

ORDNANCE SURVEY GB

# BOUNDARY-LINE – TECHNICAL SPECIFICATION

## Version history

Version	Date	Description
1.16	29/08/2012	Amendment to product release note and updates to the Technical Specification.
2.0	17/07/2019	New format release.
3.0	04/05/2021	Introduction of vector tiles. Introduction of the English Region, Country Region and Historic European Region specification. Correction of GeoPackage layer names.
4.0	05/11/2021	Update to the legal name of the National Assembly for Wales to Senedd Cymru / the Welsh Parliament.
4.1	09/12/2021	Minor updates.
4.2	26/09/2023	Update to the Code List (2.2) for the Area Codes.
4.3	03/05/2024	Source of Boundary Line updated from Landplan.

## Purpose of this document

This document provides information about and insight into the Boundary-Line product and its potential applications. For information on the contents and structure of Boundary-Line, please refer to the Overview and Product Information documents.

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# I. Product contents

## I.1 Source of Boundary-Line

The original data sources used for the creation of Boundary-Line was Ordnance Survey's 1:10 000 scale boundary record sheets and OS Landplan digital data.

The data sources now used are Ordnance Survey's Topographic Data for Natural Changes and Orders, Acts and Statutory Instruments (SIs).

## I.2 Update currency

Boundary-Line is updated twice a year, in spring and autumn. The updated product is a full replacement for all the listed administrative and electoral boundaries. The represented boundaries and administrative unit names are defined and modified by Orders, Acts and Statutory Instruments (SIs). Changes that are operative from the first week of May in the current year of release will be included. Changes to Westminster constituencies that are effective from the date of the next general election will be included as separate files.

*Note: Orders, Acts and SIs, in exceptional circumstances due to processing or constitutional constraints, may be excluded until the next suitable release.*

## I.3 Superseded boundaries

Boundaries are no longer shown in Boundary-Line if they have been superseded at the time of the annual snapshot of boundaries that each release of Boundary-Line represents.

## I.4 Government Statistical Service codes

Revisions to Government Statistical Service (GSS) codes are incorporated into Boundary-Line as soon as practicable after the information is made available to Ordnance Survey.

## I.5 Tide lines and rivers

Additional coastline reconciliation with the OS Landplan product was introduced in May 2005. Changes to the Boundary-Line tide lines, plus natural and gradual changes to rivers and streams, have been implemented alongside the previous boundary / coast association to enhance the MHW FC0071.

All boundary alignment changes in Boundary-Line will be reported in the Release Note accompanying each release of Boundary-Line.

## 1.6 Resolution

The resolution of the coordinate system is 0.1 m. However, it is not possible to calculate meaningful accuracy limits for Boundary-Line data due to both the graphic nature and scale of the primary source 1:10 000 scale published mapping. Such mapping is subject to limited map generalisation, where an impression of the ground detail is made due to the complexity of the detail and importance of certain features such as roads. This means that boundary alignments are cartographically represented in areas where accurate positional representation would be impossible.

BoundaryLine is derived from the basic scale of 1:10 000. The relationship of boundaries to ground detail mirrors the accuracy achieved by mapping against OS VectorMap Local (1:10 000 scale) and, in certain cases, large-scale sources. A consequence of this is that if BoundaryLine is superimposed upon boundaries in OS MasterMap topographic data, variations in the two alignments will be seen.

## 1.7 Completeness

Completeness is a measure of the correspondence between the real world and the specified data content. During digitising, all Boundary-Line data is checked thoroughly against source documents to ensure as far as reasonably possible that no features have been omitted or misaligned.

## 1.8 Boundary-Line data properties

Boundary-Line is a structured link and polygon dataset.

The data comprises three levels of features:

1. The **administrative unit** has attributes that include the administrative unit's name and GSS code. The administrative unit feature is classified by means of a feature type. It also has explicit pointers to the polygons that define its area.
2. The **polygon** includes attributes that define its area value; it also has explicit pointers to the links that chains (or makes up) its edge and may have pointers to holes within the area.
3. The **links** have a geometry that defines their shape.

Administrative units, polygons and links are assigned unique identifiers for each release of Boundary-Line.

## 1.9 Boundary-Line data structure

Real-world administrative and voting units are modelled and named and have explicit pointers to the polygons that define their area of influence.

Each real-world administrative or electoral voting unit is classified by means of an area code. The polygons are classified indirectly by the administrative or electoral voting unit collection in which they appear. These polygons within the data model also have associated attributes – these attributes give the entities meaning, representing the geometric characteristic of an entity with items such as area or a unique identity. Boundary links are classified indirectly by the polygon chains in which they appear.

Administrative or electoral voting units, polygons and links are assigned unique identifiers for each release of Boundary-Line.

## 1.10 Area features

Area features are polygons with attributes added.

## 1.11 Link features

Links represent all linear features; that is boundaries, [extent of the realm \(EOR\)](#) and [mean high water \(springs\) mark \(MHW\)](#). All links are broken when they intersect with one another. The first and last coordinate pairs in a link correspond exactly with the end coordinates of the adjoining link(s). Links may comprise up to several thousand line segments.

## 1.12 Coordinate system

The coordinate system is [National Grid \(NG\)](#). The National Grid coordinates are to a resolution of 0.1 metres. This is the resolution of the source data.



## 2. Boundary-Line structure

### 2.1 Features

This section describes the features for ESRI shapefile, MapInfo TAB and GeoPackage which make up the Boundary-Line product, giving the following information about each attribute:

**Name and Definition:** The name of the attribute and what it is describing.

**Condition:** A condition associated with the attribute (Optional).

**Attribute Type:** The nature of the attribute, for example, a numeric value or a code list value.

**Multiplicity:** Describes how many times this element is expected to be populated in the data. An attribute may be optional or mandatory within the Boundary-Line product. These are denoted by:

‘1’ – Mandatory – There must be a value.

‘0..1’ – Optional – If populated, a maximum of one attribute will be returned.

These values may be used in combination.

#### 2.1.1 Area features

The following schema is correct for all area features in the GB folder of the shapefile, MapInfo TAB and GeoPackage data supply, and for all area features in the Supplementary\_Country folder of the shapefile, MapInfo TAB and GeoPackage data supply.

Schema for all area features in the GB and Supplementary_Country folders of the shapefile, MapInfo TAB and GeoPackage data supply		
Shapefile / TAB: FID Record is not provided	GeoPackage: fid	
Definition: Feature identifier added by the software.		
Type: N/A	Size: N/A	Multiplicity: [1]
Shapefile: SHAPE	TAB / GeoPackage: Shape record is not provided	
Definition: Feature geometry.		
Type: Polygon	Size: N/A	Multiplicity: [1]
Shapefile: NAME	TAB / GeoPackage: Name	
Definition: Name of the administrative area.		
Type: Char	Size: 100	Multiplicity: [0..1]
Shapefile: AREA_CODE	TAB / GeoPackage: Area_Code	
Definition: A code describing the level.		
Type: Char	Size: 3	Multiplicity: [1]

**Schema for all area features in the GB and Supplementary\_Country folders  
 of the shapefile, MapInfo TAB and GeoPackage data supply**

<b>Shapefile: DESCRIPTIO</b>			<b>TAB / GeoPackage: Area_Description</b>		
Definition: Full name of the Area_Code.					
Type: Char		Size: 50	Multiplicity: [1]		
<b>Shapefile: FILE_NAME</b>			<b>TAB / GeoPackage: File_Name</b>		
Definition: Name of the Principal Area which the boundary sits within. Please note, this may be the same boundary level as the boundary itself, for example, a Greater London Authority boundary will have 'Greater London Authority' present in this field. But for more granular boundaries, this field will show the principal boundary which is at the principal level.					
Type: Char		Size: 100	Multiplicity: [1]		
<b>Shapefile: NUMBER</b>			<b>TAB / GeoPackage: Feature_Serial_Number</b>		
Definition: Serial Number applied to the Boundary Feature during the production of the product. Please note, this is not the unique key for this product and is not maintained.					
Type: Shapefile: Double TAB: Integer		Size: Shapefile: N/A TAB: 11	Multiplicity: [1]		
<b>Shapefile: NUMBER0</b>			<b>TAB / GeoPackage: Collection_Serial_Number</b>		
Definition: Collection Serial Number applied to the Boundary Feature during the production of the product. Please note, this is not the unique key for this product and is not maintained.					
Type: Shapefile: Double TAB: Integer		Size: Shapefile: N/A TAB: 11	Multiplicity: [1]		
<b>Shapefile: POLYGON_ID</b>			<b>TAB / GeoPackage: Global_Polygon_ID</b>		
Definition: A globally unique sequential integer-maintained identifier.					
Type: Shapefile: Double TAB: Integer		Size: Shapefile: N/A TAB: 11	Multiplicity: [1]		
<b>Shapefile: UNIT_ID</b>			<b>TAB / GeoPackage: Admin_Unit_ID</b>		
Definition: A globally unique sequential integer-maintained feature identifier. There are two cases where multiple records have the same UNIT_ID:					
<p>1. When portions of local government or parliamentary constituency areas are separated from the main area, being completely surrounded by other local government or parliamentary constituency areas and not connected by direct access on the ground. Not applied to islands or parts of islands in the sea. Detached parts have the same attributes as the main area, except the POLYGON_ID and the Name which has a '(DET)' suffix. In all the existing examples, there is exactly one detached part.</p> <p>2. In Scotland, two examples where the boundary has thousands of parts, so the multi-polygon is broken into simple polygons to make it easier to handle. The examples are the supplementary country_region layer where NAME='SCOTLAND_COUNTRY' and scotland_and_wales_region where NAME='Highlands and Islands PER'.</p>					

Schema for all area features in the GB and Supplementary_Country folders of the shapefile, MapInfo TAB and GeoPackage data supply		
Type: Shapefile: Double TAB: Integer	Size: Shapefile: N/A TAB: 11	Multiplicity: [1]
Shapefile: CODE	TAB / GeoPackage: Census_Code	
Definition: Set to the Census / GSS Code for the boundary, for example, E10000014.		
Type: Char	Size: 9	Multiplicity: [0..1]
Shapefile: HECTARES	TAB / GeoPackage: Hectares	
Definition: Polygon area in hectares.		
Type: Shapefile: Double TAB: Decimal	Size: Shapefile: N/A TAB: 12	Multiplicity: [1]
Shapefile: AREA	TAB / GeoPackage: Non_Inland_Area	
Definition: Amount of area within the boundary which is not considered 'inland'. Non Inland Areas are calculated by comparing the Boundary-Line polygons with the Mean High Water lines. The value is in hectares and represents the area between the Mean High Water line and the seaward limit of the boundary denoting Mean Low Water.		
Type: Shapefile: Double TAB: Decimal	Size: Shapefile: N/A TAB: 12	Multiplicity: [1]
Shapefile: TYPE_CODE	TAB / GeoPackage: Area_Type_Code	
Definition: Code depicting whether the boundary is part of a Civil Administration Area, a Civil Voting Area.		
Type: <a href="#">TypeCode</a>	Size: 2	Multiplicity: [1]
Shapefile: DESCRIPT0	TAB / GeoPackage: Area_Type_Description	
Definition: Full description of TYPE_CODE.		
Type: Char	Size: 25	Multiplicity: [1]
Shapefile: TYPE_COD0	TAB / GeoPackage: Non_Area_Type_Code	
Definition: Shouldn't be populated.		
Type: Char	Size: 3	Multiplicity: [0..1]
Shapefile: DESCRIPT I	TAB / GeoPackage: Non_Area_Type_Description	
Definition: Shouldn't be populated.		
Type: Char	Size: 36	Multiplicity: [0..1]

The following schema is correct for all area features in the *english\_region\_region* and *english\_region* layers in the GB folder of the shapefile, MapInfo TAB and GeoPackage data supply, respectively.

Schema for all area features in the <i>english_region_region</i> and <i>english_region</i> layers in the GB folder of the shapefile, MapInfo TAB and GeoPackage data supply		
Shapefile / TAB: FID Record is not provided	GeoPackage: fid	
Definition: Feature identifier added by the software.		
Type: N/A	Size: N/A	Multiplicity: [1]
Shapefile: SHAPE	TAB / GeoPackage: Shape record is not provided	
Definition: Feature geometry.		
Type: Polygon	Size: N/A	Multiplicity: [1]
Shapefile: NAME	TAB / GeoPackage: Name	
Definition: Name of the administrative area.		
Type: Char	Size: 100	Multiplicity: [0..1]
Shapefile: AREA_CODE	TAB / GeoPackage: Area_Code	
Definition: A code describing the level.		
Type: Char	Size: 3	Multiplicity: [1]
Shapefile: DESCRIPTIO	TAB / GeoPackage: Area_Description	
Definition: Full name of the Area_Code.		
Type: Char	Size: 50	Multiplicity: [1]
Shapefile: FILE_NAME	TAB / GeoPackage: File_Name	
Definition: Name of the Principal Area which the boundary sits within. Please note, this may be the same boundary level as the boundary itself, for example, a Greater London Authority boundary will have 'Greater London Authority' present in this field. But for more granular boundaries, this field will show the principal boundary which is at the principal level.		
Type: Char	Size: 100	Multiplicity: [1]
Shapefile: NUMBER	TAB / GeoPackage: Feature_Serial_Number	
Definition: Serial number applied to the Boundary Feature during the production of the product. Please note, this is not the unique key for this product and is not maintained.		
Type: Shapefile: Double TAB: Integer	Size: Shapefile: N/A TAB: 11	Multiplicity: [1]
Shapefile: NUMBER0	TAB / GeoPackage: Collection_Serial_Number	
Definition: Collection Serial Number applied to the Boundary Feature during the production of the product. Please note, this is not the unique key for this product and is not maintained.		
Type: Shapefile: Double TAB: Integer	Size: Shapefile: N/A TAB: 11	Multiplicity: [1]

**Schema for all area features in the english\_region\_region and english\_region layers in the GB folder of the shapefile, MapInfo TAB and GeoPackage data supply**

<b>Shapefile: POLYGON_ID</b>			<b>TAB / GeoPackage: Global_Polygon_ID</b>		
Definition: A globally unique sequential integer-maintained identifier.					
Type: Shapefile: Double TAB: Integer		Size: Shapefile: N/A TAB: 11		Multiplicity: [1]	
<b>Shapefile: UNIT_ID</b>			<b>TAB / GeoPackage: Admin_Unit_ID</b>		
Definition: A globally unique sequential integer-maintained feature identifier. There are two cases where multiple records have the same UNIT_ID:					
<p>1. When portions of local government or parliamentary constituency areas are separated from the main area, being completely surrounded by other local government or parliamentary constituency areas and not connected by direct access on the ground. Not applied to islands or parts of islands in the sea. Detached parts have the same attributes as the main area, except the POLYGON_ID and the Name which has a '(DET)' suffix. In all the existing examples, there is exactly one detached part.</p> <p>2. In Scotland, there are two examples where the boundary has thousands of parts, so the multi-polygon is broken into simple polygons to make it easier to handle. The examples are the supplementary country_region layer where NAME='SCOTLAND_COUNTRY', and scotland_and_wales_region where NAME='Highlands and Islands PER'.</p>					
Type: Shapefile: Double TAB: Integer		Size: Shapefile: N/A TAB: 11		Multiplicity: [1]	
<b>Shapefile: CODE</b>			<b>TAB / GeoPackage: Census_Code</b>		
Definition: Set to the Census / GSS Code for the boundary, for example, E10000014.					
Type: Char		Size: 9		Multiplicity: [0..1]	
<b>Shapefile: HECTARES</b>			<b>TAB / GeoPackage: Hectares</b>		
Definition: Polygon area in hectares.					
Type: Shapefile: Double TAB: Decimal		Size: Shapefile: N/A TAB: 12		Multiplicity: [1]	
<b>Shapefile: AREA</b>			<b>TAB / GeoPackage: Non_Inland_Area</b>		
Definition: Amount of area within the boundary which is not considered 'inland'. Non Inland Areas are calculated by comparing the Boundary-Line polygons with the Mean High Water lines. The value is in hectares and represents the area between the Mean High Water line and the seaward limit of the boundary denoting Mean Low Water.					
Type: Shapefile: Double TAB: Decimal		Size: Shapefile: N/A TAB: 12		Multiplicity: [1]	
<b>Shapefile: TYPE_CODE</b>			<b>TAB / GeoPackage: Area_Type_Code</b>		
Definition: For the english_region layer, this field is set at 'SR' to depict 'Statistical Reporting Area'.					
Type: <a href="#">TypeCode</a>		Size: 2		Multiplicity: [1]	

**Schema for all area features in the english\_region\_region and english\_region layers in the GB folder of the shapefile, MapInfo TAB and GeoPackage data supply**

Shapefile: DESCRIPT0	TAB / GeoPackage: Area_Type_Description	
Definition: Full description of TYPE_CODE.		
Type: Char	Size: 26	Multiplicity: [1]
Shapefile: TYPE_COD0	TAB / GeoPackage: Non_Area_Type_Code	
Definition: Shouldn't be populated.		
Type: Char	Size: 3	Multiplicity: [0..1]
Shapefile: DESCRIPT I	TAB / GeoPackage: Non_Area_Type_Description	
Definition: Shouldn't be populated.		
Type: Char	Size: 36	Multiplicity: [0..1]

The following schema is correct for all area features in the *Wales* folder of the shapefile, MapInfo TAB and GeoPackage data supply.

**Schema for all area features in the Wales folder of the shapefile, MapInfo TAB and GeoPackage data supply**

Shapefile / TAB: FID Record is not provided	GeoPackage: fid	
Definition: Feature identifier added by the software.		
Type: N/A	Size: N/A	Multiplicity: [1]
Shapefile: NAME	TAB / GeoPackage: Name	
Definition: The name of the community ward.		
Type: Char	Size: 100	Multiplicity: [1]
Shapefile: DESCRIPTIO	TAB / GeoPackage: Area_Description	
Definition: The classification of the community ward.		
Type: Char	Size: 35	Multiplicity: [1]
Shapefile: COMMUNITY	TAB / GeoPackage: Community	
Definition: The name of the parish_region that the ward is inside.		
Type: Char	Size: 100	Multiplicity: [1]
Shapefile: FILE_NAME	TAB / GeoPackage: File_Name	
Definition: The name of district_borough_unitary_region that the community ward is inside; written in UPPERCASE with underscores.		
Type: Char	Size: 100	Multiplicity: [1]

The following schema is correct for all area features in the *Polling Districts England* folder of the shapefile, MapInfo TAB and GeoPackage data supply.

Schema for all area features in the Polling Districts England folder of the shapefile, MapInfo TAB and GeoPackage data supply		
Shapefile / TAB: OBJECTID	GeoPackage: fid	
Definition: Feature identifier added by the software.		
Type: N/A	Size: N/A	Multiplicity: [1]
Shapefile / TAB / GeoPackage: PD_ID		
Definition: Identifier comprising 1 to 10 characters.		
Type: Char	Size: 10	Multiplicity: [1]
Shapefile / TAB / GeoPackage: County		
Definition: The name of the county_region that the feature is inside (includes Greater London Authority).		
Type: Char	Size: 100	Multiplicity: [0..1]
Shapefile / TAB / GeoPackage: Distric_Bo		
Definition: The name of the district_borough_unitary_region that the feature is inside.		
Type: Char	Size: 100	Multiplicity: [1]
Shapefile / TAB / GeoPackage: Ward		
Definition: The name of the district_borough_unitary_ward_region that the feature is inside.		
Type: Char	Size: 100	Multiplicity: [1]
Shapefile / TAB / GeoPackage: Parish		
Definition: The name of the parish_region where Area_Description='Civil Parish Or Community' that the feature is inside.		
Type: CharacterString	Size: 100	Multiplicity: [0..1]

## 2.1.2 Link features MHW

Link features MHW		
Shapefile / TAB: FID Record is not provided	GeoPackage: fid	
Definition: Feature identifier added by the software.		
Type: N/A	Size: N/A	Multiplicity: [0..1]
Shapefile: SHAPE	TAB / GeoPackage: Shape record is not provided	
Definition: Feature geometry.		
Type: Polyline	Size: N/A	Multiplicity: [1]
Shapefile: CODE	TAB / GeoPackage: Feature_Code	
Definition: Code value assigned to the Mean High Water Line polyline. This value will always be set to – 0071 as this is the feature code applicable to a Mean High Water Line feature.		
Type: Char	Size: 4	Multiplicity: [1]
Shapefile: DESCRIPTIO	TAB / GeoPackage: Feature_Description	
Definition: Description of the boundary feature. Set to ‘High Water Mark’ (HWM)		
Type: Char	Size: 21	Multiplicity: [1]
Shapefile: FILE_NAME	TAB / GeoPackage: File_Name	
Definition: Name of the boundary polygon that the line is contained by; written in UPPERCASE with underscores. Note that the high water mark line is split up by every boundary that it crosses. Where the resulting line is contained in multiple polygons, for the product the same geometry is used for multiple features, with the File_Name referencing the containing boundary polygon, and the same Global_Link_ID used for all of them.		
Type: Char	Size: 100	Multiplicity: [1]
Shapefile: NUMBER	TAB / GeoPackage: Feature_Serial_Number	
Definition: Serial number applied to the polyline feature during the production of the product. In the current product, this is not unique or maintained.		
Type: Shapefile: Number TAB: Integer	Size: Shapefile: 11 TAB: N/A	Multiplicity: [1]
Shapefile: LINK_ID	TAB / GeoPackage: Global_Link_ID	
Definition: A maintained sequential integer identifier that is unique, except for records with duplicate geometry referencing multiple boundary polygons.		
Type: Shapefile: Number TAB: Integer	Size: Shapefile: 11 TAB: N/A	Multiplicity: [1]



### 2.1.3 Historical and ceremonial boundaries features

<b>Historical and ceremonial boundaries features</b>		
Shapefile / GeoPackage: FID	TAB: FID Record is not provided	
Definition: Feature identifier added by the software.		
Type: N/A	Size: N/A	Multiplicity: [1]
Shapefile: NAME	TAB / GeoPackage: Name	
Definition: Name of the Ceremonial County, Historic County or Historic European Region.		
Type: Char	Size: 100	Multiplicity: [1]
Shapefile: DESCRIPTIO	TAB / GeoPackage: Area_Description	
Definition: Classification set to Ceremonial County or Historic County or Historic European Region.		
Type: Char	Size: 50	Multiplicity: [1]
Shapefile: LINK_ID	TAB / GeoPackage: FID Record is not provided	
Definition: Boundary polygon.		
Type: GM_Surface	Size: N/A	Multiplicity: [1]

## 2.2 Code lists

### 2.2.1 AreaCode

Code list: Area_Code	
Value	Description
CED	County Electoral Division
CTY GLA	County
DIS LBO MTD UTA	District Borough Unitary Region
DIW LBW MTW UTW	District Borough Unitary Ward
ER	English Region
LAC	Greater London Authority Assembly Constituency
CPC NCP	Parish
SPC	Scottish Parliament Constituency
SPE	Scottish Parliament Electoral Region
UTE	Unitary Authority Electoral Division
WPC	Welsh Parliament Constituency
WPE	Welsh Parliament Electoral Region
WMC	Westminster Constituency

### 2.2.2 TypeCode

Code list: Type_Code	
Value	Description
AA	Civil Administration Area
SR	Statistical Reporting Area
VA	Civil Voting Area

## 3. Esri shapefile

### 3.1 An overview of Boundary-Line in Esri shapefile

Esri shapefiles are a simple, non-topological format for storing the geometric location and attribute information of geographic features. A shapefile is one of the spatial data formats that you can work with in ArcGIS.

The shapefile format defines the geometry and attributes of geographically referenced features in as many as five files with specific file extensions that should be stored in the same project workspace. The file extensions are as follows:

**.shp** – The file that stores the feature geometry.

**.shx** – The file that stores the index of the feature geometry.

**.dbf** – The dBASE file that stores the attribute information of features. When a shapefile is added as a theme to a view, this file is displayed as a feature table.

**.sbn** and **.sbx** – The files that store the spatial index of the features. These two files will only exist if you perform theme-on-theme selection, spatial joins or create an index on a theme's SHAPE field.

**.prj** – The file that stores the projection information.

### 3.2 List of layers

Layer	Country	Description
county_region (inc GLAs)	E	Polygon
county_electoral_division_region	E	Polygon
district_borough_unitary_region	E, S, W	Polygon
district_borough_unitary_ward_region	E, S	Polygon
english_region_region	E	Polygon
greater_london_const_region	E	Polygon
high_water_polyline	E, S, W	Polyline
parish_region	E, S, W	Polygon
unitary_electoral_division_region	E, W	Polygon
westminster_const_region	E, S, W	Polygon
scotland_and_wales_const_region	S, W	Polygon
scotland_and_wales_region	S, W	Polygon
polling_districts_england_region	E	Polygon

Layer	Country	Description
Boundary_line_historic_counties_region	E, S, W	Polygon
community_ward_region	W	Polygon
Boundary_line_ceremonial_counties_region	E, S, W	Polygon
historic_european_region_region	E, S, W	Polygon
country_region	E, S, W	Polygon

## 4. MapInfo TAB

### 4.1 An overview of Boundary-Line in MapInfo TAB

The TAB format (MapInfo tables) is the native format of MapInfo. This format can be read into most GIS packages. The TAB format consists of two files for tabular information, similar to a spreadsheet, and two files for geographic display. All four files are needed to display the geometry and attributes of geographically reference features. The four specific file extensions needed to display the geometry are as follows:

**.dat** – The dBASE file that stores the attribute information of features.

**.id** – The file that stores the index of the feature geometry to the attribute table.

**.map** – The file that stores the geographic information to display each feature.

**.tab** – The file that links the above three files and holds information about the dataset.

### 4.2 List of layers

Layer	Country	Description
county (inc GLAs)	E	Polygon
county_electoral_division	E	Polygon
district_borough_unitary	E, S, W	Polygon
district_borough_unitary_ward	E, S	Polygon
english_region	E	Polygon
greater_london_const	E	Polygon
high_water	E, S, W	Polyline
parish	E, S, W	Polygon
unitary_electoral_division	E, W	Polygon
westminster_const	E, S, W	Polygon
scotland_and_wales_const	S, W	Polygon
scotland_and_wales	S, W	Polygon
polling_districts_england_region	E	Polygon
Boundary_line_historic_counties_region	E, S, W	Polygon
Boundary_line_ceremonial_counties_region	E, S, W	Polygon
community_ward	W	Polygon
historic_european_region	E, S, W	Polygon
country_region	E, S, W	Polygon

## 5. GeoPackage

### 5.1 An overview of Boundary-Line in GeoPackage

GeoPackage (\*.gpkg) is an open, standards based, data format as is defined by the Open Geospatial Consortium (OGC). It is designed to be a lightweight format that can contain large amounts of varied and complex data in a single, easy to distribute and ready to use file. GeoPackage offer users the following benefits:

The single file is easy to transfer and offers the end-user a rich experience.

Attribute names are not limited in length, making the format user-friendly.

The file size limit is very large at 140 TB<sup>1</sup>, so lots of data can be easily accommodated.

It supports raster, vector and database formats, making it a highly versatile solution.

It is an OGC standard.

In most cases, it is a plug-and-play format.

### 5.2 List of layers

Layer	Country	Description
county (inc GLAs)	E	Polygon
county_electoral_division	E	Polygon
district_borough_unitary	E, S, W	Polygon
district_borough_unitary_ward	E, S	Polygon
english_region	E	Polygon
greater_london_const	E	Polygon
high_water	E, S, W	Polyline
parish	E, S, W	Polygon
unitary_electoral_division	E, W	Polygon
westminster_const	E, S, W	Polygon
scotland_and_wales_const	S, W	Polygon
scotland_and_wales_region	S, W	Polygon
polling_districts_england	E	Polygon
Boundary_line_historic_counties	E, S, W	Polygon
Boundary_line_ceremonial_counties	E, S, W	Polygon
community_ward	W	Polygon
historic_european_region	E, S, W	Polygon
country_region	E, S, W	Polygon

<sup>1</sup> A file size limit might be imposed by the file system to which the file is written.

## 6. GML overview

### 6.1 An overview of Boundary-Line in GML

Boundary-Line layers are supplied in Geography Markup Language (GML) v.3.2.1. It is recommended that you read this section in conjunction with the Open Geospatial Consortium (OGC) document, [Geography Markup Language v3.2.1](https://portal.ogc.org/files/?artifact_id=20509) ([https://portal.ogc.org/files/?artifact\\_id=20509](https://portal.ogc.org/files/?artifact_id=20509)). An understanding of XML (eXtensible Mark-up Language) and XML schemas is required. The XML specifications that GML is based on are available from the [World Wide Web Consortium \(W3C\) website](https://www.w3.org/) (<https://www.w3.org/>).

Boundary-Line GML files are only being created for the following layers:

- County
- District\_borough\_unitary
- Parish

### 6.2 Schema overview and location

XML schemas are used to define and validate the format and content of the GML. The GML v.3.2.1 specification provides a set of schemas that define the GML feature constructs and geometric types. These are designed to be used as a basis for building application-specific schemas, which define the data content.

The application schema AdministrativeUnits.xsd, which is referenced by the data, is available on the [INSPIRE website](https://inspire.ec.europa.eu/schemas/au/4.0/AdministrativeUnits.xsd) (<https://inspire.ec.europa.eu/schemas/au/4.0/AdministrativeUnits.xsd>). It imports the GML 3.2 schemas which rely on [XML as defined by W3C](http://www.w3.org/XML/1998/namespace.html) (<http://www.w3.org/XML/1998/namespace.html>).

Style sheets have been created and provided for Boundary-Line GML; these can be found on the [Ordnance Survey GitHub page](https://github.com/OrdnanceSurvey/Boundary-Line-stylesheets) (<https://github.com/OrdnanceSurvey/Boundary-Line-stylesheets>).

### 6.3 Features

Each feature with the AdministrativeUnit:FeatureCollection is encapsulated in the following member element according to its feature type:

Member Element	Feature Type
<base:member>	AdministrativeUnit

The Admin\_Unit\_ID of the feature is provided in the XML attribute of the gml:id

```
<base:member>  
<au:AdministrativeUnit gml:id="osgb7000000000017971">  
.....  
</au:AdministrativeUnit>  
</base:member>
```

### 6.3.1 GML table structures

«FeatureType» AdministrativeUnit		
Definition: Unit of administration where a Member State has and / or exercises jurisdictional rights for local, regional and national governance.		
Attribute: gml:id		
Definition: Admin_Unit_ID from Boundary-Line, which is preceded by osgb7 and enough zeros to make it 16 digits, for example, Admin_Unit_ID=25483 becomes osgb7000000000025483.		
Type: CharacterString	Size: 16	Multiplicity: [1]
Attribute: gml:identifier		
Definition: Use identifier from Boundary-Line linked data. For example, 'http://data.ordnancesurvey.co.uk/id/7000000000025483'. The number is the Admin_Unit_ID from Boundary-Line, which is preceded by the number 7 and enough zeros to make it 16 digits, for example, Admin_Unit_ID=25483 becomes 7000000000025483.		
Type: CharacterString	Size: 16	Multiplicity: [1]
Attribute: geometry		
Definition: Geometric representation of spatial area covered by this administrative unit. Can be a multi-polygon.		
Type: GM_Surface	Size: N/A	Multiplicity: [1]
Attribute: nationalCode		
Definition: Set to the Census/GSS Code for the boundary, for example, E1000014.		
Type: CharacterString	Size: 8	Multiplicity: [1]
Attribute: inspireId.Identifier.localId		
Definition: Admin_Unit_ID from Boundary-Line, which is preceded by the number 7 and enough zeros to make it 16 digits, for example, Admin_Unit_ID=25483 becomes 7000000000025483.		
Type: CharacterString	Size: 16	Multiplicity: [1]
Attribute: inspireId.Identifier.namespace		
Definition: Set to 'http://data.ordnancesurvey.co.uk/id/'.		
Type: IdentifierNamespaceValue	Size: N/A	Multiplicity: [1]
Attribute: inspireId.Identifier.versionId		
Definition: Set to publication timestamp, for example, '2016-09-20T16:18:19.000'.		
Type: DateTime	Size: N/A	Multiplicity: [1]
Attribute: nationalLevel		
Definition: Level in the national administrative hierarchy, at which the administrative unit is established. Note that the UK boundary (nationalLevel = 1stOrder) or the boundaries of England/Wales/Scotland (nationalLevel = 2ndOrder) are not included. See the <a href="#">AdministrativeHierarchyValue code list</a> .		



«FeatureType» AdministrativeUnit		
Type: AdministrativeHierarchyValue	Size: N/A	Multiplicity: [1]
Attribute: nationalLevelName		
Definition: Name of the level in the national administrative hierarchy at which the administrative unit is established. See the <a href="#">NationalClassificationValue code list</a> .		
Type: NationalClassificationValue	Size: N/A	Multiplicity: [1]
Attribute: country		
Definition: Set to 'UK'.		
Type: CountryValue	Size: N/A	Multiplicity: [1]
Attribute: name.language.xsi:nil		
Definition: Set to 'true'.		
Type: BooleanTrueValue	Size: N/A	Multiplicity: [1]
Attribute: name.language.nilReason		
Definition: Set to 'unknown'.		
Type: UnknownReasonValue	Size: N/A	Multiplicity: [1]
Attribute: name.nativeness.xlink:title		
Definition: Set to 'endonym'.		
Type: NativenessValue	Size: N/A	Multiplicity: [1]
Attribute: name.nativeness.xlink:href		
Definition: Set to 'http://inspire.ec.europa.eu/codelist/NativenessValue#endonym'.		
Type: NativenessNamespaceValue	Size: N/A	Multiplicity: [1]
Attribute: name.nameStatus.xlink:title		
Definition: Set to 'official'.		
Type: NameStatusValue	Size: N/A	Multiplicity: [1]
Attribute: name.nameStatus.xlink:href		
Definition: Set to 'http://inspire.ec.europa.eu/codelist/NameStatusValue#official'.		
Type: NameStatusNamespaceValue	Size: N/A	Multiplicity: [1]
Attribute: name.sourceOfName		
Definition: Set to 'Boundary-Line'.		
Type: SourceOfNameValue	Size: N/A	Multiplicity: [1]
Attribute: name.pronunciation.xsi:nil		
Definition: Set to 'true'.		

«FeatureType» AdministrativeUnit		
Type: BooleanTrueValue	Size: N/A	Multiplicity: [1]
Attribute: name.pronunciation.nilReason		
Definition: Set to 'missing'.		
Type: MissingReasonValue	Size: N/A	Multiplicity: [1]
Attribute: name.spelling.text		
Definition: Official national geographical name of the administrative unit.		
Type: CharacterString	Size: N/A	Multiplicity: [1]
Attribute: name.spelling.script		
Definition: Set to 'Latn'.		
Type: ScriptValue	Size: N/A	Multiplicity: [1]
Attribute: residenceOfAuthority.xsi:nil		
Definition: Set to 'true'.		
Type: BooleanTrueValue	Size: N/A	Multiplicity: [1]
Attribute: residenceOfAuthority.nilReason		
Definition: Set to 'unknown'.		
Type: UnknownReasonValue	Size: N/A	Multiplicity: [1]
Attribute: beginLifespanVersion		
Definition: Set to publication timestamp, for example, 2016-09-20T16:18:19.000.		
Type: DateTime	Size: N/A	Multiplicity: [1]
Attribute: boundary.xsi:nil		
Definition: Set to 'true'.		
Type: BooleanTrueValue	Size: N/A	Multiplicity: [1]
Attribute: boundary.nilReason		
Definition: Set to 'unknown'.		
Type: UnknownReasonValue	Size: N/A	Multiplicity: [1]

## 6.3.2 Code lists

### AdministrativeHierarchyValue

Levels of administration in the national administrative hierarchy. This code list reflects the level in the hierarchical pyramid of the administrative structures, which is based on geometric aggregation of territories and does not necessarily describe the subordination between the related administrative authorities.

Code list: AdministrativeHierarchyValue	
Value	Description
3rdOrder	Applies to Non-Metropolitan County, Greater London Authority, Metropolitan District and Unitary Authority.
4thOrder	Applies to District and London Borough.
5thOrder	Applies to Civil Parish and Community.

### NationalClassificationValue

Names of the levels in the national administrative hierarchy of administrative units.

Code list: NationalClassificationValue	
Value	Description
Civil Parish	Parishes are subdivisions of local authorities in many parts of England, and their councils are the most local level of government. Unlike electoral wards/divisions however, parishes are not found in all parts of England. The Welsh equivalents are communities. Note that the full term for administrative parishes is 'civil parishes', to distinguish them from the ecclesiastical parishes which are found in all parts of the UK.
District	Districts are local administrative units and have at various times been used in all four countries of the UK. The only current references to districts however are found in metropolitan and non-metropolitan districts in England and district council areas in Northern Ireland.
Greater London Authority	The area covered by the Greater London Authority (GLA). The GLA is the body responsible for strategic citywide government for London and consists of the Mayor of London and the London Assembly. The remit of the GLA covers the Greater London area.
London Borough	The London boroughs are the local government areas within Greater London. The borough councils are unitary administrations with a status similar to metropolitan districts, but they will also be affected by any policies implemented by the Greater London Authority (GLA).
Metropolitan District	Metropolitan districts are subdivisions of the six metropolitan county areas of England. Since the abolition of the metropolitan county councils in 1986, the metropolitan district councils have been unitary administrations.
Unitary Authority	Unitary authorities (UAs) are areas with a single tier of local government (as opposed to the two-tier county:district structure).

Code list: NationalClassificationValue	
Value	Description
Non-Metropolitan County	Counties were formerly administrative units across the whole UK. Due to various administrative restructurings however, the only administrative areas still referred to as counties are the non-metropolitan (shire) counties of England. The English metropolitan counties, although no longer administrative units, are also used for statistical purposes.
Community	The Welsh equivalent of Civil Parish.

## 6.4 GML example

Administrative unit example:

```
<base:member>
<au:AdministrativeUnit gml:id="osgb700000000017971">
<gml:identifier
codeSpace="http://inspire.jrc.ec.europa.eu/ids">http://data.ordnancesurvey.co.uk/id/7000000000017971
</gml:identifier>
<au:geometry>
<gml:MultiSurface gml:id="osgb700000000017971-0" srsName="urn:ogc:def:crs:EPSG::27700"
srsDimension="2">
<gml:surfaceMember>
<gml:Surface gml:id="osgb700000000017971-1">
<gml:patches>
<gml:PolygonPatch>
<gml:exterior>
<gml:LinearRing>
<gml:posList>634189.2032 154214.9957 634231.3025 154231.701 ....634189.2032
154214.9957</gml:posList>
</gml:LinearRing>
</gml:exterior>
</gml:PolygonPatch>
</gml:patches>
</gml:Surface>
</gml:surfaceMember>
</gml:MultiSurface>
</au:geometry>
<au:nationalCode>E04004921</au:nationalCode>
<au:inspireId>
<base:Identifier>
<base:localId>700000000017971</base:localId>
<base:namespace>http://data.ordnancesurvey.co.uk/id</base:namespace>
<base:versionId>2018-09-10T07:54:51</base:versionId>
</base:Identifier>
</au:inspireId>
<au:nationalLevel xlink:href="http://inspire.ec.europa.eu/codelist/AdministrativeHierarchyLevel#5thOrder"
xlink:title="5thOrder"/>
<au:nationalLevelName>
```

```
<gmd:LocalisedCharacterString>Civil Parish</gmd:LocalisedCharacterString>
</au:nationalLevelName>
<au:country>
<gmd:Country codeList="http://inspire.ec.europa.eu/codeList/CountryCode" codeListValue="UK"/>
</au:country>
<au:name>
<gn:GeographicalName>
<gn:language nilReason="unknown" xsi:nil="true"/>
<gn:nativeness xlink:href="http://inspire.ec.europa.eu/codelist/NativenessValue#endonym"
xlink:title="endonym"/>
<gn:nameStatus xlink:href="http://inspire.ec.europa.eu/codelist/NameStatusValue#official"
xlink:title="official"/>
<gn:sourceOfName>Boundary-Line</gn:sourceOfName>
<gn:pronunciation nilReason="missing" xsi:nil="true"/>
<gn:spelling>
<gn:SpellingOfName>
<gn:text>Sholden</gn:text>
<gn:script>Latn</gn:script>
</gn:SpellingOfName>
</gn:spelling>
</gn:GeographicalName>
</au:name>
<au:residenceOfAuthority nilReason="unknown" xsi:nil="true"/>
<au:beginLifespanVersion>2018-09-10T07:54:51</au:beginLifespanVersion>
<au:boundary nilReason="unknown" xsi:nil="true"/>
</au:AdministrativeUnit>
</base:member>
```

## 7. Vector tiles overview

Boundary-Line is supplied as a national vector tiles set in a single MBTiles file (combined from individual PBF tiles). This is a lightweight set of tiles that are efficient to render in supported software, provide high-resolution data and give a seamless experience when zooming in and out. The data is supplied in Web Mercator projection (ESPG:3857).

### 7.1 Vector tiles schema

The vector tiles schema is detailed in the following table. In the zoom levels columns within the table, the letter *N* indicates that the specified layer and attribute is not mapped within that zoom level, whereas the letter *Y* indicates that the specified layer and attribute is mapped within that zoom level.

Layer	Attribute	Zoom levels							
		0 to 8	9	10	11	12	13	14	
Boundary_line_ceremonial_counties	name	N	Y	Y	Y	Y	Y	Y	
Boundary_line_historic_counties	name	N	Y	Y	Y	Y	Y	Y	
community_ward	name	N	Y	Y	Y	Y	Y	Y	
	community	N	Y	Y	Y	Y	Y	Y	
county	name	N	Y	Y	Y	Y	Y	Y	
	area_code	N	Y	Y	Y	Y	Y	Y	
	global_polygon_id	N	Y	Y	Y	Y	Y	Y	
	census_code	N	Y	Y	Y	Y	Y	Y	
	hectares	N	Y	Y	Y	Y	Y	Y	
	non_inland_area	N	Y	Y	Y	Y	Y	Y	
	area_type_code	N	Y	Y	Y	Y	Y	Y	
county_electoral_division	name	N	Y	Y	Y	Y	Y	Y	
	area_code	N	Y	Y	Y	Y	Y	Y	
	global_polygon_id	N	Y	Y	Y	Y	Y	Y	
	census_code	N	Y	Y	Y	Y	Y	Y	
	hectares	N	Y	Y	Y	Y	Y	Y	
	non_inland_area	N	Y	Y	Y	Y	Y	Y	
	area_type_code	N	Y	Y	Y	Y	Y	Y	
country_region	name	N	Y	Y	Y	Y	Y	Y	
	area_code	N	Y	Y	Y	Y	Y	Y	
	global_polygon_id	N	Y	Y	Y	Y	Y	Y	

Layer	Attribute	Zoom levels						
		0 to 8	9	10	11	12	13	14
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
district_borough_unitary	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
district_borough_unitary_ward	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
english_region	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
greater_london_const	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y

Layer	Attribute	Zoom levels						
		0 to 8	9	10	11	12	13	14
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
high_water	file_name	N	Y	Y	Y	Y	Y	Y
	global_link_id	N	Y	Y	Y	Y	Y	Y
historic_european_region	name	N	Y	Y	Y	Y	Y	Y
parish	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
polling_districts_england	pd_id	N	Y	Y	Y	Y	Y	Y
	county	N	Y	Y	Y	Y	Y	Y
	district_borough	N	Y	Y	Y	Y	Y	Y
	ward	N	Y	Y	Y	Y	Y	Y
	parish	N	Y	Y	Y	Y	Y	Y
scotland_and_wales_const	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
scotland_and_wales_region	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y



Layer	Attribute	Zoom levels						
		0 to 8	9	10	11	12	13	14
	area_type_code	N	Y	Y	Y	Y	Y	Y
unitary_electoral_division	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y
westminster_const	name	N	Y	Y	Y	Y	Y	Y
	area_code	N	Y	Y	Y	Y	Y	Y
	global_polygon_id	N	Y	Y	Y	Y	Y	Y
	census_code	N	Y	Y	Y	Y	Y	Y
	hectares	N	Y	Y	Y	Y	Y	Y
	non_inland_area	N	Y	Y	Y	Y	Y	Y
	area_type_code	N	Y	Y	Y	Y	Y	Y

## Annex A: Glossary

### **accuracy**

The closeness of the results of observations, computations or estimates to the true values or the values accepted as being true. Accuracy relates to the exactness of the result and is the exactness of the operation by which the result is obtained.

### **administrative area**

A blanket term used by Ordnance Survey to refer to all public administrative areas, specifically local government management and electoral areas.

### **administrative unit**

A single administrative area.

### **area**

A spatial extent defined by circumscribing lines that form a closed perimeter that does not intersect itself.

### **attribute**

An attribute is a property of an entity, usually used to refer to a non-spatial qualification of a spatially referenced entity. For example, a name or descriptive code indicating what an entity represents or how it should be portrayed.

### **attribute class**

A specific group of attributes, for example, those describing measure, serviceability, structure or composition.

### **boundary**

Boundaries define the areas of the various national, local government and some European authorities.

### **chain**

A closed loop of links bounding a polygon.

### **coordinate pair**

A coordinate pair is an easting and a northing.

### **coordinates**

Pairs of numbers expressing horizontal distances along original axes. Alternatively, triplets of numbers measuring horizontal and vertical distances. Row and column numbers of pixels from raw imagery are not considered coordinates for the purpose of the standard.

### **currency**

An expression of the up-to-dateness of data.

### **data format**

A specification that defines the order in which data is stored or a description of the way data is held in a file or record.

### **data model**

An abstraction of the real world that incorporates only those properties thought to be relevant to the application or applications at hand. The data model would normally define specific groups of entities and their attributes, and the relationship between these entities. A data model is independent of a computer system and its associated data structures. A map is one example of an analogue data model.

### **data structure**

The defined logical arrangement of data as used by a system for data management; a representation of a data model in computer form.

### **derived map**

A map which has been produced by reference to other source maps, rather than directly from a survey.

### **entity**

Something about which data is stored in a databank or database. For example, boundary and name. The data may consist of relationships, attributes, positional and shape information and so on. Often synonymous with [feature](#).

### **explicit**

Data that is directly represented in digital form. For example, the relationship between two objects is explicit if recorded by such means as pointers and does not have to be deduced by further analysis of the data.

### **extent of the realm (EOR)**

The external bounding line of the Boundary-Line dataset is the extent of the realm (EOR). This means the boundary extent is digitised on the alignment of the mean low water (springs)(MLWS) for the seaward extent. Boundary-Line does not contain a separate mean low water (springs) (MLWS), only CODE 0071 representing the mean high water (MHW).

### **feature**

An item of detail within a map that can be a point and/or symbol, text or line.

### **field**

A specified part of a record containing a unit of data, such as the date of digitising. The unit of data may be a data element or a data item. Every field has a name and a predefined interpretation.

### **geographical information system (GIS)**

A system for capturing, storing, checking, integrating, analysing and displaying data that is spatially referenced to the Earth. This is normally considered to involve a spatially referenced computer database and appropriate applications software.

### **layer**

A subset of digital map data selected on a basis other than position. For example, one layer might consist of all features relating to counties and another to wards. Also known as a level.

### **level**

A level corresponds to a single type of administrative unit, for example, a ward or a district, and is conceptual in form. See also [layer](#).

### **line feature**

The spatial abstraction of an object in one dimension. Lines may intersect with other lines. They are defined as a series of two or more coordinate pairs and may be curved or straight. Curved lines consist of a series of very short, straight-line segments. As an object abstraction, a line has no width.

### **line segment**

A vector connecting two coordinated points.

### **link or edge**

Links are the representation of line features. They are made up of one or more consecutive non-intersecting link segments with common attributes between two terminating nodes. Links have no

connection with other links except at the start or end, via common (shared) terminating nodes (points). All links contain their terminating coordinates. Links may form the boundaries of polygons and may be shared between polygons.

### **map generalisation**

A reduction in map detail, so that the information remains clear and uncluttered when the map scale is reduced. May also involve re-sampling to larger spacing, and / or a reduction in the number of points in a line.

### **map scale**

The ratio between the extent of a feature on the map and its extent on the ground, normally expressed as a representative fraction, such as 1:1,250 or 1:10 000.

### **mean high water (springs)**

In the Boundary-Line product, the mean high water (springs) mark is shown to the normal tidal limit (NTL). Areas of salt marsh, mudflats and so on often have very complicated tide lines. For ease of digitising and to reduce data volumes, mean high water may be generalised in these areas (not Scotland). The mean high water (springs) mark is represented in Boundary-Line by a polyline feature with CODE 0071. The mean high water (springs) mark is subject to continuous change, but the captured alignment of a tide line is a snapshot on one day. It is not practical to revise tide lines very frequently.

### **name**

The proper name or label of an object (real world) or feature (object abstraction). The descriptive name might consist of one or more text strings or be an attribute of the object or object abstraction.

### **National Grid**

A unique referencing system that can be applied to all Ordnance Survey maps of Great Britain (GB) at all scales. It is used by Ordnance Survey on all post-war mapping to provide an unambiguous spatial reference in Great Britain for any place or entity whatever the map scale. The National Grid is defined by the OSGB36 spheroid.

### **northings**

See [rectangular coordinates](#).

### **object**

A collection of entities which form a higher-level entity within a specific data model.

### **object (real world)**

A recognisable discrete part of the real world.

### **point and line data**

A form of vector data designed for map production in which all map features are designated as points, lines or text. Point and line data does not carry the topological relationships between features.

### **polygon**

Polygons are a representation of areas. A polygon is defined as a closed line or perimeter completely enclosing a contiguous space and is made up of one or more links. At least one node occurs on the perimeter of a polygon where the bounding link completes the enclosure of the area. There may be many nodes connecting the bounding links of a polygon. Links may be shared between polygons. Polygons may wholly contain other polygons; or be contained within other polygons.

### **polygon boundary**

The link(s) which enclose a polygon, projected into the horizontal plane. A chain.

**record**

A set of related data fields grouped for processing.

**rectangular coordinates**

Also known as X-Y coordinates and as eastings and northings. These are two-dimensional coordinates that measure the position of any point relative to an arbitrary origin on a plane surface, for example, a map projection.

**resolution**

A measure of the ability to detect quantities. High resolution implies a high degree of discrimination but has no implication as to accuracy. For example, in a collection of data in which the coordinates are rounded to the nearest metre, resolution is 1 metre, but the accuracy may be  $\pm 5$  metres or worse.

**segment**

A chord defined by two consecutive coordinates in a line string.

**spatial data**

Data that includes a reference to a two- or three-dimensional position in space as one of its attributes. It is used as a synonym for geometric data.

**Statutory Instrument**

An order made by a Minister under delegated power from Parliament. Contains changes to boundary information, the alignment, type or relationship to a named area (amalgamation) or a change of name to an area.

**string**

A set of items which can be arranged into a sequence according to a rule.

A sequence of coordinate pairs or triplets making up a line or a link.

**structured data**

Data within which collections of features (of any type) form objects. Topographically structured data also contains topological information, defining the relationships between features and objects.

**vector**

A straight line joining two data points.

**vector data**

Positional data in the form of coordinates of the ends of line segments, points, text positions and so on.