

# The Internet Geoscience data Index (GDI)

## Rapid access to national data indexes

by Alan MacKenzie, *Keyworth*

The BGS is the UK's national centre for earth science information and its foremost supplier of geoscience solutions and impartial advice to the governments of UK and developing nations. It acquires and maintains up-to-date knowledge of the UK and its continental shelf by means of systematic geological, geophysical, geochemical, hydrogeological and geotechnical surveys using high-quality data.

The Geoscience Data Index (GDI) web site [www.bgs.ac.uk/geoindex](http://www.bgs.ac.uk/geoindex) has been developed as part of the BGS-geoIDS project to enable Internet users to see the location and some details of these data, easily, and at no cost. More detailed information can be obtained through further enquiry and ordering via this web site. It was launched in mid-July and a further version is expected by the end of the year. It will continue to be maintained to provide a permanent access point to BGS data. It performs best when using high-speed Internet connections such as ISDN.

The BGS has collected information since it was founded in 1835. Various data-sets are compiled under statutory requirements including the Mining Industry Act 1926 and Water Resources Act 1991. Continuing digitisation of data and improvements in web technology are allowing the work of generations of scientists to become more accessible. Current users of BGS data

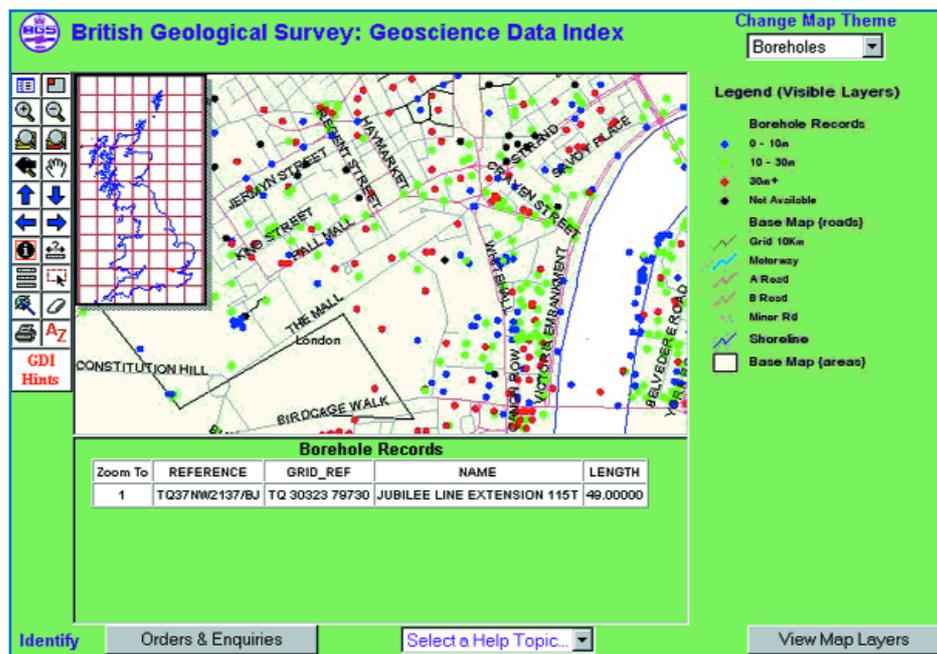
include, for example, water utilities (for underground water information), the site investigation industry (for borehole logs), local government (for geochemical data used for contaminated land issues), and the oil companies (for offshore geophysical data).

BGS staff have, for a number of years, used a digital Geoscience Data Index (GDI) to identify the information that is available in any part of Great Britain

and the surrounding offshore areas. This is based on industry standard Geographical Information System (GIS) software. In line with the policies on Open Government, Modernising Government and e-government the BGS has been working towards making more non-confidential information available to the general public and professional users of geoscience information via an Internet GDI web site.

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The BGS GDI uses new Internet GIS software (ArcIMS®) to allow users of the service to choose an area within Great Britain or offshore and then select the information they wish to display. In the first version of the Internet GDI, details of the locations of boreholes of various types, geochemical samples, geophysical observations, hydrogeology and simple geological maps are available. Future versions of the product are expected by November 2000 and will contain more



Data-sets held by the BGS can be viewed at different scales against a suitable backdrop of Ordnance Survey data.

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functionality and also a wider range of data-sets covering other aspects of the geosciences. The locations of data-sets from around the world will also be shown.

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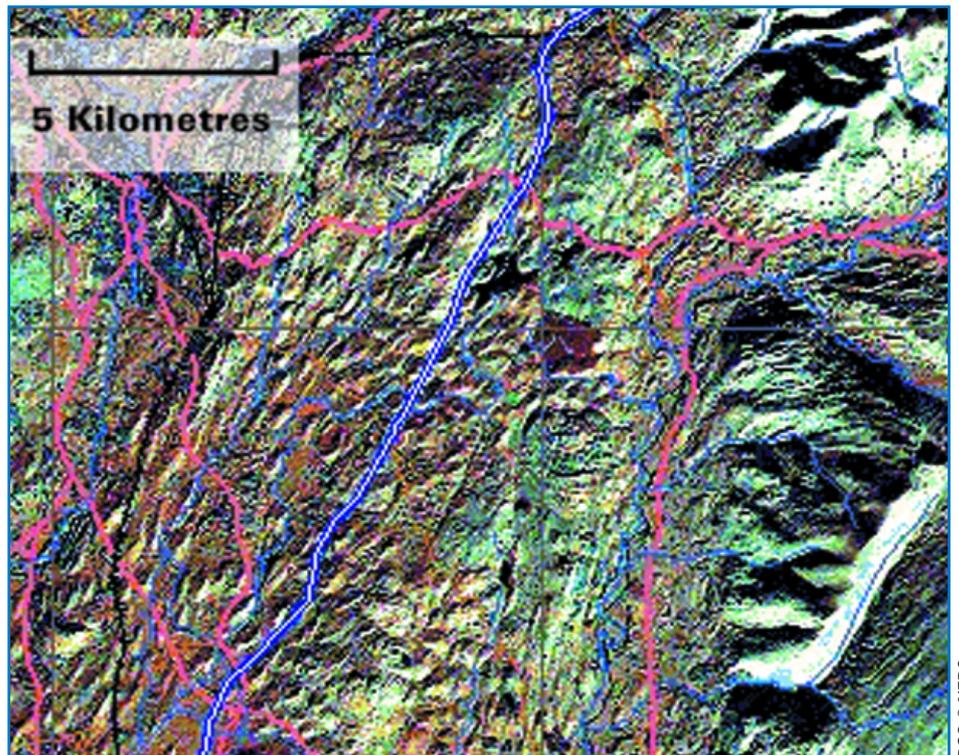
*“... to appeal to a wider audience, the 1:625,000 scale Solid and Drift geology maps have been included for users to see and interrogate the geology in their part of the country ...”*

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Users can see the locations of data-sets drawn against a backdrop of Ordnance Survey (OS) data at different scales. This helps users to identify the whereabouts of data-sets more effectively. The OS backdrop provides users with the ability to zoom to a specified place or local government district. Depending on the scale at which a user views the maps, the most appropriate scale of topography is shown. Similarly, some data-sets only become visible within certain scale ranges. This is to ensure that information is displayed at a scale which is suitable for viewing and to avoid the unnecessary processing overheads that could be incurred if users attempted to draw a large data-set at a small scale.

To appeal to a wider audience, the 1:625,000 scale Solid and Drift geology maps have been included for users to see and interrogate the geology in their part of the country. These maps show broad changes in geology rather than specific details.

A false-colour satellite view of the whole UK can be viewed within the Internet GDI. This is used by the BGS to aid the geological mapping and these images have been taken during winter when the low sun angle enables geologists to identify landforms such as faults, in solid geology, and glacial deposits called drumlins, in drift geology. For example, the illustrated area south-east of Kendal in Cumbria, shows drumlins as light-coloured oval shapes through which the M6 motorway passes (the blue cartographical line). There is also a sharp, geologically-related change in relief to the east.



*An example of data that can be viewed in the Internet GDI: a false-colour image of an area south-east of Kendal, UK. The M6 motorway is shown as a blue line running SW-NE with light-coloured, oval-shaped drumlins on either side.*

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The user can select parts of a data-set drawn on the map, such as sample points, survey lines etc., by defining a box or polygonal area on the map with the cursor. Information about those data-sets currently selected is listed at the bottom of the screen.

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One aim of the GDI is to present users with as much information as we can prior to them enquiring more deeply about data-sets. This will save BGS staff time, by answering enquiries the GDI can solve, and improve their effectiveness at dealing with more detailed enquiries. A single enquiry form is available that enables questions about one or more data-sets to be sent to the BGS where they can be handled in an integrated way.

As well as enquiries, there is a large base of customers who regularly order data. By far the most requested data are borehole geology records or water well records. To streamline the ordering process, the paper order forms currently used are available in the GDI and can be sent directly to the relevant BGS enquiry team. At present, users will need to type in the name of the boreholes for which they require records. In the future it is envisaged that this order form will hold a list of all the borehole names that the user has selected on the screen (via box, point or polygon selection methods).

How far we go in allowing data-sets to be ordered and paid for online is being investigated, but there may be practical limits to automated ordering as the nature of some of the data-sets requires a dialogue between the customer and the BGS before any sales can go ahead.

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