



## Digital Geological Map of Great Britain (DiGMapGB) data

Information Note, 2007: [250k Offshore](#) [DigSBS250 V2.14 Sea Bed Sediments](#)  
[DigRock250 V2.14 Bedrock](#)

1:250 000 scale

**This note should be read in conjunction with:**

DiGMapGB Information Note, 2007: **'General'** for data at all scales &

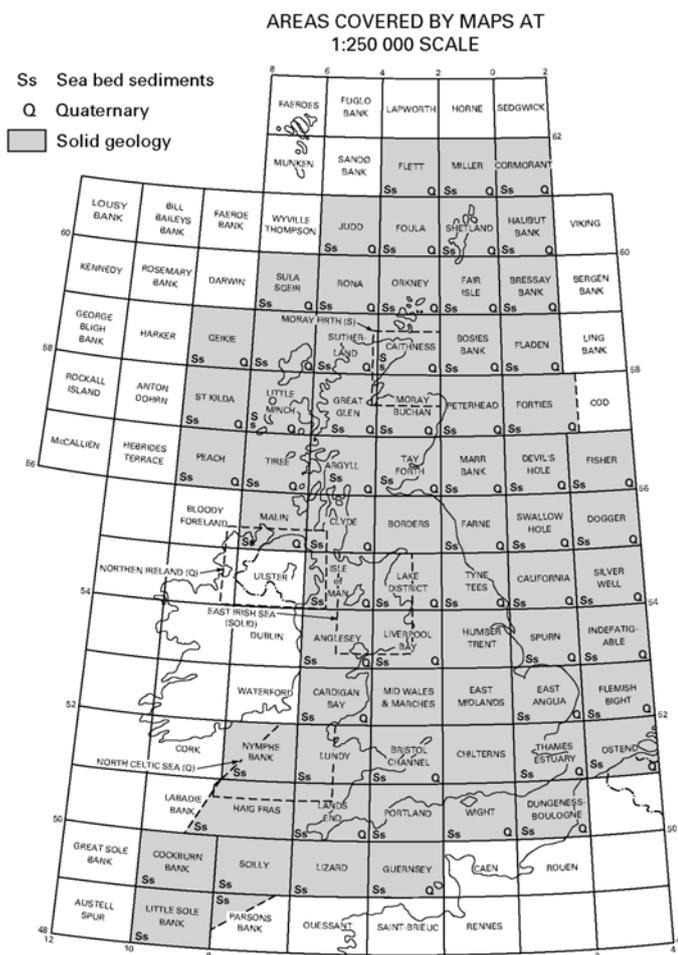
DiGMapGB Information Note, 2007: **'250k'** for 1:250 000 scale data.

### 1 Caution

The 1:250 000 datasets may be used as a guide to the offshore sea-bed sediment and bedrock geology but they should not be relied on for local or site-specific geology, or navigation. The British Geological Survey should be contacted if more details are required as additional geological information may be available in BGS files, or we may be able to direct enquirers to other bodies or third parties.

The scale of the original information is indicated by the nominal scale attribute (NOM\_SCALE: 250000) embedded in the data. Do not over-enlarge the data; for example, do not use 1:250 000 nominal scale data at 1:100 000 or 1:50 000 working scale.

The compilation of geological lines (i.e. the cartographical accuracy) is probably no better than 1 mm on the 1:250 000 base map which equates to 250 m on the ground.



## 2 Sources of 1:250 000 scale information

The BGS has published a 1:250 000 scale Universal Transverse Mercator series of geological maps of the British landmass and adjacent offshore regions in which each sheet covers 2° longitude x 1° latitude, as shown above. These were compiled from a variety of sources at a variety of scales over some 20 years; the first map being published in 1977, and the last one in 1993, with a few more-recent revisions. The maps display bedrock geology on the 'solid' (S) edition and sea-bed sediments with or without offshore Quaternary geology on the superficial edition (SBS +/- Q).

The geological lines were fitted to topographic bases compiled from Ordnance Survey 1:250 000 maps and Ministry of Defence, Joint Operations Graphic (JOG) sheets. The UTM projection sheets were scanned and warped to British National Grid for digitising, and the digital data re-fitted to the OS Strategi® coastline. The data do not necessarily fit other topographic bases, including more modern OS ones.

Two themes of offshore data, Sea-Bed sediments, and Bedrock, have been digitised from the latest UTM maps. The original maps display some inconsistencies between 1: 250 000 sheets and they have been matched and re-interpreted, where necessary, to eliminate major changes across sheet boundaries. Some minor changes have been made to the published lines to correct errors. The sources of information specific to each digital tile are available.

## 3 Offshore Geology

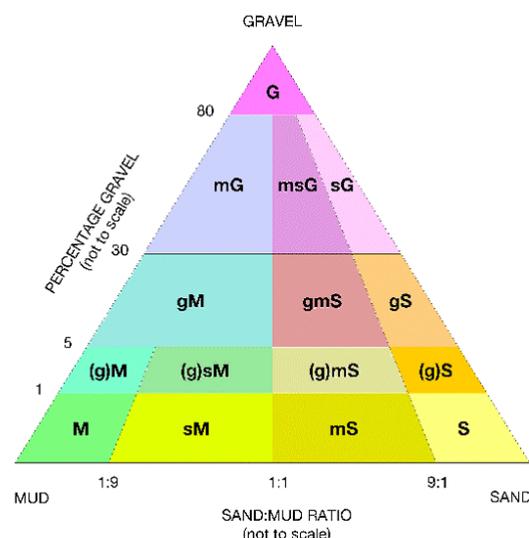
The data is available in latitude / longitude decimal degrees WGS84 (World Geodetic System 1984) and is supplied to customer-defined areas. The data are seamless, as far as possible, with polygons and coding consistent across map (or digital tile) boundaries. The geological codes and descriptions are included as integral components of the data.

This 1:250 000 data is the only scale that provides cover of the offshore area. It has been merged into a single file for each theme, Sea-Bed Sediments and Bedrock, described separately below.

### 3.1 DigSBS250, Sea-Bed Sediments (SBS) theme

The Sea-Bed Sediments theme is only mapped offshore, where the most recent deposits commonly form a veneer on the sea bed. The map is based on sea-bed grab samples of the top 0.1 m, combined with cores and dredge samples as available.

A modified Folk triangle classification (Folk, 1954, Journal of Geology, Vol. 62, pp 344–359), shown below, has been used based on the gravel percentage and the sand to mud ratio.



The terminology and grade classification are those used by Folk but the percentage gravel subdivision line at 'trace' has been changed to a percentage gravel subdivision line at 1%. The



boundaries shown on the map are generally transitional and have been drawn taking bathymetry and other factors, such as tidal currents, into consideration.

The Folk classifications for the sea-bed sediments are tabulated below. There are also areas where sea-bed sediments are absent or undifferentiated, and areas where other sediment classification schemes have been adopted (non-UK waters) as listed. The Sea-Bed Sediment data has single feature attribution which replicates these classifications, rather than the standard DiGMapGB attribution based on the lithostratigraphical nomenclature and linked lithology (LEX-ROCK) codes.

DESCRIPTION OF LITHOLOGY, BASED ON FOLK	FOLK CLASSIFICATION
MUD	M
SANDY MUD	sM
SLIGHTLY GRAVELLY MUD	(g)M
SLIGHTLY GRAVELLY SANDY MUD	(g)sM
GRAVELLY MUD	gM
SAND	S
MUDDY SAND	mS
SLIGHTLY GRAVELLY SAND	(g)S
SLIGHTLY GRAVELLY MUDDY SAND	(g)mS
GRAVELLY MUDDY SAND	gmS
GRAVELLY SAND	gS
GRAVEL	G
MUDDY GRAVEL	mG
MUDDY SANDY GRAVEL	msG
SANDY GRAVEL	sG
ADDITIONAL CLASSIFICATIONS USED FOR SBS DATASET BY BGS	COMMENT
CLAY AND SAND	Pre-Holocene deposit
DIAMICTON	Pre-Holocene deposit
GRAVEL[MARINE SEDIMENT:FRENCH CLASSIFICATION]	
GRAVEL, SAND AND SILT	Undifferentiated
GRAVELLY SAND [MARINE SEDIMENT: FRENCH CLASSIFICATION]	
MUSSELL DEPOSIT	
ROCK AND SEDIMENT	Undifferentiated
ROCK OR DIAMICTON	Pre-Holocene deposit
SAND [MARINE SEDIMENT:FRENCH CLASSIFICATION]	
SANDY GRAVEL [MARINE SEDIMENT:FRENCH CLASSIFICATION]	
UNDIFFERENTIATED MUD	Undifferentiated

Additional information is available at: <http://www.bgs.ac.uk/products/digitalmaps/seabed.html>

### 3.2 DigRock250, Offshore Bedrock Geology theme

The Offshore Bedrock Geology theme is based on sea-bed shallow core samples, borehole cores and seismic surveys carried out by the BGS between 1966 and 1992. The data were originally compiled at 1:100 000 scale and published at 1:250 000 scale as the UTM Solid Geology map series. The bedrock geology was classified chronostratigraphically on the original maps but in this digital version the succession has been reclassified lithostratigraphically, where possible, to conform with the complementary onshore dataset. Offshore, where the level of geological detail is considerably lower, reclassification is commonly only possible to Group level at best and more often refers to packages of Groups or undifferentiated rocks with a broad age range. Where necessary some geological lines have been amended based on additional data sources such as the two BGS 1:1 000 000 scale maps *Geology of the United Kingdom, Ireland and the adjacent continental shelf: North and South sheets (1991)*.

Map diagrams from the BGS United Kingdom Offshore Regional Report Series, published in the 1990s, and the *Lithostratigraphic nomenclature of the Permian, Triassic and Carboniferous of the UK offshore East Irish Sea (1996)* have also been used to improve the fit of geological lines.



The linear features shown include fold axes (anticline or syncline) and faults (normal, thrust, reverse) and are organised into a number of themes. The faults show crossmarks on their downthrow side.

The data have been given LEX-ROCK codes and released as the DigRock250 dataset.

### **3.3 Changes in DigRock250 and DigSBS250 from Version 1\_10 to 2\_14.**

In 2007 the positional accuracy of the data in the offshore bedrock and sea-bed sediment datasets was improved which may mean shifts of up to about 100 m on the 'ground'. At the same time the data were re-processed and upgraded to attribute level 14.

## **4 DigBath250, Offshore Bathymetry theme**

There is also a related 1:250 000 scale dataset on offshore bathymetry assembled by BGS. Details are available at:

<http://www.bgs.ac.uk/products/digbath250/home.html>