

## **SUBSCRIPTIONS**

If you already pay by Standing Order, please ignore this sheet.

Otherwise, please send the Treasurer a cheque for £12 ordinary or £15 joint membership or £5 student membership or, alternatively, complete the standing order mandate below.

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### **STANDING ORDER MANDATE**

East Midlands Geological Society  
Standing Order Mandate

To: The Manager (Bank name, Branch and Address)

Please pay annually on 1<sup>st</sup> February each year, commencing on 1<sup>st</sup> February 2006, and until further notice the sum of £ ( pounds) to the credit of the East Midlands Geological Society, account number 50050217, at the Co-operative Bank, 4-5 Exchange Walk, Nottingham NG1 2NX, sort code 08-90-74

This mandate replaces any earlier mandate to the EMGS

Name of account to be debited:

Account number:

Signed:.....

Dated: .....

**East Midlands Geological Society Registered Charity  
5031617**

**East Midlands Geological Society Registered  
Charity 503617**

**Gift Aid**

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**Replacement Covenants by Gift Aid**

In the past you have kindly covenanted your subscription to the Society. This scheme has been replaced by Gift Aid and the Treasurer requests that you complete a replacement declaration under the gift aid scheme.

Under the new Gift Aid Scheme announced in 2000, if you are a taxpayer the Society can reclaim the tax you have already paid on your subscription to the Society. This means that at no complication or cost to you the Society can get an extra 28 pence for every pound of your subscription. Please consider signing the declaration below and returning it to the Society's Treasurer.

Under the new Gift Aid Scheme announced in 2000, if you are a taxpayer the Society can reclaim the tax you have already paid on your subscription to the Society. This means that at no complication or cost to you the Society can get an extra 28 pence for every pound of your subscription. Please consider signing the declaration below and returning it to the Society's Treasurer.

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Gift Aid Declaration

I am a tax payer and wish all my subscriptions to the East Midlands Geological Society paid since the 6<sup>th</sup> April 2000 and in the future, until I notify you otherwise, to be treated as Gift Aid.

Signed:.....  
Date:.....  
Full name (please print) .....  
Address:

Treasurer: Christine Moore  
The Steading, Main Road, Elvaston, Derby DE72 3EQ  
Telephone: 01332 573065 Fax: 01332 757994

**PLEASE KEEP THIS COPY FOR YOUR RECORDS**

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Gift Aid Declaration

I am a tax payer and wish all my subscriptions to the East Midlands Geological Society paid since the 6<sup>th</sup> April 2000 and in the future, until I notify you otherwise, to be treated as Gift Aid.

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Full name (please print): .....  
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The Steading, Main Road, Elvaston, Derby DE72 3EQ  
Telephone: 01332 573065 Fax: 01332 757994

**PLEASE SEND THIS COPY TO THE TREASURER**

Please also consider paying your subscription by way of a Gift Aid declaration. It costs you nothing but benefits the Society considerably and helps to keep our subscription rates down. A blank Gift Aid form and Standing Order Authority are enclosed.

Subscription rates are:       £12.00 ordinary  
  £15.00 joint membership  
  £ 5.00 student membership

## **EAST MIDLANDS FIELD GUIDE**

Members of EMGS may purchase these at a discount price of **£6.00**. To non-members the price is **£8.00**.

Copies are available for sale from the Secretary or other Council members, or at the Society's Indoor or Field Meetings.

## **THE VICTORIA COUNTY HISTORY PROJECT**

The Victoria County History Project has been revived for Derbyshire after a break of about a century! The ultimate intention is to produce a definitive historical reference series for all English counties. In the East Midlands this has already been done in Northamptonshire. The plan in Derbyshire is to work through each area, Hundred by Hundred and within these, by clusters of parishes. Each section will have an introductory piece on geology/topography. There is a general call for people and, in particular, local history societies, to become involved in gathering information. This work is being co-ordinated by Philip Riden at the University of Nottingham who can be contacted on [Philip.Riden@nottingham.ac.uk](mailto:Philip.Riden@nottingham.ac.uk)

## **ROCKWATCH DAY**

Sue Brown at the Geologists Association is looking for volunteers to help with a "Rockwatch Day" (for budding young geologists) at BGS on Saturday 18<sup>th</sup> March. For more details contact her on [rockwatchga@btinternet.com](mailto:rockwatchga@btinternet.com)

## **Lectures & Field Meetings of Other Organisations**

**The Secretary or the Circular Editor have contact details for the representatives of other local Geological Societies who organise field trips and indoor meetings. Please ask one of them for details.**

## **e-mail addresses**

We would very much like to send you your Circular by e-mail. If you have not already done so, please send your e-mail address to the Circular Editor, [sue.miles@freethcartwright.co.uk](mailto:sue.miles@freethcartwright.co.uk).

**Please can you also confirm your name and address when sending your e-mail so we can correlate these details with our membership listing.**

**The next Circular will be published in April 2006.**

**The next Council Meeting will be held on Thursday 27<sup>th</sup> April 2006.**

**Secretary:** Mrs Janet Slatter, 100 Main Street, Long Whatton, Loughborough, Leicestershire LE12 5DG  
e-mail: [j.slatter@zoom.co.uk](mailto:j.slatter@zoom.co.uk). tel. no. 01509 843297

**Treasurer:** Mrs Christine Moore, The Steading, Main Road, Elvaston, Derby DE72 3EQ tel. no. 01332 573065.

**Sunday 7<sup>th</sup> May 2006**

**Geo-botany and Lower Jurassic Geology**

Meet 10.30 am near the crest of Loddington and Launde Lane - reached from the A47 to the north of East Norton (5 miles west of Uppingham). Grid reference: (Sheet 141 1:50,000) SP 795035.

Park on wide verge - **please do not obstruct farm gates.**

The morning will be spent in Launde Wood reviewing the relationship of botany to geology and the afternoon will be at Tilton on the Hill railway cutting where there are excellent exposures of highly fossiliferous lower Jurassic strata.

**Wednesday 14<sup>th</sup> June 2006**

**Building Stones in Derby**

Meet at 7.00 pm. A walk in the city centre area of Derby where we will have the chance to be escorted on a building stone walk by a nationally recognised expert on geology and building stones.

**Sunday 23<sup>rd</sup> July**

**Cave Dale and Dirt Low Rake**

Meet in the main car park in Castleton at 10.00 am.

Field excursion to the Cave Dale and Dirt Low Rake area near Castleton.

**Saturday 23<sup>rd</sup> September**

**Melton Ross Quarry**

*Details to follow in next Circular.*

**Details of further field excursions including a possible weekend field trip will appear in the next Circular.**

**Insurance and Safety**

Members are reminded that the Society has only public liability insurance and that personal accident insurance is a matter for individual members to arrange as they consider necessary. Up to date hard hats are obligatory for all field excursions involving quarries or cliff faces and strongly recommended for all trips. High visibility clothing is sometimes required in working quarries. High visibility tabards can be obtained from GA Enterprises, 126 Fleetside, W. Molesey, Surrey KT8 2NQ at £4.70 incl. pp. Members without suitable hard hats may be refused access to certain sites! Hard hats can be obtained from many Builders' Merchants, Wickes, B&Q Warehouse etc. for about £4.

**New Members**

Mr & Mrs Bruce Blanchard, Holymoorside, Chesterfield  
Mr G F G D Howe, Mapperley, Nottingham

**Subscriptions**

Subscriptions were due on 1<sup>st</sup> February 2006. The rates remain the same as last year. Members who do not pay by Standing Order could please consider doing this as it eases the administrative load.

with exceedingly low basal shear stresses, and so failed to erode the underlying landscape, instead providing a layer of till that protected the underlying archaeology from subsequent erosion. Only now, with accelerated coastal erosion and aggregate extraction have these remains been revealed.

4.55 – 5.00 *Closing Remarks*

***NB The BGS shop will be open before the meeting and possibly during the tea interval. Members will be offered a 25% discount on BGS publications.***

**Saturday 8<sup>th</sup> April 2006 - 6.30 pm**

**Landslides - their geography, geology and risk**

This lecture aims to explain how landslides occur and how engineering geologists and geomorphologists contribute to managing the risk that landslides pose to property and life. It will show that landslides are not random events (as sometimes suggested in the popular press) but that they can be understood, evaluated and predicted. In many cases we can then use specific engineering measures to reduce the risk of landslides, in others we may need to take more radical action.

*Dr Tony Dickson (University of Cambridge) who was originally due to lecture in April will now present his lecture entitled Student tours to the USA: the geology of the Sacramento and Guadalupe Mountains, Texas and New Mexico in November.*

**FIELD PROGRAMME - 2006**

**Sunday 7<sup>th</sup> May 2006 – 10.30 am**

**Geo-botany and Lower Jurassic Geology**

**Leader: Clive Jones OBE (formerly regional geologist BGS)**

**Wednesday 14<sup>th</sup> June – 7.00 pm**

**Building Stones in Derby**

**Leader: Eric Robinson**

**Sunday 23<sup>rd</sup> July – 10.00 am**

**Cave Dale and Dirt Low Rake, Castleton**

**Leader: Gerry Slavin**

**Saturday 23<sup>rd</sup> September**

**Melton Ross Quarry**

*Further details in next Circular*

Resurvey work in Suffolk and Norfolk by the British Geological Survey, in collaboration with specialists from Royal Holloway University of London, has led to a better understanding of the Red Crag and Norwich Crag formations and the discovery of a later formation, the Wroxham Crag Formation.

The Red Crag Formation consists mainly of medium-to coarse-grained, relatively poorly sorted, micaceous, fossiliferous marine sands. These were formed in water depths of up to 25m and are preserved in relatively deep, commonly fault-bounded basins. However, the overlying Norwich Crag dominantly comprises a relatively thin, but widespread sheet of fine-to medium-grained, shallow-water sands, which rest disconformably on the Red Crag and overstep onto Palaeogene sediments and Chalk Group. This sand body includes estuarine clays that are interpreted from their derived palynology as having formed in the estuaries of the Thames and Bytham rivers, and also the Westleton Beds, beach-face gravels formed almost wholly of rounded flint.

The Wroxham Crag Formation includes deposits previously referred to as Bure Valley Beds and Weybourne Crag. It represents a further relatively thick sheet of tidal flat and coastal sediments, but differs from the Norwich Crag in that the gravel fraction contains a high proportion of non-flint pebbles. These indicate derivation from the Thames and Bytham rivers, and also from a third river farther north, the Ancaster River, which would have flowed from the Pennines to North Norfolk. The Wroxham Crag rests disconformably on the Norwich Crag, its base cutting down northwards to rest on Chalk on the North Norfolk coast.

## 2.50 – 3.35 *Expanding the Middle Pleistocene glacial history of the British Isles: a new perspective from northern East Anglia*

Dr Jonathan R Lee (British Geological Survey)

The chronology and extent of Quaternary glaciations within the British Isles is a topic that has been investigated and debated for well over one hundred years. The current majority view is that there is only unambiguous evidence for two major Quaternary glaciations - the Middle Pleistocene Anglian Glaciation, and the Late Pleistocene Devensian Glaciation. This interpretation is, however, at odds with records of glaciation from neighbouring areas of mainland Europe such as Germany, The Netherlands and Norway, and the global pattern of climate change and glaciation determined from the marine isotope record. The aim of this presentation is to examine whether the British Isles is simply a special case, or whether our glacial history is more complex than previously considered. Evidence, the result of ongoing collaborative research between the British Geological Survey and Royal Holloway University of London, is presented from the Middle Pleistocene of northern East Anglia that contributes a new stratigraphical model for the region linking the fluvial, marine (Crag) and glacial records, and a revised glaciation model for eastern England.

## 3.35 – 4.10 Tea and coffee

## 4.10 – 4.55 *Humans in Britain before the first lowland glaciation - c. 700,000 years ago*

Professor Jim Rose (Department of Geography, Royal Holloway, University of London)

The discovery and lithostratigraphy of human remains and artefacts at Boxgrove in southern England established, in the opinion of most, the case for humans in Britain c. 500 ka (Roberts et al. 1994). However, substantial evidence, in the form of artefacts, has long been known from deposits of the Bytham river of similar or earlier age in Eastern and Midland England (Rose 1995; Wymer 1985). Additional findings, this time in the form of artefacts and bone with evidence of butchery, has recently been recorded from river deposits of the Cromer Forest Bed in northeast East Anglia. All of these deposits are located below the till of the Anglian glaciation (MIS 12) and are therefore older than c. 450 ka, but achieving an age more precise than this is difficult in absence of geochronology. In these circumstances, an attempt has been made to use lithostratigraphy and geomorphology based on major and predictable climate events tuned to Milankovitch orbital timescale (Martinson et al. 1987; Shackleton et al. 1990). These events are i) global temperate climate high sea-level which occurs at 100 ka timescales; ii) net aggradation of river terrace deposits in the lower reaches of large rivers that reflect substantial quantities of cold climate sediment requiring c. 100 ka timescales to accumulate and be separated by erosion-driven uplift; iii) major expansion of cool temperate latitude ice-sheets. These three lithostratigraphic methods have different levels of robustness with (i) being especially robust and (ii) and (iii) having a high order of confidence with the level of confidence reflecting the size of the river system and the size of the ice-sheet. These events can also be linked to geomagnetic polarity. The lithostratigraphic evidence for these events tuned to the Milankovitch timescale and geopolarity indicates that the earliest hominids are recorded from Bytham river floodplain sediments at Pakefield in northeast Suffolk about c. 750 ka in late MIS 19 (Lee et al. 2006; Parfitt et al. 2005), and that abundant evidence exists in the Bytham river sediments (Rose 1994, 1995) and Ancaster river catchment floodplain sediments at Happisburgh in northeast Norfolk at about 680 ka in MIS 17 (Lee et al. 2004). Additionally, evidence from sites such as High Lodge in the lower middle part of the Bytham river catchment (Ashton et al. 1992) provide evidence for human occupancy c. 500 ka (MIS 13).

Geodynamically and geomorphologically there is sound reasoning for the presence and survival of hominid remains at this period of time. Firstly, the British land area was part of the continental land area with the southern North Sea delta extending from the eastern part of East Anglia to the area of Denmark and northern Germany. Secondly, the earliest Happisburgh (MIS 16) and Anglian (MIS 12) glaciations crossed the region

Saturday 11<sup>th</sup> March 2006 - 6.30 pm (preceded by AGM at 6.00 pm)

**The Jurassic Coast World Heritage Site: Earth science, conservation and outstanding universal value**

The lecture will describe the evidence upon which the Inscription by UNESCO of the Dorset coast site was based, the process of gaining Inscription and the effects that has had on the site itself and the community. The evidence includes not only the geological and geomorphological features of the site, but also the very important role the area has played in the development of Earth science. Assuring the future of the site depends on understanding the changes which occur within it, making sure that the integrity of the site is not threatened by responses to those changes or by development. The future depends both on a monitoring programme and the custodianship of the site and its surrounds by the community.

**ANNUAL GENERAL MEETING - 11<sup>th</sup> March 2006**

**AGENDA**

1. Apologies for absence;
2. Minutes of AGM held on 5/3/2005;
3. Matters Arising from those Minutes;
4. Secretary's Report;
5. Treasurer's Report;
6. Appointment of Auditor;
7. Editorial Report;
8. Election of Officers for 2006;  
If there are no other nominations, it will be proposed from the chair that the following will serve:  
President - John Travis;  
Vice-President - Ian Thomas;  
Secretary - Janet Slatter;  
Treasurer - Christine Moore;  
Editor - Tony Waltham.
9. Election of Council for 2006 – 6 members are eligible for re-election (Beris Cox, Richard Hamblin, Sue Miles, Gerry Shaw, Gerry Slavin, Ian Sutton) and there are 4 vacancies
10. Vote of thanks to retiring Council members;
11. Any Other Business.

The Minutes of the last AGM and the Treasurer's Report will be distributed at the meeting.

**Saturday 18<sup>th</sup> March 2006 - 2.00-5.00 pm at BGS Keyworth**

**Joint Meeting with the Yorkshire Geological Society**  
**Recent Advances in the Quaternary History of Eastern England**  
**Speakers from Royal Holloway London and BGS**

**Programme:**

- 2.00 – 2.05 *Introduction and Society announcements*  
Dr John Powell (YGS President)
- 2.05 – 2.50 *Pebbles and palynomorphs - new light on the later Crags of East Anglia*  
Dr Richard Hamblin (formerly British Geological Survey)



**Circular 362  
March 2006**

Registered Charity No: 503617

President: Ian Thomas

[www.emgs.org.uk](http://www.emgs.org.uk)

## **PROGRAMME - SPRING/SUMMER 2006**

### **INDOOR MEETINGS**

**Saturday 11<sup>th</sup> March 2006 - 6.30 pm (preceded by AGM at 6.00 pm)**

**The Jurassic Coast World Heritage Site: Earth science, conservation and outstanding universal value**

**Speaker: Vincent May (Emeritus Professor of Coastal Geomorphology and Conservation, Bournemouth University)**

**Saturday 18<sup>th</sup> March 2006 - 2.00 pm at BGS Keyworth**

**Joint Meeting with the Yorkshire Geological Society  
Recent Advances in the Quaternary History of Eastern England  
Speakers from Royal Holloway London and BGS**

**Saturday 8<sup>th</sup> April 2006 - 6.30 pm  
(Change to previously advertised lecture)**

**Landslides - their geography, geology and risk  
Speaker Dr David Shilston (Director (Engineering Geology), Atkins Geotechnics)**

### **LECTURE VENUE**

Indoor meetings will take place in lecture theatre B3 of the Biology building at the University of Nottingham. If you require to use the lift to B3, please speak to the security attendant who will assist you. B3 is equipped with induction loop hearing assistance. If you are attending meetings or joining a coach at the University of Nottingham, enter from the South Entrance on University Boulevard. Cars should be parked in the car park on the bend in the road just beyond the security point after Science Road. The entrance to the Biology building is at the right hand side of the rear of this car park.