

Newsline



Recent events and initiatives from the British Geological Survey

What lies beneath?

If you want to know what really lies beneath the surface, then you need to get hold of our new atlas. This richly illustrated book describes the geology, land and water quality, hazards and resources of the UK. If you want to know more about swelling and shrinking clays that may damage your foundations, the location of gold in Britain, how geology can contribute to flood prediction, or the likely intensity of future earthquakes, this book is the place to start looking.

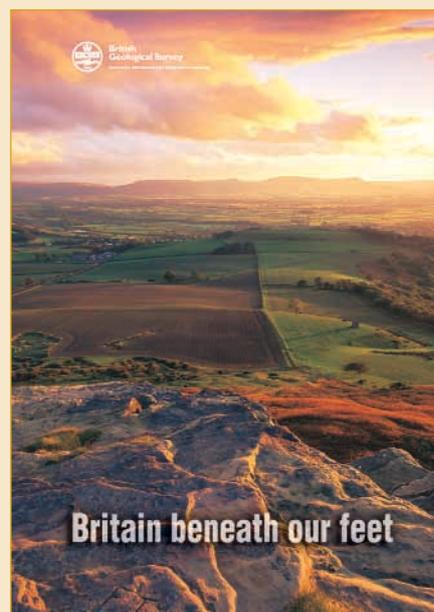
The atlas, *Britain beneath our feet*, is a guide to the digital information the BGS holds on the subsurface of the country. There are 48 themes in the book and each is illustrated with a double-page spread containing an overview map of the UK, a thumbnail map showing the area covered by the dataset, and an inset revealing what the digital data look like at high resolution.

The atlas is part of an ongoing campaign to promote the relevance of geology and describes in plain English, not only a wealth of data, but what such data can be used for. And those uses embrace areas of the economy that are not normally associated with geology, for example the conveyancing and insurance sectors.

As well as the conventional geological information you might expect — about rock types and ages — topics such as arsenic levels in soil, industrial mineral resources, groundwater levels and flow, radon emission and even offshore hazards are also covered. We will soon be releasing a digital version of the atlas as an interactive CD-ROM and website. Our intention is to build on the atlas and continue to compile many other strategic digital datasets at a national level, from soil erosion potential, to the factors relating to the sustainability of UK energy and carbon balance.

If you would like to know more about the atlas please contact our enquiry

service on 0115 936 3470. The Atlas is priced at £5 and available from all BGS offices, or you can order online at our website: www.geologyshop.com ■



BGS office in Cardiff opened

Carwyn Jones, the Welsh Assembly's Minister for Environment, Planning and Countryside opened our new office in the Welsh capital on 26 April 2004. The Cardiff office provides Wales with access to the full range of our services and all our 800 staff. The Minister welcomed the BGS's commitment to the development of Wales and encouraged the public, government, other public bodies and industry to make full use of our data and expert services that lie within, and behind, the office. Office manager, Laura Williams, has access to all our resources and will order copies of maps, data or records for customers and provide a meeting room for discussions with expert staff from any part of the organisation.

Our long history of working in Wales dates back to coalfield mapping in the nineteenth century and continues today through our multidisciplinary mapping and survey programme. Recent projects include advising on a coastal collapse at Nefyn and working with the Environment Agency on groundwater and pollution studies. ■



Dr David Falvey (r), BGS Executive Director, presenting a map of Wales to Carwyn Jones, the Welsh Assembly's Minister for Environment, Planning and Countryside at our new office in Cardiff.



Andrew Bloodworth, project leader for the 'Foundations of the Peak' demonstrates the website for invited guests at the launch in May 2004. Also present in the photograph are, from the right, Anna Evans representing the Derbyshire Wildlife Trust and Ian Thomas from the National Stone Centre.

Foundations of the Peak website

The BGS, in collaboration with the National Stone Centre, Derbyshire Wildlife Trust and Derbyshire County Council, has developed a website aimed at the general public and the education sector which shows the importance of minerals in shaping the landscape, biodiversity, industry and heritage of the Peak District. At the heart of the website, **foundationsofthepeak.com**, is a three-dimensional virtual model that will allow the user to 'fly' across the

landscape and find out more about the links between scenery and geology, biodiversity, industry, settlement and minerals extraction in the Derbyshire Peak District.

Development of the website was supported by the Sustainable Land Won and Marine Dredged Aggregate Minerals Programme managed by the Mineral Industry Research Organisation (MIRO) on behalf of the Office of the Deputy Prime Minister. ■

BGS scientist honoured

Jeremy Giles, BGS Information Manager, has been awarded the Geological Society's Aberconway Medal for 2004. The medal is awarded biennially by the society for distinguished work in the advancement of the profession and practice of geology. ■



Eskdalemuir Observatory centenary

BGS and Meteorological Office staff joined with retired colleagues in celebrating Eskdalemuir Observatory's Centenary on 19 July 2004, a century to the day after the first sod was cut on bare moorland in the Scottish Borders to commence construction. Following a tree-planting to mark the occasion, David Kerridge (BGS) and Alan Douglas (Met. Office) addressed the gathering. Both

speakers praised the quality and reliability of the observations, as well as the camaraderie of the Eskdalemuir staff, over the years. The NERC-owned observatory makes geomagnetic, seismological, meteorological and atmospheric electrical observations, mainly for monitoring changes in the natural magnetic field of the Earth, earthquake detection, and weather forecasting. ■



BGS and Meteorological Office staff planted a tree to celebrate Eskdalemuir Observatory's centenary.

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Landscape gardener

Alan Titchmarsh, presenter of a new BBC TV series, *British Isles: A Natural History*, visited the National Geoscience Data Centre (NGDC) at BGS Keyworth

on 9 June 2004 to film a short section of the documentary. During a break in filming, Jeremy Giles, manager of the NGDC, presented Alan with a framed photograph of a 300 million-year-old fossil seed fern, *Sphenopteris incurva*. The fossil is one of the numerous type and figured specimens held by the NGDC. ■

Stonehenge grave shows unique evidence of migration

BGS scientists have proved beyond reasonable doubt that a family group buried at the time Stonehenge was built originated far away and travelled widely before their arrival and subsequent burial at the sacred site.

Evidence for this extraordinary conclusion comes from an analysis of teeth taken from the bodies discovered in a family grave which was exposed during road works. A total of seven bodies were found and teeth from three male skeletons were analysed by Dr Jane Evans of the BGS as part of a wider archaeological study initiated by Wessex Archaeology. Each sample comprised two teeth, one pre-molar, formed between the ages of three and six, and one molar formed between nine and thirteen. Teeth from all

three men showed similar results — that the pre-molars were formed when their owner was living in an area that included some of the oldest rocks in Britain, while the ‘teenage’ teeth were formed in completely different environmental conditions, but not the same as those in which they ultimately were buried. In this context the environment means the water, food and air, all of which can be influenced by the surrounding rocks.

It is clear from bone structures that the three male skeletons come from the same family. It is also clear from the replicated analysis of samples that they all moved together, as a group, from one environment to another and then to a third — a three-stage migration never previously proved in the Bronze Age. ■

Grand designs — adding to Herefordshire’s building history

Herefordshire has a long tradition of building with natural stone, ranging from the grandeur of the Cathedral to the more utilitarian architecture of the numerous farm buildings that dot the countryside. The recent announcement by the Duchy of Cornwall that the replacement principal dwelling to be built at Harewood Park, designed for HRH Prince Charles by architect Craig Hamilton, will be constructed using local Devonian sandstones is a welcome continuation of the tradition.

Proposing such a building is one thing, but finding suitable sources of local stone is often quite another. There are few active building-stone quarries in the county. Consequently, the Duchy, which already has a good record of promoting the use of local materials and craftsmen, asked the BGS to carry out a survey focusing on the potential of local sandstone as a building stone. The survey assessed the use of building stone in the area and analysed the potential for stone to be sourced from local quarries within estate lands.

Having established that there were several potential sources of local stone, the Duchy has opened up a small test quarry

near the proposed house site from which it is likely that suitable blocks of sandstone may be obtained. ■



Dr Graham Lott and Craig Hamilton (architect) discuss with HRH the Prince of Wales the results of the building stone survey.