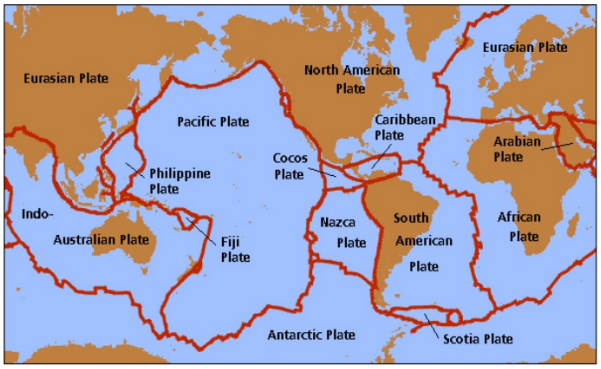
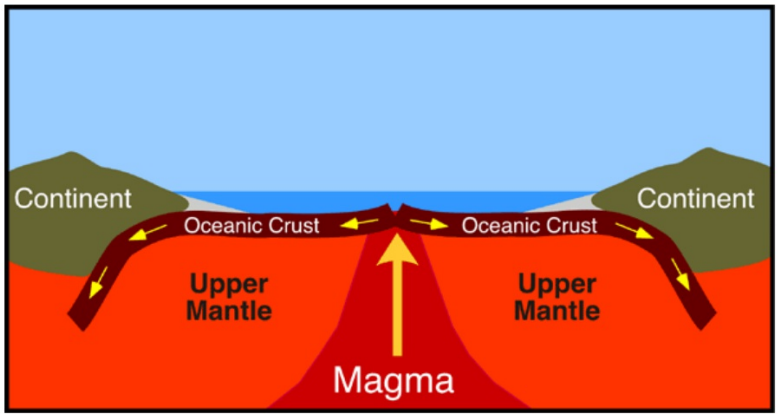
Plate Tectonics

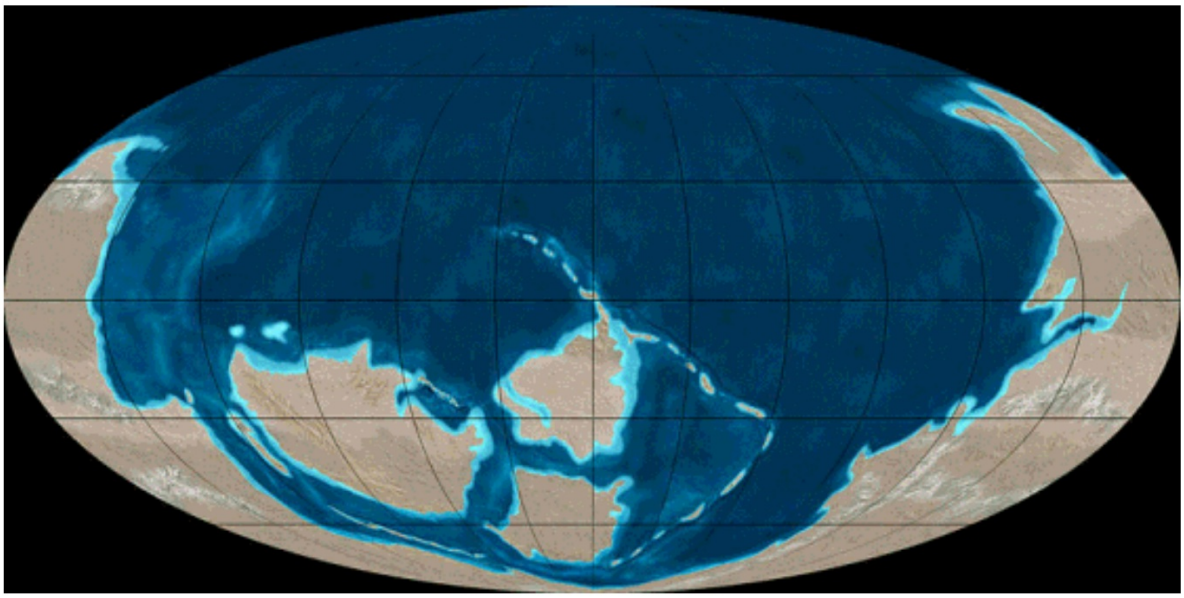




Drifting Continents:

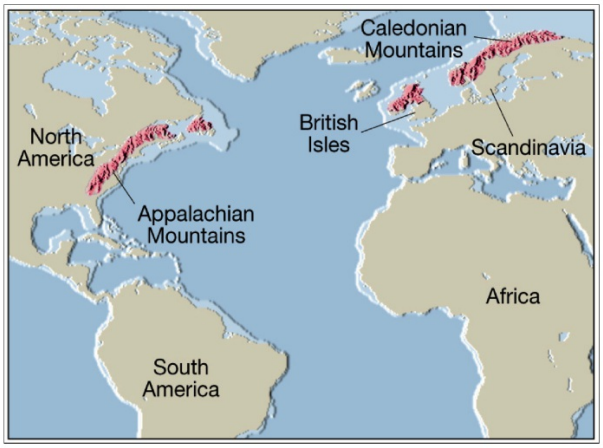
Wegners hypothesis was that all continents were once joined together in a single landmass and have since drifted.

Pangea about 300 million years ago

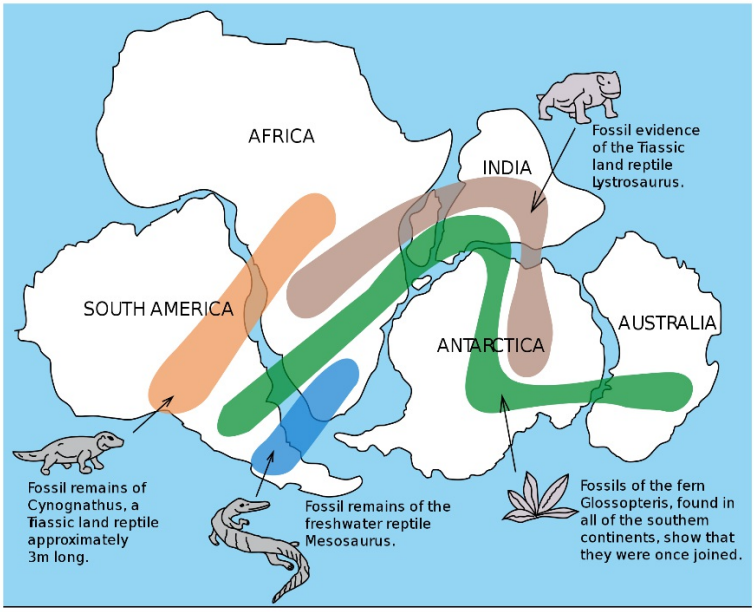


https://www.youtube.com/watch?v=uGcDed4xVD4

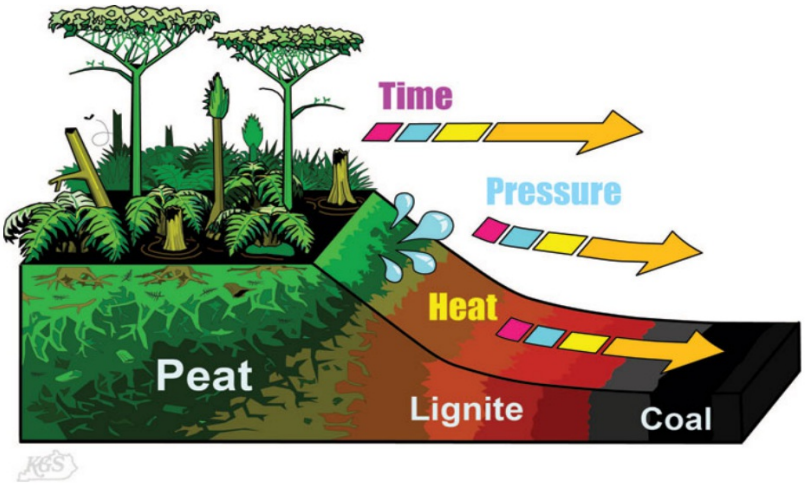
Land features

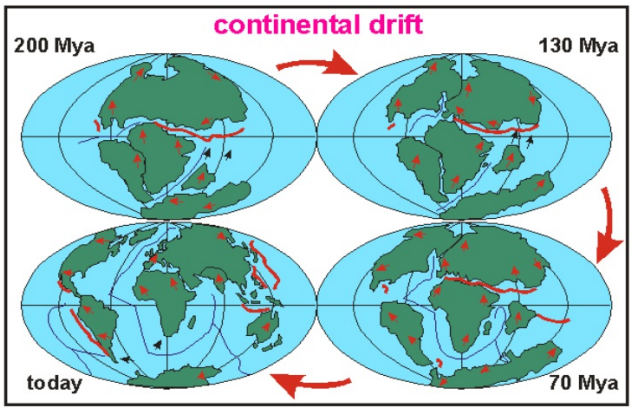


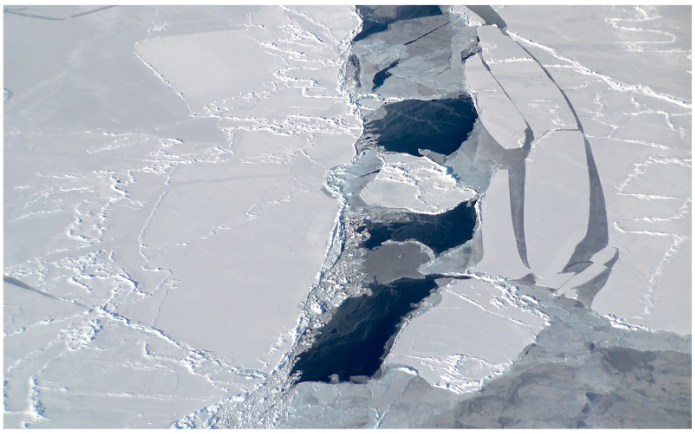
Evidance from fossils



Evidance from climate

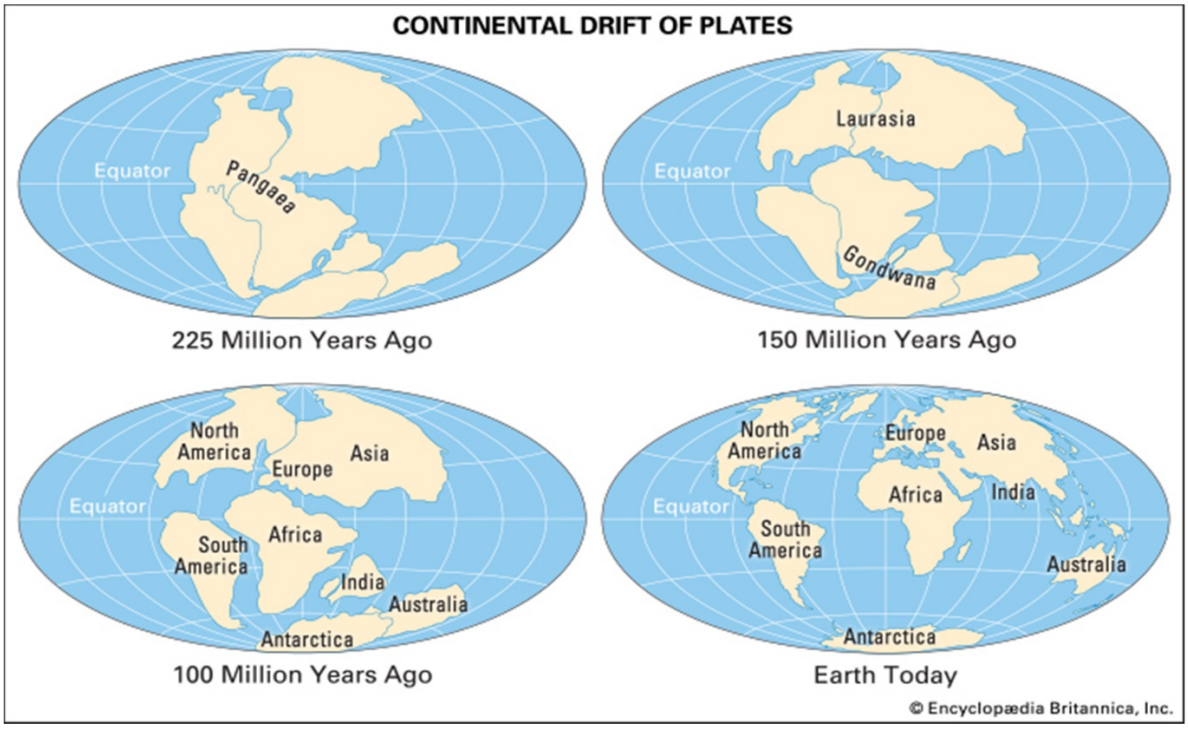






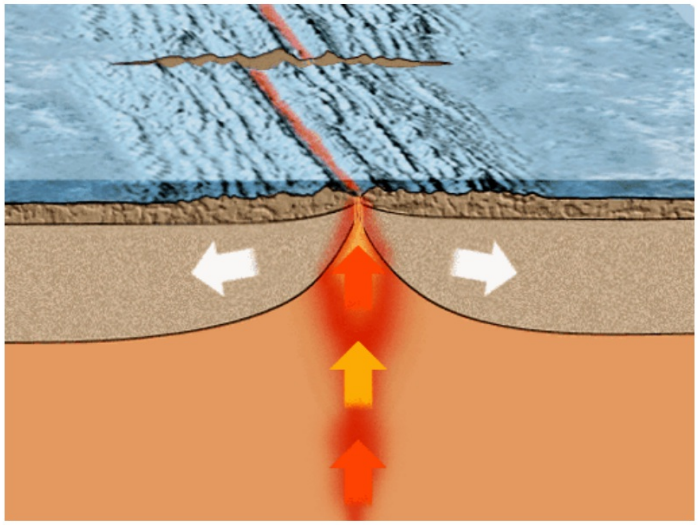
Hypothesis Rejected

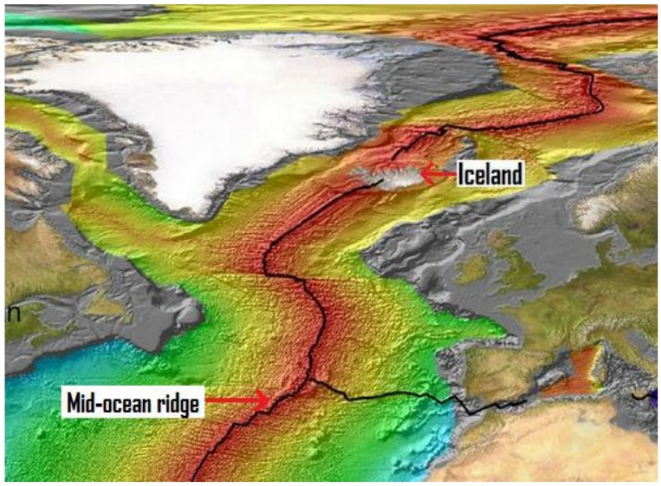
Alfred Wegner thought that continents moved across the ocean floor. He was unable to explain the force that pushed and pulled the continents. Because of this most Geologists of the time rejected his ideas.



Seafloor Spreading:

Mid-ocean Ridges - Long chains of mountains that rise up from the ocean floor.



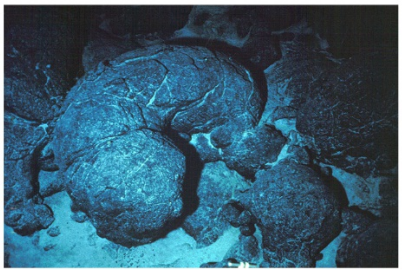


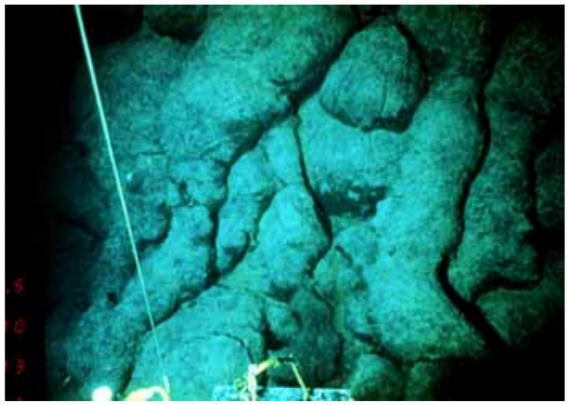
Evidance for Seafloor Spreading

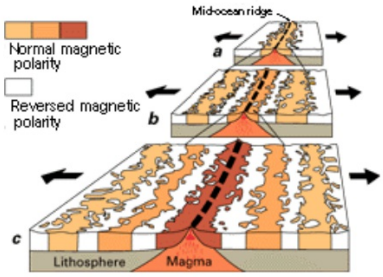
1. Ocean Material

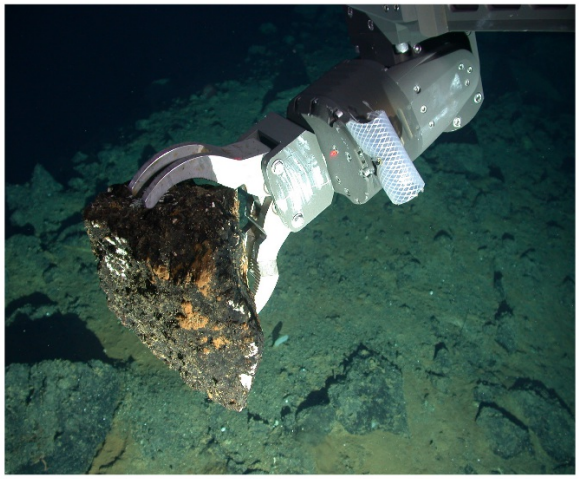
2. Magnetic Stripes

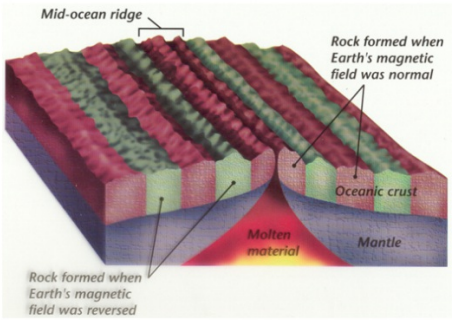
3. Drilling Material







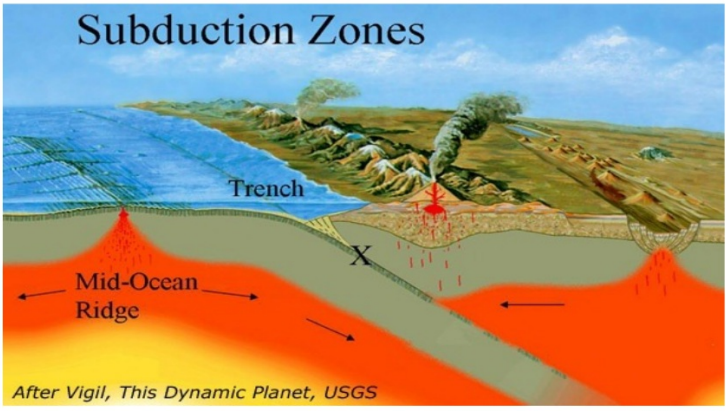


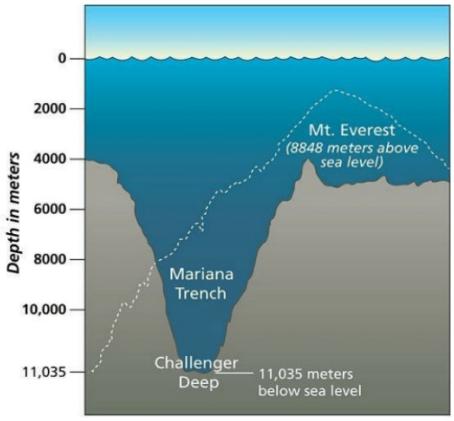


https://www.youtube.com/watch?v=ZzvDlP6xd9o

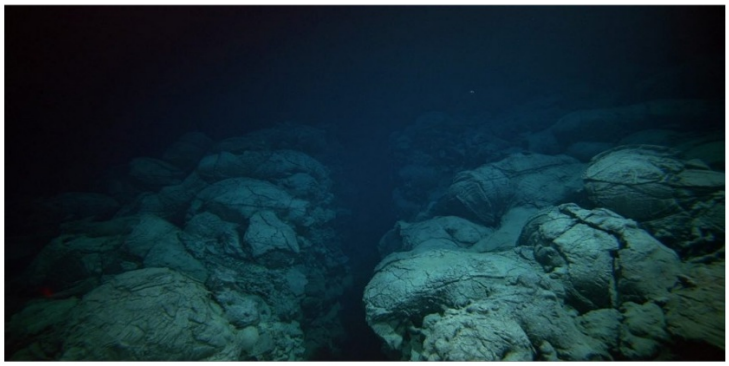
Deep-ocean Trenches

Subduction - Process by which ocean floor sinks beneath a deep ocean trench and back into the mantle.

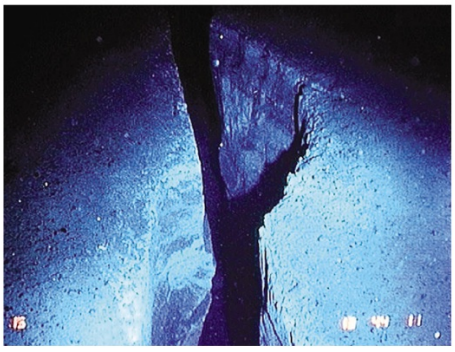




This is deep



https://www.youtube.com/watch?v=NbDqJy28hBw



The Theory of Plate Tectonics:

Earth's lithosphere is broken into pieces called plates.

Theory states that earth's plates move slowly, constantly and are driven by convection currents.

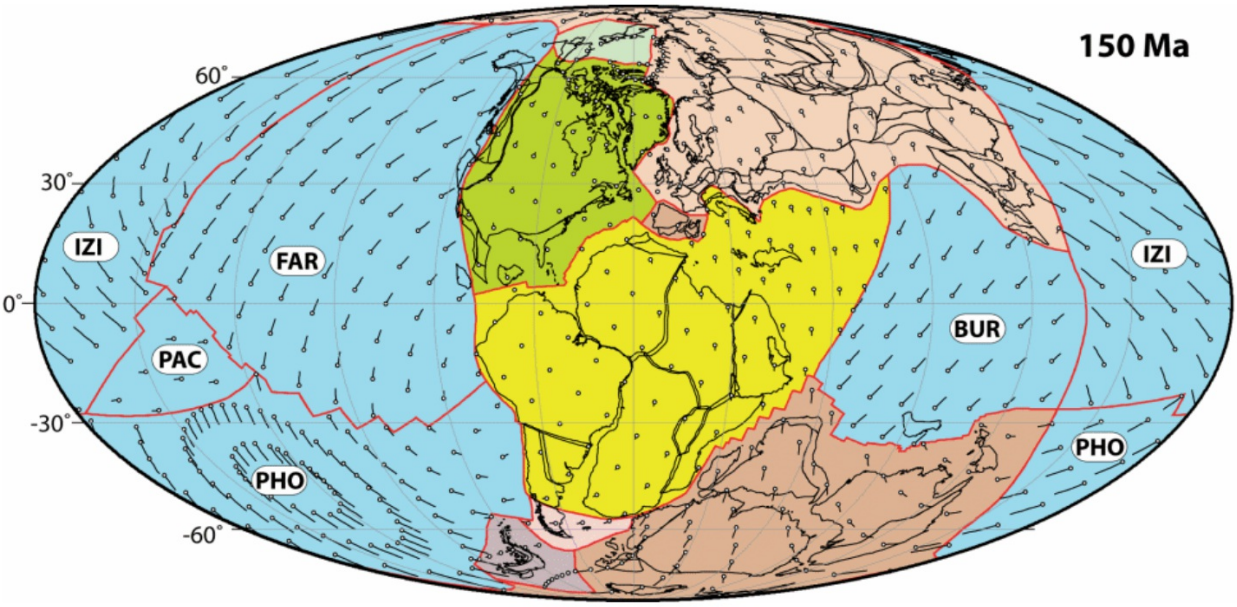
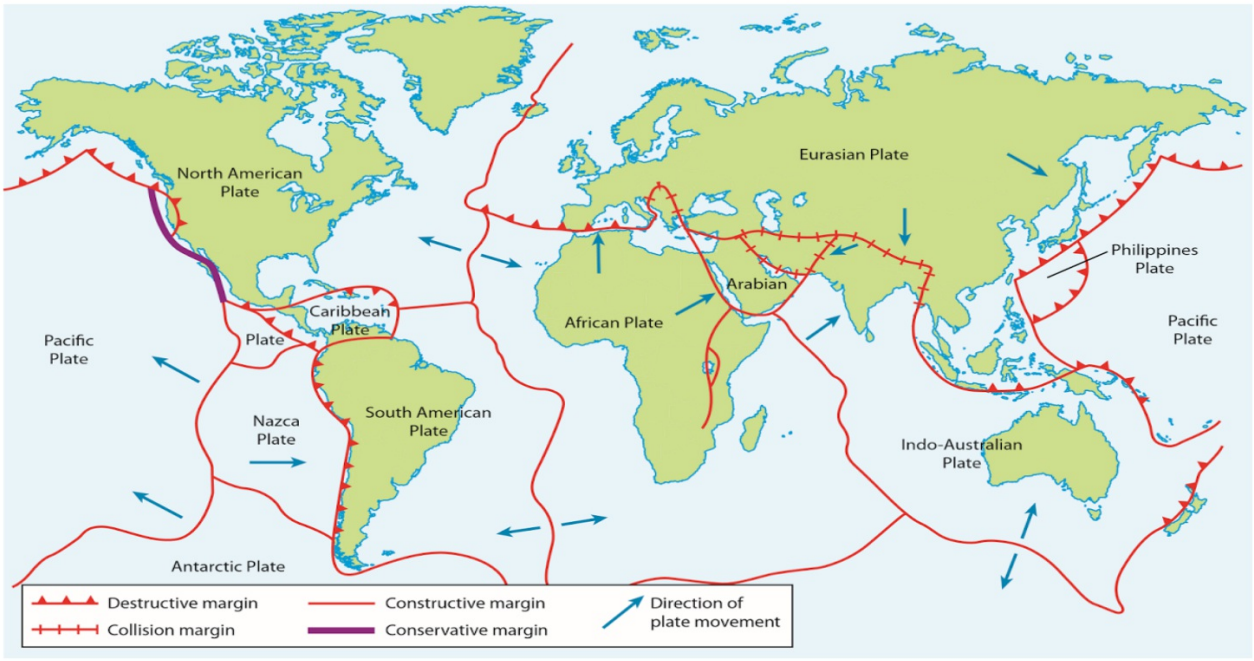


Plate Boundaries - where Earth's plates meet.

Divergent boundary

Convergent boundary

Transform boundary



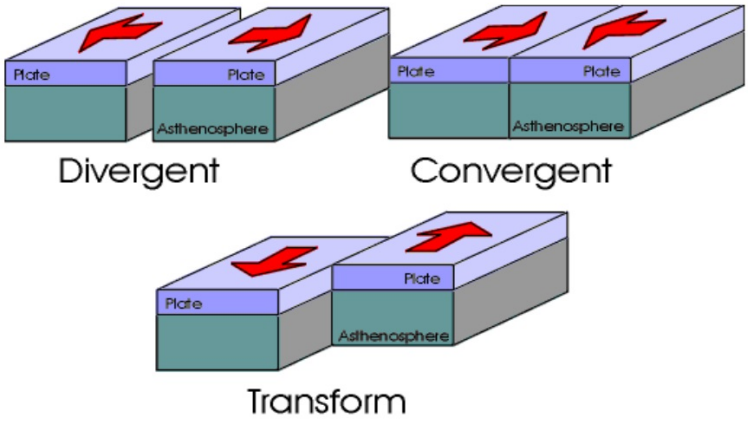
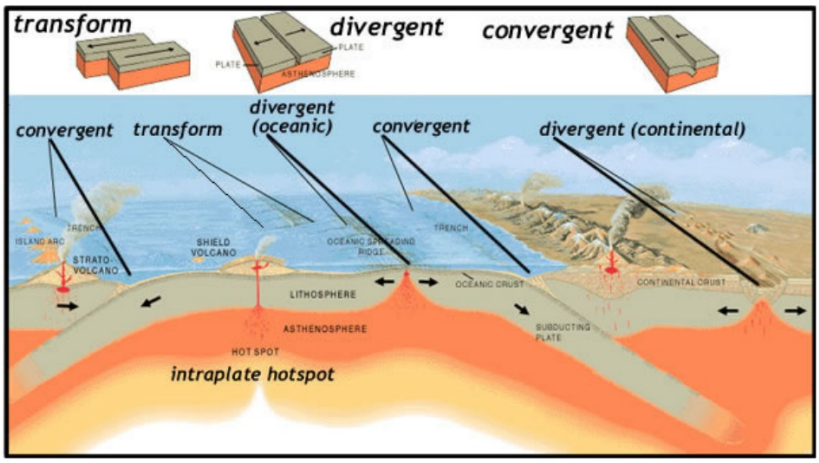


Plate
Plate
Asthenosphere
Divergent
Plate
Plate
Asthenosphere
Convergent
Plate
Plate
Asthenosphere
Transform


transform
divergent
convergent
PLATE
PLATE
ASTHENOSPHERE
convergent
transform
divergent (oceanic)
convergent
divergent (continental)
TRENCH
ISLAND ARC
STRATO VOLCANO
SHIELD VOLCANO
OCEANIC SPREADING RIDGE
TRENCH
OCEANIC CRUST
CONTINENTAL CRUST
LITHOSPHERE
ASTHENOSPHERE
SUBDUCTING PLATE
HOT SPOT
intraplate hotspot

Plates move between 1-12 centimeters a year. Because they have been moving for a long time they have moved great distances.

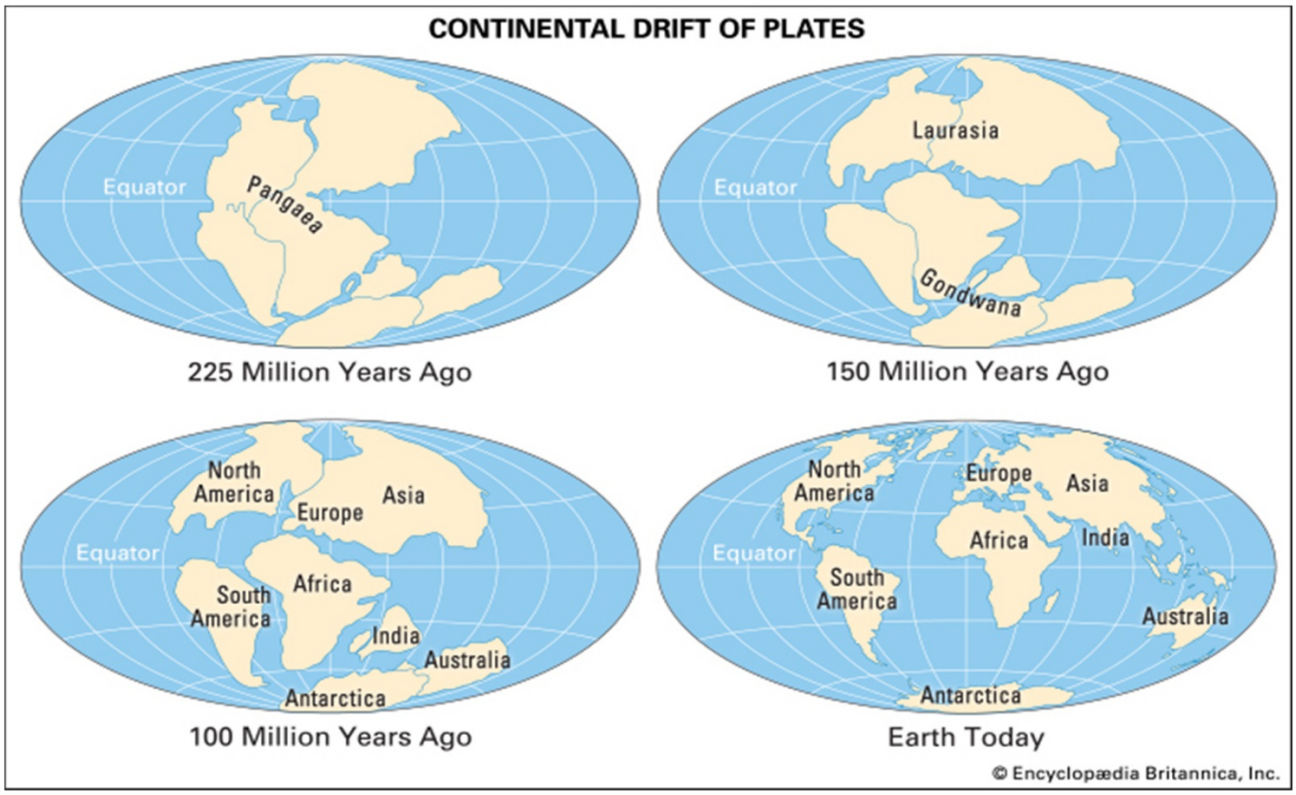
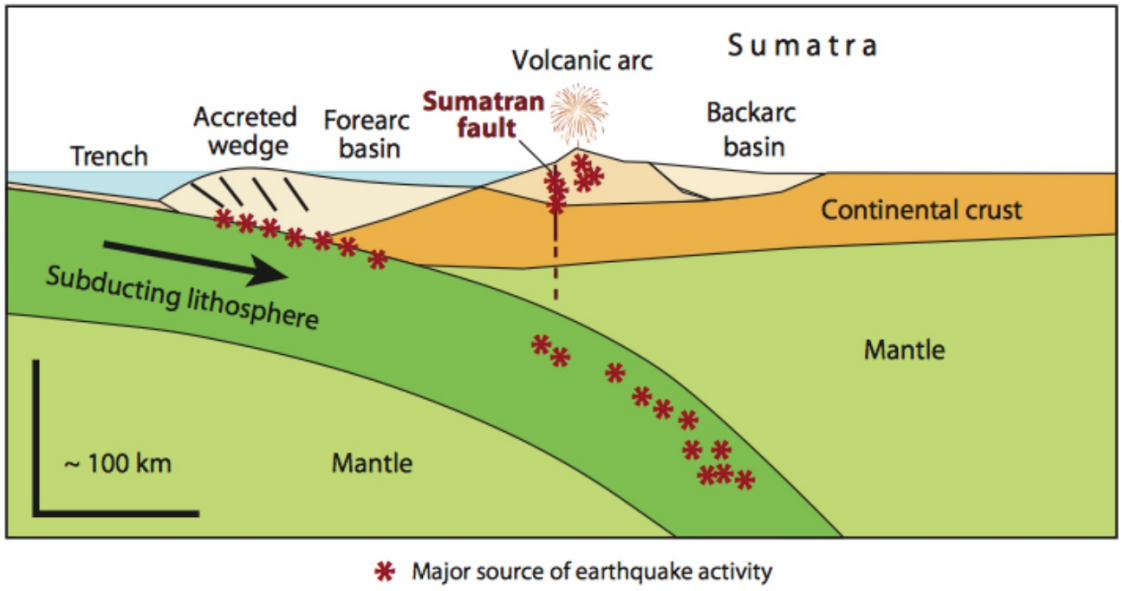


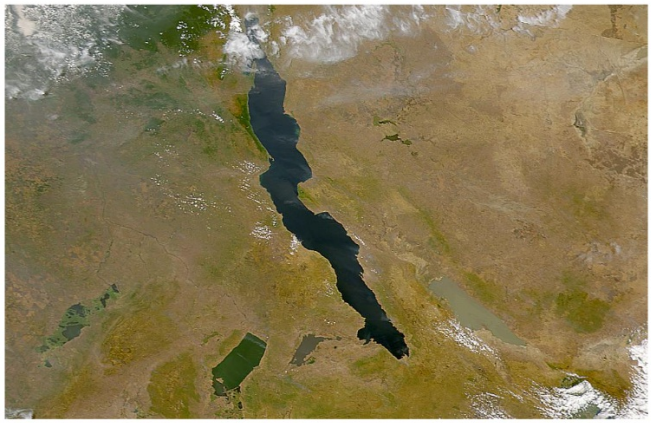
Plate Boundaries

Faults are breaks in crust where rocks have slipped past each other. They form along boundaries.



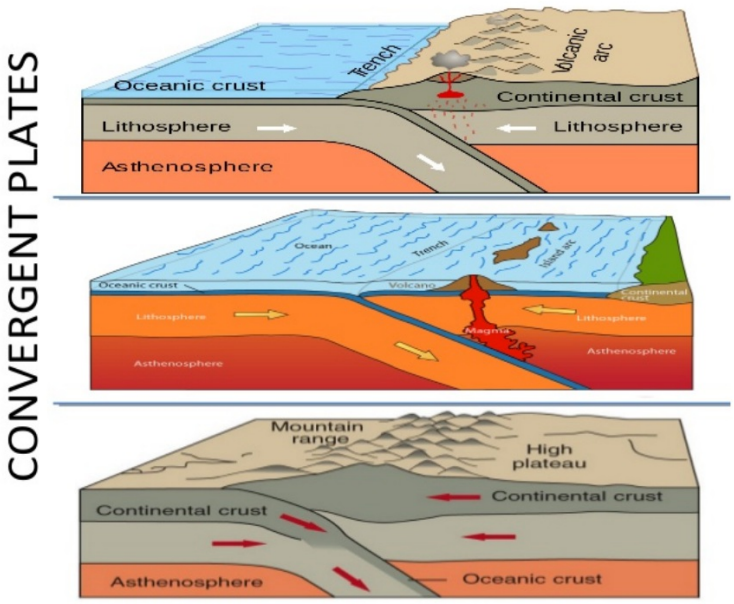
Divergent Boundaries

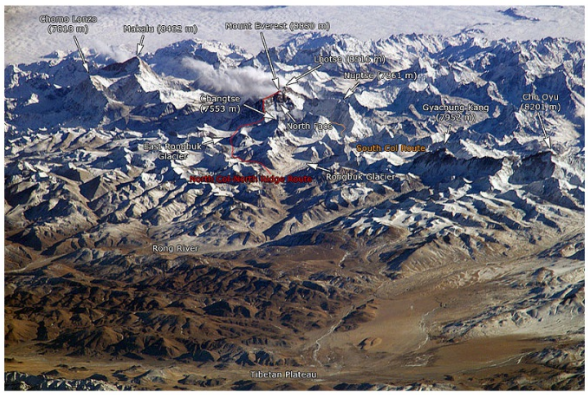
Plates move slowly apart, mostly occur at mid-ocean ridges. Can happen on land, creating a deep valley called a rift valley.



Convergent Boundaries

Plates come together, density decides which one sinks. Oceanic crust is more dense than continental crust.





Transform Boundaries

Move past each other, moving in opposite directions.