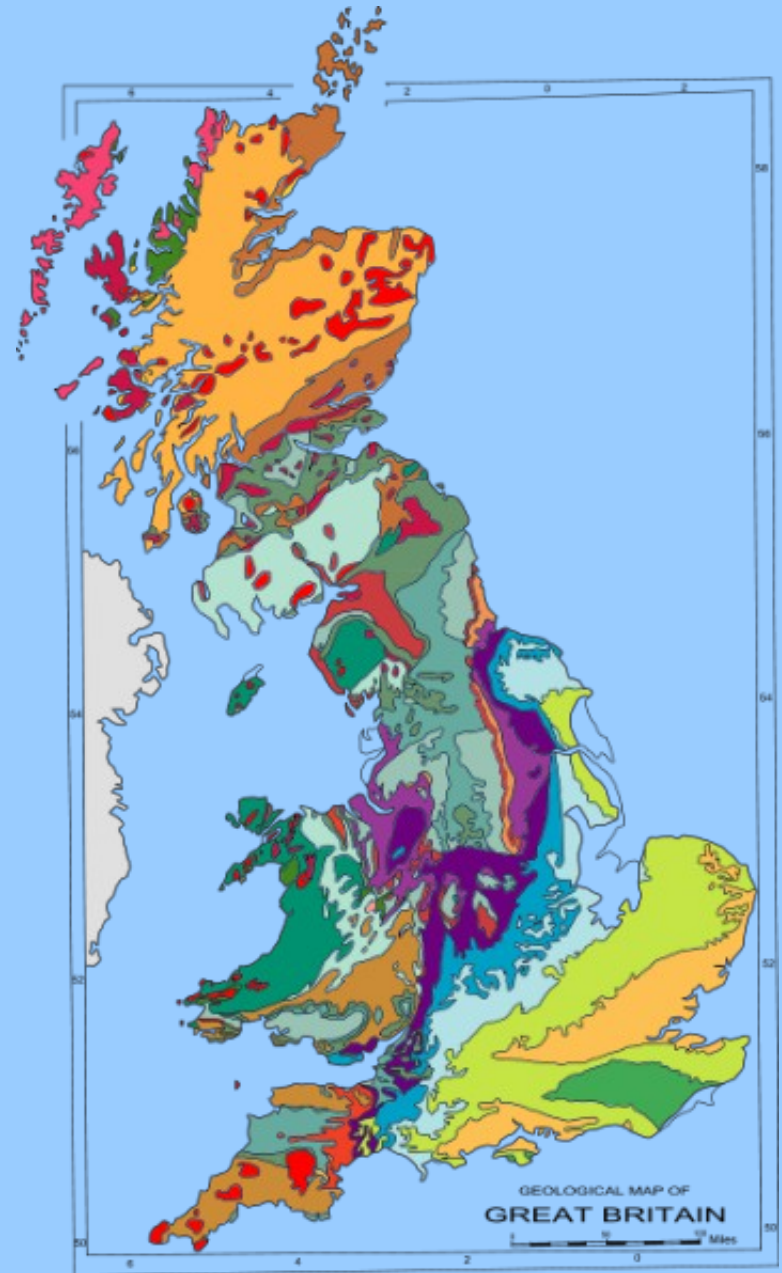


# A Geological History of Britain

Dr Liam Herringshaw  
lgh865@hotmail.com



# Free resource – [www.bgs.ac.uk](http://www.bgs.ac.uk)

## Climate through time

**Our rocks reveal the story of change**

The infographic is divided into several sections:

- Left side:** A vertical timeline showing geological eras (Cretaceous, Paleogene, Neogene, Quaternary) and fossil records (dinosaurs, mammals, birds, insects, plants, and marine life).
- Center:** A large geological map of the United Kingdom, color-coded by rock type (e.g., red for granite, green for sedimentary rocks, blue for metamorphic rocks).
- Right side:** A column of circular images showing various geological features and fossils, including a dinosaur, a fossil, a rock, and a landscape.
- Top right:** The 'planetearth' logo with the tagline 'Earth Science for Society'.
- Bottom:** Logos for various organizations, including BGS, British Geological Society, and others.

**Text on the left side:**

**Our rocks reveal the story of change**

Earth's climate has changed many times over the last 4.5 billion years. The evidence for this is found in the rocks and fossils that have been preserved in the ground. The rocks tell us about the climate of the past and the fossils tell us about the life that lived at that time.

The rocks and fossils that we find in the ground are the result of a long and complex process. The rocks are formed from molten material that has cooled and solidified. The fossils are the remains of plants and animals that have been preserved in the rocks.

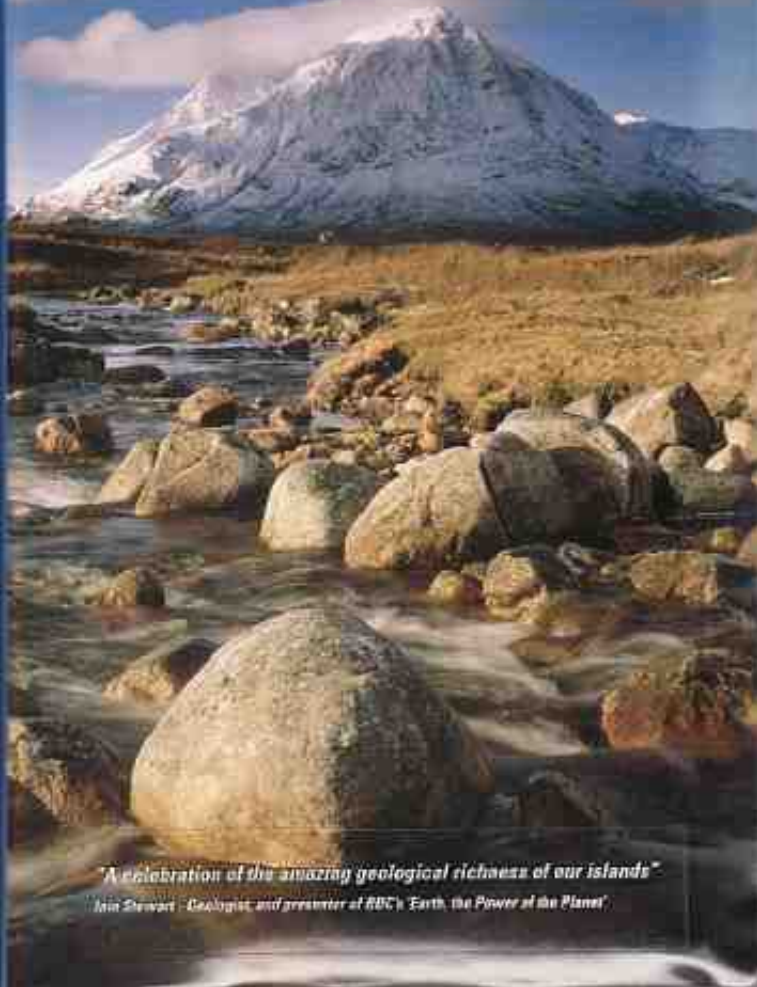
The rocks and fossils that we find in the ground are the result of a long and complex process. The rocks are formed from molten material that has cooled and solidified. The fossils are the remains of plants and animals that have been preserved in the rocks.

# Maps

BGS  
2007

 British  
Geological Survey  
NATURAL ENVIRONMENT RESEARCH COUNCIL

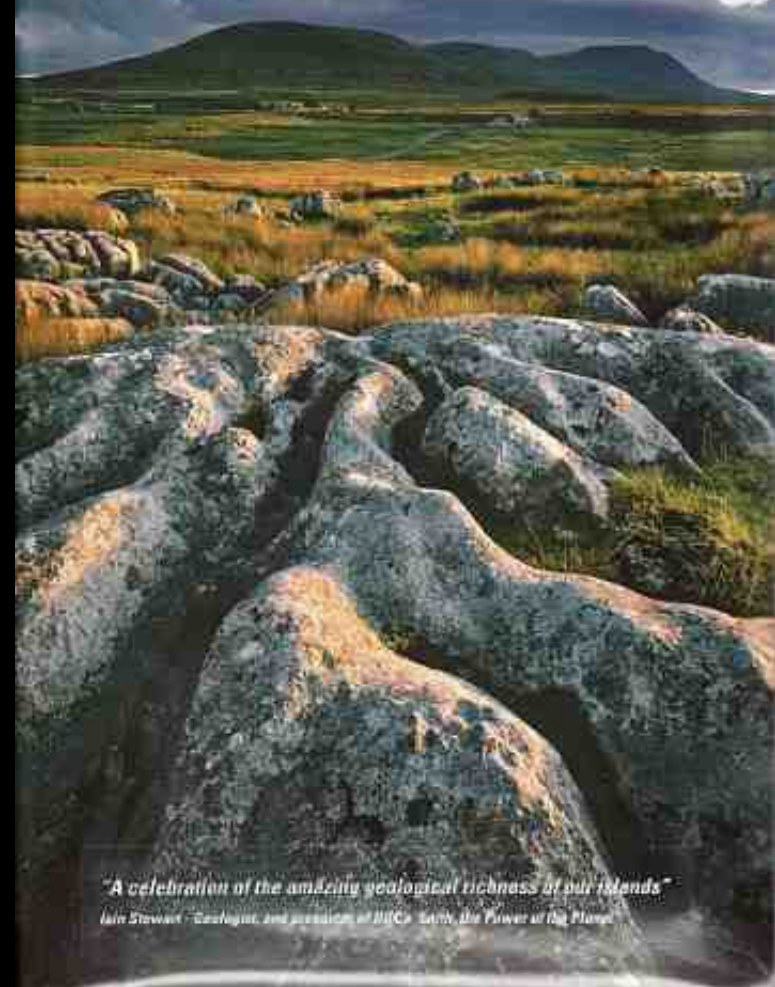
## Bedrock Geology UK North



*"A celebration of the amazing geological richness of our islands"*  
Iain Stewart - Geologist and presenter of BBC's 'Earth, the Power of the Planet'

 British  
Geological Survey  
NATURAL ENVIRONMENT RESEARCH COUNCIL

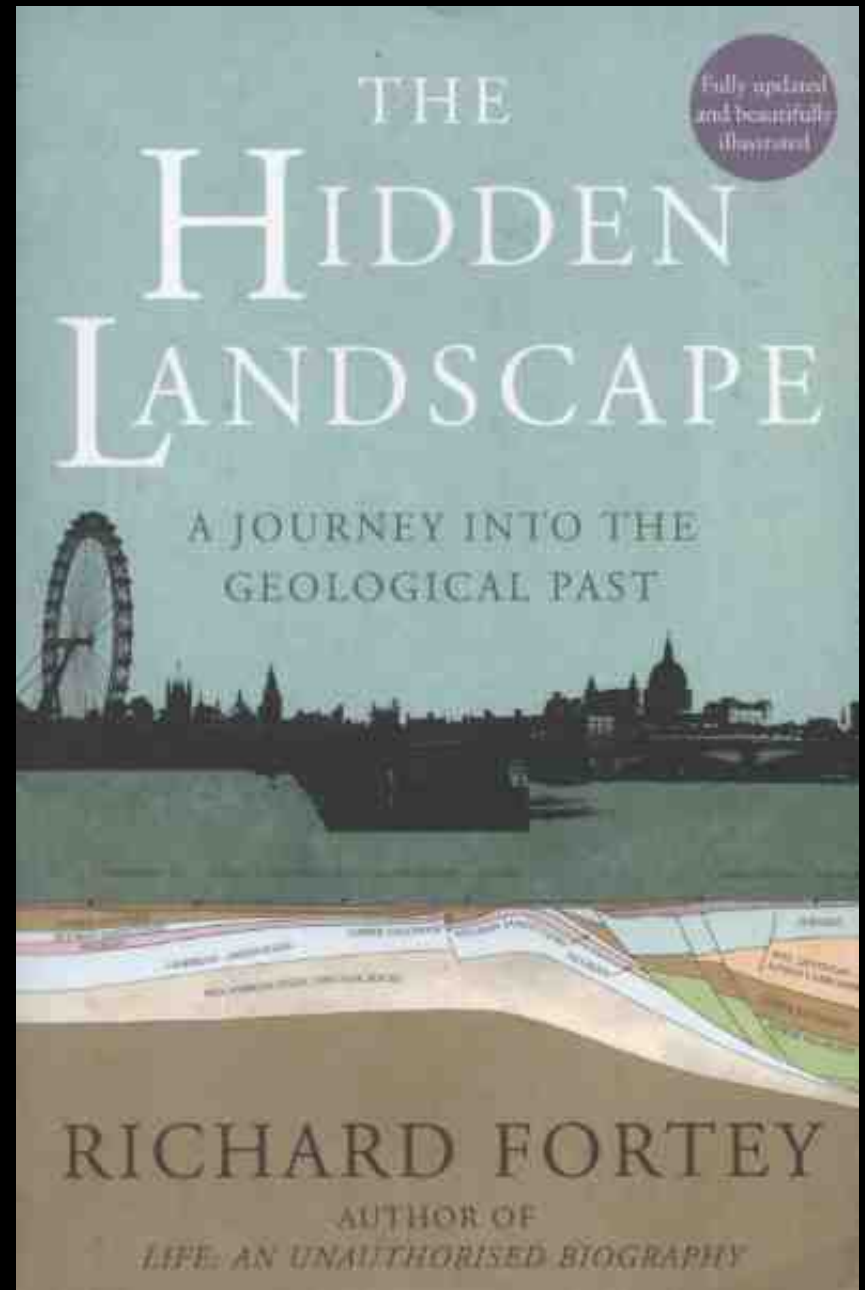
## Bedrock Geology UK South



*"A celebration of the amazing geological richness of our islands"*  
Iain Stewart - Geologist and presenter of BBC's 'Earth, the Power of the Planet'

# Accessible text

The Hidden Landscape  
Richard Fortey  
1993 and 2010 versions



# Geo-nealogy

BBB

~~WHO~~

**WHERE**

DO YOU THINK YOU ARE?

**WERE**





## Your Own Geological History

**WRITE DOWN:**

Where you were born

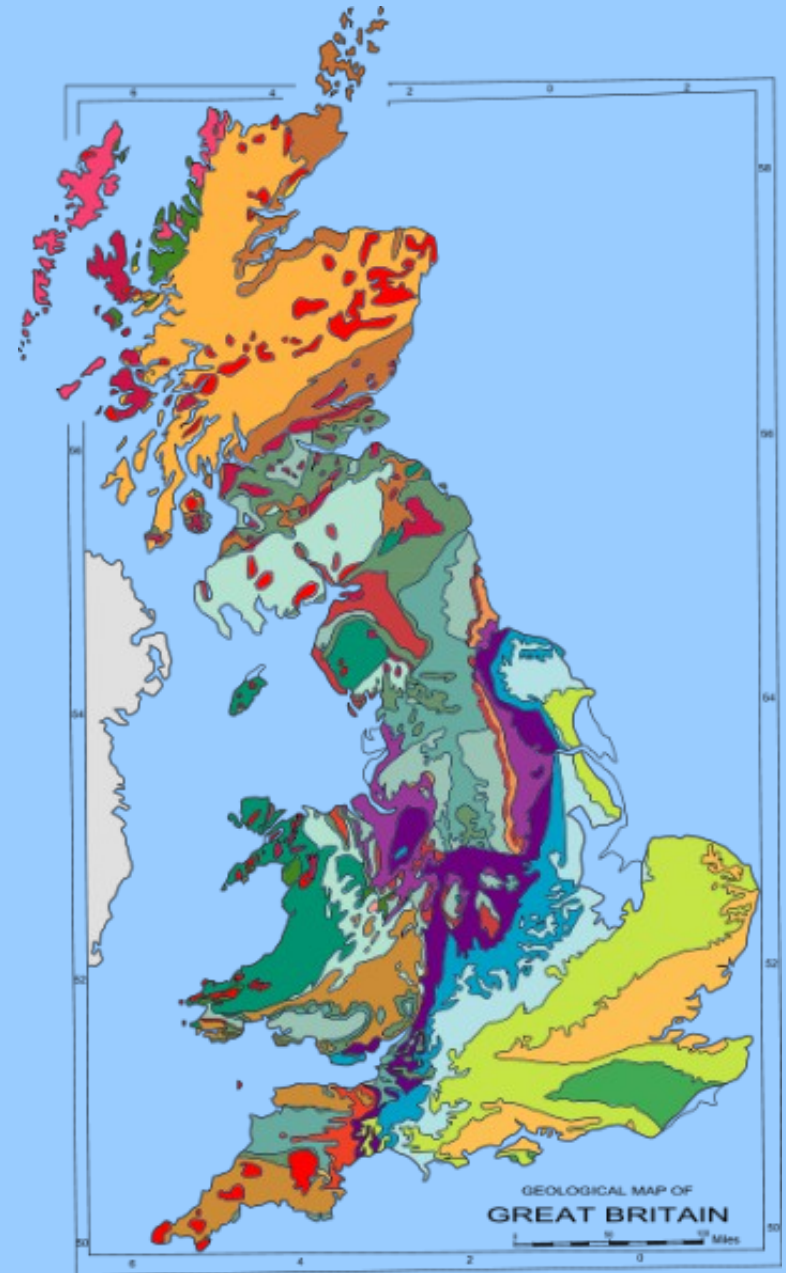
Where you live

Where you have worked

Where you love visiting

# Geology of Britain

What are the rocks?  
What is their order?  
What do they record?

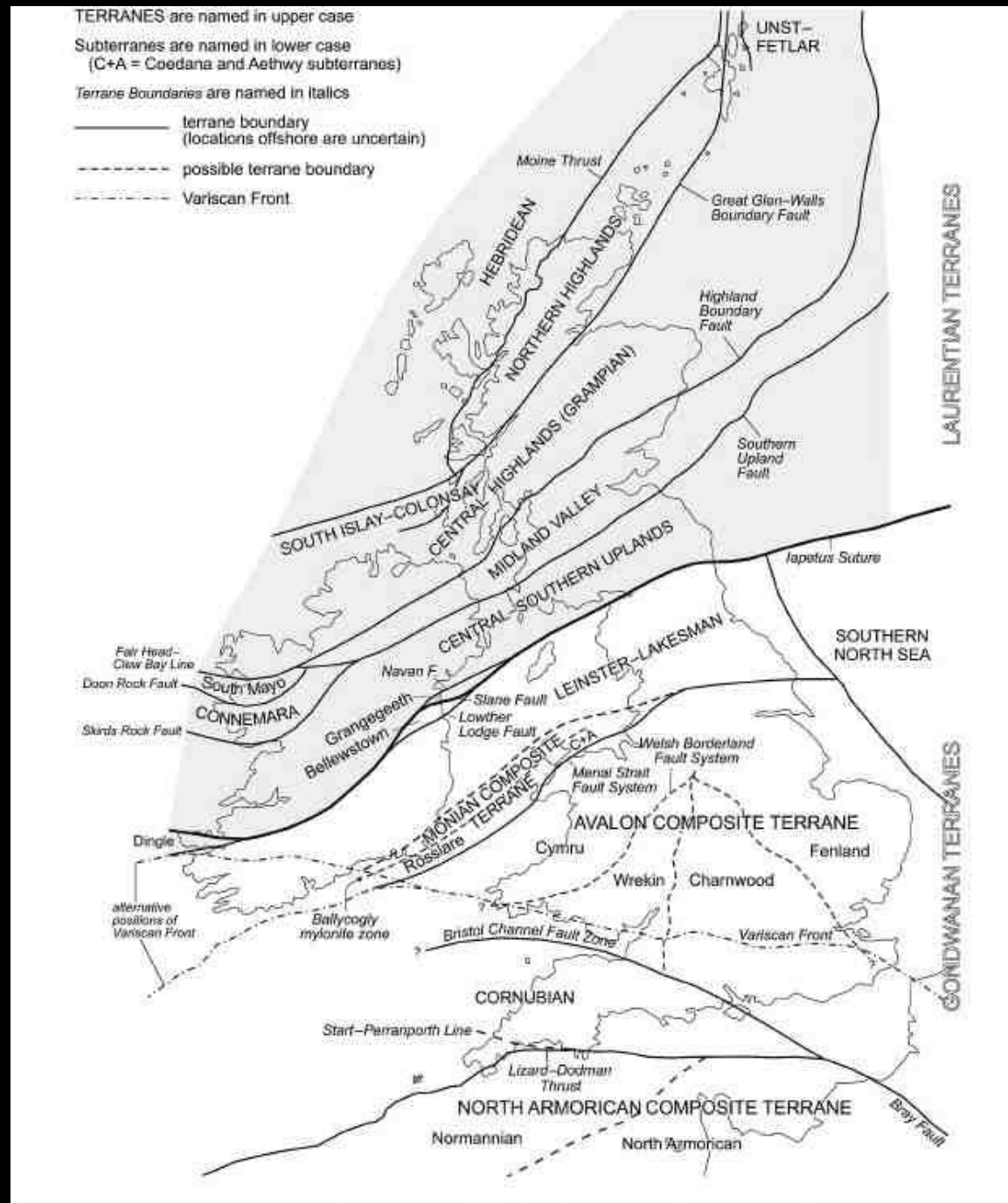


# A Britain of 2 Halves

North-South divide:

Scotland-northern Ireland = Laurentian

England, Wales, southern Ireland = Avalonian





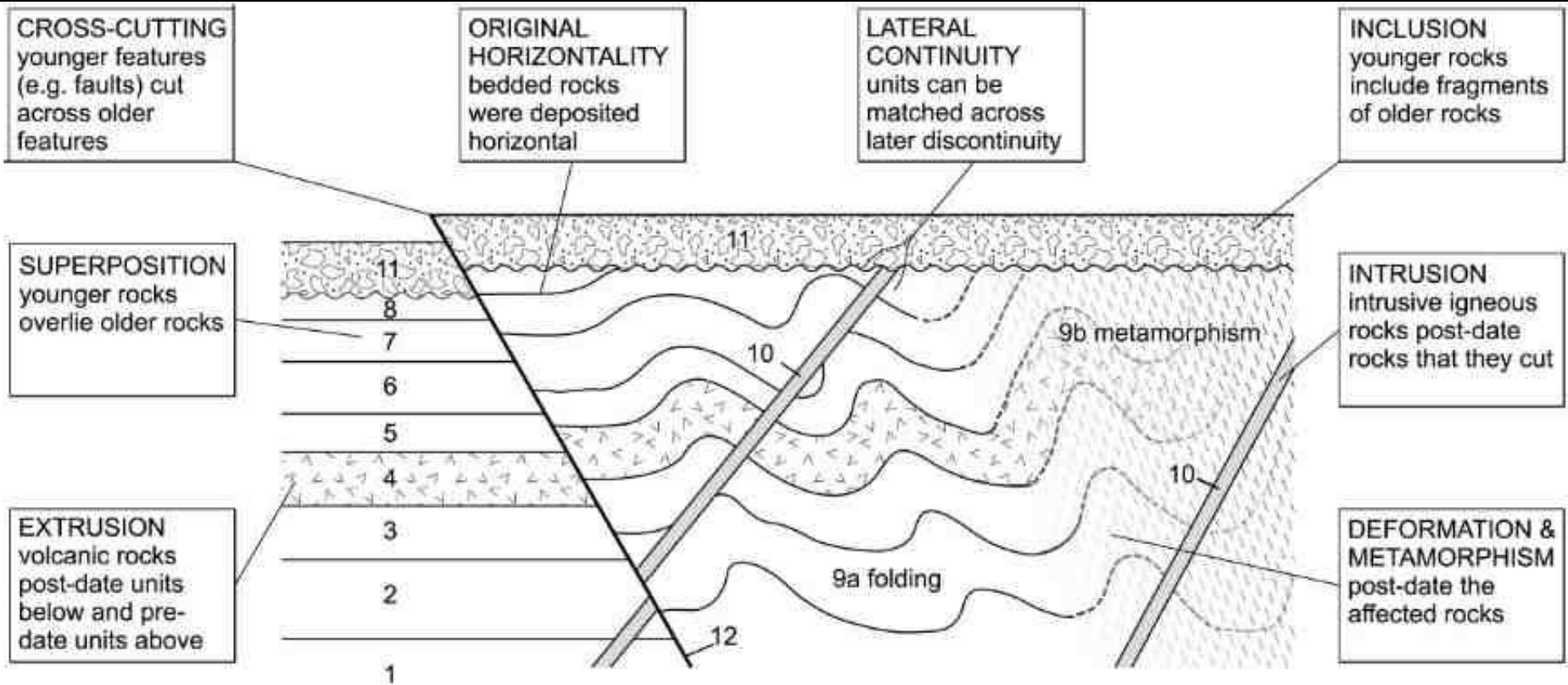
# Geological History: How?

Uniformitarianism:

“The Present Is  
The Key To The  
Past”



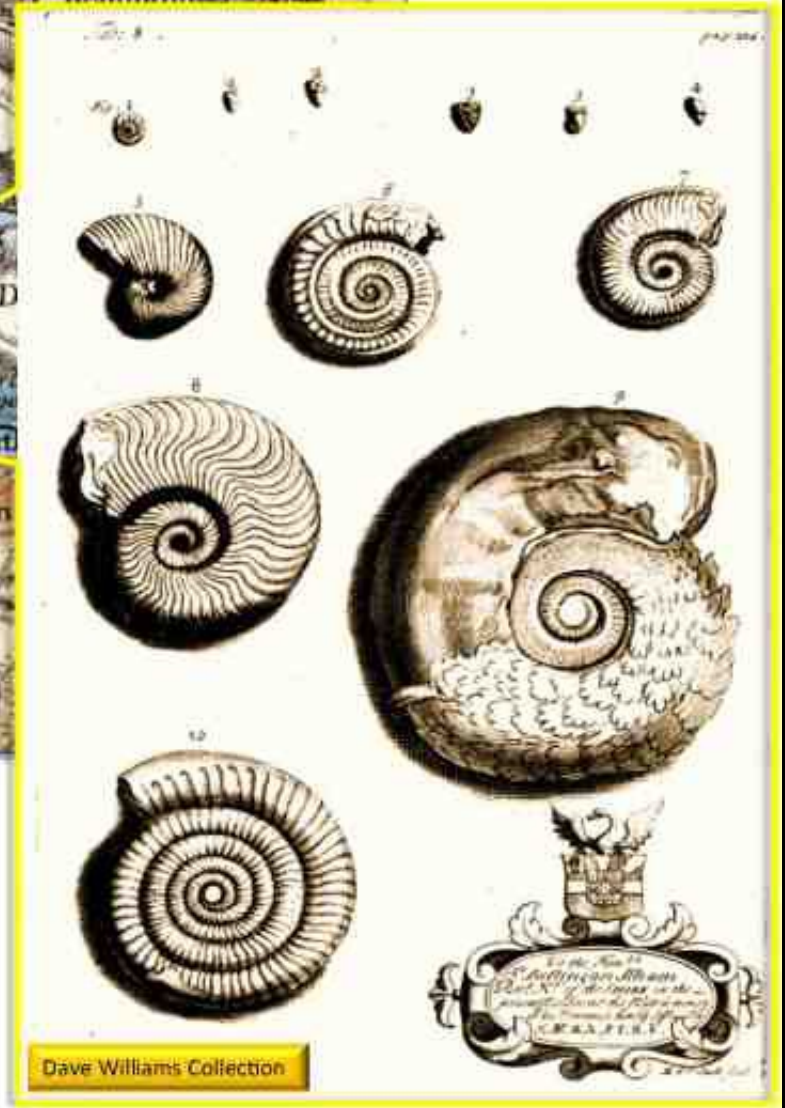
# Stratigraphy



*Geological History of Britain and Ireland, Second Edition.* Edited by Nigel Woodcock and Rob Strachan.  
© 2012 Blackwell Publishing Ltd. Published 2012 by Blackwell Publishing Ltd.

**Fig. 1.1** Cross-section illustrating the rules of stratigraphy, which allow rock geometry to be translated into a sequence of events (numbered 1–12).

# Biostratigraphy



William Smith (1820s, above) building on fossil work by Morton (1712, right)

[http://www.strata-smith.com/?page\\_id=312](http://www.strata-smith.com/?page_id=312)

# Chronostratigraphy

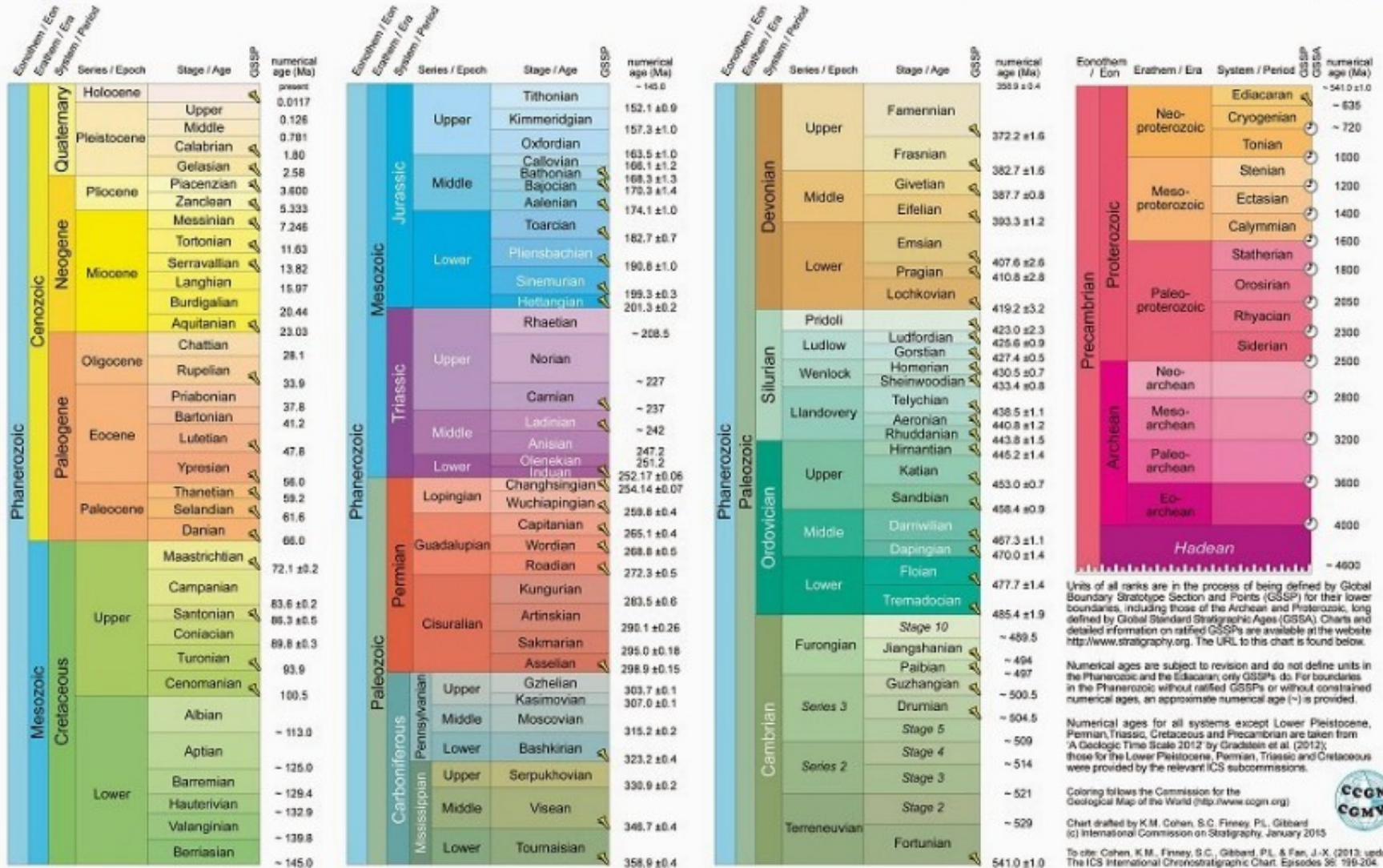


## INTERNATIONAL CHRONOSTRATIGRAPHIC CHART

www.stratigraphy.org

International Commission on Stratigraphy

v 2015/01



Units of all ranks are in the process of being defined by Global Boundary Stratotype Section and Points (GSSP) for their lower boundaries, including those of the Archean and Proterozoic, long defined by Global Standard Stratigraphic Ages (GSSA). Charts and detailed information on ratified GSSPs are available at the website <http://www.stratigraphy.org>. The URL to this chart is found below.

Numerical ages are subject to revision and do not define units in the Phanerozoic and the Ediacaran; only GSSPs do. For boundaries in the Phanerozoic without ratified GSSPs or without constrained numerical ages, an approximate numerical age (~) is provided.

Numerical ages for all systems except Lower Pleistocene, Permian, Triassic, Cretaceous and Precambrian are taken from 'A Geologic Time Scale 2012' by Gradstein et al. (2012); those for the Lower Pleistocene, Permian, Triassic and Cretaceous were provided by the relevant ICS subcommissions.

Coloring follows the Commission for the Geological Map of the World (<http://www.cgmw.org>)

Chart drafted by K.M. Cohen, S.C. Finney, P.L. Gibbard (c) International Commission on Stratigraphy, January 2015

To cite: Cohen, K.M., Finney, S.C., Gibbard, P.L. & Fan, J.-X. (2013, updated) The ICS International Chronostratigraphic Chart. Episodes 36: 199-204.

URL: <http://www.stratigraphy.org/ICChart/ChronostratChart2015-01.pdf>



# Geological Time

Eon	Era	Period	Epoch	Age	Ma
				Lopingian	251
		Permian		Guadelupian	260
				Cisuralian	271
		Carboniferous	Pennsylvanian	Stephanian	299
				Westphalian	307
				Namurian	313
			Mississippian	Visean	328
				Tournaisian	345
					359
Phanerozoic	Palaeozoic	Devonian	Late	Famennian	375
				Frasnian	385
			Mid	Givetian	392
				Eifellian	398
			Early	Emsian	407
				Pragian	411
				Lochkovian	416
		Silurian		Pridoli	419
				Ludlow	423
				Wenlock	425
				Llandovery	444
		Ordovician	Late	Ashgill	449
				Caradoc	461
			Mid	Llanvirn	468
				Arenig	479
		Cambrian	Early	Tremadocian	488
				Merioneth	502
			3	St David's	509
Comley	530				
	Te		542		

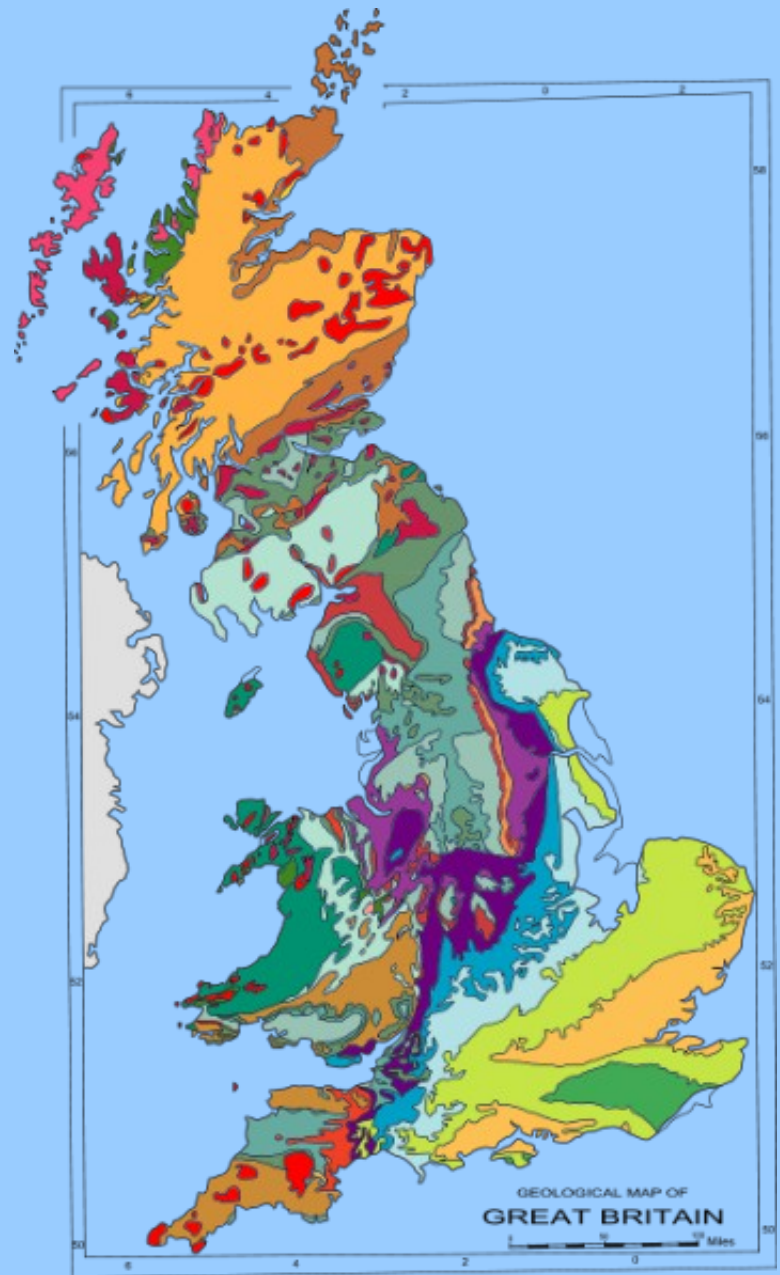
Global standard time scale but historical/local terms used also

# Geological History of Britain

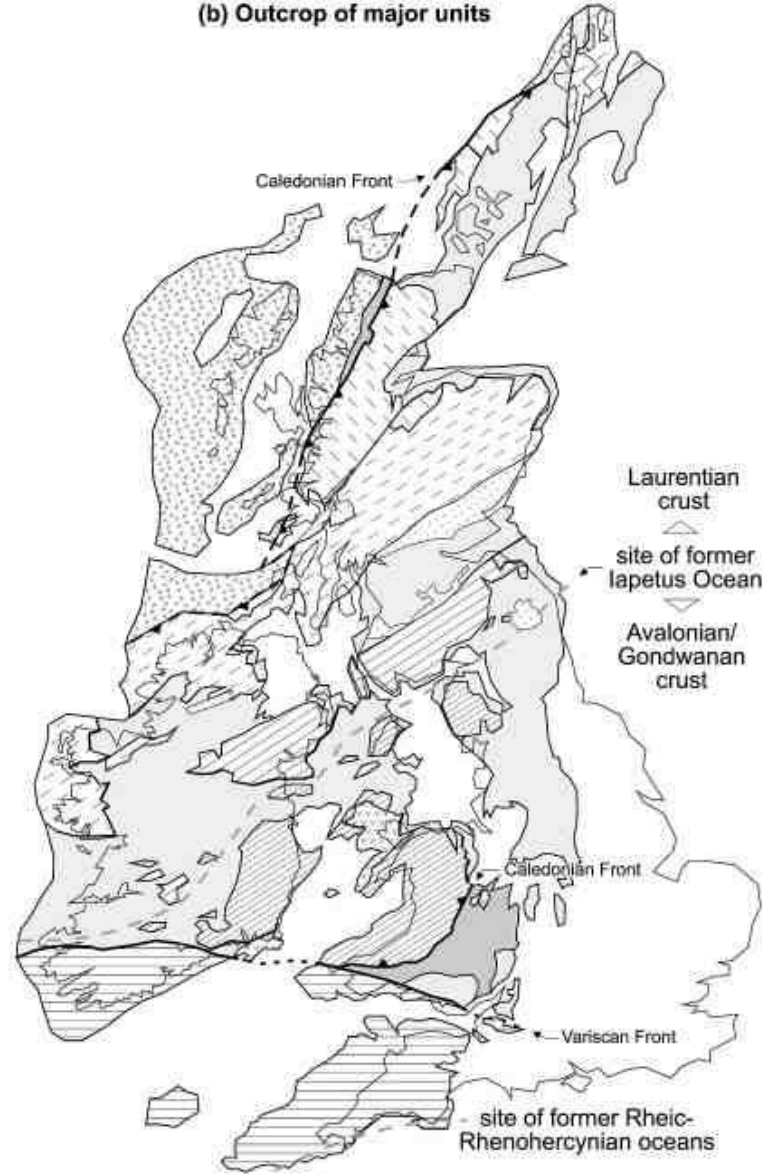
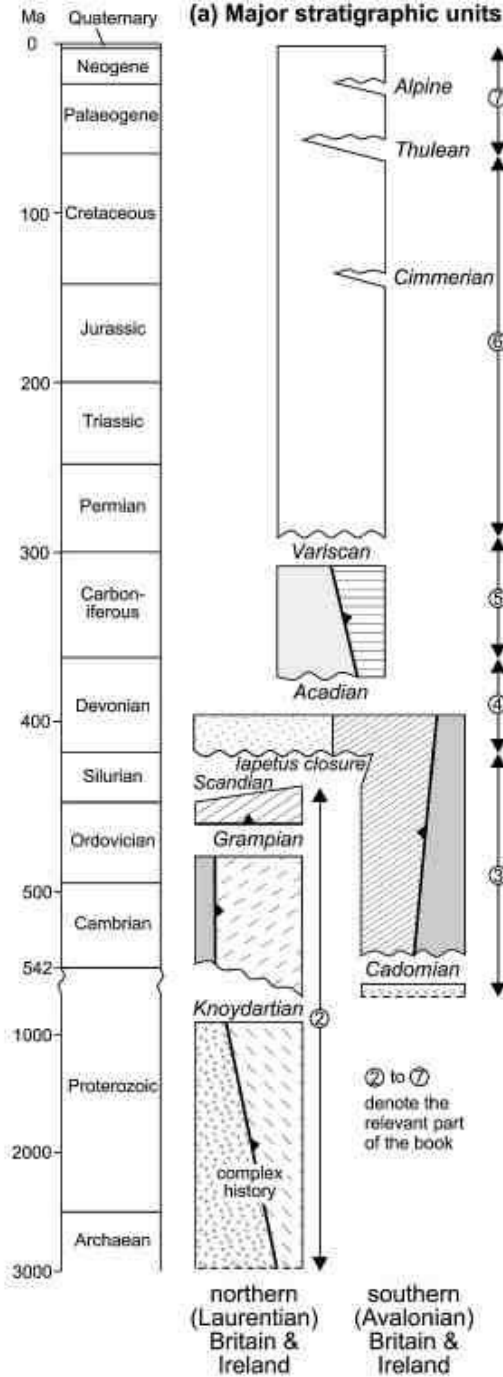
Go NW–SE:

Land's End to John  
O'Groats no good

Walk Cape Wrath to  
Dungeness instead



# Major UK geological units



**(c) Key to main orogenic belts**



