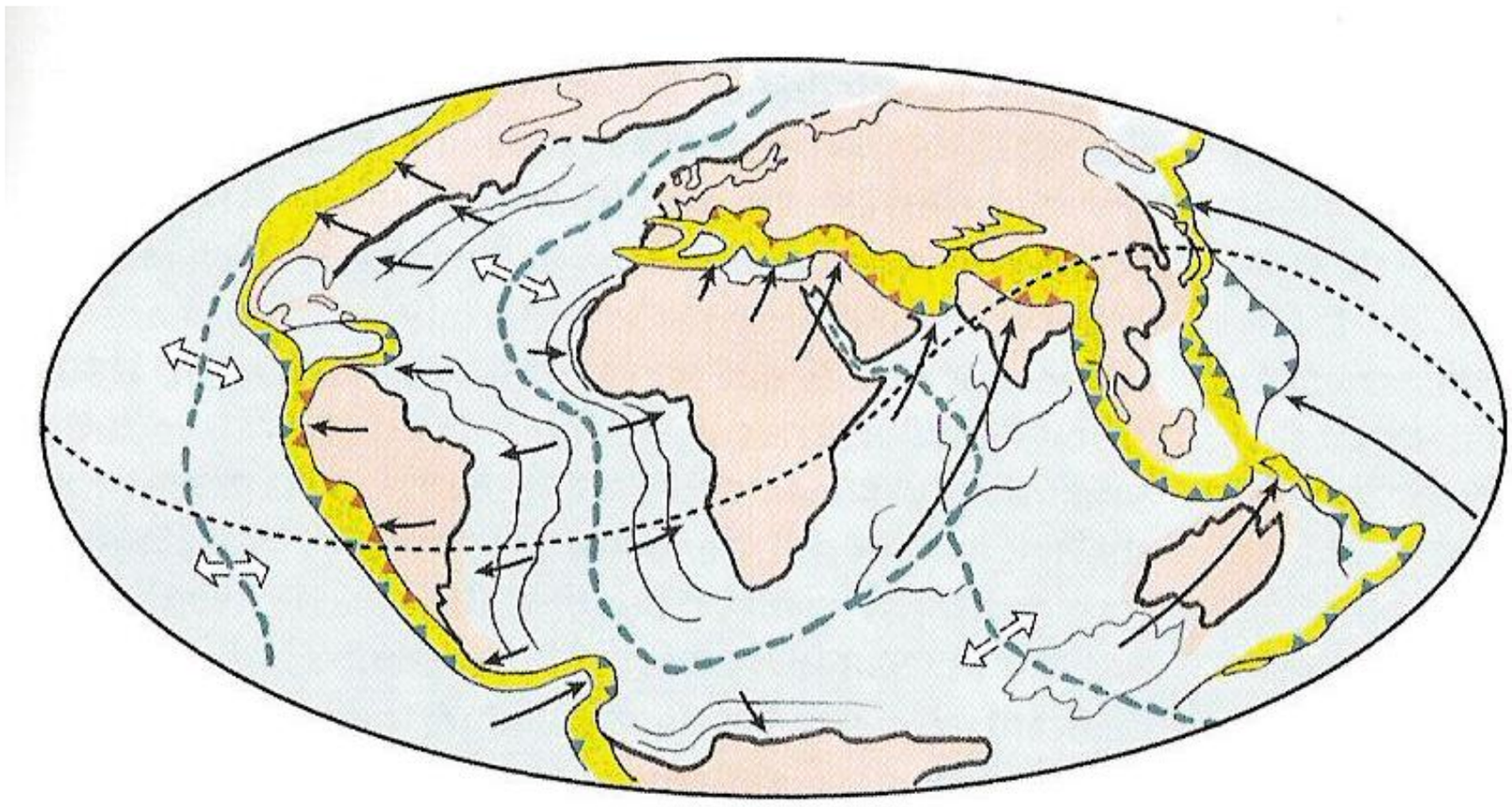
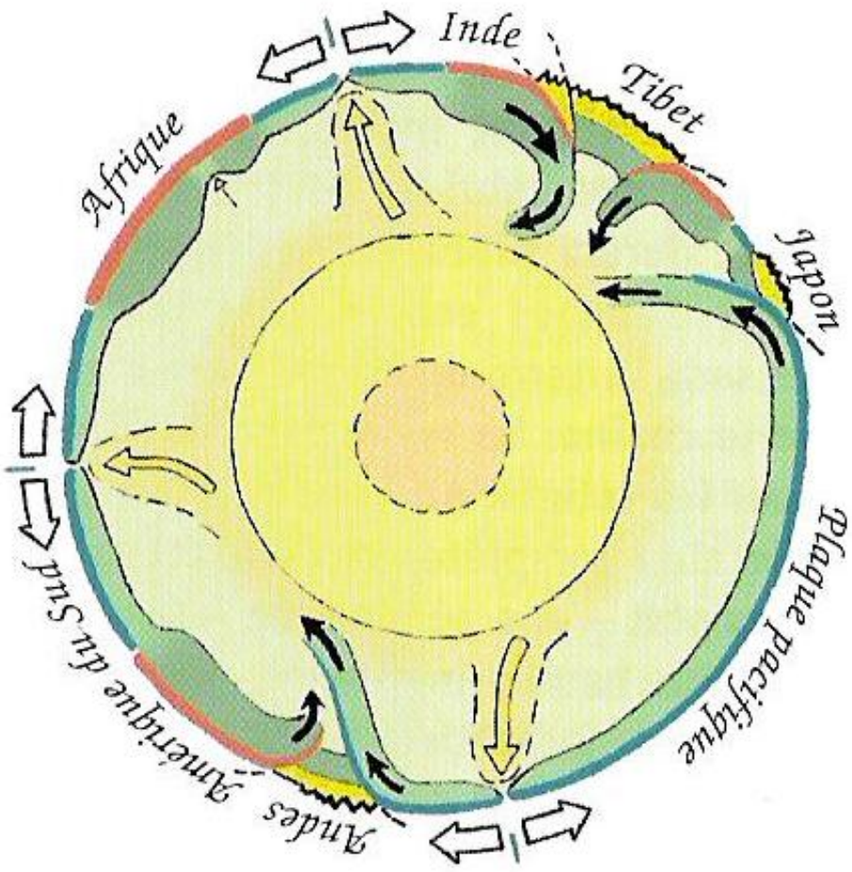
Les mouvements des plaques déforment et transforment la lithosphère

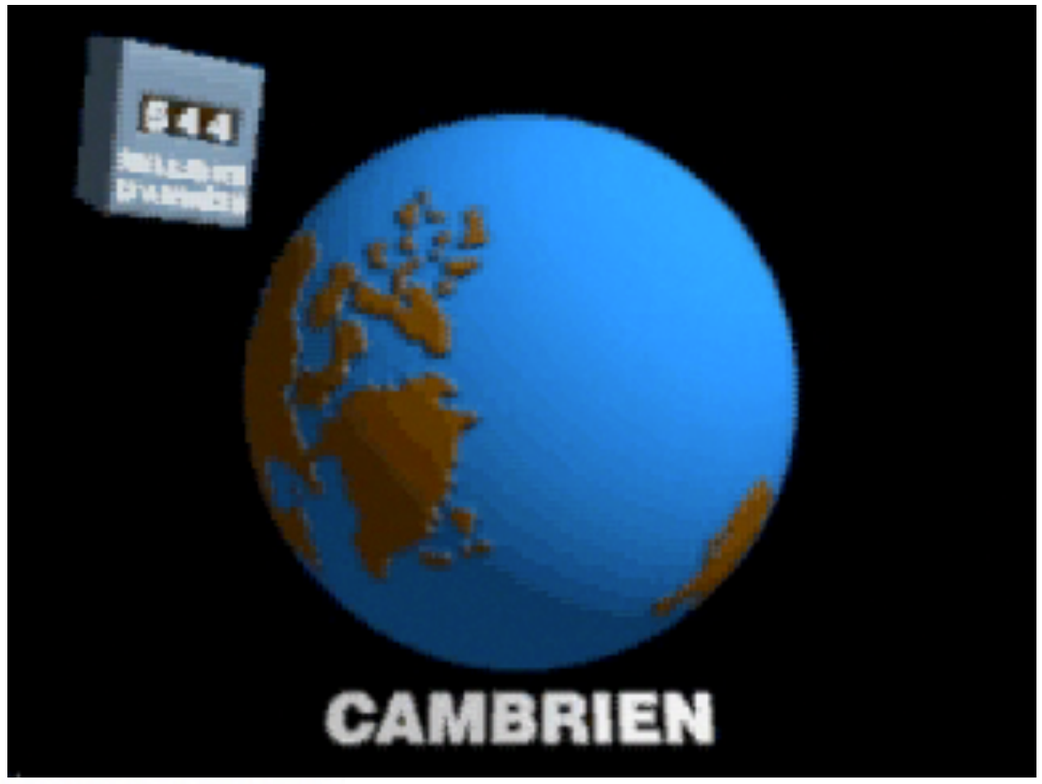


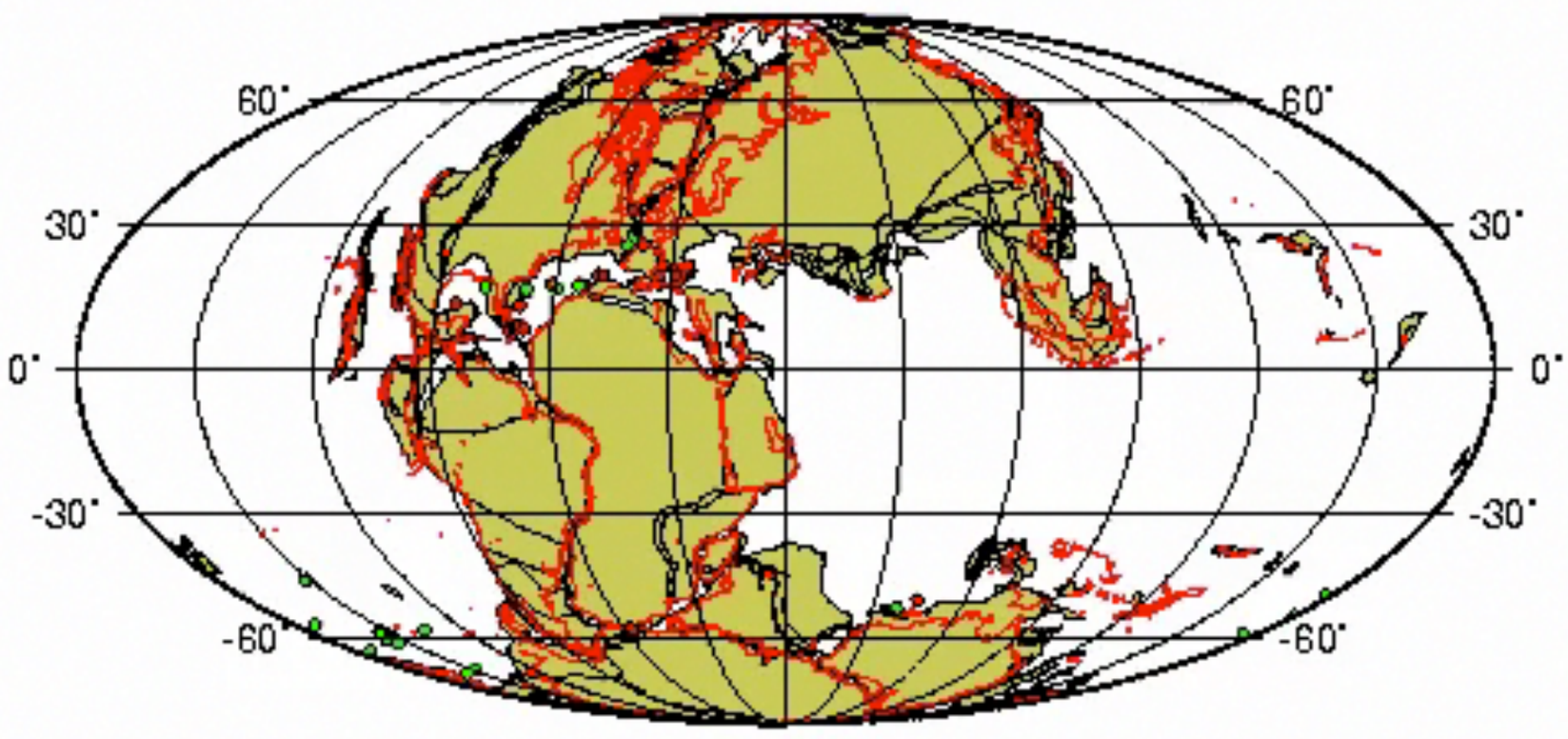


- **1 - Les plaques provoquent le déplacement des continents, l'ouverture et la fermeture des océans.**

- Comme les plaques tectoniques sont mobiles, celles qui portent des continents déplacent ces derniers: **ils ne sont pas fixe**.

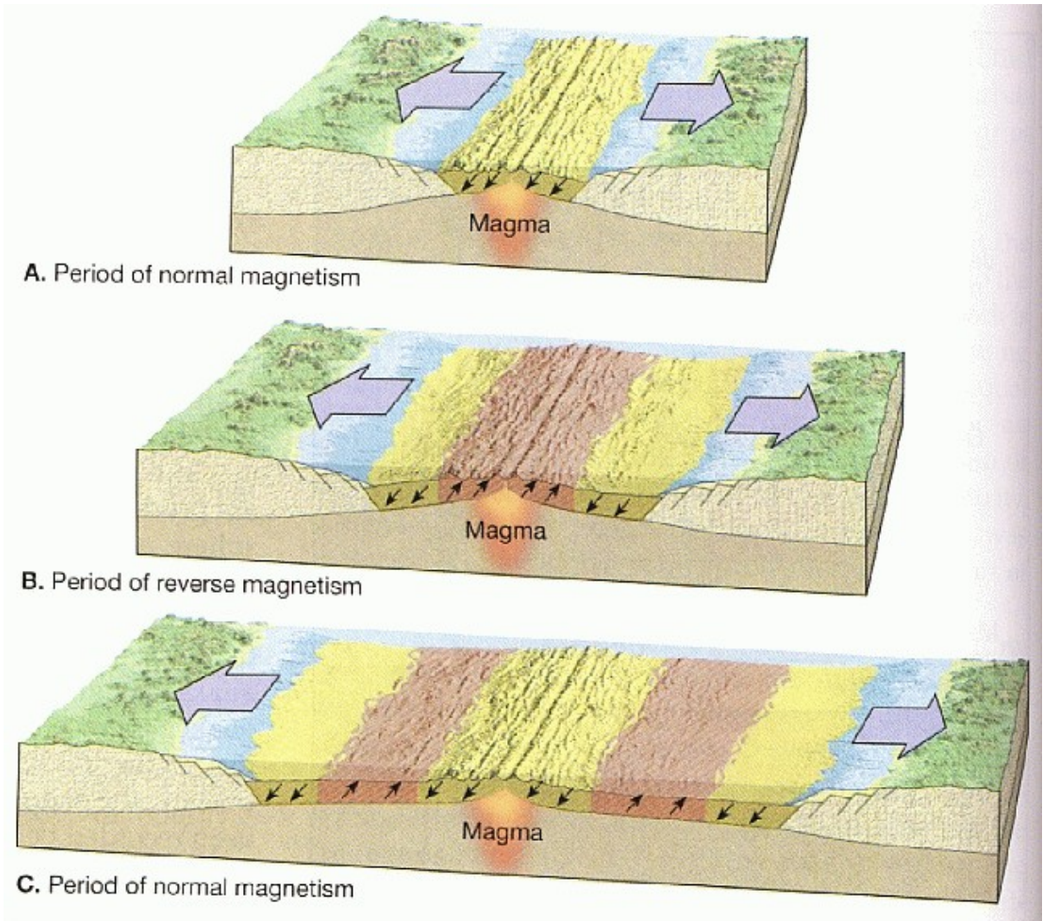
- Les géologues ont pu reconstituer leurs emplacements dans le passé.

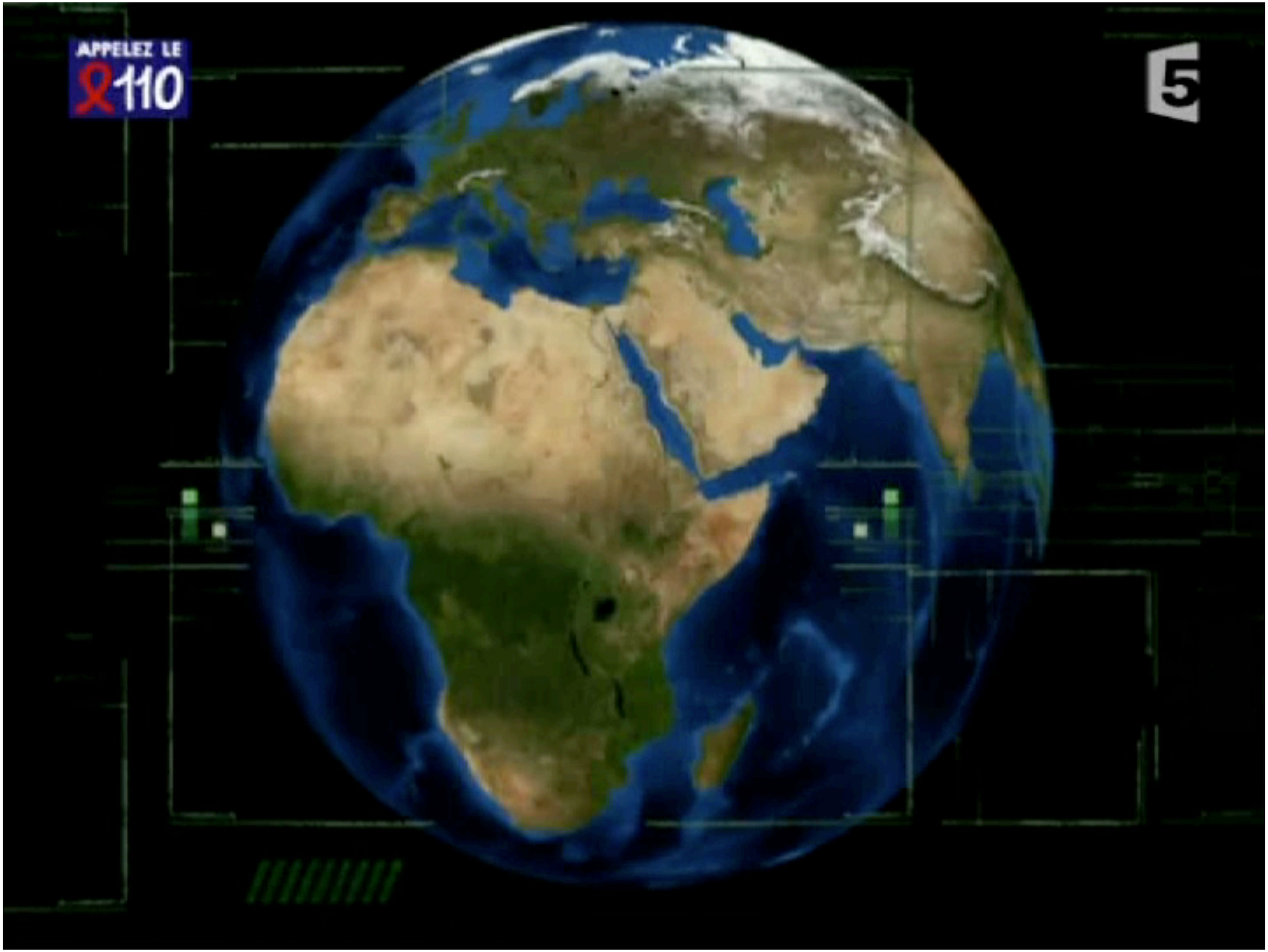




150 My Reconstruction

- Lorsqu’une plaque se fracture, il y a formation d'un océan, qui peut s'agrandir.

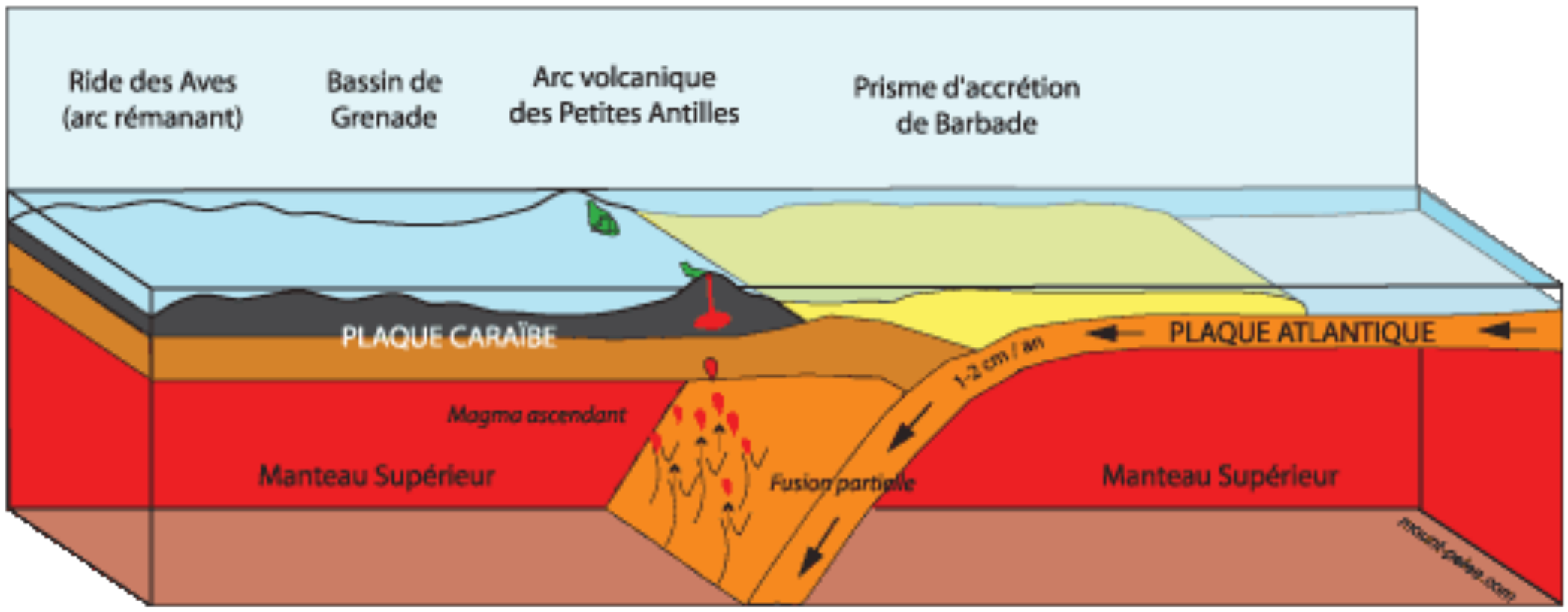


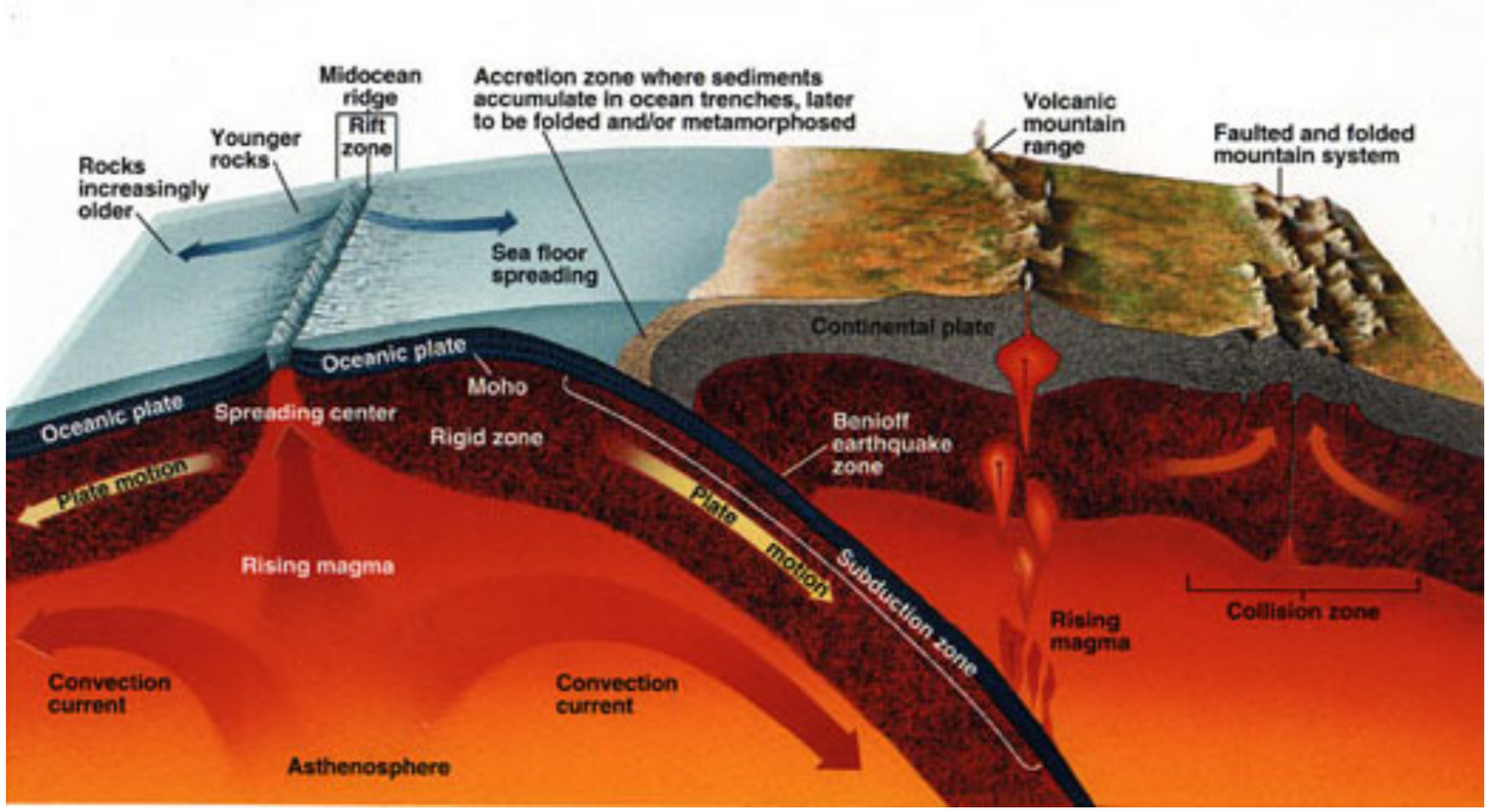

APPELEZ LE
110
5

SL: ouverture d'un océan

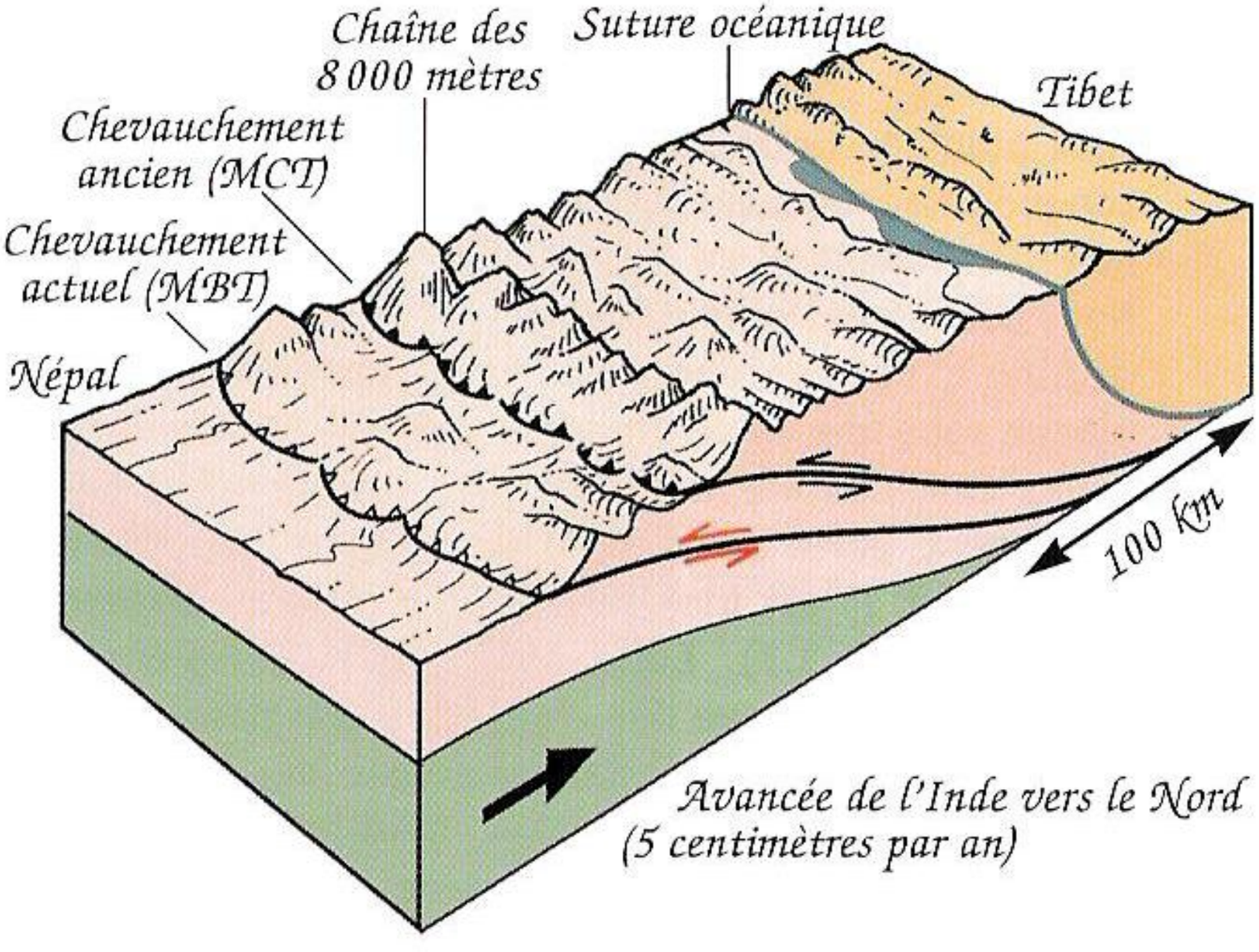
- **2 - La lithosphère se déforme dans les zones de convergence, créant ainsi les chaînes de montagnes**

- Lorsque deux plaques se rencontrent, l'une passe sous l'autre (**subduction**) et cela provoque le soulèvement d'une plaque qui est compressée: il se forme une chaîne de montagne et l'activité volcanique est importante.

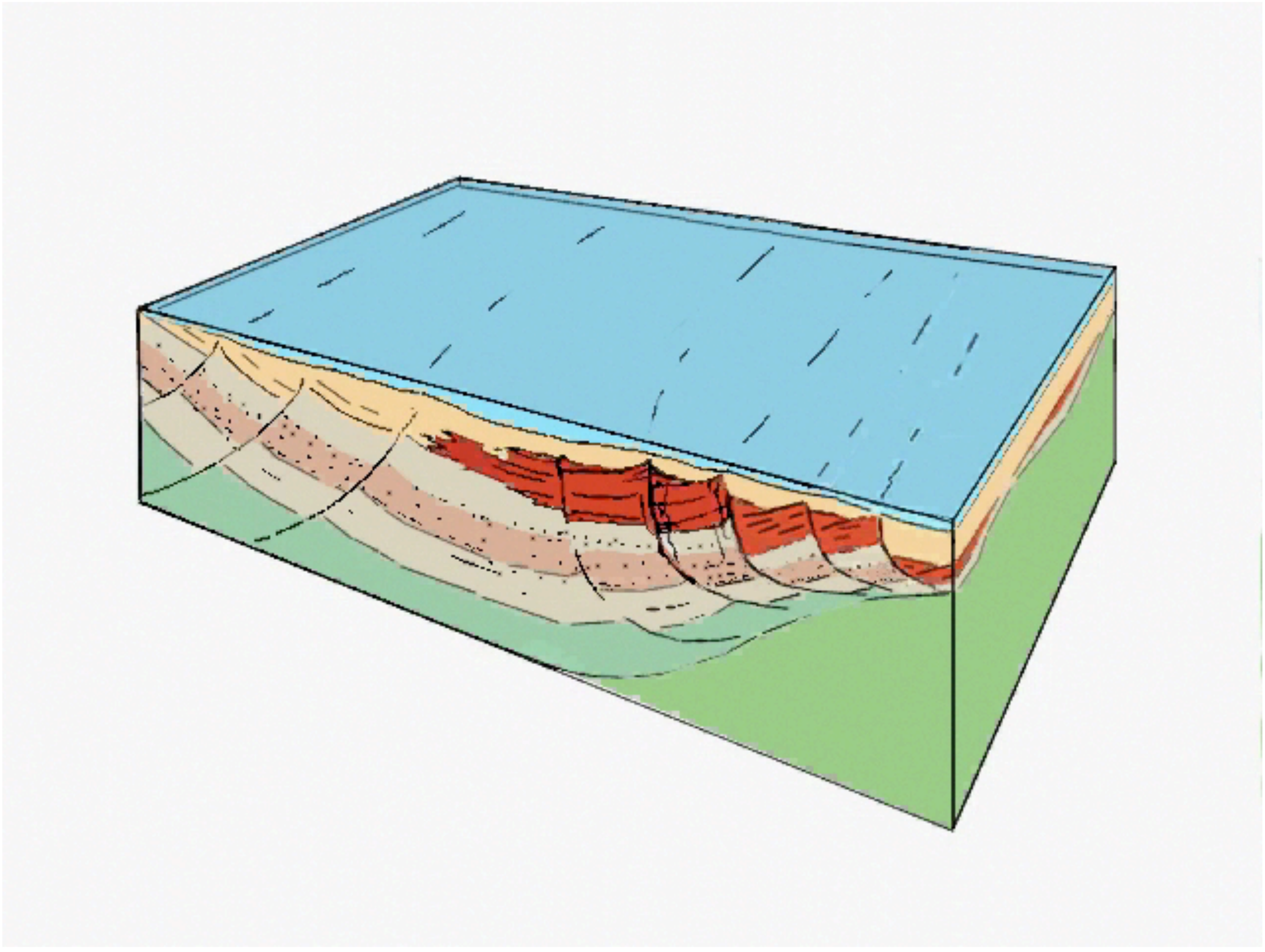



Midocean ridge
Rift zone
Younger rocks
Rocks increasingly older
Accretion zone where sediments accumulate in ocean trenches, later to be folded and/or metamorphosed
Volcanic mountain range
Faulted and folded mountain system
Sea floor spreading
Continental plate
Oceanic plate
Moho
Oceanic plate
Spreading center
Rigid zone
Benioff earthquake zone
Plate motion
Plate motion
Subduction zone
Rising magma
Rising magma
Collision zone
Convection current
Convection current
Asthenosphere

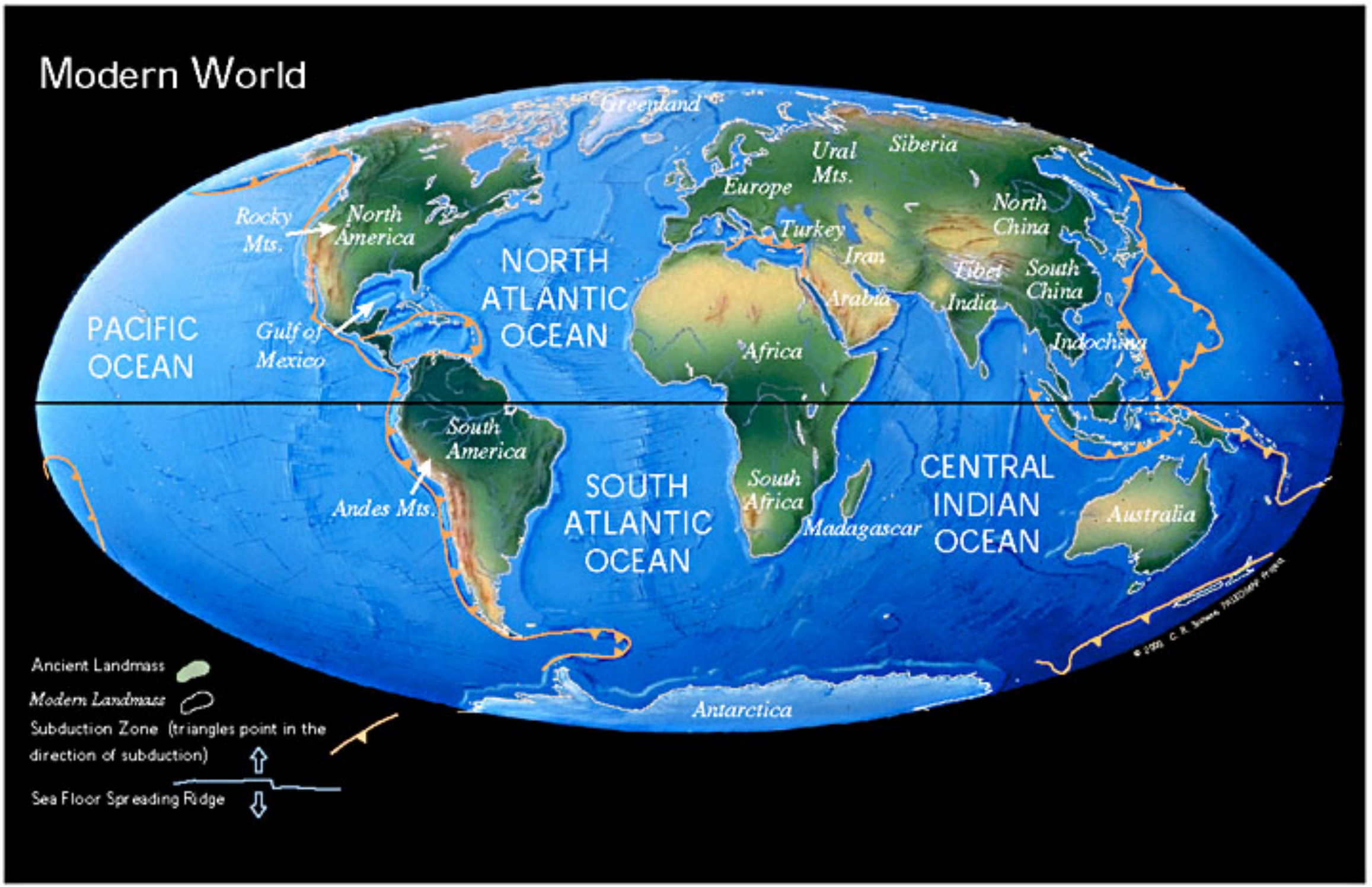
- Lorsque deux morceaux de croûte continentale entrent en collision, la lithosphère se déforme plus intensément et des chaînes de montagnes se forment également (Alpes, Himalaya...).

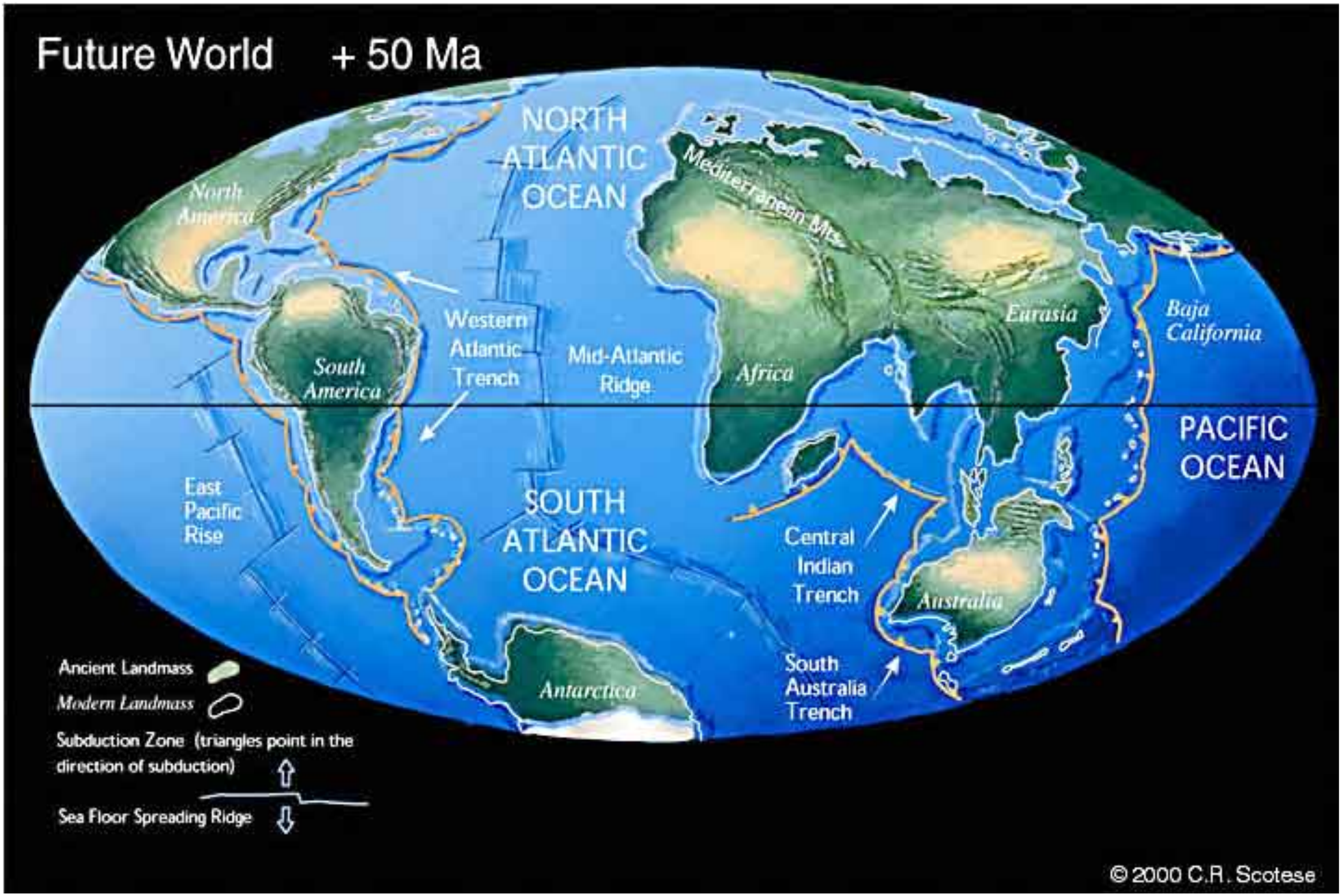


Architectonique de l'Himalaya à l'échelle de la croûte continentale



SL: formation d'une chaîne de montagnes


Modern World
Greenland
Ural Mts.
Siberia
Europe
Rocky Mts.
North America
Turkey
North China
Iran
Tibet
South China
Arabia
India
Indochina
PACIFIC OCEAN
Gulf of Mexico
NORTH ATLANTIC OCEAN
Africa
South America
Andes Mts.
SOUTH ATLANTIC OCEAN
South Africa
Madagascar
CENTRAL INDIAN OCEAN
Australia
Antarctica
Ancient Landmass
Modern Landmass
Subduction Zone (triangles point in the direction of subduction)
Sea Floor Spreading Ridge


Future World + 50 Ma
NORTH ATLANTIC OCEAN
North America
Mediterranean Mts.
Western Atlantic Trench
Mid-Atlantic Ridge
South America
Africa
Eurasia
Baja California
PACIFIC OCEAN
East Pacific Rise
SOUTH ATLANTIC OCEAN
Central Indian Trench
Australia
Antarctica
South Australia Trench
Ancient Landmass
Modern Landmass
Subduction Zone (triangles point in the direction of subduction)
Sea Floor Spreading Ridge
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APPELEZ LE
110
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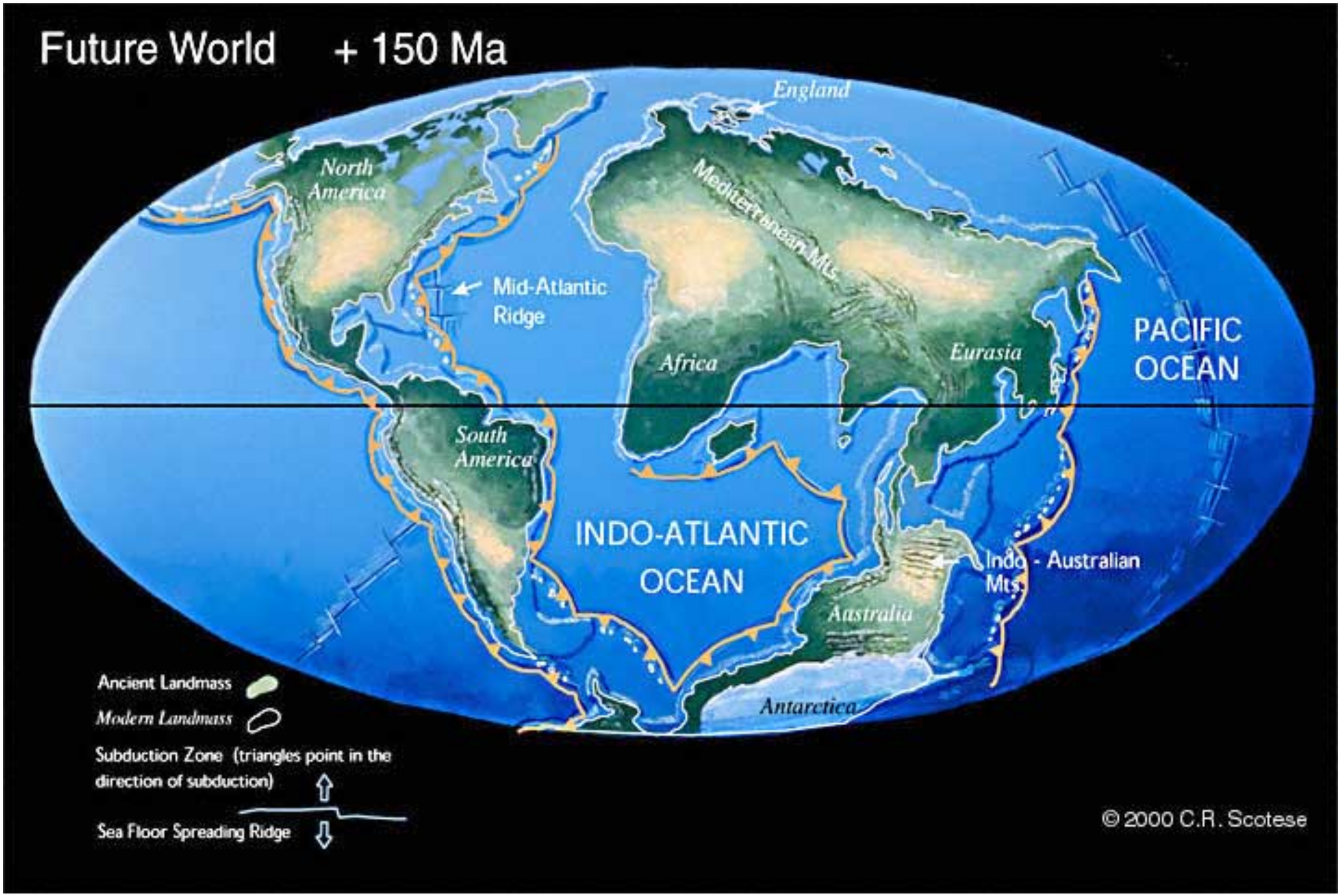
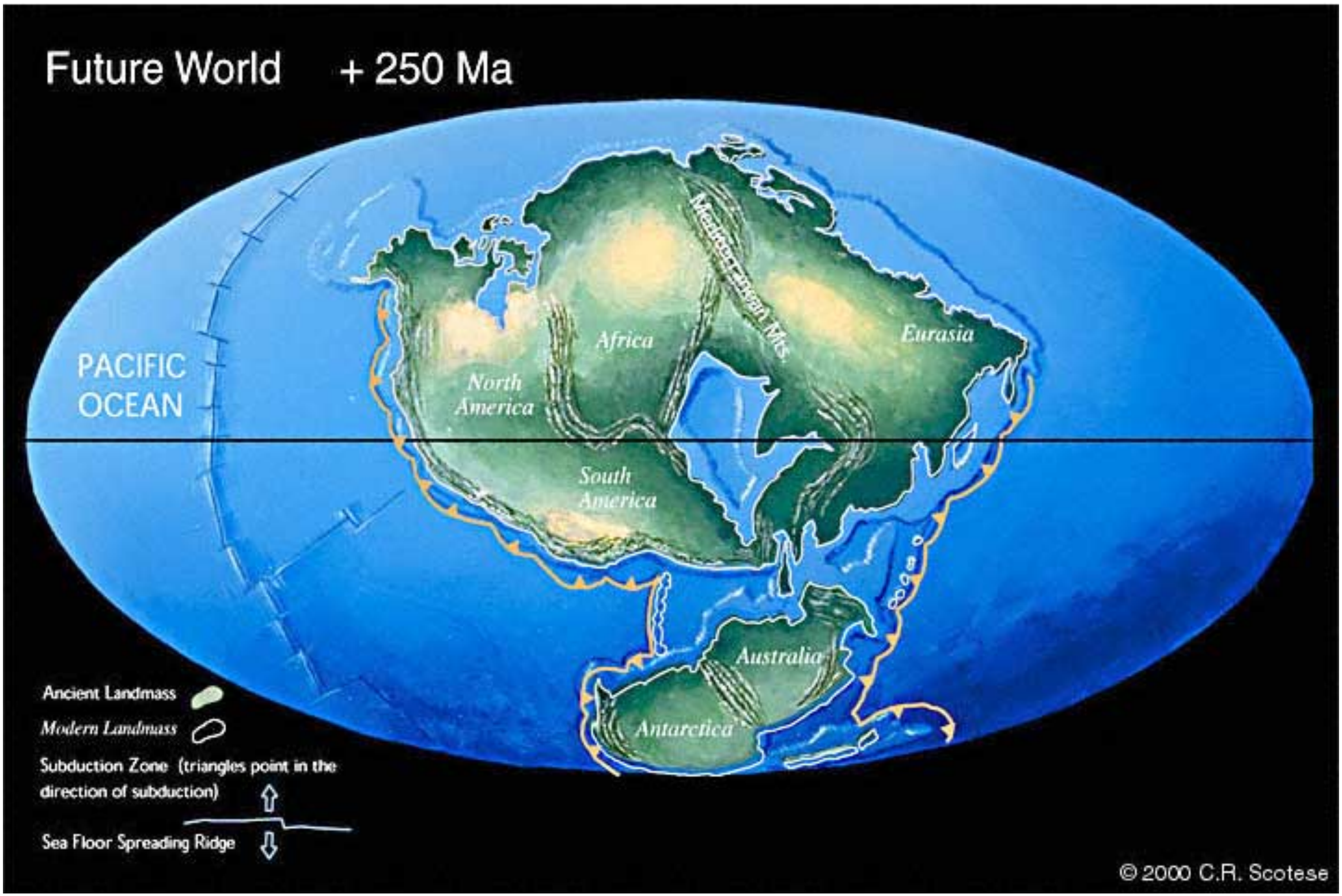
LA TERRE
11
Millions d'années


Future World + 150 Ma
England
North America
Mediterranean Mts.
Mid-Atlantic Ridge
Africa
Eurasia
PACIFIC OCEAN
South America
INDO-ATLANTIC OCEAN
Indo - Australian Mts.
Australia
Antarctica
Ancient Landmass
Modern Landmass
Subduction Zone (triangles point in the direction of subduction)
Sea Floor Spreading Ridge
© 2000 C.R. Scotese


Future World + 250 Ma
PACIFIC OCEAN
North America
Africa
Mediterranean Mts.
Eurasia
South America
Australia
Antarctica
Ancient Landmass
Modern Landmass
Subduction Zone (triangles point in the direction of subduction)
Sea Floor Spreading Ridge
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