

BGS INFORMATION PRODUCTS

User update: BGS Geology 50k V9 release

Release: BGS Geology 50K V9

Scheduled release date: 27th October 2025

Overview: BGS Geology 50k (formerly known as DiGMapGB-50) is a detailed, national geological dataset produced by BGS and is provided at 1:50 000 scale. It is based on the BGS's highest-resolution survey mapping.

Coverage: BGS Geology 50k has almost complete coverage of Great Britain and the Isle of Man (see below). The dataset comprises 494 map tiles and covers approximately 236 000 km² (approximately 99%) of the land surface. BGS continues to update the mapping at this scale; where there is no current coverage for a theme at 1:50 000 scale, the smaller scale 1:250 000 or 1:625 000 data are available, and for a small area larger scale data (1:10 000 or 1:25 000) may be substituted where the available 50k is no longer deemed suitable.



Figure 1 Coverage of bedrock (dark blue) and superficial materials (light blue). Unmapped areas (no primary survey at 10/50k) are shown in grey. (Coastline: Contains OS data © Crown copyright and database right 2025. OS AC0000824781)

Summary of updates

Attribute fields:

Version 9.25 of BGS Geology 50k has slightly modified attribute content compared with DiGMapGB Version 8.24 (and prior). The dataset has broadly the same attribution as Version 8.24, except for the following:

- All layers of data now include a persistent **GUID** field for future compatibility and object tracking with other BGS products (see table 1).
- All layers of data now include 3 fields (BGSRED, BGSGREEN, BGSBLUE) to assist users implementing **RGB colour profiles**
- The Linear features layer includes one new field (**LEFT_HND**) to assist in identifying fault-trace handedness (see table 2).
- The Linear features layer has renamed the field HWALL_ROSE to GEO_HWALL to assist in identifying the hanging wall orientation of the faults.

Users can delete or rename the additional fields if they wish to maintain compatibility with V8.24 attribution.

Users should note that due to nomenclature changes, some text attribute fields now have longer field lengths to accommodate their new content (notably new lithostratigraphical and lithological classification).

The inclusion of GUID/UUIDs is to enable users to track changes/updates to specific geometries across future releases.

New data: This is Version 9.25 of the data. It incorporates all edits since V8.24 (released in 2017); including new and revised tiles of geology data, OS Open Data coastline and miscellaneous updates and corrections to geological features across the country. Version 9 includes new mapping from the following geological sheets:

Edits incorporated into V9.25 2024	Coverage
EW34_GUISBOROUGH	Partial Sheet (mass movement only)
EW35_WHITBY	Partial Sheet (mass movement only)
EW43_EGTON	Partial Sheet (mass movement only)
EW44_SCALBY	Partial Sheet (mass movement only)
EW63_YORK	Whole 50k Sheet but as 10k tiles
EW93_ANGLESEY	Whole Sheet
EW94_LLANDUDNO	Partial Sheet
EW105_ANGLESEY_AND CAERNARFON	Partial Sheet
EW220_LEIGHTON_BUZZARD	Partial Sheet
EW221_HITCHIN	Partial Sheet
EW255_BEACONSFIELD	Partial Sheet
EW256_NORTH_LONDON	Partial Sheet
EW257_ROMFORD	Partial Sheet
EW258_SOUTHEND	Partial Sheet
EW271_DARTFORD	Partial Sheet
EW273_FAVERSHAM	Partial Sheet
EW280_WELLS	Partial Sheet
EW281_FROME	Partial Sheet
EW283_ANDOVER	Partial Sheet
EW284_BASINGSTOKE	Partial Sheet
EW285_GUILDFORD	Partial Sheet
EW286_REIGATE	Partial Sheet
EW287_SEVENOAKS	Partial Sheet

EW288_M Aidstone	Partial Sheet
EW289_Canterbury	Partial Sheet
EW295_Taunton	Partial Sheet
EW296_Glastonbury	Whole 50k Sheet but as 10k tiles
EW297_Wincanton	Partial Sheet
EW305_Folkestone	Partial Sheet
EW238_Aylesbury	Partial Sheet
EW239_Hertford	Partial Sheet
SC107E_Loch Glencoul	Partial Sheet
SC73E_Foyers	Partial Sheet
SC047_Crieff	Partial Sheet
SC38W_Ben Lomond	Partial Sheet

The new attribution comprises 38 fields of information covering a range of typical geological and metadata attributes. The new attribute fields are identified in **bold** below. The dataset content is described as follows:

DATA FIELD	EXPLANATION OF DATA FIELD	NOTE
LEX_WEB	Direct hyperlink to the definition of the particular geological unit in the BGS Lexicon of Named Rock Units (BGS website): e.g. https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=GOG	<i>Note 1</i>
LEX	A single Lexicon (or LEX) computer code used to identify the rock unit(s) or deposit(s) as listed in the BGS Lexicon of Named Rock Units: e.g., GOG	<i>Note 2</i>
LEX_D	A description of the LEX code above, giving the full name of the unit(s): e.g., GREAT OOLITE GROUP is the full name of the unit coded as GOG	
LEX_RCS	The primary two-part, LEX & RCS, code used to label the geological units in BGS Geology data: e.g., GOG-LMST	<i>Note 3</i>
RCS	A rock-classification code of up to 6 characters (mostly letters) forming the second part of the primary LEX_RCS attribute. E.g., MDCO. The code can represent a single lithology or multiple lithologies (see RCS_X)	<i>Note 4</i>
RCS_X	A variant of the RCS code (above) which individually lists the components of heterolithic units: e.g., MDST + [CONG] (shown as RCS = MDCO). Subordinate units are denoted in [] brackets	<i>Note 5</i>
RCS_D	Description of the RCS code(s) above giving the lithology of the unit: e.g., MUDSTONE AND [SUBEQUAL/SUBORDINATE] CONGLOMERATE is the description of the rock coded as MDST + [CONG]	
RCS_ORIGIN	An attribute of the RCS code(s) above, classifying the mode of origin of the lithology of the rock/deposit: e.g., Sedimentary, Igneous, and Metamorphic	<i>Note 6</i>
RANK	Rank of the unit in the lithostratigraphical or lithodemic hierarchy: e.g., BED or SUITE	<i>Note 7</i>
BED_EQ_D	Description of the Bed or equivalent lexicon code for the unit where applicable	
MB_EQ_D	Description of the Member or equivalent lexicon code for the unit where applicable	
FM_EQ_D	Description of the Formation or equivalent lexicon code for the unit where applicable	
SUBGP_EQ_D	Description of the Sub-Group or equivalent lexicon code for the unit where applicable	
GP_EQ_D	Description of the Group or equivalent lexicon code for the unit where applicable	
SUPGP_EQ_D	Description of the Super-Group or equivalent lexicon code for the unit where applicable	
MAX_TIME_Y	Maximum age (in years), of the oldest time division in which the geological unit was formed: e.g., 170300000	<i>Note 8</i>

MIN_TIME_Y	Minimum age (in years), of the youngest time division in which the geological unit was formed: e.g., 163500000	
MAX_AGE	Maximum age defined for the unit e.g., ASBIAN	Note 9
MAX_EPOCH	Maximum epoch defined for the unit: e.g., VISEAN	
MAX_SUBPER	Maximum sub-period defined for the unit: e.g., MISSISSIPPIAN	
MAX_PERIOD	Maximum period defined for the unit e.g., CARBONIFEROUS	
MAX_ERA	Maximum era defined for the unit e.g., PALAEOZOIC	
MAX_EON	Maximum eon defined for the unit e.g., PROTEROZOIC	
BGSTYPE	The BGS Geology theme: e.g., BEDROCK, SUPERFICIAL	
LEX_RCS_I	A computer code that can be used to sort <i>units into approximately the correct stratigraphical order (by Period)</i> . NB it does not completely resolve UK stratigraphy and must NOT be used as a substitute for determining full stratigraphical relationships between units.	
LEX_RCS_D	A full description of the LEX_RCS above: e.g., GREAT OOLITE GROUP - LIMESTONE	
BGSREF	A BGS code used to define the colour for the polygon based on the LEX_RCS code pair.	
BGSRED	The RGB colour value for Red (expressed as a value between 0 and 255), for the LEX_RCS attribute (as seen in the provided style sheets)	
BSGREEN	The RGB colour value for Green (expressed as a value between 0 and 255), for the LEX_RCS attribute (as seen in the provided style sheets)	
BGSBLUE	The RGB colour value for Blue (expressed as a value between 0 and 255), for the LEX_RCS attribute (as seen in the provided style sheets)	
MAP_SRC	Name of the digital geological tile (number and name based on published map sheet) in which the polygon appears e.g., EW075_PRESTON, SC084E_NAIRN where prefix 'EW' is for England & Wales and 'SC' for Scotland	Note 10
MAP_WEB	The MAP_WEB link provides a direct hyperlink to the appropriate, original, paper maps held in the BGS Map Portal http://www.bgs.ac.uk/data/maps/home.html	Note 11
VERSION	Version number and attribute level of the digital data: e.g., 9.25 is version 9, with attribute level 25	
RELEASED	Date the BGS Geology data files were created by BGS: e.g., 30-06-2024	
NOM_SCALE	Nominal scale is the advisory scale of use for the published digital information. Information used to prepare the digital data is derived from a range of scales as available and appropriate (see limitations section below)	
NOM_BGS_YR	The year date of publication of the most up-to-date map sheet, or the date of publication in BGS Geology 50k (if no map previously exists). Where not known or inappropriate, field is left null	
UUID	Universally Unique Identification that can be used to identify individual features: e.g. bgsn:DM50_V8_digmap1004081046355357	
GUID	Globally Unique Identification that will be used to identify individual features in future BGS services: e.g., 4e526e5d-58c3-420b-84ba-31d9fd4163c5	
EXPLANATORY NOTES		
Note 1	The LEX_WEB link provides a hyperlink to the online Lexicon resource. The online version of the lexicon is updated regularly.	
Note 2	The Lex attribute is the computer code linking to the BGS Lexicon (database of named rock units) http://www.bgs.ac.uk/lexicon/home.cfm . The Lexicon code may refer to a single identifiable unit or a package of units where the individual components cannot be differentiated.	
Note 3	The BGS Geology dataset uses the LEX_RCS codes as a primary key, which can be used to JOIN (append) 'add-on' datasets	

Note 4	The RCS attribute is the computer code linking to the BGS Rock Classification Scheme (RCS) http://www.bgs.ac.uk/bgsrscs/home.html . The field may include abbreviated codes for multiple lithologies.
Note 5	The RCS_X field provides a list of individual RCS lithology codes that make up the overall lithological description of the unit. The suffix _X was added to distinguish this listing of the components from the abbreviated code now shown in the RCS field.
Note 6	The origin of each rock/deposit type has been introduced in version; this is in part to assist users who want to know some fundamental properties of the geological materials.
Note 7	The parentage of each rock/ deposit is provided in these fields, and these are all derived from the BGS LEXICON. The 'RANK' of a unit identifies the unit's position within a hierarchy e.g., a 'bed' may be part of a named member, which is itself part of a formation; several formations may make up a group and several groups may form a supergroup. The BED, MEMBER, FORMATION, SUBGRP GROUP and SUPGRP codes/names describe the ascending parentage for each unit (other non-stratigraphic schema are also shown in this way). A formation is the fundamental lithostratigraphic unit and is the prime mapping-unit for BGS and need not be divided up into named members or beds; nor does a formation have to belong to a group or supergroup. 'NotAp' is the abbreviation for 'Not Applicable' and is used to indicate that it is not appropriate to list child units of lower rank; 'NoPar' is the abbreviation for 'No Parent' and is used to indicate that no parental unit of higher rank has been identified. Users are recommended to refer to the LEX_WEB link to find the latest information concerning the lithostratigraphy of a unit. All codes and names used in V8 are correct at time of publication.
Note 8	These figures give an indication of the maximum age range (in years before present) of the lithostratigraphical units as given in the BGS Geological Timechart available at: https://www.bgs.ac.uk/discovering-geology/fossils-and-geological-time/geological-timechart/ (where they are expressed as 'million years'). Some of these values are interpolations; the +/- error ranges are not provided here. The age range given is that for the time period ascribed to each geological unit in the BGS Lexicon. They do not give absolute age measurements made on the individual geological units (see future revisions section below).
Note 9	The maximum geochronological age (expressed as age/stage/chron, epoch, sub-period, period, era or eon) for each rock/ deposit is provided in these fields. These are all derived from the BGS Lexicon and Geological Timechart. 'NOT DEFINED' is used to indicate that no age classification has been identified (or is needed). Users are recommended to refer to the LEX_WEB link to find the latest information concerning the lithostratigraphy of a unit. Some geological units straddle more than one geological age. All codes and names used in V9 are correct at time of publication.
Note 10	This attribute was previously called SHEET. It was changed in Version 8 to MAP_SRC, to reflect that BGS Geology is no longer just compiled from published map sheets, but from a range of sources.
Note 11	The MAP_WEB link provides a hyperlink to any online resource that acts as reference material for BGS Geology content. Currently, the weblink will take users to the appropriate, original, paper maps held in the BGS Map Portal http://www.bgs.ac.uk/data/maps/home.html (future versions will hyperlink to other resources).

The locations of new or modified content in Version 9 (by comparison with V8 shown in grey) are shown below. Bedrock changes (pink), Superficial changes (light blue), Linear changes (purple), Artificial changes (dark blue), Mass-movement changes (brown). Coastline Contains OS data © Crown copyright and database right 2025.

Changes in Spatial Data in Version 8: Locations of new or modified content in Version 9 (by comparison with V8)

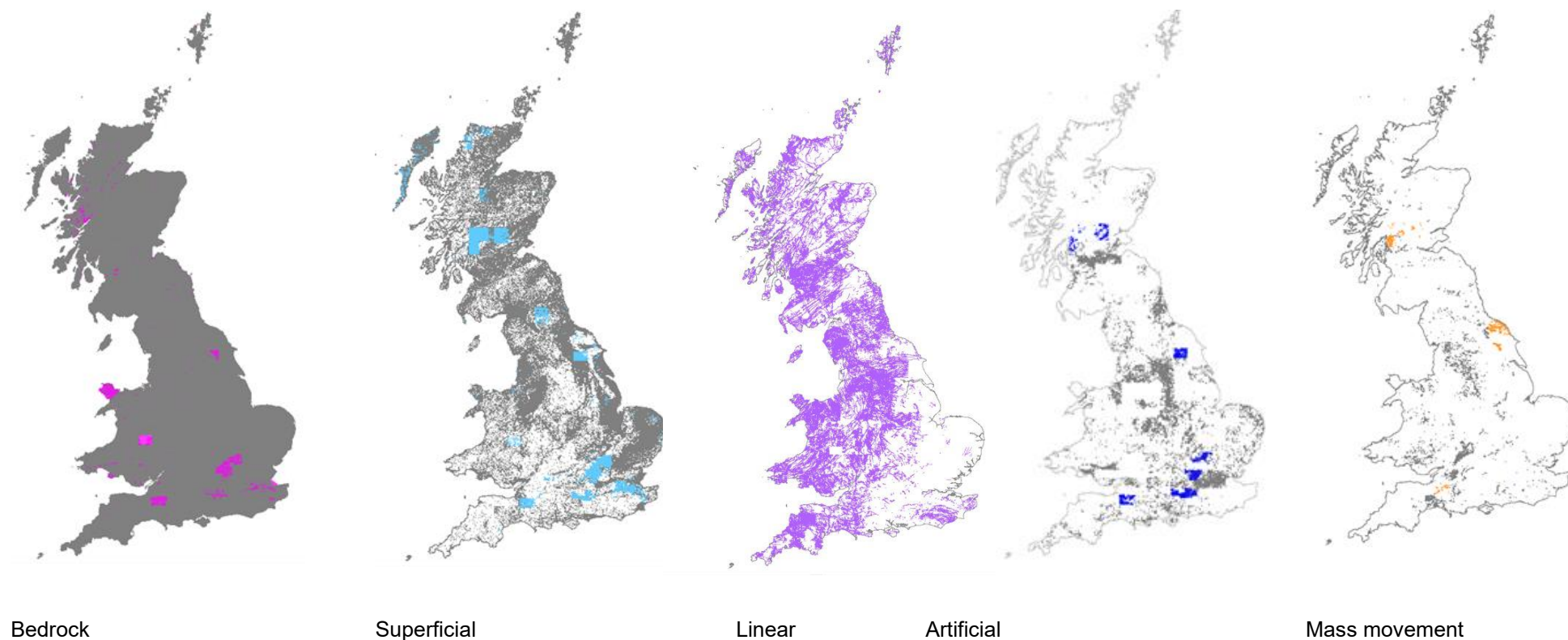


Figure 2 Bedrock changes (pink), Superficial changes (light blue), Linear changes (purple), Artificial changes (dark blue), Mass-movement changes (brown). (Coastline Contains OS data © Crown copyright and database right 2025. OS AC0000824781)

LEX-RCS codes: The underlying databases include 195 updates or additions to the BGS Lexicon (in terms of British stratigraphy and age/epoch/period time scales), a total of 105 lithostratigraphic terms were deprecated. Overall, 553 LEX-RCS code combinations changed between versions 8 and 9.

Further information: please refer to the User Guide for the detailed information about the product content, attribution, displaying map colours, use, and licensing.

[British Geological Survey 2024. User Guide: BGS Geology 50k V9. *British Geological Survey Open Report*, OR/24/041. 7pp.](#)

For all data and licensing enquiries please contact:

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