

ORDNANCE SURVEY GB

# OS 1:50 000 Scale Colour Raster

Product Guide

OFFICIAL  
Version 1.1  
August 2019



## Preface

This user guide (hereafter referred to as the guide) is designed to provide an overview of 1:50 000 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 C](#) and return it to us.

## Contact details

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

Customer Service Centre  
Ordnance Survey  
Adanac Drive  
SOUTHAMPTON  
SO16 0AS

General enquiries (calls charged at local rate): +44 (0)3456 05 05 05

Dedicated Welsh Language HelpLine: 03456 05 05 04

Textphone (deaf and hard of hearing users only please): +44 (0)23 8005 6146

[customerservices@os.uk](mailto:customerservices@os.uk)

[www.os.uk](http://www.os.uk)

This document has been screened in accordance with the requirements set out in Ordnance Survey's Equality Scheme. If you have difficulty reading this information in its current format and would like to find out how to access it in a different format (Braille, large print, computer disk or in another language), please contact us on: +44 (0)3456 05 05 05.

## Use of the product

The terms and conditions upon which the product, including this guide, is made available to you and your organisation are contained in the customer contract made between you and Ordnance Survey. If there is an inconsistency between the terms of your customer contract and this guide, then the terms of your customer contract prevail. If you or your organisation has not signed a valid current customer contract then you are not entitled to use the product.

## Purpose and disclaimer

This guide is provided for guidance only and does not constitute any warranty, representation, undertaking, commitment or obligation (express or implied) about the product or its suitability for any particular or intended purpose. Any warranties, representations, undertakings, commitments and obligations given by Ordnance Survey about the product and/or its suitability for any particular or intended purpose are set out in your customer contract. It is your responsibility to ensure that this product is suitable for your intended purpose.

Ordnance Survey does not accept any liability (whether for breach of contract, negligence or otherwise) for any loss or liability you or any third party may suffer in relying on this guide and any guidance, suggestion, advice or explanation provided in it. Any liability that Ordnance Survey has to you in relation to the product, its supply, use, accuracy, data

supplied, functionality or any other liability arising out of or in connection with the product is limited as set out in your customer contract may change the information in this guide at any time without notice.

We do not accept responsibility for the content of any third party websites referenced or accessed in or through this guide, any contractual documentation, and/or the Ordnance Survey website.

## Copyright in this guide

This guide (including for the avoidance of doubt any mapping images reproduced herein) is © Crown copyright 2019. All rights reserved.

Any part of this guide may be copied for use internally in your organisation or business so that you can use the product for the purpose for which it is licensed to your organisation or business (but not otherwise).

No part of this guide may be reproduced or transmitted in any form or by any means (including electronically) for commercial exploitation without the prior written consent of Ordnance Survey.

No part of this guide may be copied or incorporated in products, services or publications that you generate for onward sale, or as free promotional or support materials, without the prior written consent of Ordnance Survey.

## Data copyright and other intellectual property rights

The Crown (or, where applicable, Ordnance Survey's suppliers) owns the intellectual property rights in Ordnance Survey digital map data.

Full details of the terms and conditions under which Ordnance Survey digital map data may be processed and/or manipulated or copied by a customer – whether or not for use on PCs or workstations or for making hard copies – are available from the Customer Service Centre, please see [contact details](#). You should check the terms and conditions with us before using the data. It is also the responsibility of the holder of the digital map data to ensure that any plotted or printed output contains the required copyright and database acknowledgements in a conspicuous position.

## Trademarks

Ordnance Survey, the OS Symbol and OS are registered trademarks of Ordnance Survey, the national mapping agency of Great Britain.

Acrobat Reader and Adobe are registered trademarks of Adobe Systems Incorporated.

English Heritage is a registered trademark of Historic Buildings And Monuments Commission For England.

Intel is a registered trademark of Intel Corporation.

Motorola is a registered trademark of Motorola, Inc.

The National Trust is a registered trademark of The National Trust For Places Of Historic Interest Or Natural Beauty.

Unisys is a registered trademark of Unisys Corporation.

Unix is a registered trademark of X/Open Company Ltd.

# Contents

<b>Preface</b> .....	<b>1</b>
Contact details.....	1
Use of the product.....	1
Purpose and disclaimer .....	1
Copyright in this guide .....	2
Data copyright and other intellectual property rights.....	2
Trademarks.....	2
<b>Introduction</b> .....	<b>4</b>
<b>Content</b> .....	<b>5</b>
Man-made structures .....	5
Transport.....	5
Natural landscape features.....	5
Water features.....	5
Height.....	5
Heritage and archaeological sites .....	5
Administrative boundaries .....	5
Annotation .....	6
<b>Scale</b> .....	<b>7</b>
Coordinates .....	7
Coverage .....	7
<b>Formats</b> .....	<b>8</b>
<b>Data compression</b> .....	<b>9</b>
Image compression .....	9
Lossless compression.....	9
Lossy compression.....	9
TIFF .....	9
<b>Georeferencing</b> .....	<b>10</b>
<b>Revision</b> .....	<b>11</b>
<b>Data measures</b> .....	<b>12</b>
<b>Metadata</b> .....	<b>14</b>

## Introduction

1:50 000 Scale Colour Raster is a data product similar to the popular OS Landranger, showing a detailed overview of the landscape. It is a mid-scale product ideal for navigation. 1:50 000 Scale Colour Raster can be used to contextualise your data as well as being a map in its own right. The 1:50 000 Scale Colour Raster is aimed at recreational as well as businesses users by providing an excellent overview of the main features and communication routes across Great Britain. Its main features are;

- Regular revision cycles, giving product consistency.
- Highly detailed, containing airports, farms, hills, woodlands, commons among other places.
- Easy to download and apply TIFF format.
- Useful for development and land-use planning, environmental impact analysis, vehicle routing, asset management, marketing analysis, and display and promotion purposes.

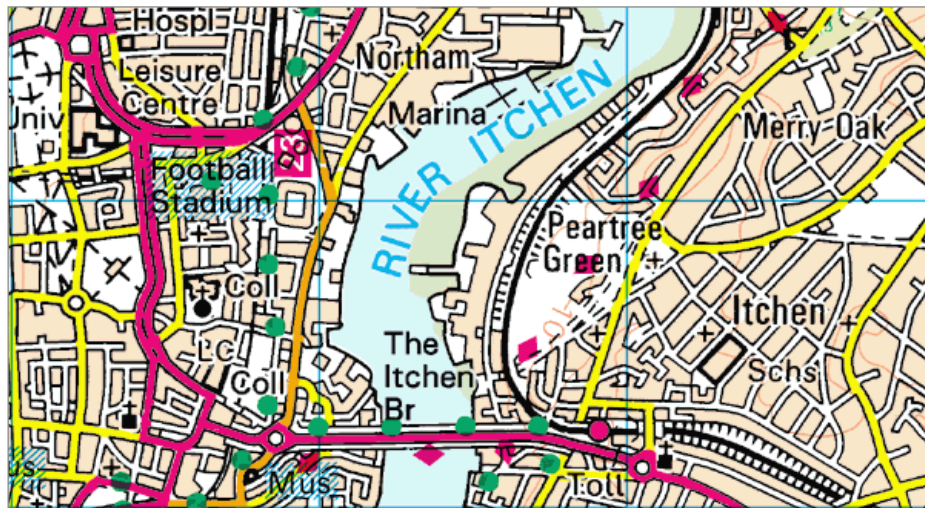


Figure 1: an extract of 1:50 000 Scale Colour Raster

1:50 000 Scale Colour Raster product provides a grid of easy to consume TIFF images. This grid is aligned to the National Grid (EPSG: 27700). The 254 dots per inch resolution has been chosen as it maintains the necessary clarity for text shown on the map.

# Content

1:50 000 Scale Colour Raster shows the following features:

## Man-made structures

Buildings are generalised and shown with colour tint and cartographically-placed text to indicate settlement name and extent.

Structures are indicated by line, building or symbol and supplemented with text description for all distinctive named features. Important Buildings are displayed independently from other generic building features.

## Transport

Transport features depicted include tracks, public rights of way, cycle networks, paths, roads, railway lines (single and multiple track), railway stations, airports and airstrips, cycle routes, ferry routes and ports, bus and coach stations.

## Natural landscape features

Different types of natural features and vegetation are shown by symbol or colour tint, including woods, rock, scree, boulders, sand, shingle, mud and slope. There is also information of the extents of Forestry Commission access land and National Trust land.

## Water features

Water features are shown in blue with associated text. A distinction is made between natural (blue) and man-made (black) water features, with the exception of canals (blue).

## Height

Ground contours, survey heights and air survey heights are depicted.

Surface heights are to the nearest metre above mean sea level. Heights shown close to a triangulation pillar refer to the ground level height at the pillar and not necessarily at the summit.

## Heritage and archaeological sites

Depiction includes information supplied by English Heritage®, the Royal Commission on the Ancient and Historical Monuments of Scotland, and the Royal Commission on the Ancient and Historical Monuments of Wales.

## Administrative boundaries

National, county, district, unitary boundaries, civil parish and constituency boundaries are all depicted.

## Annotation

Descriptive and distinctive names are depicted as text.

- Tourist Information Centres
- Camping/caravan sites
- Gardens
- Golf courses
- Nature reserves
- Car parks
- Picnic sites
- Viewpoints
- Youth hostels

## Scale

1:50 000 Scale Colour Raster is derived from the source data used to create its graphic counterpart, the OS Landranger Map series.

Generalisation is used to emphasise, simplify, select and sometimes omit features to produce a cartographic representation of the landscape at a scale of 1:50 000.

The nominal scale of the product is 1:50 000, but recommended minimum-to-maximum scale range is 1:15 000 to 1:60 000 scale.

It is best viewed between 1:20 000 and 1:50 000 scale.

## Coordinates

1:50 000 Scale Colour Raster is available in 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 or Ordnance Survey products. Customers can visit the [British National Grid](#) pages of Ordnance Survey's website for more information.

## Coverage

1:50 000 Scale Raster is supplied in standard 20 km by 20 km tiles aligned to the National Grid.



## Formats

1:50 000 Scale Colour Raster comes in Tagged Image File Format (TIFF uncompressed and compressed), PCX and Windows® BMP compressed formats.

**TIFF PackBits** is a lossless compression scheme that is supported by virtually all applications that can import TIFF graphics.

There are two types of architecture for a TIFF. Many mainframe computers use what is known as a big-endian (Motorola®) architecture. Most modern computers, including personal computers (PCs), use the little-endian (Intel®) system. 1:50 000 Scale Colour Raster TIFFs are supplied with Motorola architecture. Converting between these two systems is possible but, as a general rule, modern software should be expected to handle both of these outputs without operator intervention.

1:50 000 Scale Colour Raster conforms to the TIFF 6.0 standard. Customers are recommended to contact their system suppliers to ensure that it can read the Motorola/big-endian TIFF architecture.

**PCX** is a relatively simple format that provides a minimum of compression using RLE (run length encoding).

The PCX file itself contains two parts: the first part is called the header, which contains information about the image; the second part is the image data that contains actual image data and colour information.

1:50 000 Scale Gazetteer is supplied as an ASCII colon-separated value file.

**Windows® BMP** is a historic file format for the Windows operating system. A compressed BMP format is available using Run Length Encoding (RLE). RLE means that the file can be read from start to finish in one pass.

A BMP file consists of either three or four parts. The first part is a header that includes the position of the image and the number of colours to be displayed. This is followed by an information section that contains the image width (part 2), height (part 3) and the type of compression (part 4).

## Data compression

The data volumes for each file format are influenced by the level of data compression.

### Image compression

When an image is compressed, duplicated data that has no value is removed or saved in a shorter form, 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 data 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 within an image. A lossless compression retains the original quality of an image when it is uncompressed. This process does not 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 is not 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-sized prints, the image degradation is not so obvious. If a lossy compressed image is over-enlarged, the degradation will become apparent and, therefore, 1:50 000 Scale Colour Raster is not supplied using this compression.

## TIFF

TIFF is one of the most commonly used *lossless* image formats. TIFF 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.

## 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. Geographical information systems (GIS) typically provide georeferencing as part of their functionality, but for each set of tiles, it is necessary to provide the information on how the tiles should be ordered.

Ordnance Survey provides this information in a set of georeferencing files, also known as *World* files. A complete set for 1:50 000 Scale Colour Raster is available to download free of charge from the 1:50 000 Scale Colour Raster [product page](#) on the Ordnance Survey website.

There are several different types of *World* file. Prior to downloading one of the sets, customers are advised to check with their system suppliers to find out which type their system supports.

The conventions behind the files' creation can be found in the [technical specification](#). By using the conventions outlined there, this means that other datasets using the same conventions can be imported into the same GIS to add value to the raster map; for example, overlaying a routing or logistics network over the map or displaying a customer's demographic information.

The georeferencing files should be saved in the same directory as the files of the map tiles themselves.

## Revision

Both 1:50 000 Scale Colour Raster and 1:50 000 Scale Gazetteer are updated via a revision programme. The revision programme for both products mirrors that of the OS Landranger Map series and is determined by assessing the following factors:

- Known surveyed change.
- Change intelligence gathered from a range of sources.
- Consideration is given to how long 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 survey change relevant to the scale are captured during the revision programme.

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 will be of a cartographically-acceptable standard when plotted or displayed at scale.

Changes are applied to the data and supplied to customers in April and October each year. For 1:50 000 Scale Colour Raster, only tiles that have changed since the previous supply are provided to help with customers' data management.

## Data measures

Ordnance Survey measures the data in its products in one or more of the ways set out in table 2 below.

**Table 1** Definitions of data measures

Data measure	Definition	Sub-measure	Definition
Completeness	Presence and absence of features against the specified data content*	Omission	Features representing objects that conform to the specified data content but are not present in the data
		Commission	Features representing objects that do not conform to the specified data content but are present in the data
Logical consistency	Degree of adherence to logical rules of data structure, attribution and relationships	Conceptual consistency	How closely the data follows the conceptual rules (or model)
		Domain consistency	How closely the data values in the dataset match the range of values in the dataset specification
		Format consistency	The physical structure (syntax): how closely the data stored and delivered fits the database schema and agreed supply formats
		Topological consistency	The explicit topological references between features (connectivity) – according to specification
Positional accuracy	Accuracy of the position of features	Absolute accuracy	How closely the coordinates of a point in the dataset agree with the coordinates of the same point on the ground (in the British National Grid reference system)
		Relative accuracy	Positional consistency of a data point or feature in relation to other local data points or features within the same or another reference dataset
		Geometric fidelity	The 'trueness' of features to the shapes and alignments of the objects they represent*
Temporal accuracy	Accuracy of temporal	Temporal consistency	How well ordered events are recorded in the dataset (life cycles)

Data measure	Definition	Sub-measure	Definition
	attributes and temporal relationships of features	Temporal validity (currency)	Validity of data with respect to time: the amount of real-world change that has been incorporated in the dataset that is scheduled for capture under current specifications
<b>Thematic accuracy (attribute accuracy)</b>	Classification of features and their attributes	Classification correctness	How accurately the attributes within the dataset record the information about objects*

\*When testing the data according to the dataset specification against the 'real world' or reference dataset.

## Metadata

ISO 19115 compliant UK GEMINI discovery level metadata is provided for the data and can be found on the AGI Website (<http://www.agi.org.uk/>)

The following is a detailed description of the metadata elements that are provided on the AGI website:

**Title:** The title of the product.

**Abstract:** The abstract gives a brief description of the product.

**Currency:** The currency takes the form of date of last update for the feature.

**Lineage:** The lineage metadata takes the form of product specification name and date of product specification.

**Spatial extent:** The spatial extent is supplied in the form of geographic identifiers (for example, England, Scotland and Wales) and in the form of geographic coordinates.

**Spatial reference system:** The spatial reference system for all products takes the form of a British National Grid system, namely OSGB36°.

**Data Format:** Data format takes the form of the name of the format or formats the product is supplied in.

**Frequency of updates:** Frequency of update takes the form of a stated period of time.

**Distributor contact details:** Distributor contact details include with postal address, phone number, fax number, email address and website.

**Data originator:** Given as the company having primary responsibility for the intellectual content of the data source; in all cases this will be Ordnance Survey.

Other metadata available includes keywords, start date of data capture, access constraints, use constraints, level of spatial data, supply media and presentation details.