Heritage Open Day Walks

#### Thursday 6<sup>th</sup>. Sept 2018

Chris Taylor - Building Stones of Newcastle

#### Friday 7<sup>th</sup> September

Andy Lane – Sunderland Coast, north of  
River Wear

We will require member support for these events, one or two names have been submitted but more will be required. Please contact [negsec@gmail.com](mailto:negsec@gmail.com) to volunteer to help plan, run, back-mark on these events. Thanks to those who have volunteered their support already.

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### NOUGS Field trips

**Sunday 13 May** - Doddington, Ford Moss & Roughting Linn

**Sunday 3 June** - Howick (Ian Killie  
NEGS/NOUGS)

**16-17 June** - Keswick weekend

**Saturday 30 June** - Kingwater/Crammel  
Linn

**Saturday 21 July** - Sleightholme  
Beck/Gods Bridge

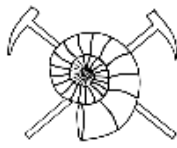
**Saturday 18 August** - Runswick Bay to

**1-2 September** - Dob's Linn weekend

**Sunday 16 September** - Tunstall Hill,  
Ryhope Cutting (NEGS/NOUGS)

Further details of these, and contact  
details at <https://ougs.org/northumbria/>

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## ADMINISTRATION

NEGS requires a representative to the GEOLOGISTS ASSOCIATION, this person

needs to be a member of the Geologists Association who will report back from meetings. GA pays some expenses

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2018-19 fees were due AT the AGM

Address for cheques: Judy Harrison, 28 St Ann's Quay, 4 St Ann's Street, Newcastle upon Tyne, NE1 2DJ.

For internet banking:

Sort code: 09-01-51

Account number: 75189803

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**The Geologists' Association  
Annual Conference 2018  
The Geology of 'Mordor'**

Exploring the incredible geology and mineral wealth of the Black Country, that powered the 'workshop of the world' and inspired iconic art and literature

**Provisional Programme**

**Friday 19th October**  
Lapworth Museum of Geology, University of Birmingham  
Pre-registration & behind-the-scenes visit to the Lapworth Museum  
Informal social gathering at local pub

**Saturday 20th October**  
Talks relating to the world-class geological & cultural heritage of the region  
Topics/speakers to date:  
Keynote: People and rocks in the landscape of 'Mordor'  
Graham Worton: The Black Country UNESCO Global Geopark  
Speaker (tbc): BGS and the geology of the region  
Colin Knipe: Mining and industry in the Black Country  
Ben Evans: Conserving Geoheritage in the Coalfields/Urban Area  
Conference Dinner details to be confirmed

**Sunday 21st October**  
Range of excursions to include:  
The limestone geology and fossils of the Black Country  
The Coal Measures geology of the Black Country Coalfield  
The Building Stones of Birmingham City Centre

**For further information and registration:**  
Visit: [www.geologistsassociation.org.uk](http://www.geologistsassociation.org.uk)  
or email: [conference@geologistsassociation.org.uk](mailto:conference@geologistsassociation.org.uk)  
Registration opens 1st April 2018

### Please note:

If you did not reply to the request for consent to the use of your data for membership purposes you will be removed from all mailing lists on May 24<sup>th</sup> prior to the GDPR regulations enactment.