



Plate Tectonics

Geography of Canada



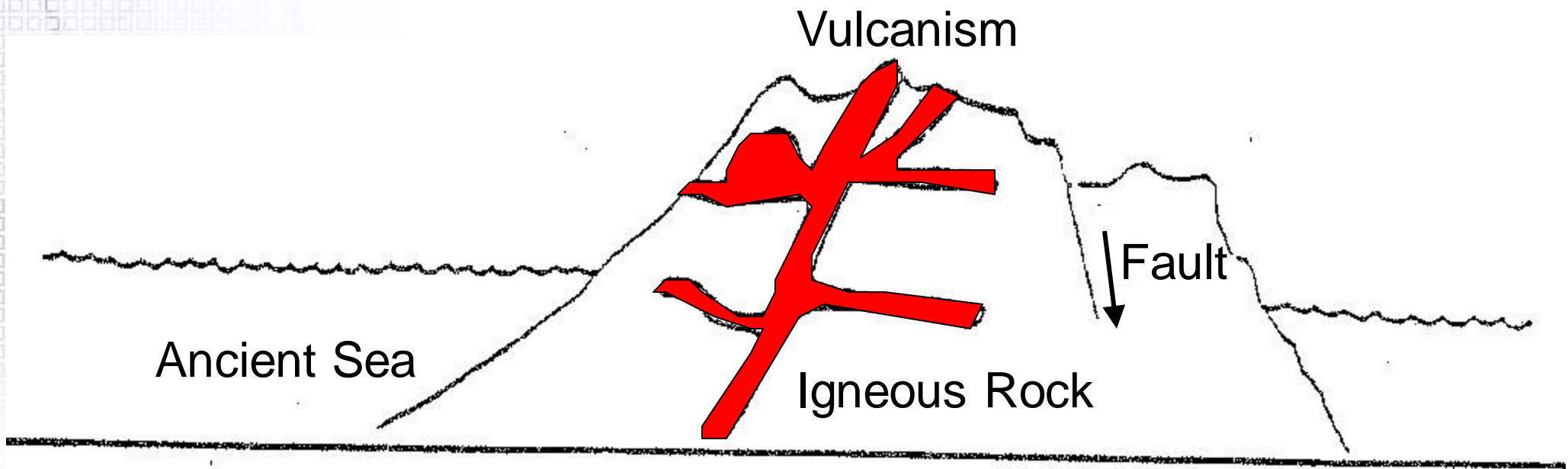
Planet Earth

1. Geologic History
2. Plate Tectonics
3. Earth's Interior
4. Rock Cycle



Geologic History

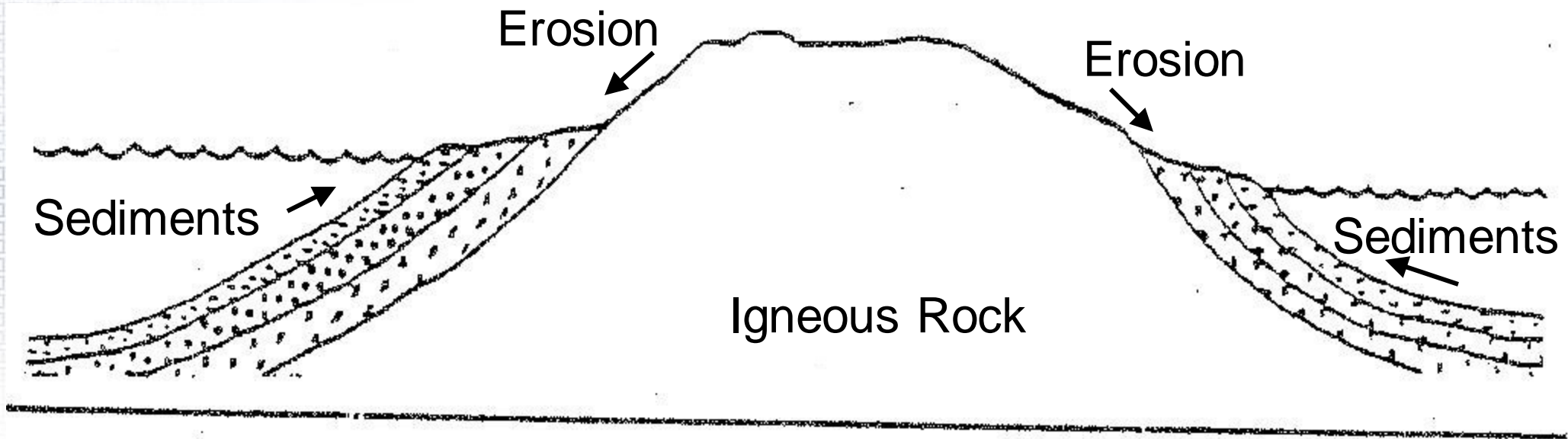
- Precambrian Era





Geologic History

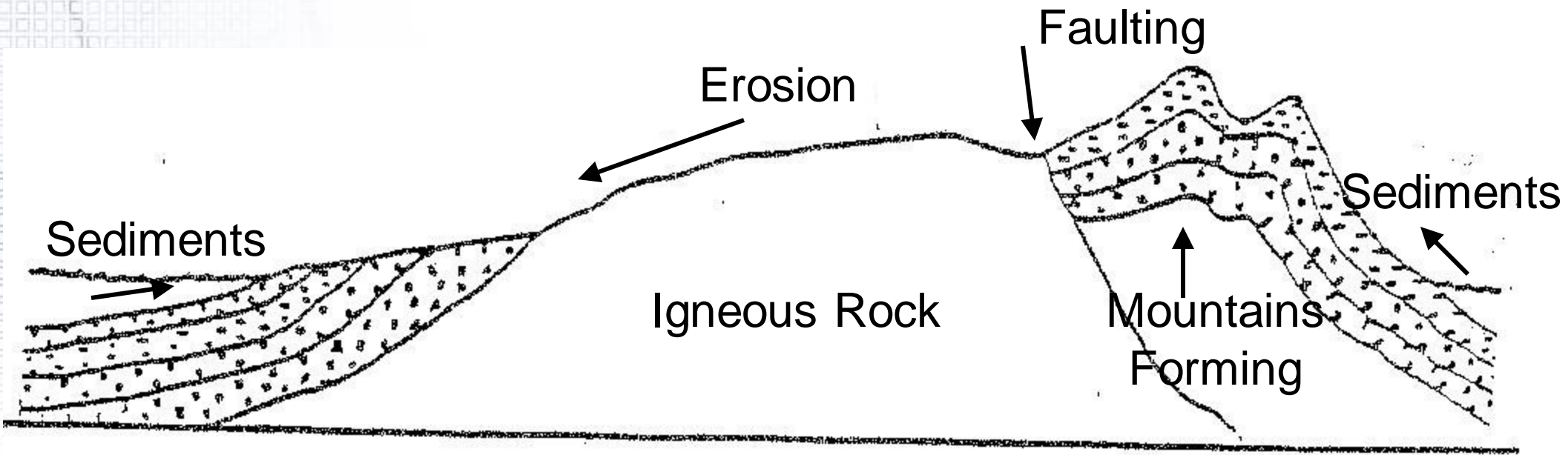
- Paleozoic Era





Geologic History

- Mesozoic Era





Geologic History

- Cenozoic Era

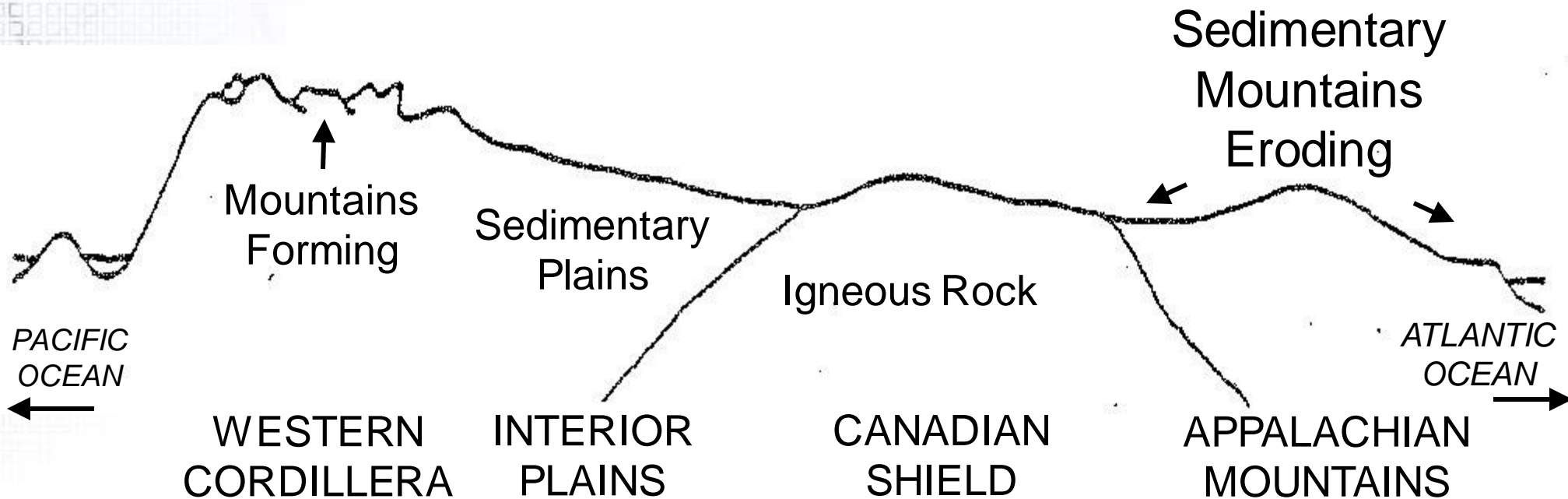
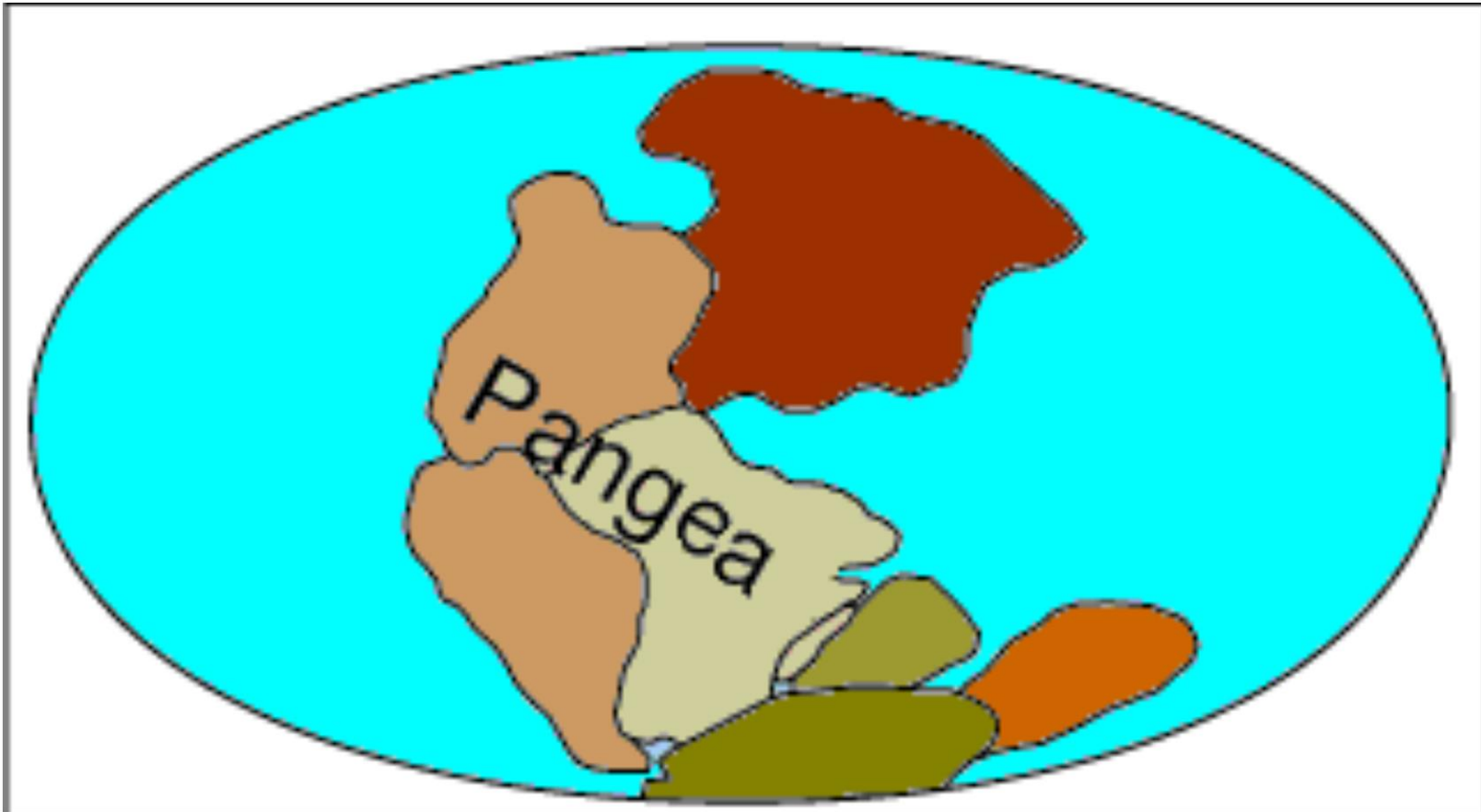




Plate Tectonics

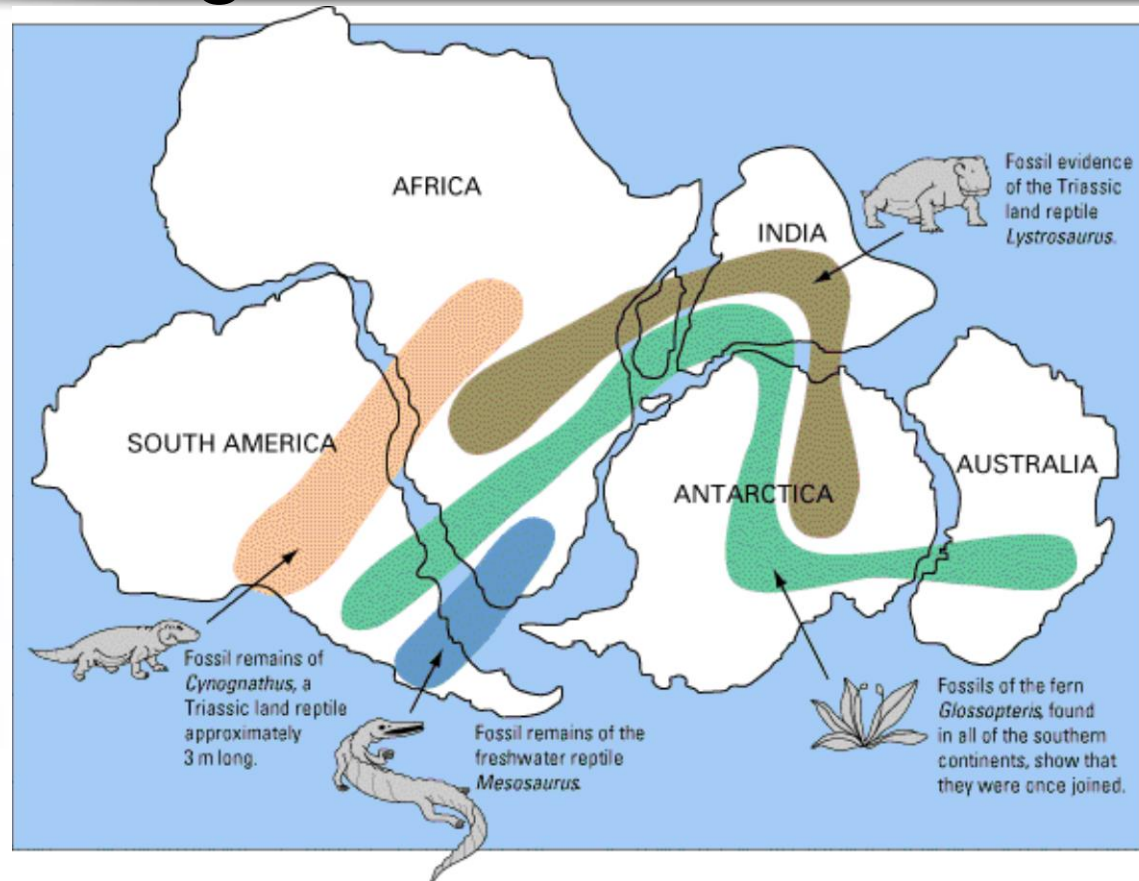
“Continental Drift”



200 million years ago all of the present-day continents combined to form a single supercontinent called Pangea.

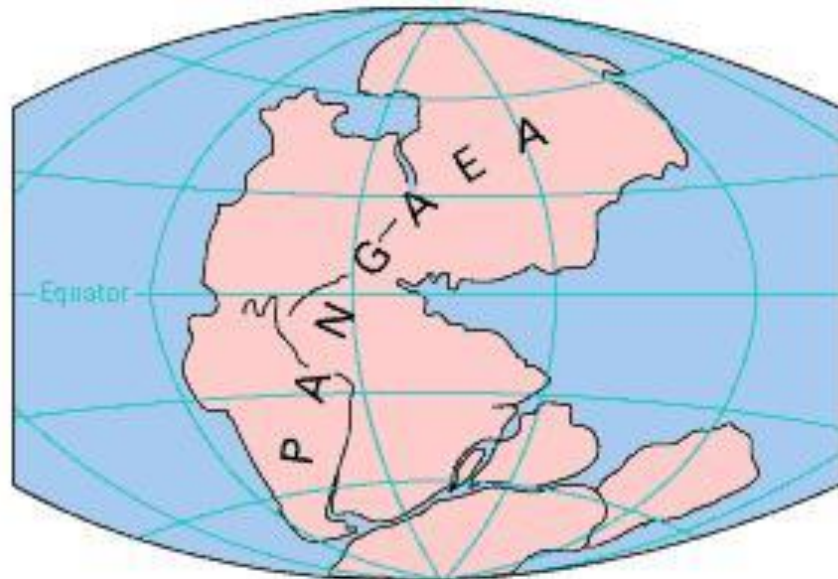
Plate Tectonics

Wegner's "Continental Drift" Theory



Wegner's Four "proofs:"

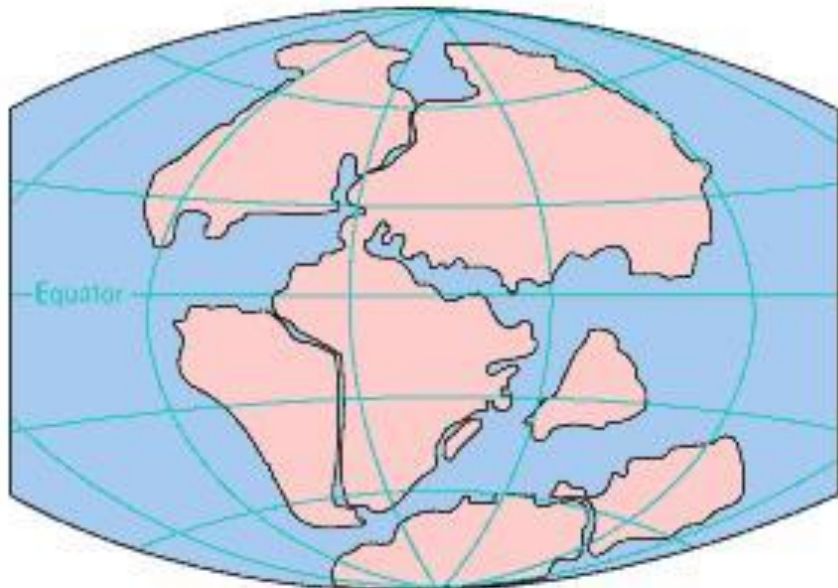
1. Puzzle Pieces
2. Fossil Record
3. Mountain Ranges
4. Glacial Landforms



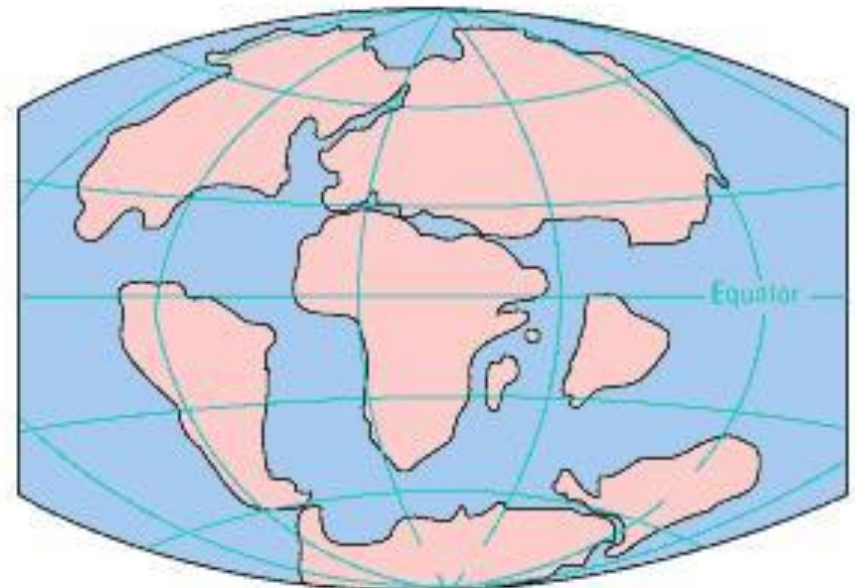
PERMIAN
225 million years ago



TRIASSIC
200 million years ago



JURASSIC
135 million years ago



CRETACEOUS
65 million years ago

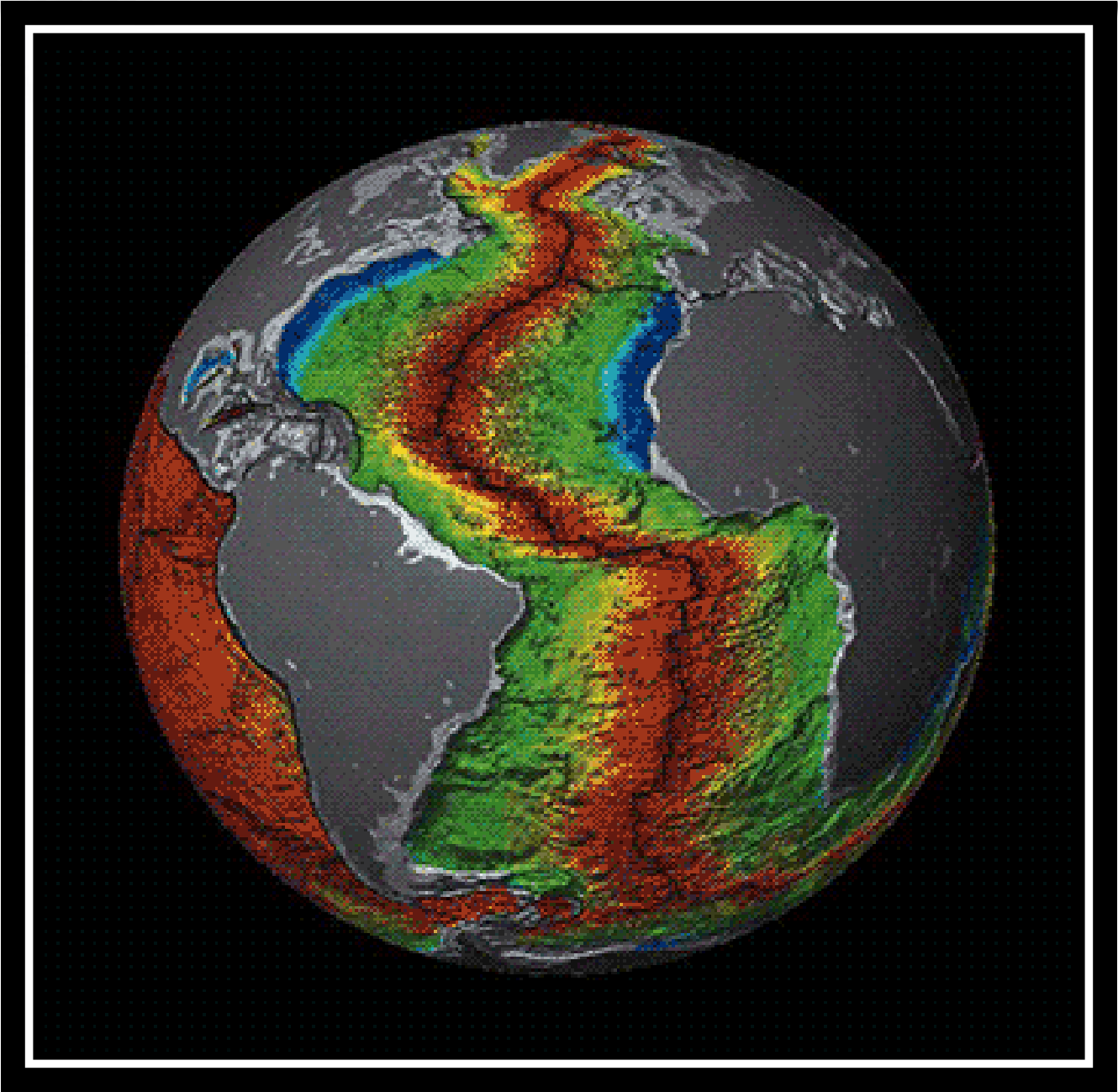




Plate Tectonics Map

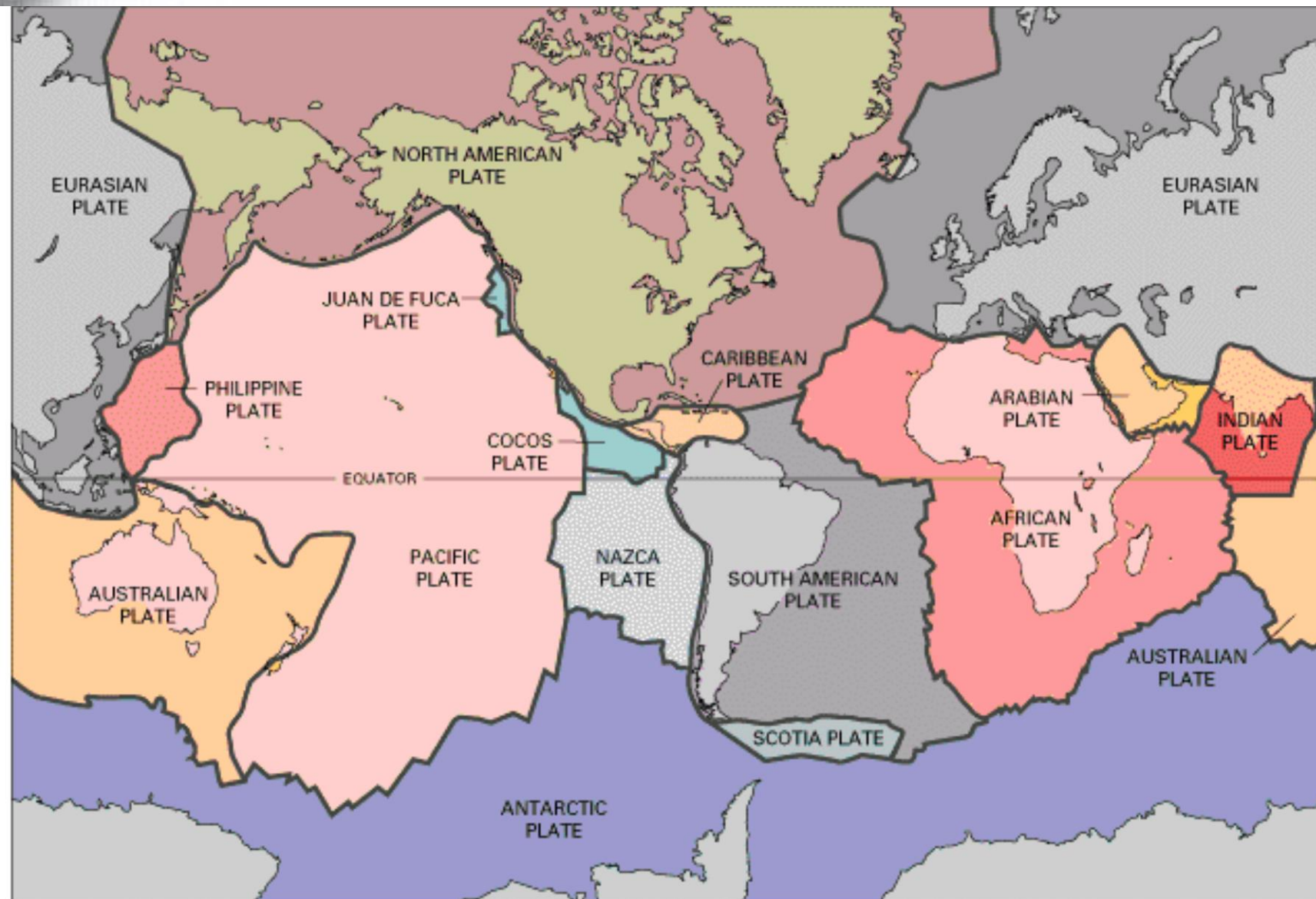




Plate Tectonics - Continental Drift

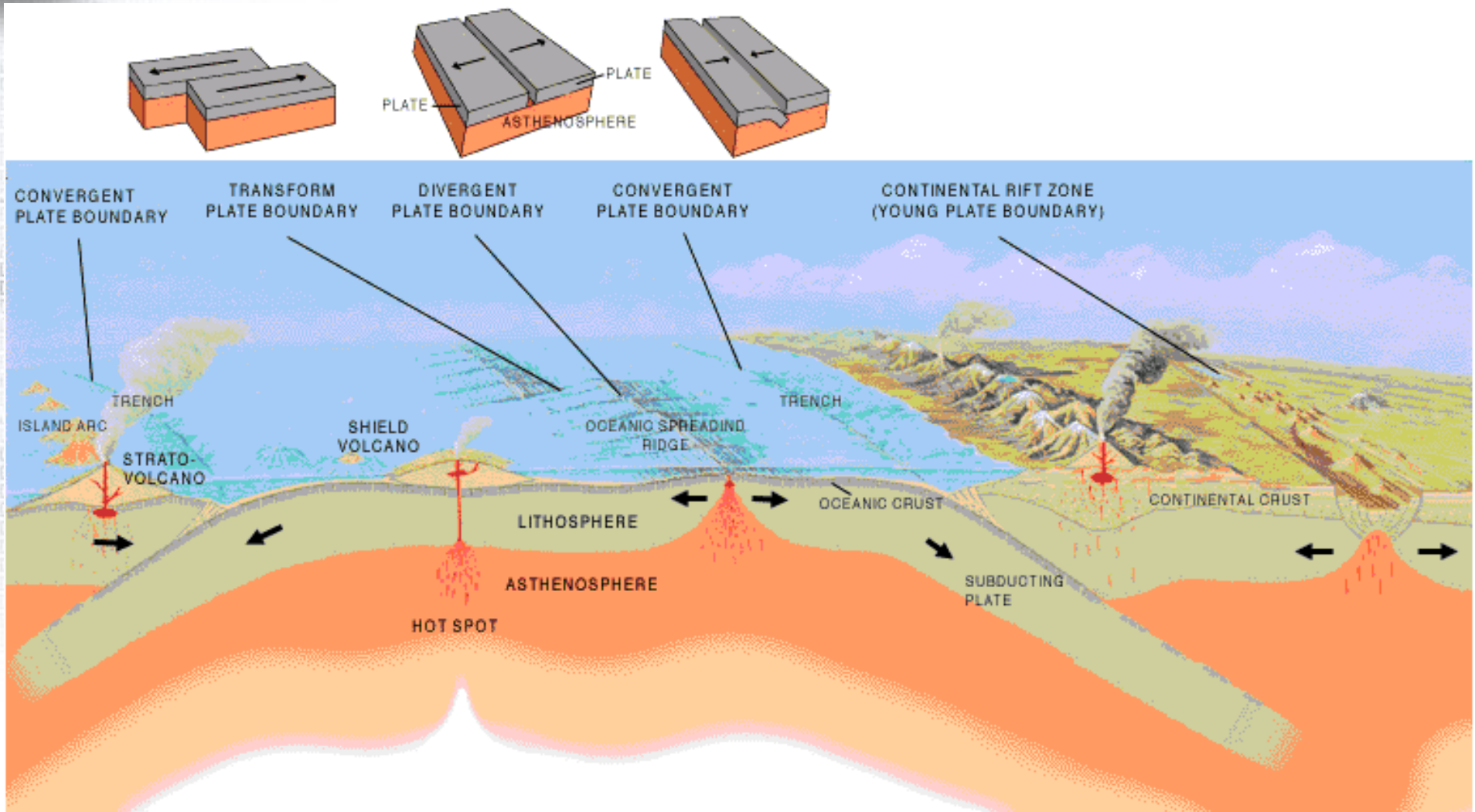
Seismic Activity







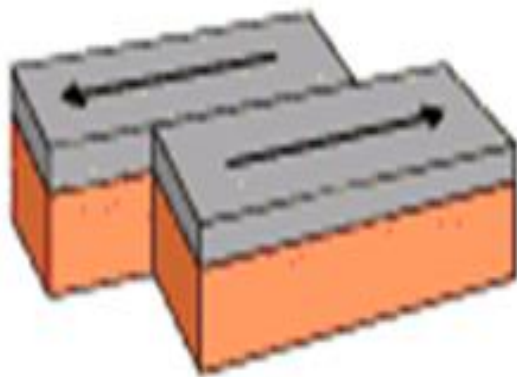
Plate Tectonics Processes



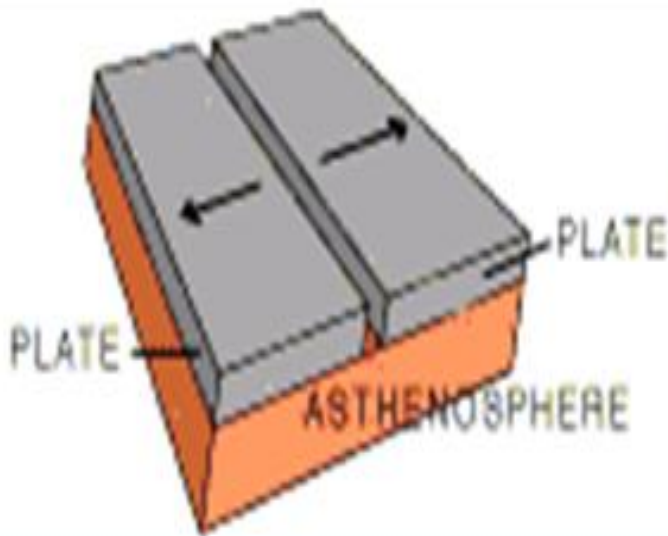
Deep Sea vents - [life](#)



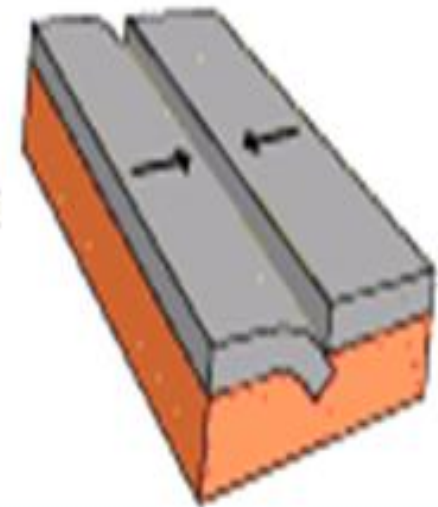
Plate Movement



Transform



Divergent



Convergent



Plate Tectonics Separating

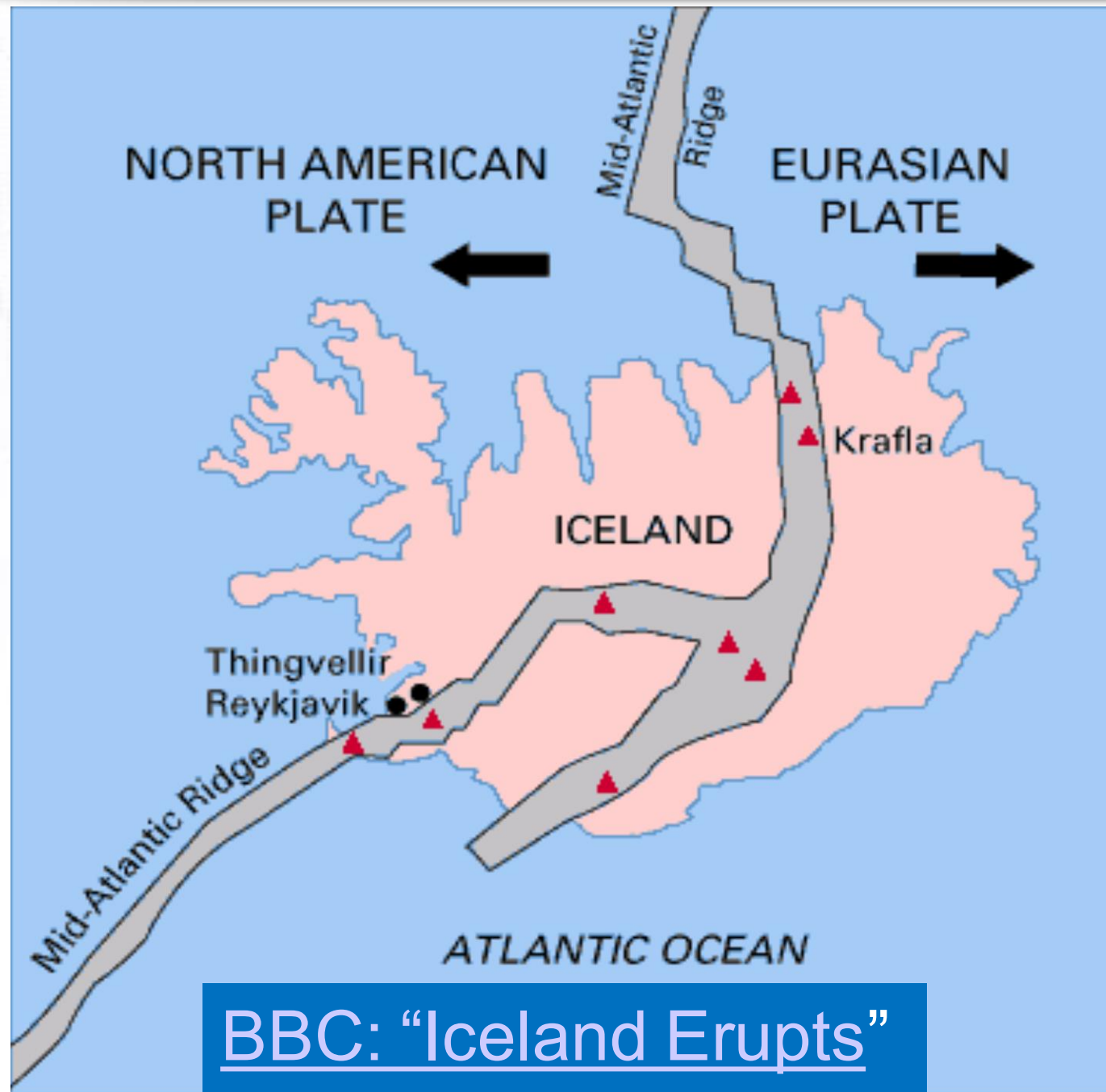




Plate Tectonics Separating

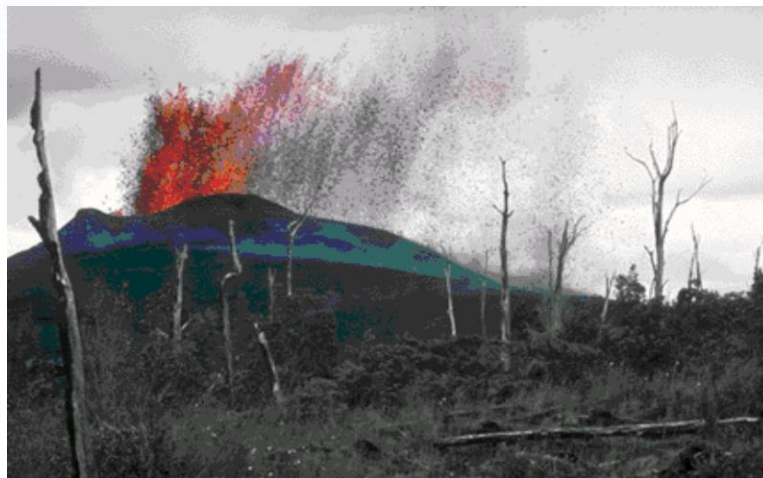




Plate Tectonics Separating

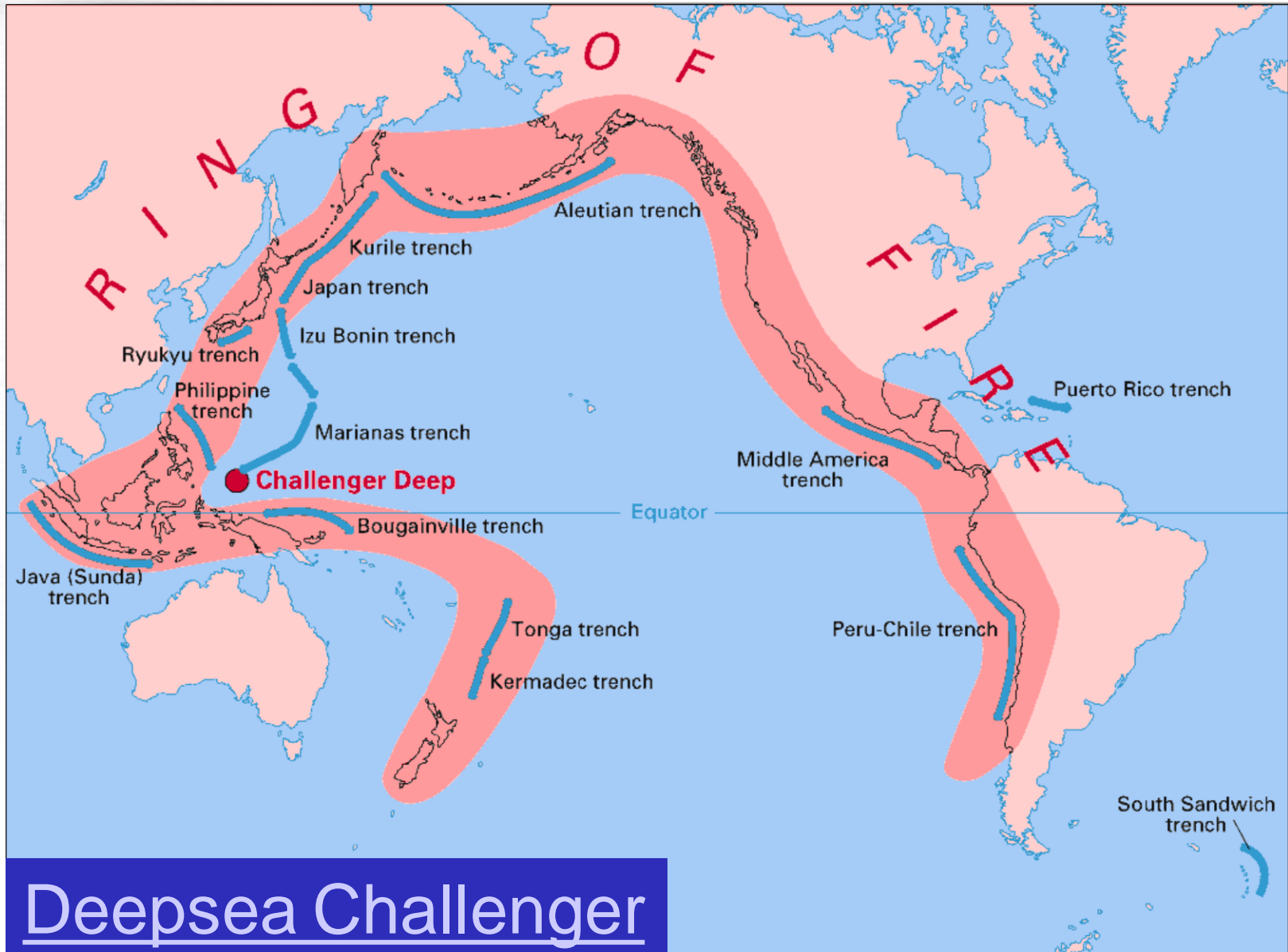
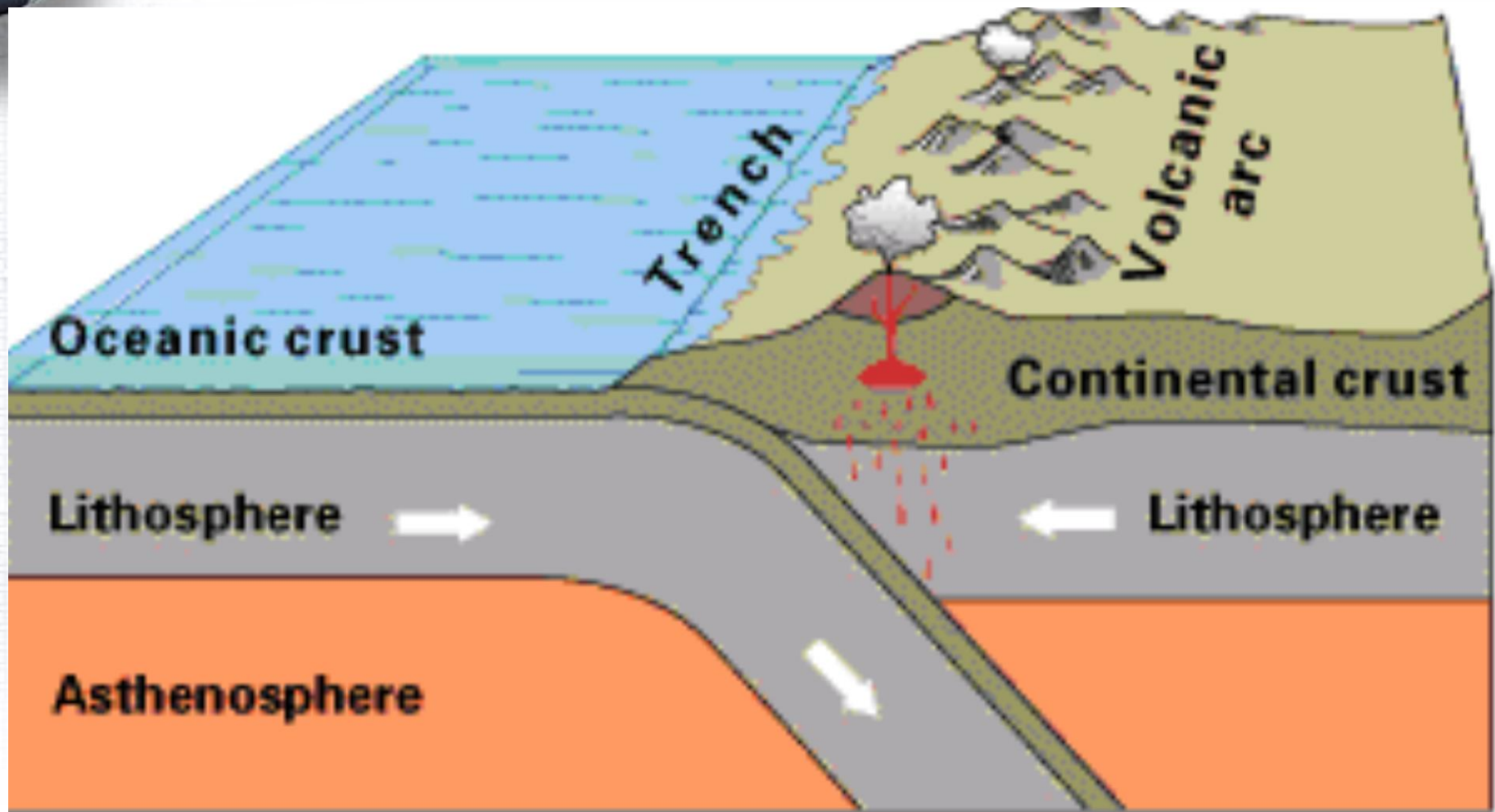




Plate Tectonics Colliding



Oceanic-continental convergence

Subduction Zone



Plate Tectonics Colliding





Plate Tectonics Sliding

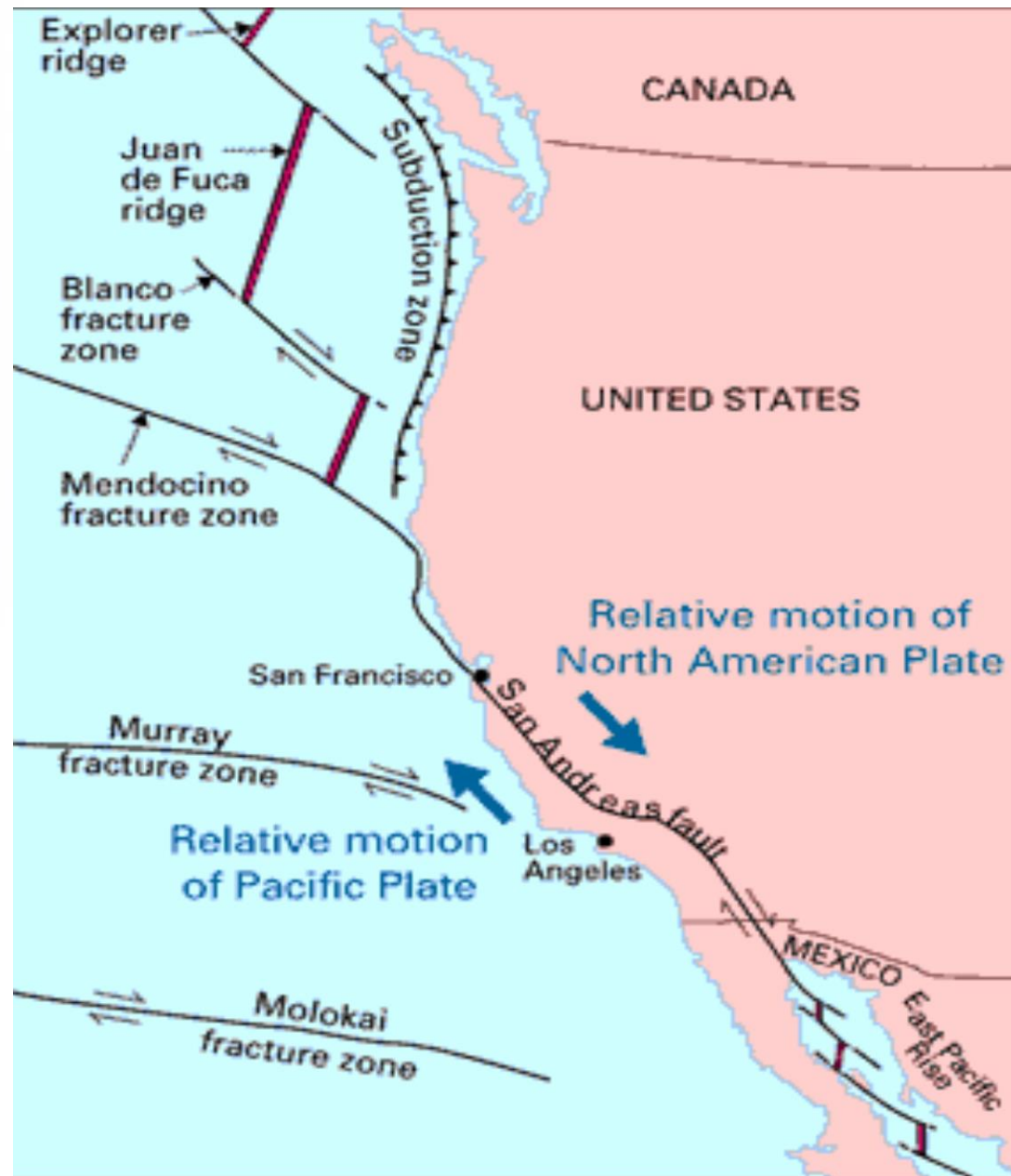




Plate Tectonics Sliding

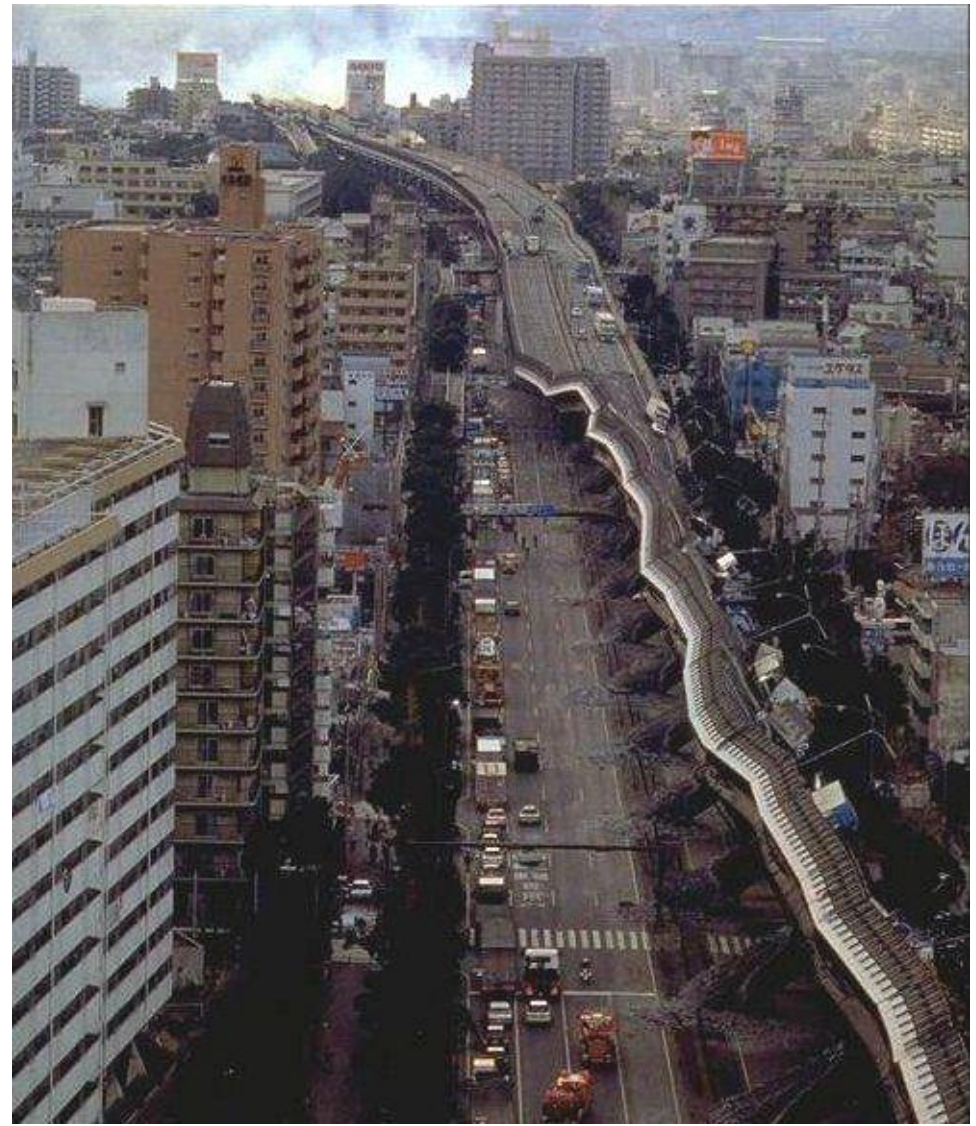
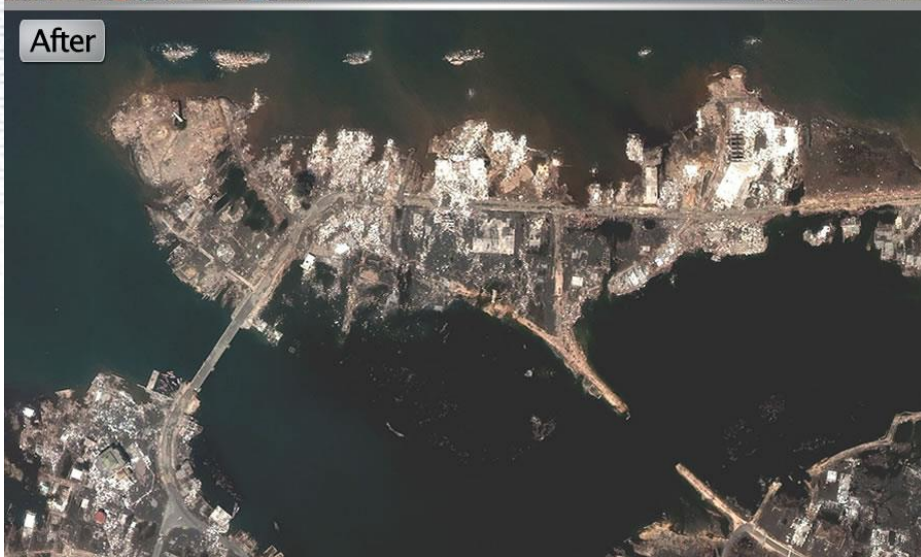




Plate Tectonics Sliding

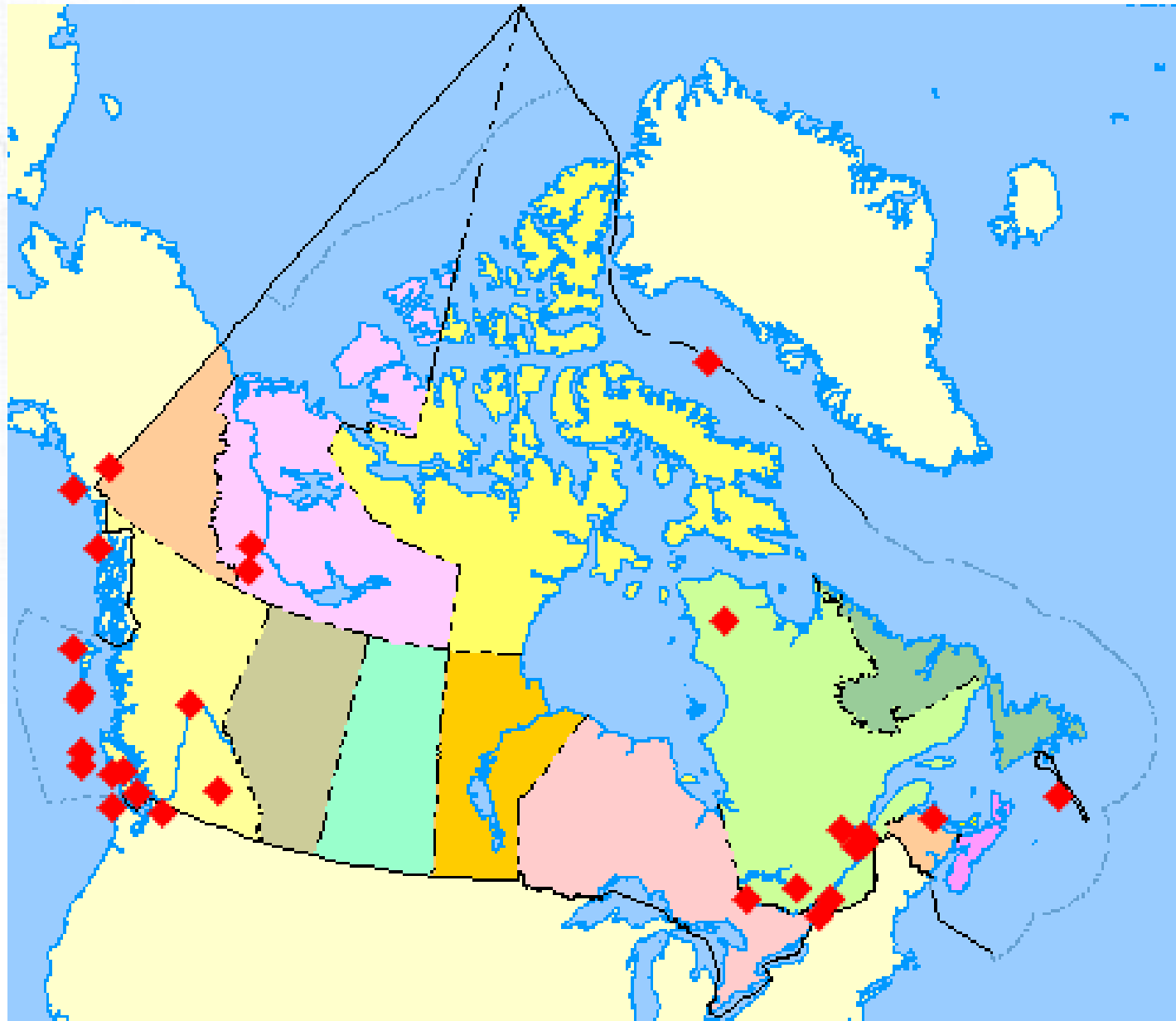




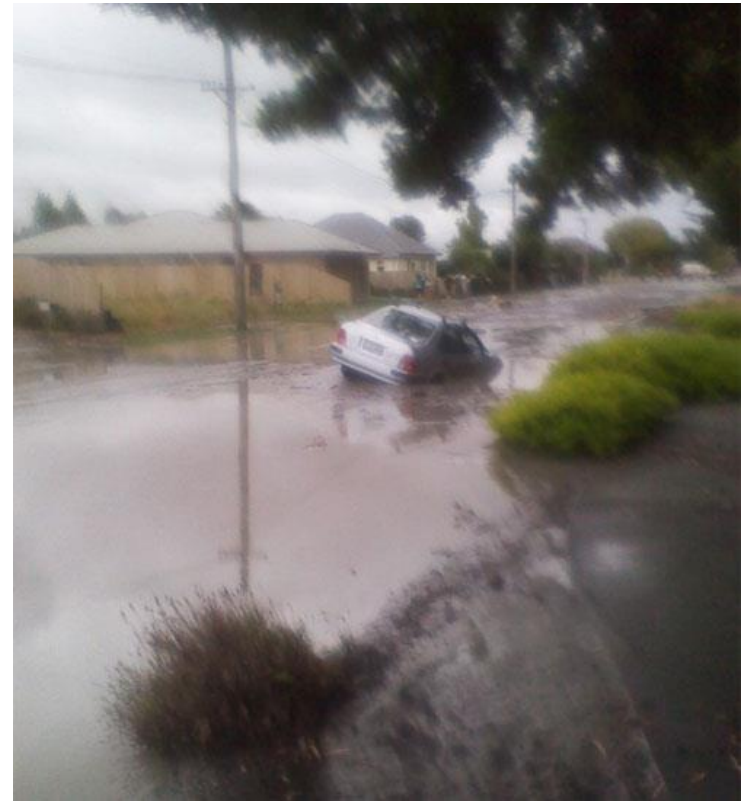
Plate Tectonics Sliding

- Less than 3.5 Generally not felt, but recorded.
- 3.5-5.4 Often felt, but rarely causes damage.
- Under 6.0 At most slight damage to well-designed buildings.
- 6.1-6.9 Can be destructive in areas up to about 100 kilometers across.
- 7.0-7.9 Major earthquake. Can cause serious damage over larger areas.
- 8 or greater Great earthquake. Can cause serious damage in areas several hundred kilometers across.



12:50 pm - Monday, February 21, 2011
Christchurch, New Zealand
(Shallow-6.3 Magnitude)







Christchurch, New Zealand Earthquake CBC

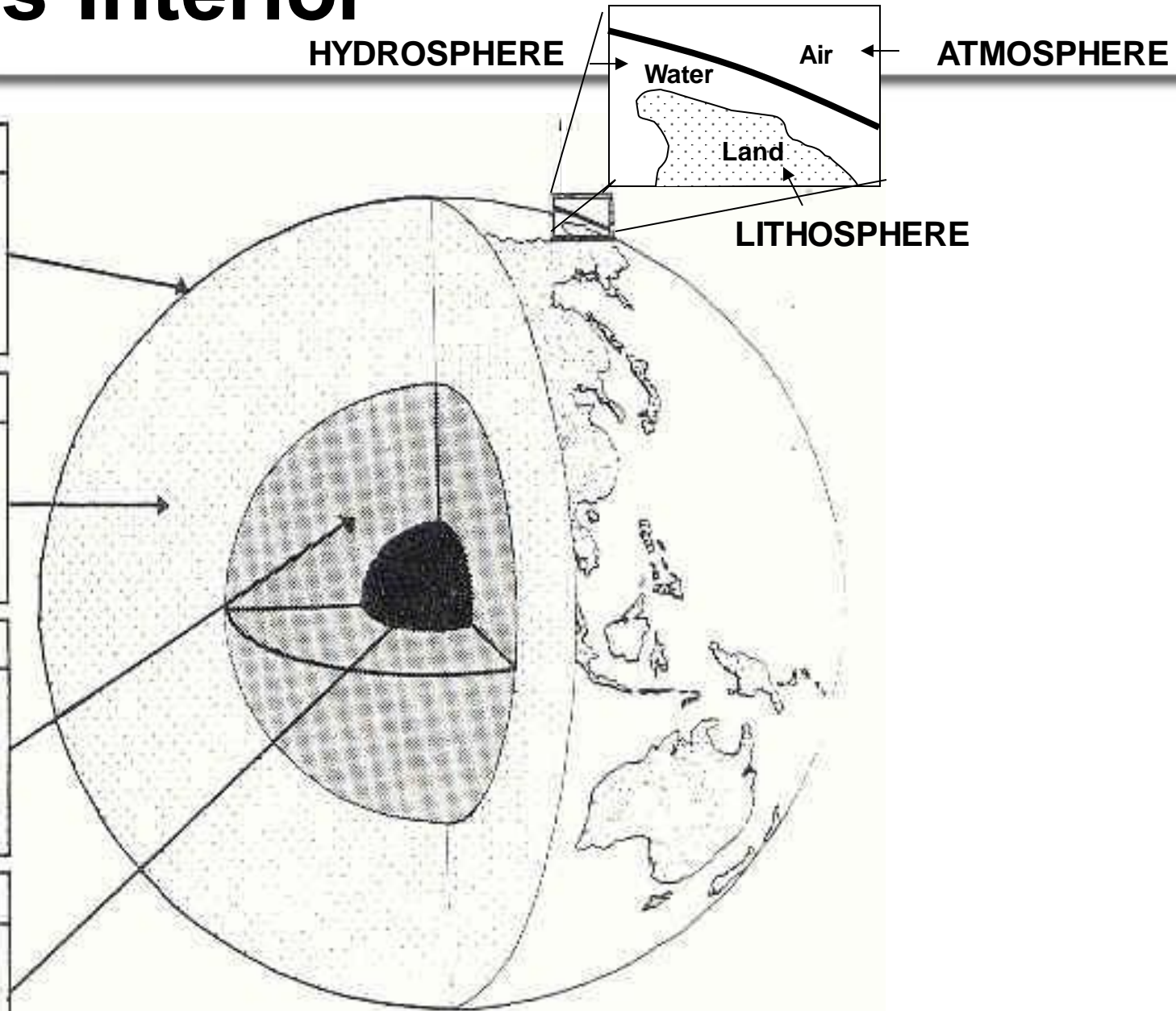
Photos





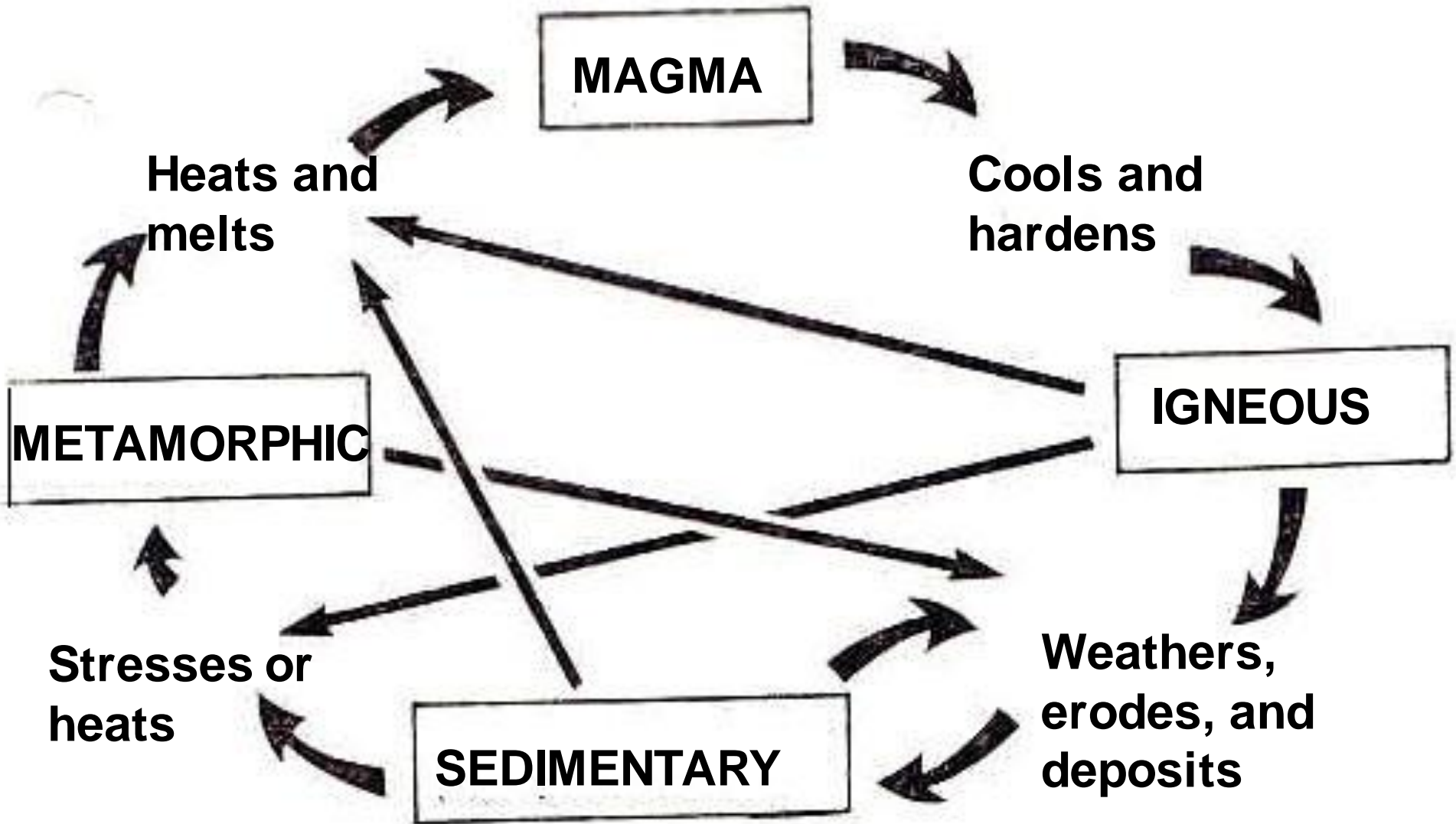
Earth's Interior

Crust
- 8-64 km thick - cold & fragile - Granite and Basalt
Mantle
- 1800 km thick - hot & molten - Magnesium and Silicon
Outer Core
- 2000 km thick - 3 - 4000°C - liquid Nickel and Iron
Inner Core
- 1400 km thick - 5 - 6000°C - <i>solid</i> Nickel and Iron





Rock Cycle





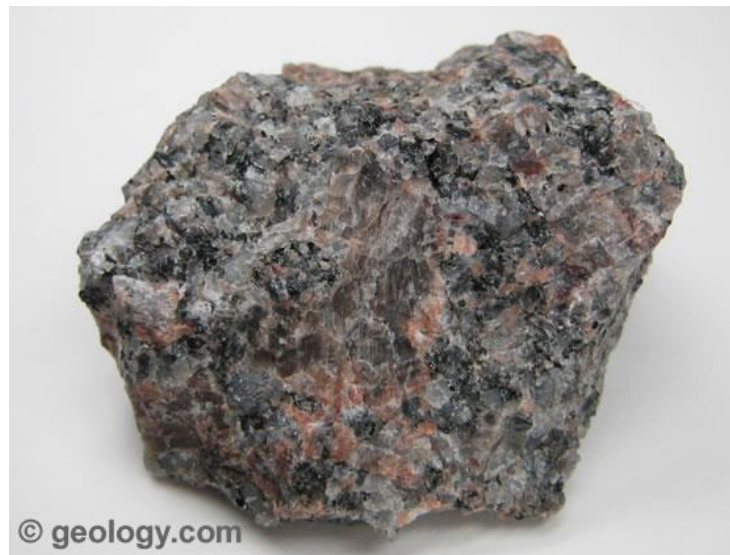
Igneous Rock



Obsidian



Basalt



Granite



Sedimentary Rock



Conglomerate



Limestone



Shale



Metamorphic Rock



Gneiss



Slate



Marble