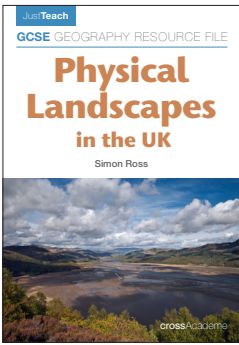


Physical Landscapes in the UK

Simon Ross





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UK landscapes

The term '**landscape**' is used to describe the visible features of an area of land. It differs from the term 'landform' which is an individual physical feature of the landscape, such as a waterfall or river meander.

Landscapes have three main elements:

- **physical landscape** – natural features such mountains, hills and valleys together with rivers, glaciers or the sea;
- **ecological landscape** – the soil and vegetation, such as woodlands, hedges and salt marsh;
- **human landscape** – evidence of human activities, including transport (e.g. roads), settlement and agriculture.

Figure 1 is a photograph of Dartmoor. While this is predominantly a natural landscape, with rolling hills, rocky outcrops (called tors), woodlands and grassy hillsides, there is plenty of evidence of human activity. There are some small villages and isolated farmhouses in the valley bottoms. In the distance there is a patchwork of agricultural fields mostly bordered by hedges.

Figure 2 is an aerial view of Salford Quays, an urban landscape in Manchester. This area of Salford, which includes Media City and the Lowry Centre, is an example of recent urban regeneration. In the past it was the focus for trade, with ships travelling along the Manchester Ship Canal from Liverpool. With the advent of alternative forms of transport and the closure of factories, the area fell into decline. It is now a thriving economic and social environment.



Figure 1 Bell Tor overlooking Widecombe in the Moor, Dartmoor National Park, Devon



Figure 2 Aerial view of Salford Quays, Salford, Manchester

Activities

- 1** Study Figure 1. Work in pairs to complete the table below, identifying aspects of the natural, ecological and human landscape. Try to give some detail rather than simply writing a list. *(4 marks)*

Natural landscape	Ecological landscape	Human landscape

- 2** Study Figure 2.

- (a) Describe the human and ecological features of the landscape in the photograph. *(4 marks)*

- (b) What is the evidence that this landscape has been recently regenerated?

(4 marks)

Online activity

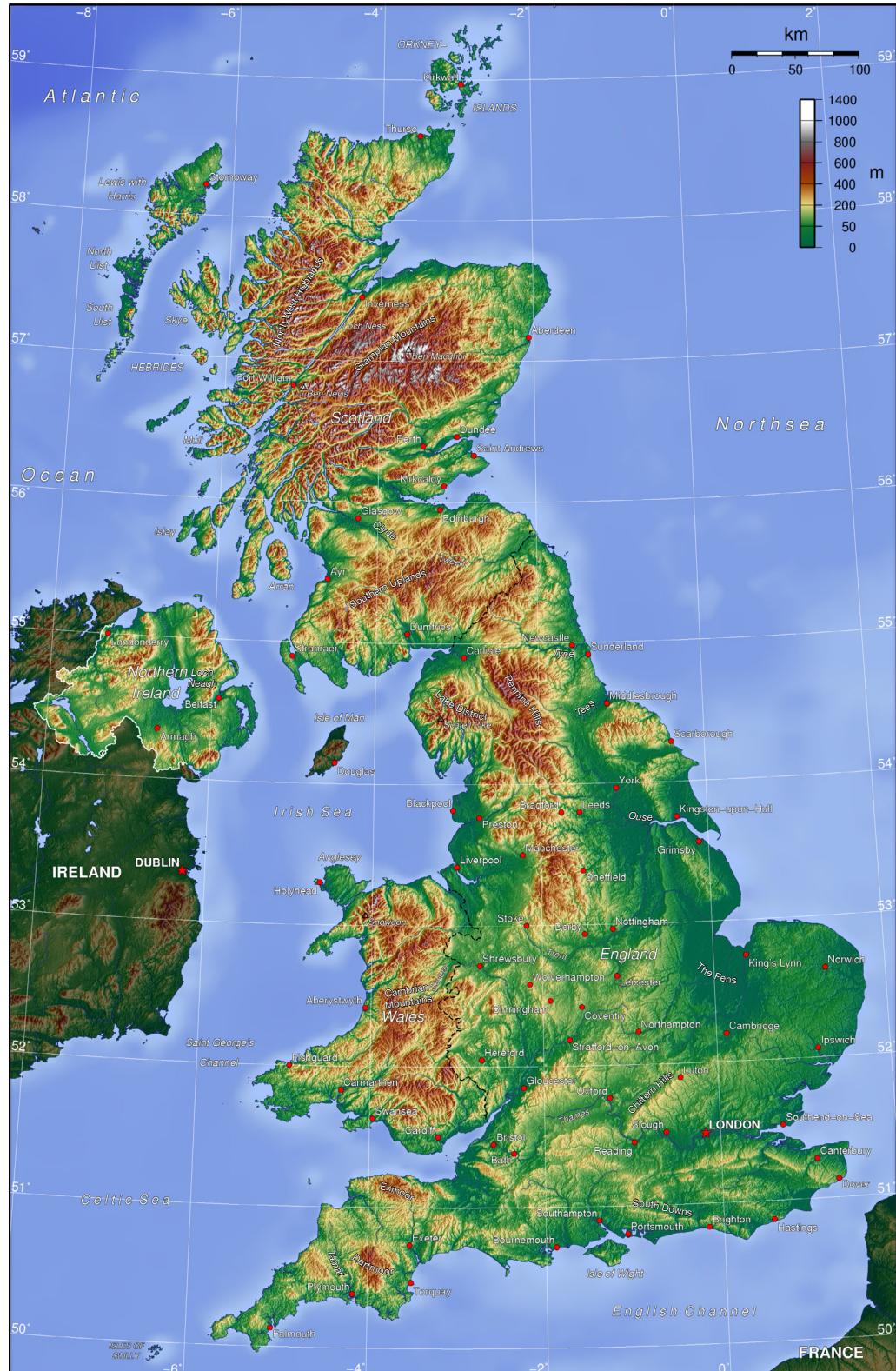
Use the internet to find a photograph of the natural or human landscape close to where you live. Add detailed labels to identify natural, ecological and human elements of your chosen landscape. Suggest why you have chosen this particular landscape. Why is it special to you?

UNIT

2

The relief of the UK

Figure 1 The relief of the UK



The term '**relief**' describes the physical landscape of an area. In describing relief, reference is made to the height and shape of the landscape features and the steepness of slopes. Landscape relief features include hills, ridges, mountains, valleys and low-lying flat plains.

Figure 1 shows the relief of the UK. Notice that most of the mountains in the UK are in the north and the west, with Scotland and Wales being particularly mountainous. Much of the south and east of the UK is relatively low lying, with rolling hills and valleys. There are some extensive areas of flat land, such as the Fens to the west of King's Lynn.

Figure 2 is a relief map of south Wales and southwest England. It is a 3-D map that enables the user to 'feel' the ups and downs of the landscape. It is particularly useful for people with visual impairment. Notice how much of south Wales is made up of upland areas, such as the Brecon Beacons. Notice too how rivers cut deep valleys as they flow out of the mountains to the coast or the lowland plains.

Figure 2 Relief map of south Wales and southwest England



Activities

- Using Figure 3, locate and label the following:
Uplands – Northwest Highlands, Grampian Mountains, Southern Uplands, Lake District, Pennine Hills, Cambrian Mountains, Exmoor, Dartmoor, Chilterns and South Downs
Rivers – Thames, Severn, Trent, Tweed, Clyde, Tyne, Tees, Ouse, Tamar
Lakes – Loch Neagh in Northern Ireland



Figure 3 Outline relief map of the UK

2 Use Figures 1 and 3 to describe the relief of the UK.

(4 marks)

UNIT
2

The relief of the UK

3 Study Figure 2.

(a) What is the height of the highest point on Dartmoor? _____ (1 mark)

(b) What is the name of the range of hills to the south of Bristol? _____ (1 mark)

(c) Describe the shape and location of the Cotswold Hills. (2 marks)

(d) Describe the course of the River Exe. (2 marks)

4 Refer to Figure 2. Explain how relief affects the road network in southwest England? (4 marks)

Online activities

Use the internet to find answers to the following questions:

- 1** What are the highest mountains in Scotland, England, Northern Ireland and Wales?
Scotland: _____ *England:* _____ *Wales:* _____ *Northern Ireland:* _____
- 2** Which is the UK's longest river, the River Thames or the River Severn? _____
- 3** What is the name of the mountain range in South Wales? _____
- 4** Name the group of islands off the northwest coast of Scotland. _____
- 5** Where in the UK are the South Downs? _____

Geology of the UK


If we strip away the vegetation and the soil from beneath our feet, we reveal solid rock – the **geology** of the UK. The rocks that make up the UK are extremely varied in their age and formation and in their physical and chemical characteristics. The multicoloured nature of Figure 1 illustrates this incredible diversity and explains why the scenery of the UK varies so much from place to place.

Figure 1 *The geology of the UK*


Notice that the sedimentary rocks are listed in order of age, with the oldest at the bottom and youngest at the top. This sequence is known as the **geological time scale**.


SEDIMENTARY ROCKS


CENOZOIC

 (65mya–present day) – mostly weak sands and clays


MESOZOIC


 Cretaceous (145–65mya) – includes relatively resistant chalk, also sandstones and clays


 Jurassic (199–145mya) – mostly resistant limestones


 Triassic (251–199mya) – mostly resistant sandstones


PALEOZOIC


 Permian (299–251mya) – sandstones and limestones

 Carboniferous (359–299mya) – mostly resistant limestones

 Devonian (416–359mya) – mostly sandstones

 Silurian (443–416mya) – mostly limestones


 Ordovician (488–443mya) – limestones and shales


 Cambrian (542–488mya) – limestones and shales

UPPER PROTEROZOIC

 Late Precambrian

METAMORPHIC ROCKS

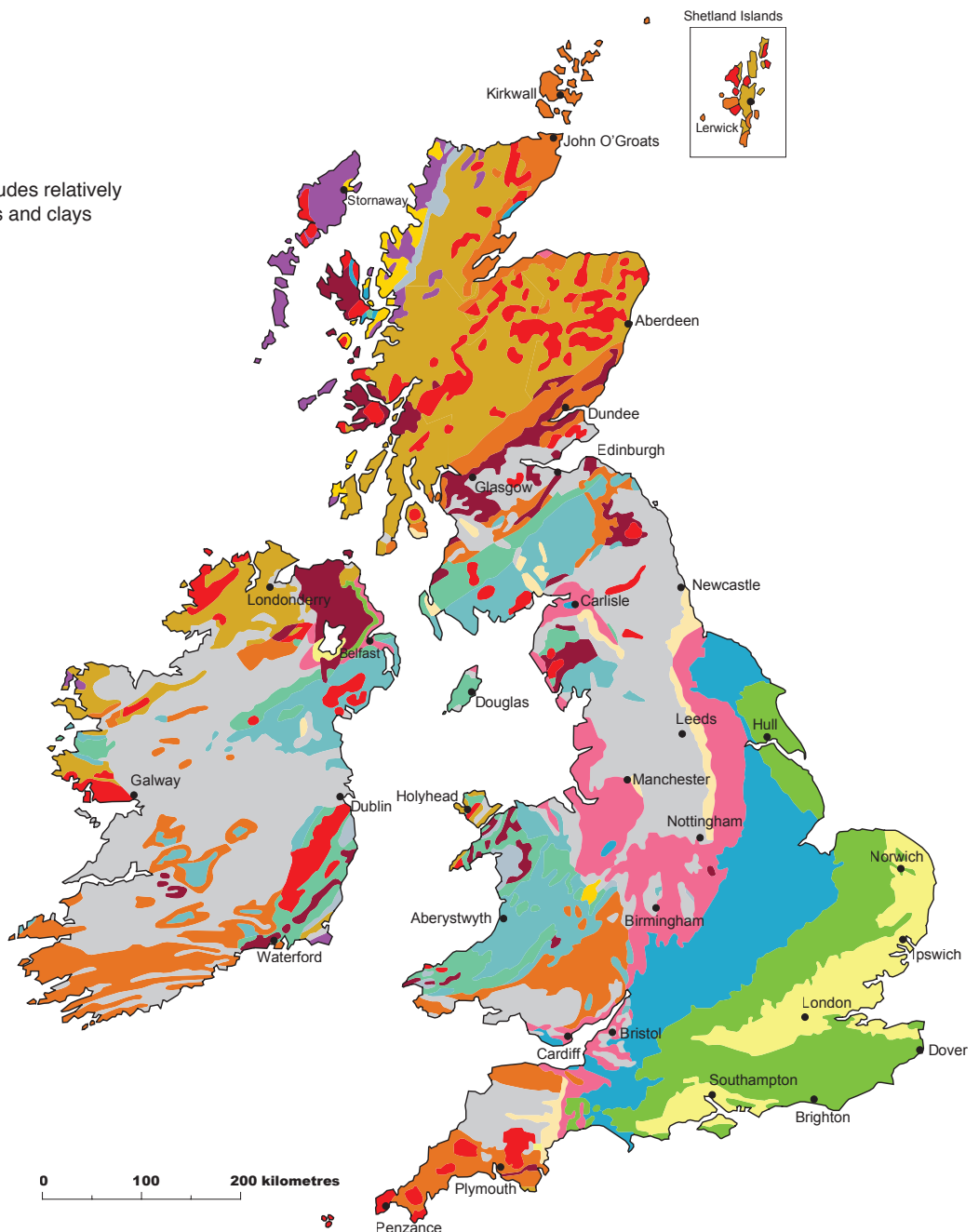
 Lower Palaeozoic and Proterozoic

 Early Precambrian

IGNEOUS ROCKS

 Intrusive

 Volcanic






Note: Key has been adapted from BGS source.
mya = million years ago

UNIT

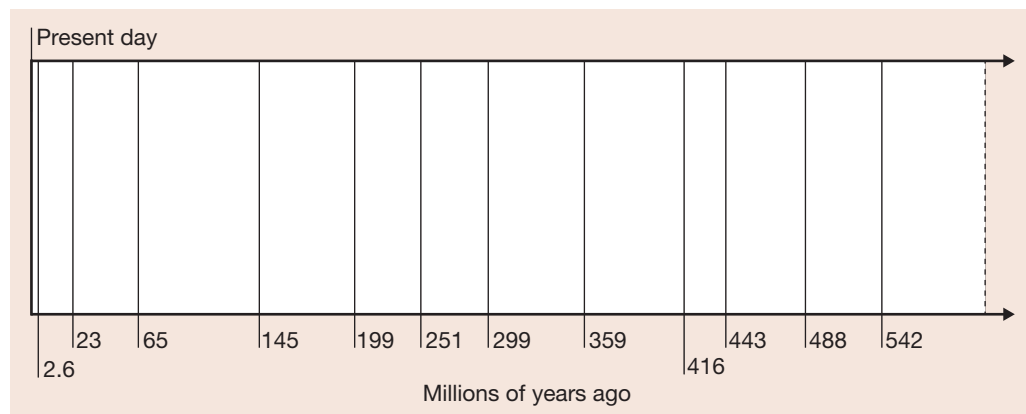
3

Look at the key in Figure 1. There are three types of rock: igneous, sedimentary and metamorphic. The table below explains the difference between these rock types.

Rock type	Definition	Examples	Photograph
Igneous	Rocks formed from the cooling of a molten magma either on the surface (extrusive) through volcanic activity or underground (intrusive).	Basalt is a common igneous rock resulting from volcanic eruptions. Granite (see photograph) is a common intrusive rock, forming deep within the earth's crust to be revealed when overlying rocks have been eroded.	
Sedimentary	Rocks formed by the accumulation and compaction of sediments, usually on the seabed.	Common sedimentary rocks include limestone , chalk , shale and clay . Sedimentary rocks may contain fossils – notice the shells in the limestone photograph.	
Metamorphic	Rocks that have undergone change due to intense heating and/or very high pressure.	Common metamorphic rocks include slate (traditionally used for roofing), schist and marble . The photograph alongside shows a specimen of grey, fine-grained slate.	

Activities

- 1** Use the information in Figure 1 to complete the blank geological timescale below by writing the correct geological periods into the time column. (2 marks)



- 2** Use the information in Figure 1 to complete the table below. The information for London has already been completed. (3 marks)

Location	Rock type (igneous, sedimentary, metamorphic)	Age of rock (mya = millions of years ago)
London	Cainozoic	65 mya–present day
Leeds		
Hull		
Aberystwyth		

UNIT
3

3 There are several outcrops of granite in SW England. How are these outcrops shown on Figure 1? *(2 marks)*

4 Use Figure 1 to describe the distribution of Jurassic rocks in the UK. *(4 marks)*

5 What is the difference between intrusive and extrusive igneous rocks? *(2 marks)*

Online activities

1 Access the British Geological Survey’s ‘Geology of Britain’ viewer at <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> to reveal a GIS program that enables you to discover the rocks beneath your feet.

- Use the locator icon to enter your postcode and find out about the rocks that underlie your home area.
- You can use the ‘switch basemap’ icon to alter your basemap.
- Click the map to find out more about each of the rock types, the conditions of formation and their ages.
- You can print out the map too if you wish.

2 In recent years, geologists have suggested that the current period of time should be named the Anthropocene due to the impact of human activity on the world’s climate and environment. Use the internet to find out more about the Anthropocene and the impacts of people on the earth’s natural systems.