

Bulletin

Number 79

October 2006



Talks:

Thursday 12 October: *Glaciers, Ice Ages and the British Landscape*

Speaker: Dr Richard Waller (Keele University)

7.30pm start, School of Earth Sciences and Geography, Keele University

This talk will consider the importance of glaciers both past and present. Their significance within the global environment will be considered from a variety of perspectives ranging from the evolution of the British Landscape (including North Staffordshire), to their potential response to future climate change. For those unfamiliar with glaciers and ice sheets, the talk will include a brief "beginner's guide" that will explain their formation, their flow and a brief examination of the ways in which they can generate distinctive landscapes.

Thursday 9 October: *Volcanic eruptions into Iceland's glaciers*

Sixth Wolverson Cope Memorial Lecture

Speaker Dr Dave McGarvie (Open University)

7.30pm start, School of Earth Sciences and Geography, Keele University

Recent Icelandic eruptions into glaciers that have broken through to the atmosphere have produced spectacular eruption columns, with pulsing uprushes of tephra, frequent lightning flashes, and vast volumes of steam. But Iceland also contains numerous older landforms produced during past eruptions into ice, which have helped to advance our understanding of ice-volcano interactions. This illustrated lecture will give an overview of ice-volcano interactions, with a focus on recent Iceland eruptions and field-based research.

Please return the [booking slip](#) if you would like to attend the sherry reception and buffet meal beforehand

Thursday 7 December: *Christmas Social & buffet*

7.00pm start, School of Earth Sciences and Geography, Keele University

As well as the traditionally excellent buffet, this year we will be joined by Dr Ralf Gertisser who will be running a rock and mineral recognition workshop - so bring along any specimens you may want to identify.

Please return the [booking slip](#) if you would like to attend the social and buffet

Thursday 11 January: *The beauty and threat of Indonesia's volcanoes*

Speaker Dr Ralf Gertisser (Keele University)

7.30pm start, School of Earth Sciences and Geography, Keele University

Indonesia has the greatest number of active volcanoes in the world. These volcanoes are beneficial to the people living on or near them by providing fertile soil, valuable resources and scenic beauty, but they also pose an enormous threat to the surrounding human populations. Indonesia has suffered the worldwide highest numbers of eruptions producing fatalities and damage to arable land. This talk explores some of Indonesia's most active volcanoes and devastating volcanic eruptions such as the gigantic Toba eruption ~75000 years ago, the great historic eruptions of Tambora and Krakatau, and the recent eruption of Merapi which attracted worldwide media interest.

For further information contact NSGGA Secretary **Eileen Fraser** 01260 271505

Field Trip Report - Wirral Country Park, Sunday 18 June 2006, with Hilary Davis

After a fortnight of warm summer weather we were dismayed to see rain as we approached the car park and so it was to continue most of the day.

There were about a dozen of us who met Hilary. She started by showing us the car park storyboard map for orientation. We then split into cars for the short drive up to the car park below Thurstaston Common. We climbed the hill and admired the scenery across the Dee Estuary to Wales. The hill consists of red Triassic sandstones of the Thurstaston Hard Member which being more resistant to erosion stands up above the surrounding countryside.

The top of the hill shows evidence of many thin layers gently dipping towards the East. There are numerous vertical joints filled with quartz and this is due to the extensional



setting associated with the opening of the Atlantic. At the time that the sandstones were laid down Britain lay in the middle of a vast continent called Pangea, just North of the Equator. Initially conditions were hot and dry punctuated by flash floods that brought vast amounts of sediments from a range of mountains south of Britain that formed the source of much of the Triassic rocks of Britain. As the plates moved and Britain drifted northwards the climate became less arid and there must have been some vegetation as fossil dinosaur footprints have been found on the Wirral. At the end of the Triassic Period the area was submerged under the sea and the sandstones were compressed by marine sediments and

then about 50 million years ago the whole area was uplifted and the marine sediments eroded to reveal the sandstones beneath. Finally the whole area was covered by vast ice sheets that ground down from the north and deposited the glacial till we were to examine later in the day.

We crossed the Common and passed an exposure of sandstones which showed clearly the rippled beds associated with successive flash floods and then moved on to look at Thor's Stone an isolated house sized block of red sandstone.



The carved initials gave evidence of generations of visitors. The other more curious feature was a series of flat-bottomed scallops ranging from a 10 to 20cms in width. Hilary explained that there has been much controversy over these as some geologists have attributed them to glacial melt water scouring out the runnels and others consider them to have been worn by climbers scrambling over the rocks. The book 'Rock around the Wirral' explains that as the surrounding sandstone was quarried the crane that lifted the blocks onto the carts may have been supported by Thor's Stone. Whatever the reason the rain meant that no one was willing to climb up the wet rocks to add to the theory.



We made our way back down to the car park examining a clear fault plane with slickensides. We continued down the busy main road to look at the road cutting that shows the upper beds of the Sherwood Sandstone Group the same sequence of sandstones that form the gas fields of Morecambe Bay. The cutting on the west side of the road shows the unconformity above the Wilmslow Sandstone Formation, but the main interest is on the east side of the cutting where the Helsby Sandstone Formation has a lower bed of the Thurstaston Hard member with the Thurstaston Soft

Member above it. There are some layers of mottled light sandstone where groundwater has washed out the iron rich stain and some good slump structures.

Due to the rain we opted to drive back down to the Country Park centre for lunch and a dry out. Then we walked south along the Wirral way and then followed a footpath alongside fertile fields to reach The Dungeon. Here the stream runs over the non-porous Tarpoley Siltstone Formation. Hilary and Gerald bravely tackled the slippery route into the gorge to examine the fossil ripple beds, the fault plane and the waterfall. Some rocks showed evidence of salt pseudomorphs where salt crystals had formed as water dried out in the desert.

The last exposure of the day was on the beach below the Visitors Centre where the glacial till has formed cliffs of highly compressed complete and broken grains of quartz. This is one of the best examples in Britain of glacial sediments and is full of pebbles and rocks brought down from the Southern Uplands of Scotland and the Lake District so is full of siltstones, granites, volcanic tuffs and sandstones. So we spent a happy hour 'fossicking' amongst the mud and found some interesting specimens.

It was an amazing day in spite of the weather and we learnt a lot about the area and the wider region. We are very grateful to Hilary for being such an enthusiastic and knowledgeable guide.

Eileen Fraser



John Myers' Award

Regrettably the Geology Department at Staffordshire University closed this year so there will be no more John Myers' Awards to be made to students from Staffs University.

Keele University runs two courses - a 3-year Single or Dual Honours course and a 4-year M Geoscience course. It has always been difficult for the assessment panel to judge the projects submitted by Keele, as the two courses are so different and cannot be

compared.

I have discussed the future with Ann Myatt (John Myers' daughter) who provides the cash prizes each year; she has agreed to continue with the same level of funding as previously.

At the committee meeting on 21st September it was agreed that in future there should be two awards for Keele, one for each course.

We are indebted to Ann Myatt and thank her very much for her continued support.

Mike Fereday

Report - Dudley Rock and Fossil Fair, 16 - 17 September

This year is the 50th Anniversary of the creation of the Wren's Nest as a National Nature Reserve. To celebrate this there have been a number of events organised by Dudley Museum and Dudley Metropolitan Borough Council, the two day Rock and Fossil Fair being one of them.

NSGGA had a stand at this fair, manned by Elizabeth and Ken Hallam, Margaret and Peter Floyd and Carol and Mike Fereday. On the stand were displays of the John Myers' Award, photographs of this year's Field Weekend, photographs of the Tony Pugh paintings and posters showing Industrial Utilisation of Natural Minerals. A big attraction drawing in the children were the Pangea and Silurian jigsaws on our stand and a present day Plate Tectonic jigsaw, which was used alongside the fossil casting.

Carol and Mike and those faithful stalwarts John Parton and Chris Eardley did fossil casting upstairs in the children's activity room when we made 250 replica fossils over the two days. We met many members of the public amongst whom there were three potential new members. Many thanks to all who helped over the weekend. We have been asked to participate next year in a similar event with a children's theme of dinosaurs.

Mike Fereday

Sad News

Mrs Evelyn Cope. We have the sad task of informing you of the recent death of Mrs Evelyn Cope, widow of Prof F Wolverson Cope who was a long standing member of NSGGA and in whose memory we hold the annual Wolverson Cope lecture in November. Mrs Cope's daughter Liz wrote the following: "My mother had deteriorated terribly in the last two months, but thankfully she was not in any pain. We take some comfort from the fact that she passed away extremely quickly, after enjoying a lunch of fish and chips." The funeral service was held on 6th September at St Mark's Church, Walton-on-Thames, Surrey followed by a private cremation). A donation of £10 to the "Stroke Association" was sent on behalf of the NSGGA.

Eileen Prior. The funeral of Eileen Prior took place on 21 September at Ashley Methodist Church. Her first husband was Tom Purcell, the first Secretary of the NSGGA. Eileen remained a member of the Group after Tom died and continued her membership after remarrying to Gerry Prior.

Arthur Wong. NSGGA member Arthur Wong has unfortunately died recently. The funeral took place on 29th August and Elizabeth and Ken Hallam attended and represented NSGGA.

Further NSGGA 2007 Diary Dates

- **Thursday 8 February: *Geology of the Bronze Age - the eruption of Santorini***
Speaker Dr Bob Roach, 7.30pm start, School of Earth Sciences and Geography, Keele University
- **Thursday 8 March: *AGM and Chairman's Lecture - The life and works of Blaise Pascal***
7.30pm start, School of Earth Sciences and Geography, Keele University
- **Weekend 28th and 29th April - Joint field weekend with the Essex Group to the *Lake District***
The outline program is currently that, Peter Floyd and Chris King will be leading a day each, Peter probably in the Hard Knott area and Chris at sites in the Shap area. Accommodation has been reserved at the Shap Wells Hotel, one of the Best Western Group of hotels.
There will be further details in the January Bulletin, or contact Field Secretary, Gerald Ford.

NSGGA - Next Committee Meeting

- **Thursday 16 November at 7.00pm**
in the School of Earth Sciences and Geography, Keele University

Staffordshire RIGS Group

For details about the Group and meetings, contact:

SRIGS Secretary: Sue Lawley,

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Lloyd Boardman; Peter Floyd; David Osborn;

Janet Osborn; John Reynolds; John Winchester

Executive Committee (co-opted):

Vanessa Pilley (Keele Geol. Soc)

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