



1:250 000 Scale Colour Raster

User guide and technical specification

1:250 000 Scale Colour Raster

User guide

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D05300_17

Preface

This user 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 it, please contact us at the address shown below or complete the product and service performance report form at [annexe B](#) 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
United Kingdom
SO16 0AS

General enquiries (calls charged at local rate): +44 (0)08456 05 05 05

Dedicated Welsh Language HelpLine: 08456 05 05 04

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

customerservices@ordnancesurvey.co.uk

www.ordnancesurvey.co.uk

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ArcInfo, ArcView and ESRI are registered trademarks of Environmental Systems Research Institute, Inc.

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Microsoft is a registered trademark of Microsoft Corporation.

Backup 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 guide, incorporates search and zoom facilities and allows you to navigate within.

Hyperlinks are used to navigate between associated parts of the guide and to relevant Internet resources by clicking on the blue hyperlinks and the table of contents.

If you are unfamiliar with any words or terms used and require clarification please refer to the [glossary](#) at the end of the document.

Chapter 1 Introduction

Ordnance Survey's 1:250 000 Scale Colour Raster product, available in TIFF LZW format (see [technical specification](#)), 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).

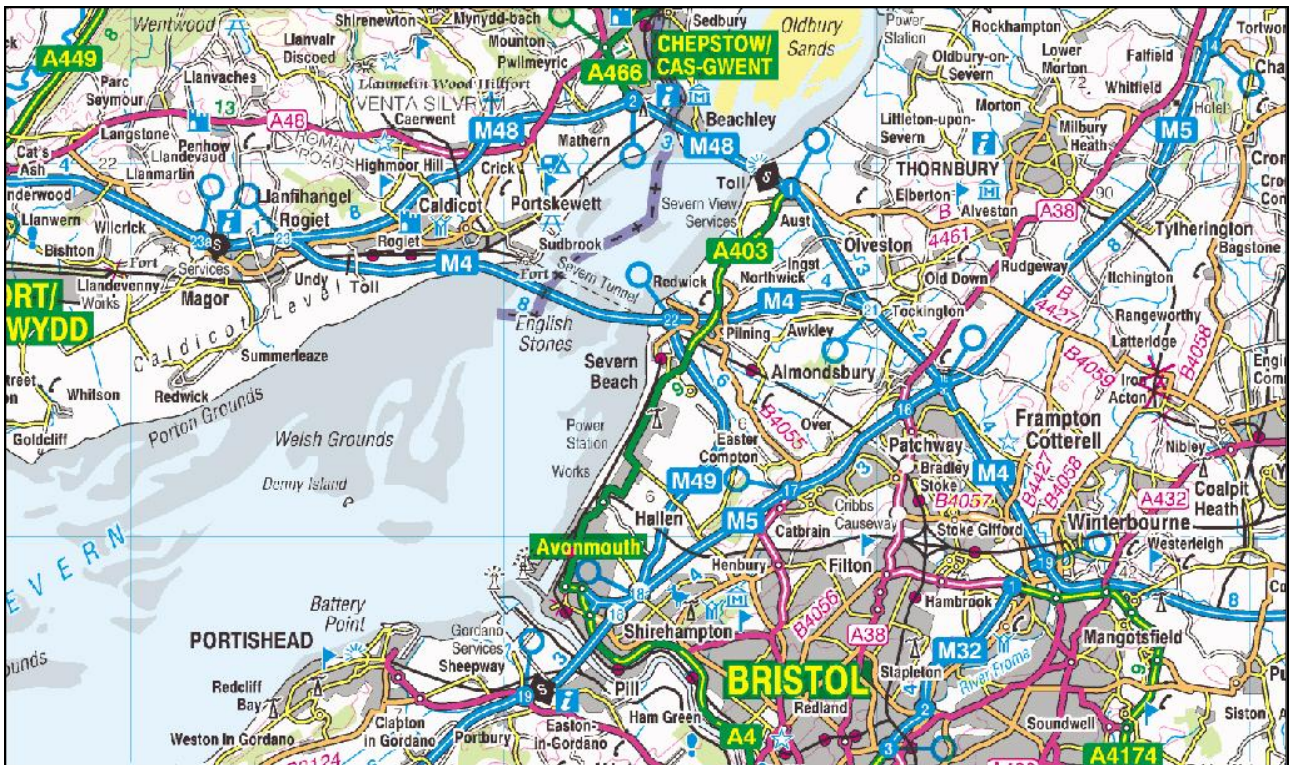


Figure 1: 1:250 000 Scale Colour Raster mapping of Bristol and the Severn Estuary

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 provide assistance with:

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

1:250 000 Scale Colour Raster is supplied with a 1:250 000 scale gazetteer, which lists over 25 000 place names providing a useful:

- place name location finder; and
- reference resource tool.

Also supplied is a digital [legend](#) (key), which explains the cartographic symbols and styles in the product.

Figure 2, below, shows an extract of 1:250 000 Scale Colour Raster for the area around Salisbury, with the gazetteer entries shown by inserting the National Grid coordinates supplied in the gazetteer and symbolising them with a 'map pin' symbol.

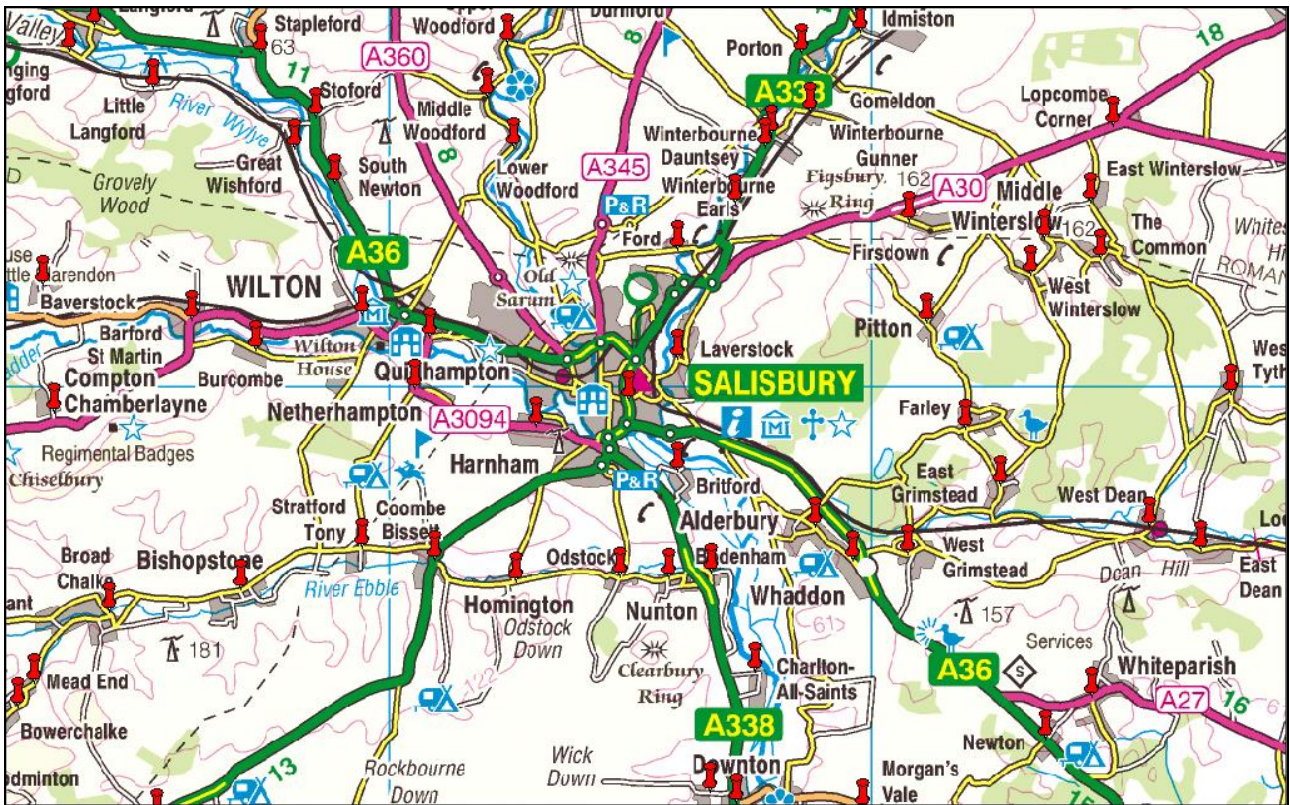


Figure 2: 1:250 000 Scale Colour Raster and gazetteer.

The gazetteer supplies the customer with four categories, or attributes, of information. They are the place name, the administrative area within which it lies and National Grid references. As an example of the contents of the gazetteer, the information for the place name Salisbury is shown in table 1.

Attribute	Value
Name	Salisbury
County	WILTSHIRE
Easting	414,940
Northing	129,700

Table 1

System requirements

The system (hardware and software) must be capable of loading and presenting TIFF image files. Ordnance Survey recommends ensuring that the system has ample memory and storage capacities, which will enable smoother running.

Computer hardware

Any modern computer system capable of loading a DVD or with a connection to the Internet.

Computer software

To exploit fully the potential of 1:250 000 Scale Colour Raster, it is necessary to use appropriate application software.

Supply and formats

The data is supplied as download or on CD and is updated and released annually in June. It is supplied as full national coverage.

1:250 000 Scale Colour Raster is supplied as Tagged Image File Format (TIFF) with LZW compression (RGB 256 colours).

Customers are advised to contact their system supplier to ensure that their software can support this mode of compression before placing an order.

Chapter 2 Key features

Scale

1:250 000 Scale Colour Raster is designed to be viewed on-screen between 1:100 000 and 1:300 000 scale, and printed at 1:250 000 scale.

Coverage

Great Britain (England, Scotland and Wales) and the Isle of Man.

Source of 1:250 000 Scale Colour Raster

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

Features

- Shows all cities, towns and many villages; as well as all motorways, A roads and B roads, enabling simple route-planning.
- High resolution for excellent image clarity.
- A 1:250 000 scale gazetteer (text file) to help find place names and locations.
- A digital (PDF) legend (key) to identify cartographic symbols and styles in the product.

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 dataset is refreshed annually in June.

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 metres on the ground. This resolution maintains the necessary clarity of text when viewing on-screen and printing at scale.

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 1:250 000 Scale Colour Raster is available to download free of charge from the 1:250 000 Scale Colour Raster [product page](#) on the Ordnance Survey website; these are also supplied with the product written to CD.

There is more than one type 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:

TIFF World Files (TFW) that can be used to georeference raster data in ESRI® ArcView® and ArcInfo® together with TAB files for use with MapInfo®.

The conventions behind the files' creation can be found in [chapter 3](#) of 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. So, 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.

Data compression

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

Storage volumes are approximate:

Great Britain	56 tiles
Compressed* *Uncompressed TIFF by comparison is 854 Mb	153 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 a raster image 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 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. LZW compression is a lossless compression when applied to TIFF data.

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-sized prints, the image degradation isn't so obvious. If a lossy-compressed image is over-enlarged, the degradation will become apparent.

TIFF

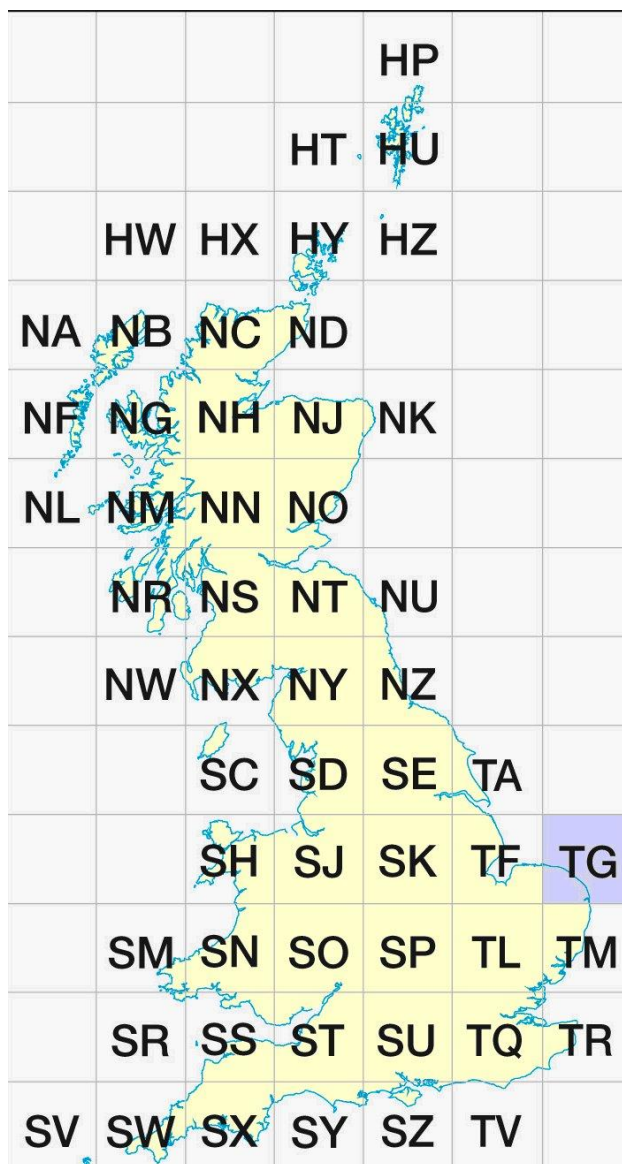
TIFF is one of the most commonly used *lossless* image formats. TIFF is primarily designed for raster data interchange and is supported by numerous image-processing applications. This permits much more efficient access to very large files that have been compressed.

Chapter 3 The National Grid

1:250 000 Scale Raster tiles (56 in total) are identified by using the National Grid letters for the area they cover. Ordnance Survey divides Great Britain into squares of 100 km by 100 km. Each of these squares has a unique two-letter reference, for example, TG as highlighted in the diagram opposite.

For additional information on how to use the National Grid, visit the Ordnance Survey website:

<http://www.ordnancesurvey.co.uk/>

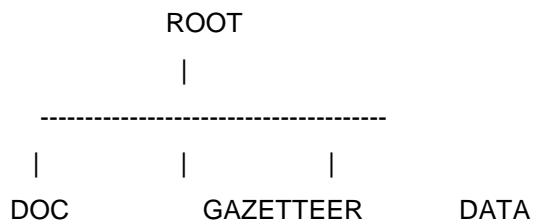


Chapter 4 Supply structure

Section 1

Section 1 – high-level structure example

The directory structure of the data is shown below:



Section 2

Section 2 contents

```
ROOT
|
|--DOC
| |--250000_LEGEND_YYYY.tif
| |--250000_LEGEND_YYYY.pdf
| |--250K_RELEASE_YYYY_CHANGE.txt
| |--250K_TILE_LIST.txt
| |--LICENCE.txt
|
|
|--GAZETTEER
| |--250K_RASTER_GAZ_YYYY.txt
|
|-- DATA
| |--georeferencing files
|   |--TAB
|   |--TFW
|
|--README.txt
```

Directories may contain additional documentation specific to that supply.

Section 3

Section 3 – directory structure example

3a - ROOT directory

3b - DOC directory

3c - GAZETTEER directory

3d - DATA directory

3a – ROOT directory

The ROOT directory will contain the following directories:

- DOC
- GAZETTEER
- DATA

The ROOT directory will also contain the following ASCII text file:

- This file – README.txt

Directories may contain additional documentation specific to that supply.

3b – DOC directory

Below are the types of documents contained within the DOC directory:

- 250000_LEGEND_YYYY.pdf – contains a sample legend
- 250000_LEGEND_YYYY.tif – contains a sample legend
- 250K_RELEASE_YYYY_CHANGE.txt – contains information relating to the product changes associated with that release.
- 250K_TILE_LIST.txt – a list of tiles that the media contains.
- LICENCE.txt – contains information relating to your licence.

The DOC directory may contain additional documentation specific to that supply.

3c – GAZETTEER directory

The GAZETTEER directory will contain the gazetteer data (250K_RASTER_GAZ_YYYY.txt) within a DATA subdirectory. The data is national coverage in an ASCII text format. The structure will appear as follows:

ROOT

|

|--GAZETTEER

 |--250K_RASTER_GAZ_YYYY.txt

The GAZETTEER directory files may contain additional information in the filename specific to that supply, where YYYY refers to the year.

3d – DATA directory

The data directory will contain the data files and subdirectories with georeferencing files.

ROOT

|

|-- DATA

| | |--...(.tif files)

|

|-- GEOREFERENCING FILES

 |--TAB

 | |--...(.tab files)

 |

 |--TFW

 | |--...(.tfw files)

Annexe A Metadata

Metadata, which is ISO 19115 UK GEMINI 2 compliant, can be found at <http://www.data.gov.uk> and also, metadata .xml files can be found at <http://www.ordnancesurvey.co.uk/oswebsite/xml/products/>

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

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 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 postal address, phone number, fax number, email address and website.

Data originator: given as the organisation 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.

Annexe B 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:

Address:

.....

.....

Postcode:

Phone:

Fax:

Email:

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 +44 (0)8450 990494.

Any personal information that you supply with this report form will be used by Ordnance Survey only in the improvement of its products and services. It will not be made available to third parties.

1:250 000 Scale colour Raster

Technical specification

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Introduction

Purpose of this specification and disclaimer

This is the technical specification (hereafter referred to as the specification) applicable to 1:250 000 Scale Colour Raster (hereafter referred to as the product).

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Chapter 1 Technical introduction

Ordnance Survey's 1:250 000 Scale Colour Raster product is based on the 1:250 000 scale database. The product is supplied as 100 km by 100 km colour tiles at high resolution for excellent image clarity. The features include all motorways, A and B roads, all cities, towns and many villages.

Map features that occur at the edge of tiles are adjusted to align with their correspondent part on the adjacent tile. This means when a map area falls over two or more tiles, the map is complete or 'edgematched.' Principal communication features (motorways, A roads, railways and major rivers) are edgematched across tiles.

Place names and locations can be identified using the 1:250 000 scale gazetteer and digital legend supplied with 1:250 000 Scale Colour Raster to identify symbols and fills.

Tiles

Because digital maps frequently cover very large areas, they are split down into squares known as 'tiles', each of which covers part of the overall area.

Software/hardware requirements

1:250 000 Scale Colour Raster data is inert and requires software to maximise its full potential. Ordnance Survey does not specify hardware requirements as it is dependent on the software and applications within which the data will be used. Customers should contact their system or software supplier for advice.

Technical specification

Specification	1:250 000 scale Colour Raster
Data source	1:250 000 scale database
Number of tiles	56 (edgematched)
Coverage	Great Britain (England, Scotland, Wales) and the Isle of Man
Tile size	100 km by 100 km
Resolution	254 dots per inch or 100 dots per centimetre
Data structure	Raster
Transfer formats	TIFF Palette 8 bit (256 colours) with LZW compression
Great Britain	153 Mb
Update frequency	Annually in June

Data source	1:250 000 scale topographic data
Data structure	Extended ASCII code* list (table format, four columns: settlements; admin area; eastings and northings, six-figure reference) *Extended ASCII list is required as the product contains diacritics, for example, accents and so on.
Transfer formats	Text file
Storage volumes	1.04 Mb (25 000 names approx)

Chapter 2 Legend



1:250 000 Scale Colour Raster

Customer Information

Created from 1:250 000 scale digital data

Communications

PRIMARY ROUTES

These form a network of recommended through routes which complement the motorway system. Selected places of major traffic importance are known as Primary Route Destinations and are shown on this map thus **BRISTOL**. Distances and directions to such destinations are repeated on traffic signs which, on primary routes, have a green background or, on motorways, have a blue background. To continue on a primary route through or past a place which has appeared as a destination on previous signs, follow the directions to the next primary destination shown on the green-backed signs.

ROADS / ROUTES / STRASSEN Not necessarily rights of way

	Motorway with service area, service area (limited access) and junction with junction number Autoroute avec aire de service, aire de service (accès réglementé) et échangeur avec son numéro Autobahn mit Servicestation, Servicestation (mit begrenztem Zugang) und Anschlussstelle mit Nummer
	Motorway junction with limited interchange Échangeur à possibilités d'intercirculation restreintes Autobahnanschlussstelle mit begrenztem Richtungswechsel
	Motorway under construction, proposed, with opening date where known Autoroute en construction, en projet, avec date d'ouverture prévue quand connue Autobahn im Bau, mit vorgesehenem Datum der Verkehrsübergabe soweit bekannt
	Primary route with service area full & limited opening Itinéraire principal avec aire de services, horaires d'ouverture limités ou 24 heures sur 24 Fernverkehrsstrasse mit Raststätte, rund um die Uhr und eingeschränkter Öffnungszeiten
	Primary route with roundabout or multiple level junction full & limited interchange Itinéraire principal avec rond-point ou embranchement à niveaux multiples, échangeur complet et partiel Fernverkehrsstrasse mit Kreislauf oder mehrstufiger Anschlussstelle, komplettes oder eingeschränktes Autobahndreieck
	Primary route under construction, proposed Itinéraire principal en construction, en projet Fernstrasse im Bau, geplant
	Main road with toll and road tunnel Route principale à péage et tunnel routier Hauptstrasse mit Strassentunnel u. Strassenbenutzungsgebühr
	Main road with roundabout or multiple level junction Route principale avec rond-point, sens giratoire ou échangeur Hauptstrasse mit Kreisverkehr oder Anschlussstelle
	Main road under construction, proposed Route principale en construction, en projet Hauptstrasse im Bau, geplant
	Secondary road with gradient steeper than 1 in 7 or 14% Route secondaire avec pente supérieure à 1 pour 7 ou 14% Nebenstrasse mit Steigung über 14%
	Narrow road with passing places Route étroite avec voies de dépassement Enge Strasse mit Ausweichstelle
	Road generally more than 4m wide Route généralement de plus de 4m de largeur Strasse, im allg über 4m breit
	Road generally less than 4m wide Route généralement de moins de 4m de largeur Strasse, im allg unter 4m breit
	Road, with restricted access Route, avec accès limité Strasse, mit beschränktem Zugang
	Distances in miles between markers Distances en miles entre les marques Entfernung in Meilen zwischen den Zeichen

RAILWAYS

General Information

LAND FEATURES

South West Coast Path
National Trail - Long Distance Route - Long Distance Path
Sentier de randonnée national - Itinéraire de grande randonnée - Sentier de grande randonnée
Nationaler Wanderweg - Fernwanderweg - Fernwanderweg

ANTIQUITIES

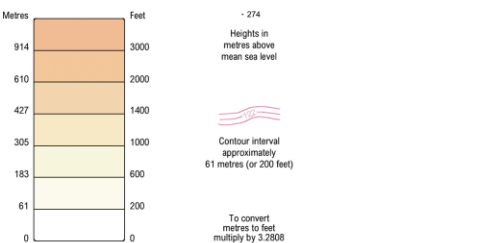
Roman Road	Roman antiquity		Roman road (course of)	

BOUNDARIES

	National		National Park
--	----------	--	---------------

WATER FEATURES

RELIEF Heights in metres



Tourist Information

Chapter 3 Managing 1:250 000 Scale Colour Raster files

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.

A set of these files are also supplied with the data

ESRI world file example for tile HY

```
!table
!version 300
!charset WindowsLatin1
```

Definition Table

```
File "HY.TIF"
Type "RASTER"
(300000,1000000) (0,4000) Label "Pt 1",
(400000,1000000) (4000,4000) Label "Pt 2",
(400000,1100000) (4000,0) Label "Pt 3",
(300000,1100000) (0,0) Label "Pt 4"
CoordSys Earth Projection 8, 79, "m", -2, 49, 0.9996012717, 400000, -100000
Units "m"
```

MapInfo Tab file example for tile HY

```
25.0000000000000000
0.0000000000000000
0.0000000000000000
-25.0000000000000000
300012.5000000000000000
1099987.5000000000000000
```

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.

File format: image file directory (TIFF)

The Image file directory for TIFF will contain the following entries:

Tag 254 (NewSubfileType)

An indication of the kind of data contained in this sub-file, for example, value = 0

Tag 256 (ImageWidth)

The number of columns in the image, the number of pixels per row, for example, value = 4000

Tag 257 (ImageLength)

The number of rows of pixels in the image, for example, value = 4000

Tag 258 (BitsPerSample)

Number of bits per component, for example, value = 8

Tag 259 (Compression)

Compression scheme used on the image data, for example, value = 5 (LZW)

Tag 262 (Photo.Interpretation)

The colour space of the image data, for example, value = 3 (RGB Palette).

Tag 270 (ImageDescription)

Value = 1:250 000 TILE HY.TIF

Tag 273 (StripOffsets)

For each strip, the byte offset of that strip, for example, first four values = 2333 4615 6690 8765

Tag 278 (RowsPerStrip)

The number of rows in each strip, for example, value = 65

Tag 279 (StripByteCounts)

For each strip, the number of bytes in that strip after compression, for example, first four values = 2282 2075 2075 2075

Tag 282 (XResolution)

The number of pixels per resolution unit in the image width, for example, value = 254/1

Tag 283 (YResolution)

The number of pixels per resolution unit in the image length, for example, value = 254/1

Tag 296 (ResolutionUnit)

Units used for resolution, for example, value = 2 (Inch)

Tag 306 (DateTime)

Date and time of image creation, for example, value = 2012:04:15 08:49:41

Tag 320 (ColorMap)

First four values = 15163 15163 14649 15163

Tag 33432 (Copyright)

Copyright notice, for example, value = ORDNANCE SURVEY CROWN COPYRIGHT 2012

NOTE: the values given above are relevant in general to 1:250 000 Scale Colour Raster data; specifically tile HY.

TIFF**Colour image directory**

	Tag number	TIFF 8-bit LZW compressed
File byte order:		II (Little-endian)
Magic number:		42
Number of fields in IFD:		16
NewSubfileType	254	0
ImageWidth	256	4000
ImageLength	257	4000
BitsPerSample	258	8
Compression	259	5 (LZW)
Photo.Interpretation	262	3 (RGB Palette)
Image description	270	1:250 000 TILE HY.TIF
XResolution	282	254/1
YResolution	283	254/1
ResolutionUnit	296	2 (Inch)

DateTime	306	2012:04:15 08:49:41
Copyright	33432	ORDNANCE SURVEY CROWN COPYRIGHT 2012

The tag values listed in the above table are relevant to 1:250 000 Scale Colour Raster data; *specifically tile HY*.

Annexe 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.

boundary

A boundary is the limit of a predefined and established area whose limit is determined by one or more lines, for example, county area boundary and DLUA boundary.

byte

A unit of computer storage of binary data, usually comprising 8 bits, equivalent to a character. Hence megabyte (Mb) and gigabyte (Gb).

CAD

Computer-aided design

character

A distinctive mark; an inscribed letter; one of a set of writing symbols.

character code

The binary representation of a single element of a character set, for example, EBCDIC, ASCII.

compact disc-read only memory (CD-ROM)

A data storage medium. A 12-cm disc similar to an audio CD. Ordnance Survey uses the writable CD, a WORM (write once, read many) device. The digital bits are encoded into a vegetable dye and, once written, cannot be erased by overwriting with subsequent data. A laser reads the disc.

coordinate pair

A coordinate pair is an easting and a northing.

coordinates

Pairs of numbers expressing horizontal distances along original axis. Alternatively, those 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.

copyright

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currency

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

customer

An organisation or individual that makes use of Ordnance Survey's data supply facilities. This includes both direct sales customers of Ordnance Survey as well as customers of Licensed Partners. It does not include anyone, or any organisation, that has access to Ordnance Survey material without charge.

data

A representation of facts, concepts or instructions in a formalised manner suitable for communication, interpretation or processing.

data capture

The encoding of data. In the context of digital mapping, this includes map digitising, direct recording by electronic survey instruments and the encoding of text and attributes by whatever means.

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.

database

An organised, integrated collection of data stored so as to be capable of use in relevant applications, with the data being accessed by different logical paths. Theoretically, it is application-independent, but in reality it is rarely so.

dataset

An Ordnance Survey term for a named collection of logically related features arranged in a prescribed manner; for example, all water features. A dataset has more internal structure than a layer and is related to another dataset only by position.

digital

Data that is expressed as numbers (digits) in computer-readable form is said to be digital.

digital map

Any map sold by Ordnance Survey or its agents in any form; that is on computer-readable media or as hard copy on paper and/or film or microfilm – produced mainly, or wholly, using computerised means.

digital map data

The digital data required to represent a map. The data includes not only map detail but also features header data, map header data and management data.

dots per inch (dpi)

The resolution, or fineness, of a raster image.

eastings

See [rectangular coordinates](#).

extent of the realm (EOR)

The external bounding lines of Land-Line[®] data is EOR. The *Territorial Waters Jurisdiction Act 1878* and the *Territorial Waters Order in Council 1964* confirm that EOR of Great Britain as used by Ordnance Survey is properly shown to the limit of mean low water (mean low water springs in Scotland) for the time being (except where extended by Parliament).

feature

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

file

An organised collection of related records. The records on a file may be related by a specific purpose, format or data source – the records may or may not be arranged in sequence. A file may consist of records, fields, words, bytes, characters or bits.

font

The style of text character used by a printer or plotter.

format

The specified arrangement of data. For example, the layout of a printed document, the arrangement of the parts of a computer instruction, the arrangement of data in a file.

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 and appropriate applications software.

gigabyte (Gb)

The equivalent of 1 073 741 824 bytes; a measure of data storage capacity.

grid

The planimetric frame of reference; for example, the National Grid.

hard copy

A print or plot of output data on paper or some other tangible medium.

kilobyte (Kb)

The equivalent of 1 024 bytes; a measure of data storage capacity.

map

The representation on a flat surface of all or part of the Earth's surface, intended to be communicated for a purpose or purposes, transforming relevant geographic data into an end-product that is visual, digital or tactile.

map generalisation

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

map header

Data at the start of the digital map file describing that data. It may contain information on the source and history of the geometric data within the map and the coordinate system in use as well as holding information essential to the management of Ordnance Survey's digital mapping system.

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, for example, 1:1250 or 1:50 000.

megabyte (Mb)

The equivalent of 1 048 576 bytes; a measure of data storage capacity.

National Grid

A unique referencing system that can be applied to all Ordnance Survey maps of Great Britain (GB) at all scales. It is based on 100 km squares covering the whole of GB based on a Transverse Mercator projection. 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.

northings

See [rectangular coordinates](#).

pixel

In the 1:10 000 scale product a **pixel** is a single point represented by a square.

raster data

Attribute data expressed as an array of pixels, with spatial position implicit in the ordering of the pixels.

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, a digitising table or a VDU screen.

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 will be 1 m but the accuracy may be ± 5 m or worse.

RGB

Red, green and blue colours and variations of them go to make up the colours represented in the raster data.

source scale

The scale of the source information from which the map was digitised; that is the scale of survey for a basic-scale map or the scale of the source map for a derived map.

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.

stipple

Used to produce light or dark shading (for example, building/water fill); this is dependent on spacing of the dots – the denser the dots, the darker the effect.

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.

TIFF

TIFF is a tagged image file format-based file format for storing and interchanging raster images with the most recent version – 6.0 – published in 1992.

topographic database

A database holding data relating to physical features and boundaries on the Earth's surface.

topography

Topography is the study of the physical features of the Earth. A topographic map's principal purpose is to portray and identify the features of the Earth.

transfer format

The format used to transfer data between computer systems. In general usage, this can refer not only to the organisation of data but also to the associated information, such as attribute codes, which are required in order to successfully complete the transfer.

transfer medium

The physical medium on which digital data is transferred from one computer system to another, for example, CD-ROM.

update

The process of adding to and revising existing digital map data to take account of change.

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.

volume

A physical unit of the transfer medium; that is a single disc.