

ORDNANCE SURVEY GB

I:250 000 SCALE COLOUR RASTER™ – OVERVIEW

Version history

Version	Date	Description
2.8	12/2016	Minor updates to the Product Guide.
3.0	09/2022	Product Guide split into this Overview and the Technical Specification. Formatting, style, and language updates to the document.

Purpose of this document

This document provides information about and insight into the I:250 000 Scale Colour Raster product and its potential applications. For information on the contents and structure of I:250 000 Scale Colour Raster, please refer to the Technical Specification.

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Contact details

[OS website 'Contact us' page \(https://www.ordnancesurvey.co.uk/contact-us\)](https://www.ordnancesurvey.co.uk/contact-us).

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I. Introduction to the product

The I:250 000 Scale Colour Raster product is a small-scale, digital, raster mapping product that gives a regional view similar in content and appearance to a typical road atlas. It clearly shows the landscape features relevant to its scale, including cities, towns, many villages, motorways, A and B roads, railways, rivers, and some woodlands across Great Britain. You can use I:250 000 Scale Colour Raster to overlay your own geographic or business data, or use it as a standalone map.

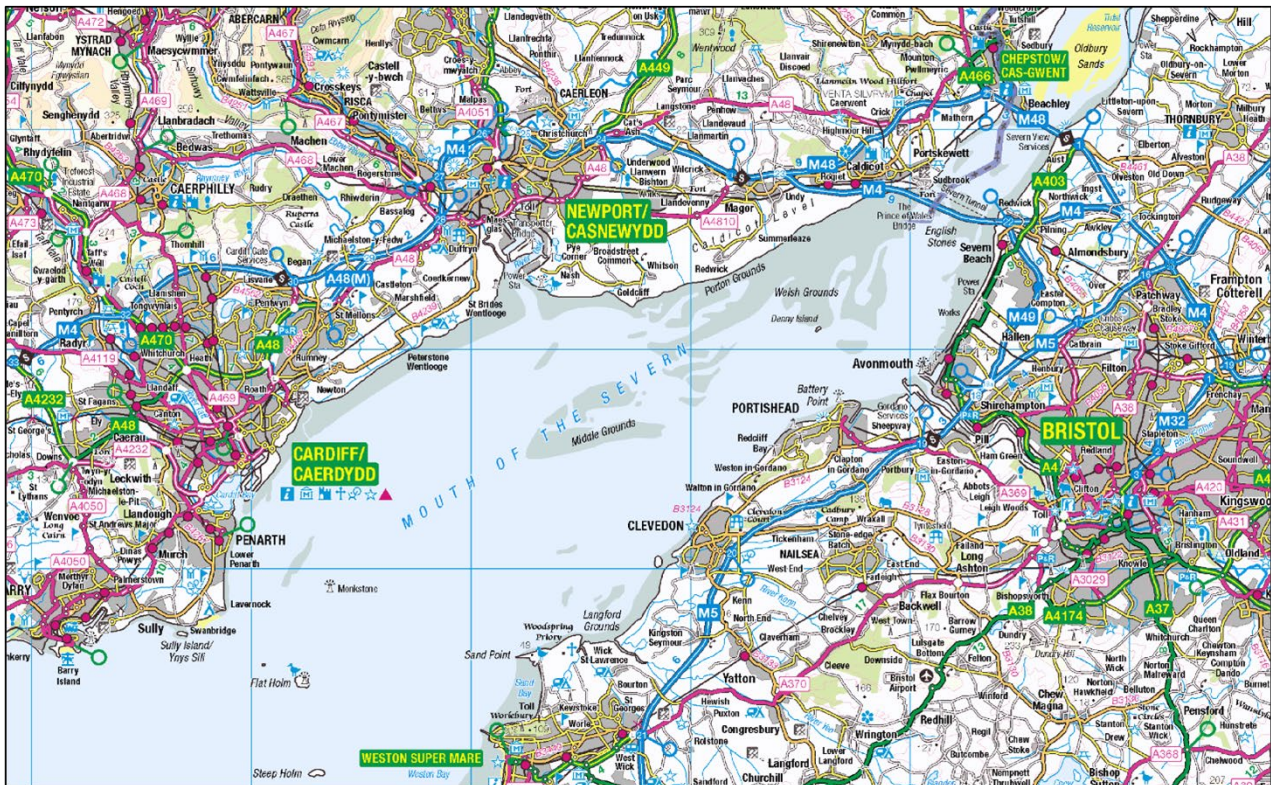


Figure I. An extract of I:250 000 Scale Colour Raster over Bristol and the Severn Estuary.

I.1 Product highlights

The I:250 000 Scale Colour Raster product:

- Is an ideal regional overview or backdrop map.
- Has classic road atlas styling:
 - Motorways and main roads stand out, but you can also see country lanes clearly.
 - Places of interest, including camping and caravan sites, are clearly shown.
 - Road and junction numbers, junction to junction mileage, and primary routing are included.
- Is compatible with other open datasets available from data.gov.uk and many other sources.

1.2 Product applications

I:250 000 Scale Colour Raster combines cities, towns, motorways, A and B class roads, railways, rivers, and other key features. This makes it the ideal geographic context on which to overlay your own business data or to use in your applications.

I:250 000 Scale Colour Raster can be used for:

- Route planning
- Geographic context
- Webpage enhancement

A digital legend (key) that explains the cartographic symbols and styles is supplied with the product:

- [English version of the I:250 000 Scale Colour Raster legend](https://www.ordnancesurvey.co.uk/documents/250k-raster-legend.pdf)
(<https://www.ordnancesurvey.co.uk/documents/250k-raster-legend.pdf>)
- [Welsh version of the I:250 000 Scale Colour Raster legend](https://www.ordnancesurvey.co.uk/documents/250k-raster-legend-welsh.pdf)
(<https://www.ordnancesurvey.co.uk/documents/250k-raster-legend-welsh.pdf>)

2. Product details

2.1 Features

1:250 000 Scale Colour Raster shows cities, towns, many villages, motorways, A and B roads, railways, rivers, and some woodlands across Great Britain.

2.2 Source and scale

1:250 000 Scale Colour Raster is derived from the 1:250 000 scale topographical digital database.

It is designed to be nominally viewed at a 1:200 000 scale.

2.3 Coordinate reference system

1:250 000 Scale Colour Raster is available in British National Grid coordinates, which are expressed in metres relative to an origin set to a point west of the Isles of Scilly. These coordinates can easily be spatially related to other surveys, drawings, datasets, and Ordnance Survey products. See [Ordnance Survey National Grid](#) in Section 3 below for more information.

2.4 Coverage

Coverage of 1:250 000 Scale Colour Raster is all of Great Britain. It is supplied in 100km by 100km tiles aligned to the National Grid.

Where a line feature ends by intersecting the tile edge, it is matched with its corresponding feature on the adjacent tile so that both features end on the same unique coordinate. The representation of detail across the tile edge is of a cartographically acceptable standard when plotted or displayed at scale.

2.5 Product revision programme

1:250 000 Scale Colour Raster is updated via a continuous revision programme. The revision programme tracks real-world change, and is determined by assessing the following factors:

- Known surveyed change.
- Change intelligence gathered from a range of sources.
- How long it has been since an area was last revised.

Priority is given to prestige sites categorised as significant items of change, such as major road construction projects. Significant items of surveyed change relevant to the scale are captured during the revision programme.

2.6 Resolution

Each data tile is converted into a raster tile at a resolution of 10 dots per millimetre (dpm) / 254 dots per inch (dpi). One pixel represents 25 metres on the ground. This resolution maintains the necessary clarity of text.

2.7 Data compression

The I:250 000 Scale Colour Raster product is compressed using the lossless Lempel–Ziv–Welch (LZW) data compression algorithm.

Data volumes for the TIFF file format are influenced by the level of data compression. The required storage volume for the Great Britain supply (56 tiles) is approximately 128 MB compressed and 130 MB uncompressed.

2.7.1 Image compression

When an image is compressed, duplicated data that has no value is removed or saved in a shorter form, reducing the file size. For example, if large areas of water are the same tone, the value for one pixel is saved, together with the locations of other pixels of the same tone. When the image is displayed, the compression process is reversed. Compressed raster data allows users to download, display, edit, and transfer images more quickly.

There are two types of image compression:

- **Lossless compression:** No information is lost during lossless compression. When the image is uncompressed the original quality is retained. File size remains large because the process does not provide much compression. Lossless compression is used mainly where detail is important, such as when planning to make large prints.
- **Lossy compression:** This process degrades the image to some degree. When the image is uncompressed the quality is not as good as the original. The more you compress the image, the more degraded it becomes. In many situations, such as web page images or small to medium-sized prints, the image degradation is an acceptable trade-off for the reduced file size. If a lossy compressed image is over-enlarged, the degradation becomes obvious.

2.7.2 TIFF format

Tag Image File Format (TIFF or TIF) is one of the most commonly used lossless image formats. TIFF is primarily designed for raster data interchange and is supported by many image-processing applications. This permits more efficient access to very large files that have been compressed.

2.8 Georeferencing

Georeferencing is the process of registering the raster images within a geographic framework by assigning map coordinates to the image data and resampling the pixels of the image to conform to the map projection grid.

The I:250 000 Scale Colour Raster supply is not georeferenced in any way. This means that when you load the tiles into a GIS, they will not be set up in geographic relationship to each other.

To view the map tiles in correct geographic relation to both the National Grid and the other tiles, you need to georeference the map tile files. Most geographic information systems (GIS) provide georeferencing functionality, but for each set of tiles you need to provide information on how the tiles should be ordered.

Ordnance Survey provides this information in a set of georeferencing files for I:250 000 Scale Colour Raster. These files contain the National Grid corner coordinates for each 100km by 100km tile. You can download the files for free on the [Georeferencing files and land and sea tiles](https://www.ordnancesurvey.co.uk/business-government/tools-support/georeferencing) (<https://www.ordnancesurvey.co.uk/business-government/tools-support/georeferencing>) page of the OS website. Please check which format your GIS supports before downloading. The TIFF World Files (TFW) are for use in ESRI® ArcGIS and the TAB files for use in MapInfo®. You should save the georeferencing files to the same directory as the map tile files to ensure that they work correctly. Great Britain is surveyed and mapped using the Transverse Mercator (or Gauss-Kruger) projection, so all raster tiles will be mapped to this projection (as it applies to the Ordnance Survey National Grid) when using the georeferencing files.

Note: Some available world files contain only sea, and for this reason, no data is available. These files are included to allow you to complete the coastline.

2.9 Gazetteer

The I:250 000 Scale Colour Raster product includes the I:250 000 Scale Gazetteer that contains approximately 25 500 points to help you find place names and locations. It covers the extent of the 56 100km by 100km tiles.

The information is provided as a single text file in ASCII text format and is included in the compressed download file.

The gazetteer area extent is as follows:

Table 1: Gazetteer area extent.

I:250 000 Scale Gazetteer		
	Easting	Northing
SW coordinate	0	0
NE coordinate	700000	1300000

3. Product supply

3.1 Available formats

1:250 000 Scale Colour Raster is supplied in TIFF (RGB 256 colours) format with LZW compression.

3.2 Supply mechanism

1:250 000 Scale Colour Raster is supplied as an online download from the [OS DataHub](https://osdatahub.os.uk/) (<https://osdatahub.os.uk/>).

3.3 Package inclusions

The compressed download file includes (among others):

- 56 edged-matched individual 100km by 100km tiles aligned to the National Grid.
- Product legend in TIFF and PDF format.
- 1:250 000 scale gazetteer

3.4 Ordnance Survey National Grid

Ordnance Survey divides Great Britain into squares of 100km by 100km. Each square has a unique two-letter reference, for example, TG in Figure 2.

1:250 000 Scale Colour Raster tiles are identified by the National Grid reference of the south-west corner of the 100km² area they cover, for example, TG.

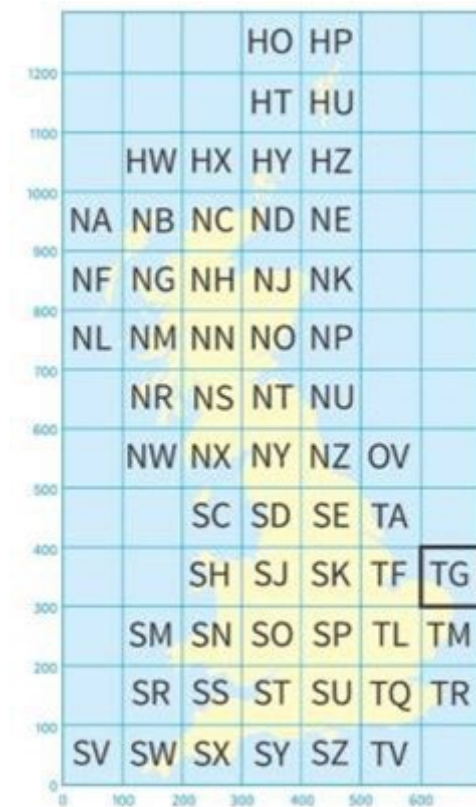


Figure 2. Map of Great Britain overlaid with the National Grid consisting of two-letter reference squares.

[An introductory guide to the British National Grid \(BNG\)](https://getoutside.ordnancesurvey.co.uk/guides/beginners-guide-to-grid-references/) (<https://getoutside.ordnancesurvey.co.uk/guides/beginners-guide-to-grid-references/>) is available on the OS website.

Annex A: Additional resources

You can find further information about the product in the:

- [I:250 000 Scale Colour Raster Product page on the OS website \(https://www.ordnancesurvey.co.uk/business-and-government/products/250k-raster.html\)](https://www.ordnancesurvey.co.uk/business-and-government/products/250k-raster.html)
- Technical Specification, which is available on the [I:250 000 Scale Colour Raster Product Support page on the OS website \(https://www.ordnancesurvey.co.uk/business-government/tools-support/250k-raster-support\)](https://www.ordnancesurvey.co.uk/business-government/tools-support/250k-raster-support)