1:250,000 SCALE COLOUR RASTER

Product guide and technical specification
# 1:250,000 Scale Colour Raster

## Product guide

### Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td>3</td>
</tr>
<tr>
<td>Contact details</td>
<td>3</td>
</tr>
<tr>
<td>Use of the product</td>
<td>3</td>
</tr>
<tr>
<td>Purpose and disclaimer</td>
<td>3</td>
</tr>
<tr>
<td>Copyright in this guide</td>
<td>4</td>
</tr>
<tr>
<td>Data copyright and other intellectual property rights</td>
<td>4</td>
</tr>
<tr>
<td>Trademarks</td>
<td>4</td>
</tr>
<tr>
<td>Back-up provision of the product</td>
<td>4</td>
</tr>
<tr>
<td>Using this guide</td>
<td>4</td>
</tr>
<tr>
<td>Chapter 1 Introduction</td>
<td>5</td>
</tr>
<tr>
<td>Overview</td>
<td>5</td>
</tr>
<tr>
<td>Key Features</td>
<td>5</td>
</tr>
<tr>
<td>Applications</td>
<td>5</td>
</tr>
<tr>
<td>Chapter 2 1:250,000 Scale Colour Raster</td>
<td>6</td>
</tr>
<tr>
<td>Features</td>
<td>6</td>
</tr>
<tr>
<td>Scale</td>
<td>6</td>
</tr>
<tr>
<td>Coverage</td>
<td>6</td>
</tr>
<tr>
<td>Source of 1:250,000 Scale Colour Raster</td>
<td>6</td>
</tr>
<tr>
<td>Currency</td>
<td>6</td>
</tr>
<tr>
<td>Resolution</td>
<td>6</td>
</tr>
<tr>
<td>Georeferencing</td>
<td>6</td>
</tr>
<tr>
<td>Chapter 3 Product Supply</td>
<td>7</td>
</tr>
<tr>
<td>Supply Format</td>
<td>7</td>
</tr>
<tr>
<td>Supply Media</td>
<td>7</td>
</tr>
<tr>
<td>The National Grid</td>
<td>7</td>
</tr>
<tr>
<td>Coverage and File Size</td>
<td>7</td>
</tr>
<tr>
<td>Updates</td>
<td>7</td>
</tr>
</tbody>
</table>
Preface

This product guide (hereafter referred to as the guide) is designed to provide an overview of 1:250 000 Scale Colour Raster (hereafter referred to as the product) and it gives guidelines and advice on how a customer might derive the maximum benefit from the product. It assumes a general knowledge of geographic information. If you find an error or omission in this guide, or otherwise wish to make a comment or suggestion as to how we can improve the guide, please contact us at the address shown below under contact details or complete the product and service performance report form at annexe A and return it to us.

Contact details

Our Customer Service Centre will be pleased to deal with your enquiries:

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Adanac Drive
SOUTHAMPTON
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Welsh helpline: 03456 050504
Textphone: +44 (0)2380 056146

customerservices@os.uk

www.os.uk

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Back-up provision of the product

You are advised to copy the supplied data to a backup medium.

Using this guide

The documentation is supplied in portable document format (PDF) only. Free Adobe® Reader® software, which displays the specification, incorporates search and zoom facilities and allows you to navigate within. Hyperlinks are used to navigate between associated parts of the specification and to relevant internet resources by clicking on the blue hyperlinks and the table of contents.
Chapter 1 Introduction

Overview

Ordnance Survey’s 1:250,000 Scale Colour Raster product, is a small-scale digital, raster mapping product giving 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.

Figure 1: 1:250,000 Scale Colour Raster mapping of Bristol and the Severn Estuary

Key Features

The key features of 1:250,000 Scale Colour Raster product are:

- A regional backdrop map;
- 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; and
- Compatible with other open data sets available from data.gov.uk and many other sources.

Applications

1:250,000 Scale Colour Raster combines cities, towns, motorways, A and B class roads, railways, rivers and other key features, providing the ideal geographic context, either to a customer’s own geographic/business data overlaid on top or used in applications on its own.

1:250,000 Scale Colour Raster product can aid with:

- route planning;
- geographic context; and
- enhancing an Intranet or Internet site.

Also supplied is a digital legend (key), which explains the cartographic symbols and styles in the product.
Chapter 2  1:250,000 Scale Colour Raster

Features
Shows all cities, towns and many villages as well as all motorways and A and B roads, enabling simple route planning.
High resolution for excellent clarity

Scale
1:250,000 Scale Colour Raster is designed to be nominally viewed at 1:200,000 scale.

Coverage
Great Britain (England, Scotland and Wales).

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

Currency
1:250 000 Scale Colour Raster data is derived from the latest available version of Ordnance Survey's databases. The 1:250 000 Scale Colour Raster database is refreshed annually.

Resolution
Each data tile is converted into a raster tile at a resolution of 10 dots per mm (dpmm) – 254 dots per inch (dpi) and a pixel is 25 meters on the ground. This resolution maintains the necessary clarity of text.

Georeferencing
To be able to view each tile in the correct geographic relation to the National Grid and to each other, the tiles must be georeferenced. GIS typically provide Georeferencing a part of their functionality, but for each set of tiles it is necessary to provide the information on how the tiles should be ordered.
OS provides this information as a set of georeferencing files, also known as world files. A complete set for 1:250,000 Scale Colour Raster is available to download free of charge from the website.
There is more than one type of world file. Prior to downloading one of the sets, customers are advised to check with their software suppliers to find out which type there system supports.
The georeferencing files should be saved in the same directory as the files of the map tiles themselves.
Chapter 3  Product Supply

Supply Format
1:250,000 Scale Colour Raster is supplied as 56 edged matched individual 100 km x 100km tiles.
TIFF with LZW compression (RGB 256 colours).

Supply Media
1:250,000 Scale Colour Raster Full GB cover supplied on DVD or download.

The National Grid
Ordnance Survey divides Great Britain into squares 100km by 100km. Each of these squares has a unique
two-letter reference, for example, TG in the diagram below.
1:250,000 Scale Colour Raster tiles are identified by quoting the National Grid reference of the south-west
corner of the 100km² area they cover, for example TG.

For additional information on how to use the National Grid, visit the Ordnance Survey website at:
http://os.uk/support/the-national-grid.html

Coverage and File Size
1:250,000 Scale Colour Raster is supplied as 56 edge matched individual 100 x 100 km tiles.

Updates
Updates are released annually in June as a complete resupply.
Chapter 4  Technical

Ordnance Survey’s 1:250,000 Scale Colour Raster product, available in TIFF LZW format, provides entry-level, small-scale mapping suitable for overlaying with individual business information. It is derived from 1:250,000 scale production data, resulting in high-quality image and resolution, and is available as full national coverage (providing an excellent overview of the country).

Available formats

1:250,000 Scale Colour Raster is supplied in two image file formats (TIFFs);

- TIFF Uncompressed (RGB 256 colours); and
- TIFF with LZW compression (RGB 256 colours).

Data compression

TIFF data volumes are influenced by the level of data compression. The table below shows the various sizes by area supplied.

<table>
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<tr>
<th>Storage volumes are approximate</th>
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<tr>
<td>Great Britain</td>
<td>56 tiles</td>
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*Uncompressed TIFF by comparison is 854 Mb

Image compression

When an image is compressed the data is analysed; duplicated data can be removed or saved in a shorter form as part of the compression process and therefore reducing a file’s size for example, if large areas of water are the same tone, only the value for one pixel needs to be saved, together with the locations of the other pixels with the same colour. When the image is edited or displayed, the compression process is reversed. When raster is compressed, not only are the data volumes reduced but the user can download, display, edit and transfer images more quickly.

There are two forms of compression: lossless and lossy.

Lossless compression

As its name suggests, lossless compression does not lose information with in an image. A lossless compression retains the original quality of the image when it is uncompressed. This process doesn’t provide much compression, so file sizes remain large. Lossless compression is used mainly where detail is important, such as when planning to make large prints.

Lossy compression

This process degrades images to some degree, meaning that the decompressed image isn’t quite the same as the original. The more an image is compressed, the more degraded it becomes. In many situations, such as posting images on the internet or printing small to medium size prints, the image degradation isn’t so obvious. If lossy compressed image is over-enlarged the degradation will be apparent.

TIFF

TIF is one of the most commonly used lossless image formats. TIF is primarily designed for raster data interchange and is supported by numerous image-processing applications. This permits much more efficient access to very large files that have been compressed.
Chapter 5  Georeferencing

Georeferencing files allow tiles of map data to be located in their correct geographic position when loaded into a GIS. This is achieved by loading in files alongside the data files that contain the National Grid corner coordinates for each 100 km by 100 km tile. This is especially useful if more than one tile of data is being loaded at once, as it allows for a true geographic depiction of the data.

When 1:250,000 Scale Colour Raster is supplied to customers it is not georeferenced in any way. The implications of this are that tiles will not be set up in geographic relationship to each other when loaded into a GIS.

A definition for registering raster images within a geographic framework is the process of assigning map coordinates to the raster image data and resampling the pixels of the image to conform to the map projection grid. This allows tiles of map data to be located in their correct geographic position relative to the map projection and also to themselves.

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 Ordnance Survey National Grid if using World or TAB files supplied by Ordnance Survey.

TIFF World Files (TWF) can be downloaded from our website and used to georeference 1:250,000 Scale Colour Raster in ESRI ArcView and ArcInfo. Also available are the TAB files for use with MapInfo.

Please note there are some World Files available that contain only sea; therefore, there is no data available. These World Files have been created to allow customers to complete the coastline.
Chapter 6    Further Information

Further Information about 1:250,000 Scale Colour Raster can be found on the Ordnance Survey Website:


Technical Specification:
https://www.ordnancesurvey.co.uk/docs/user-guides/250k-raster-user-guide.pdf

Ordnance Survey
http://os.uk
Annexe A  Product and service performance report form

Ordnance Survey welcomes feedback from its customers about 1:250,000 Scale Colour Raster.
If you would like to share your thoughts with us, please print a copy of this form and when completed post or fax it to the address below.

Your name: ........................................................................................................................................................................
Organisation: ........................................................................................................................................................................
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Quotation or order reference: ............................................................................................................................................... 

Please record your comments or feedback in the space below. We will acknowledge receipt of your form within three (3) working days and provide you with a full reply or a status report within 21 working days.

If you are posting this form, please send it to:

1:250,000 Scale Colour Raster Product Manager, Ordnance Survey, Adanac Drive, SOUTHAMPTON, SO16 0AS.

If you wish to return it by fax, please dial 02380 056159.

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