

## The Old Stuff

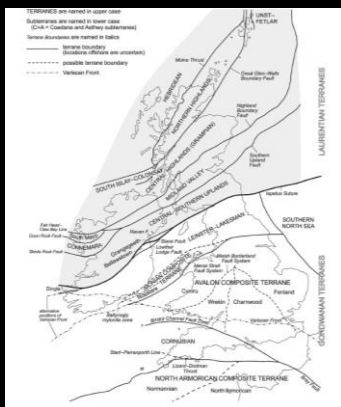
## The Palaeozoic

### North-South divide

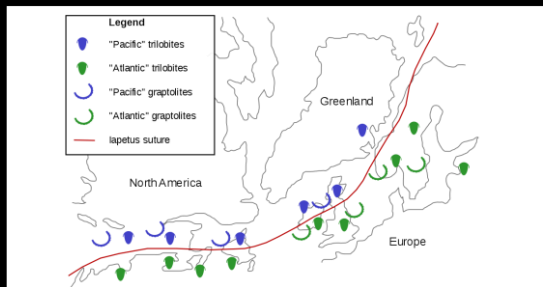
Palaeozoic partitioning:

Scotland-northern  
Ireland =  
Laurentian

England, Wales,  
southern Ireland =  
Avalonian



## The Old Lost Sea



## PALAEOZOIC

Permian

Carboniferous

Devonian

Silurian

Ordovician

Cambrian

---

---

---

---

---

---

---



---

---

---

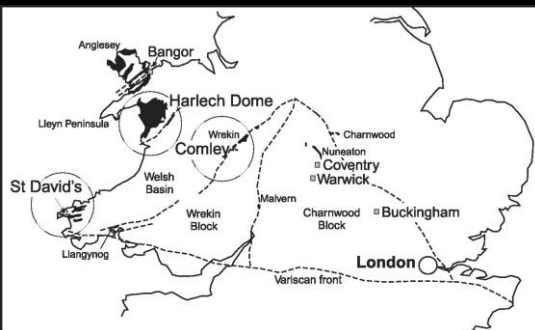
---

---

---

---

## Cambrian outcrops



Harvey et al. (2011)

---

---

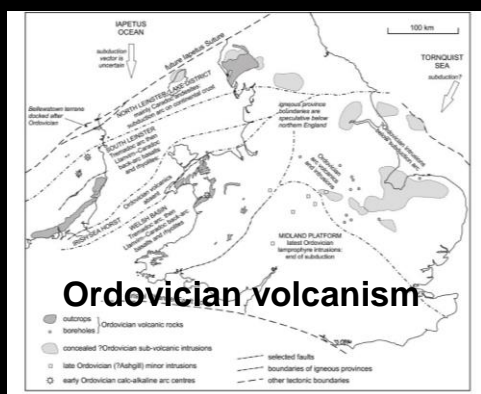
---

---

---

---

---




---

---

---

---

---

---

---

---

## Death of an ocean




---

---

---

---

---

---

---

---



© Eileen Henderson, Geograph

---

---

---

---

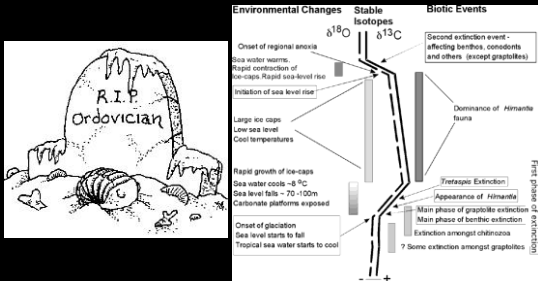
---

---

---

---

## The end of the Ordovician



First of the 'Big Five' mass extinctions

---

---

---

---

---

---

---

---

---

---

## Hirnantian

Ordovician  
final stage  
(446-444  
Ma)



Cwm Hirnant, Bala  
© Graham Horn, Geograph

---

---

---

---

---

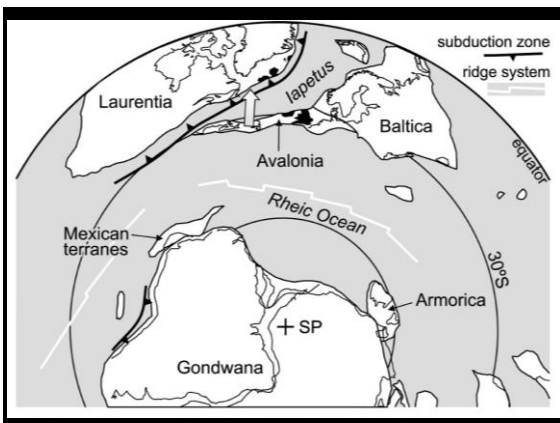
---

---

---

---

---




---

---

---

---

---

---

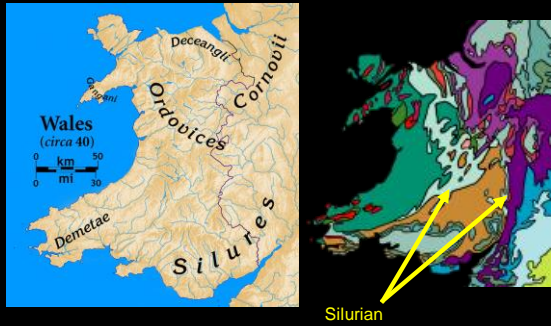
---

---

---

---

## Siluria




---

---

---

---

---

---

---

---

## Wenlock Limestone




---

---

---

---

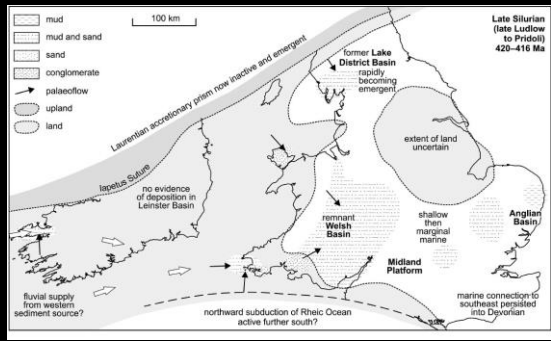
---

---

---

---

## Late Silurian




---

---

---

---

---

---

---

---

# Hutton's Unconformity

Siccar Point, Berwickshire




---

---

---

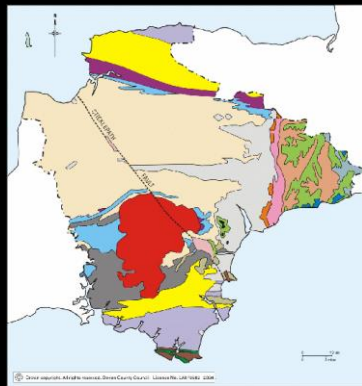
---

---

---

---

---



Mostly marine  
Metamorphosed  
(and moved...)

---

---

---

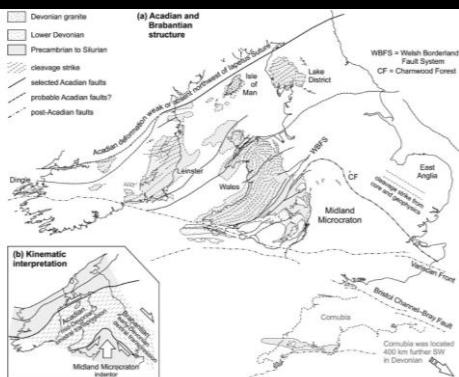
---

---

---

---

---




---

---

---

---

---

---

---

---



## Old Red Sandstone



St Ann's Head, Pembrokeshire © Rodney Harris

---

---

---

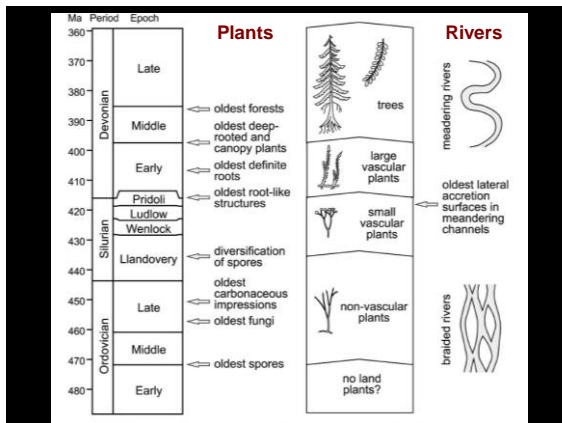
---

---

---

---

---




---

---

---

---

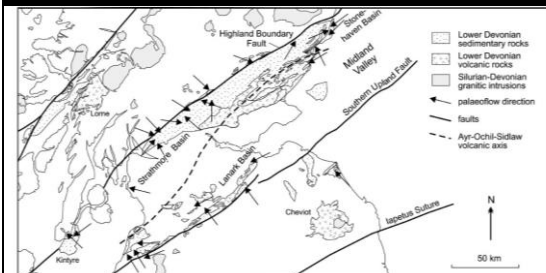
---

---

---

---

## Valley volcanics



Lavas in rifted Midland Valley

---

---

---

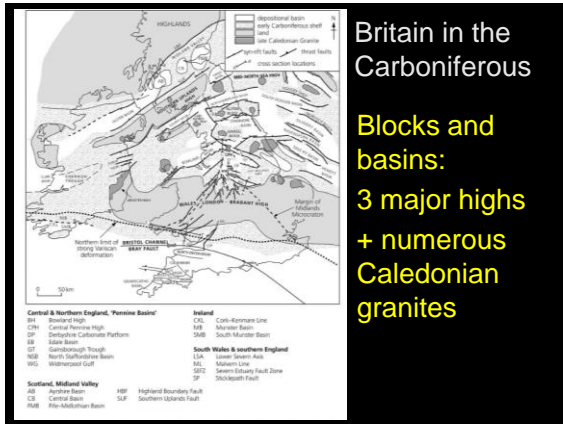
---

---

---

---

---




---

---

---

---

---

---

---

---

---

---




---

---

---

---

---

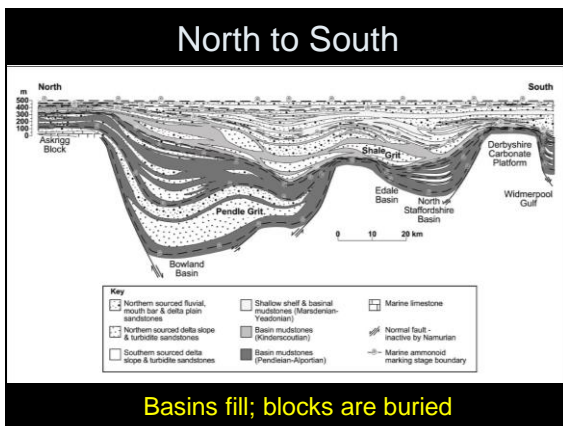
---

---

---

---

---



**Basins fill; blocks are buried**

---

---

---

---

---

---

---

---

---

---





## Hydro-carboniferous

Westphalian  
coal fields  
East Midlands  
oil & gas

---

---

---

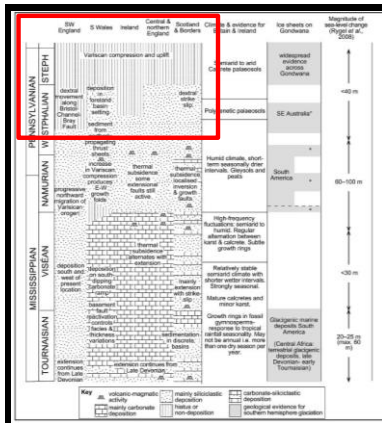
---

---

---

---

---



## Variscan

Late  
Carboniferous  
= compression  
+ uplift

Woodcock &  
Strachan (2012)

---

---

---

---

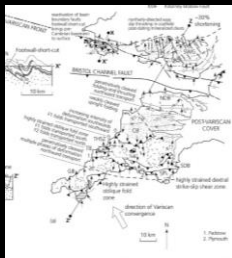
---

---

---

---

Welcome to  
the southwest!



Woodcock &  
Strachan (2012)

Variscan collision zone welds Cornubia to Britain

---

---

---

---

---

---

---

---

## Whale's Back, Bude

BGS Geoscience  
website



---

---

---

---

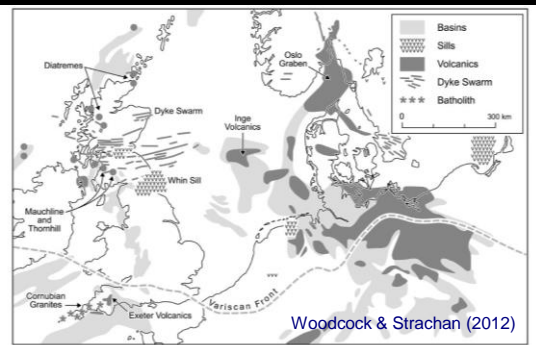
---

---

---

---

## Late/post-Variscan volcanism



---

---

---

---

---

---

---

---

## The original sill



Whin Sill  
(295 Ma)



---

---

---

---

---

---

---

---

## Tectonics & terranes




---

---

---

---

---

---

---

---

## 'Continental' Permian



Corncockle Sst,  
Dumfries-shire;  
BGS Geoscenic

Rotliegendes – the 'Red Beneath'

---

---

---

---

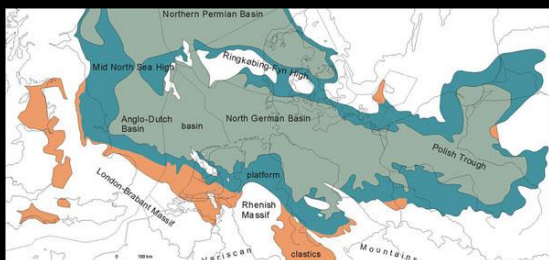
---

---

---

---

## 'Marine' Permian



Large basin in front of Variscan highlands  
= Zechstein Sea

---

---

---

---

---

---

---

---

## The Great Dying

End-Permian mass extinction

---

---

---

---

---

---

---