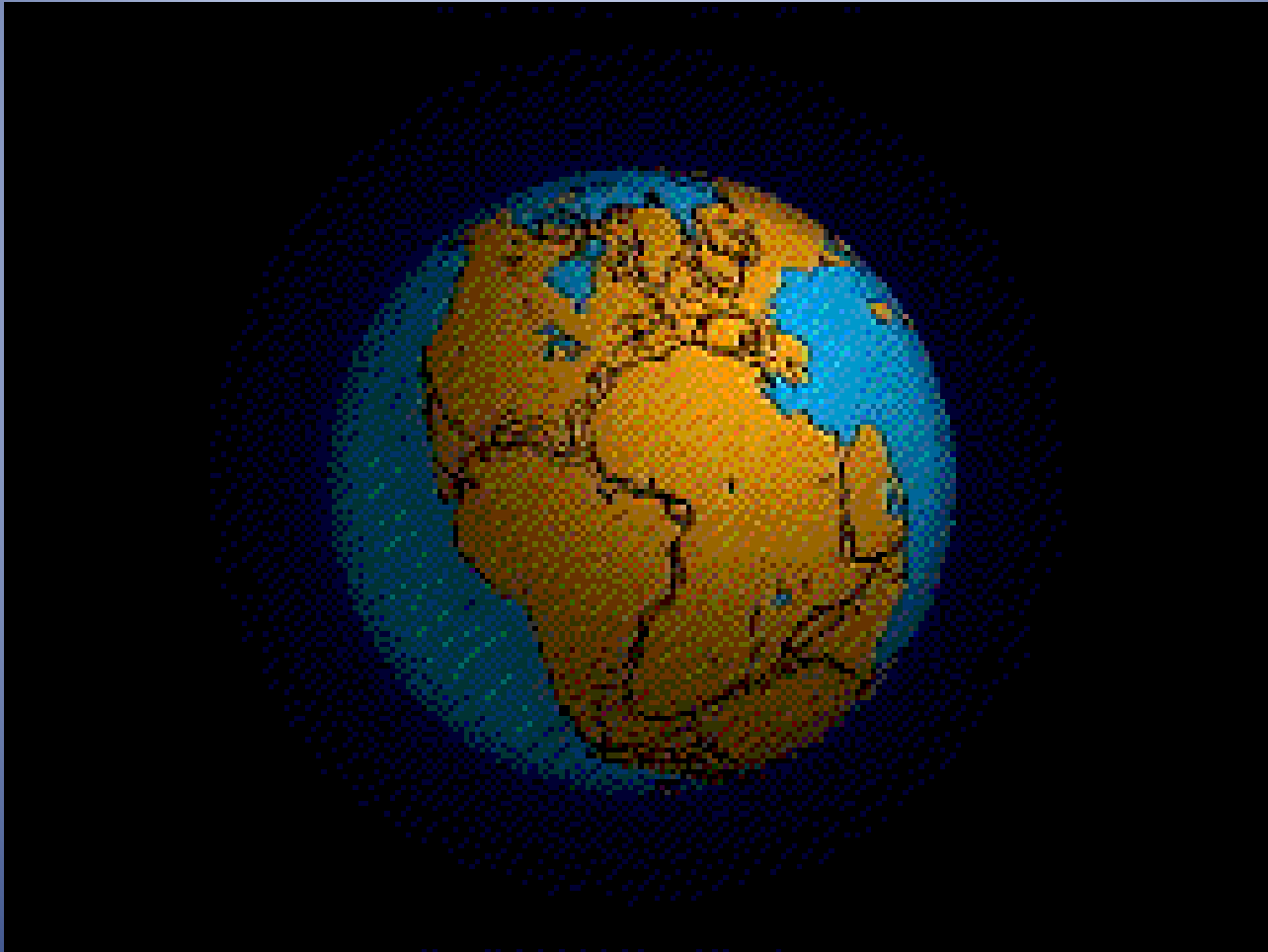


Handout 1 (pink)

Tectonic Plate Motion

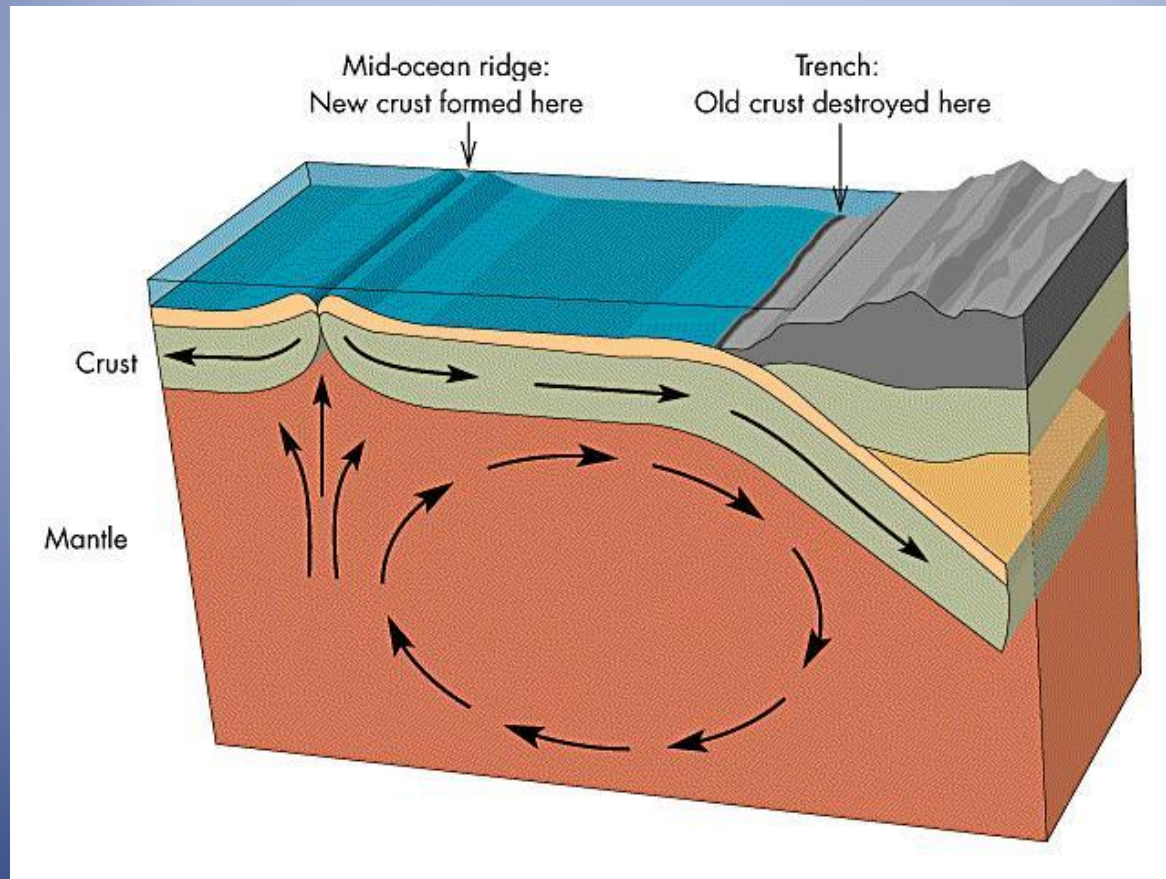
Standard 2 Objective 3.a, b, c, and d

1. The theory that explains why and how continents move is called plate tectonics.



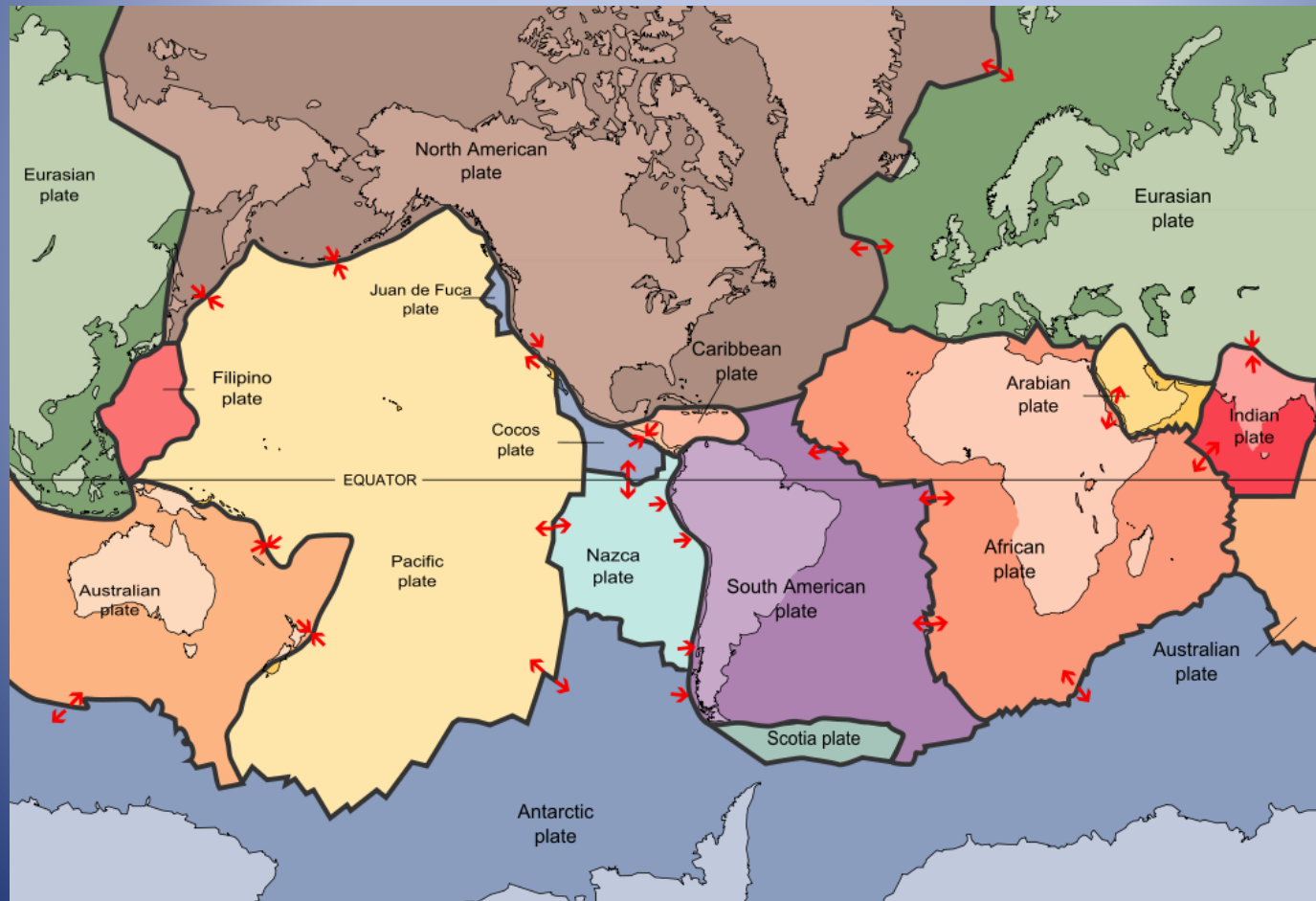
2. What is “plastic” rock and how does it move?

- Solid rock under great pressure that flows slowly, like putty.



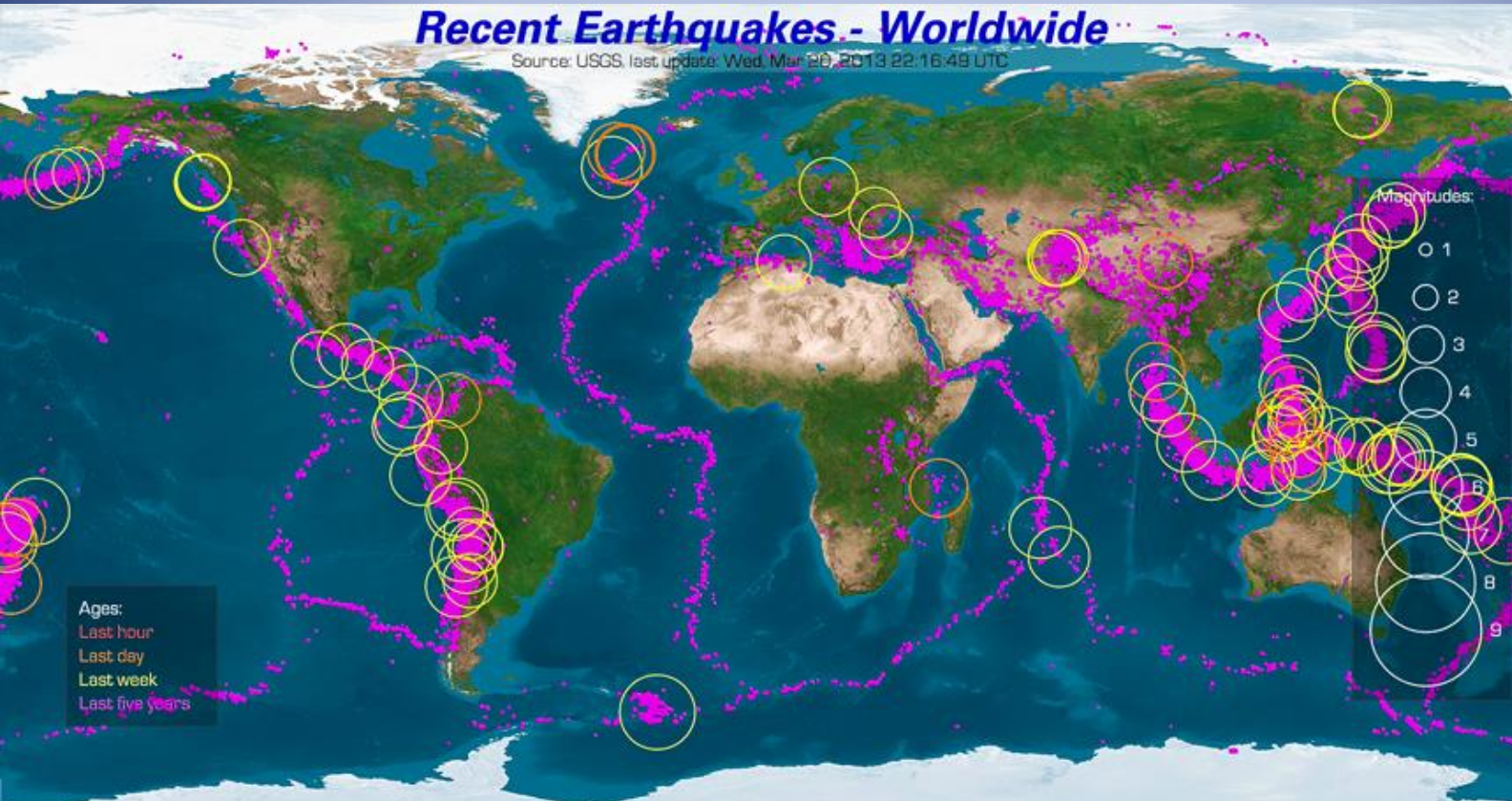
3. How many major tectonic plates have scientists identified?

- 15

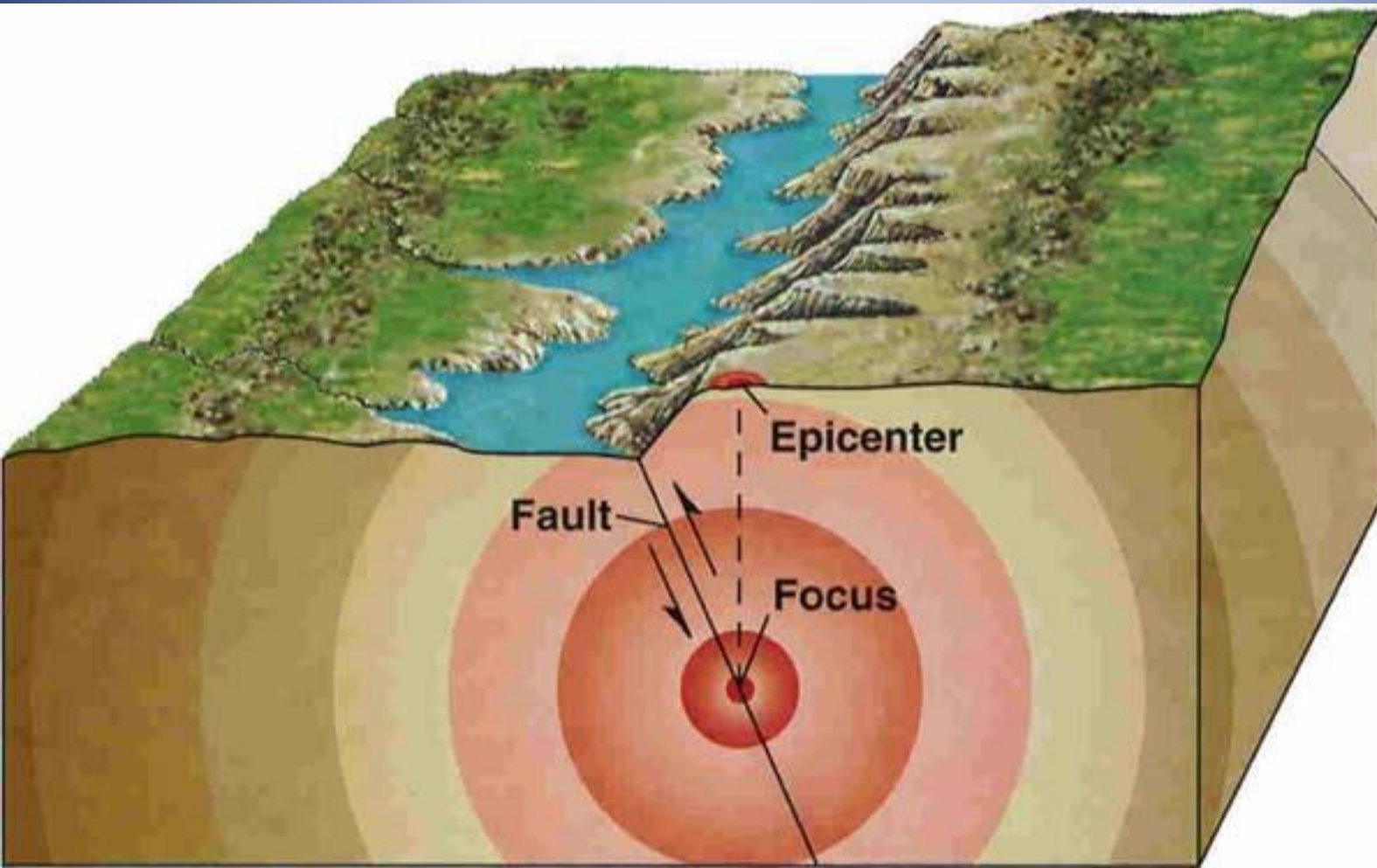


4. How do scientists identify plate boundaries?

- By studying data from earthquakes.

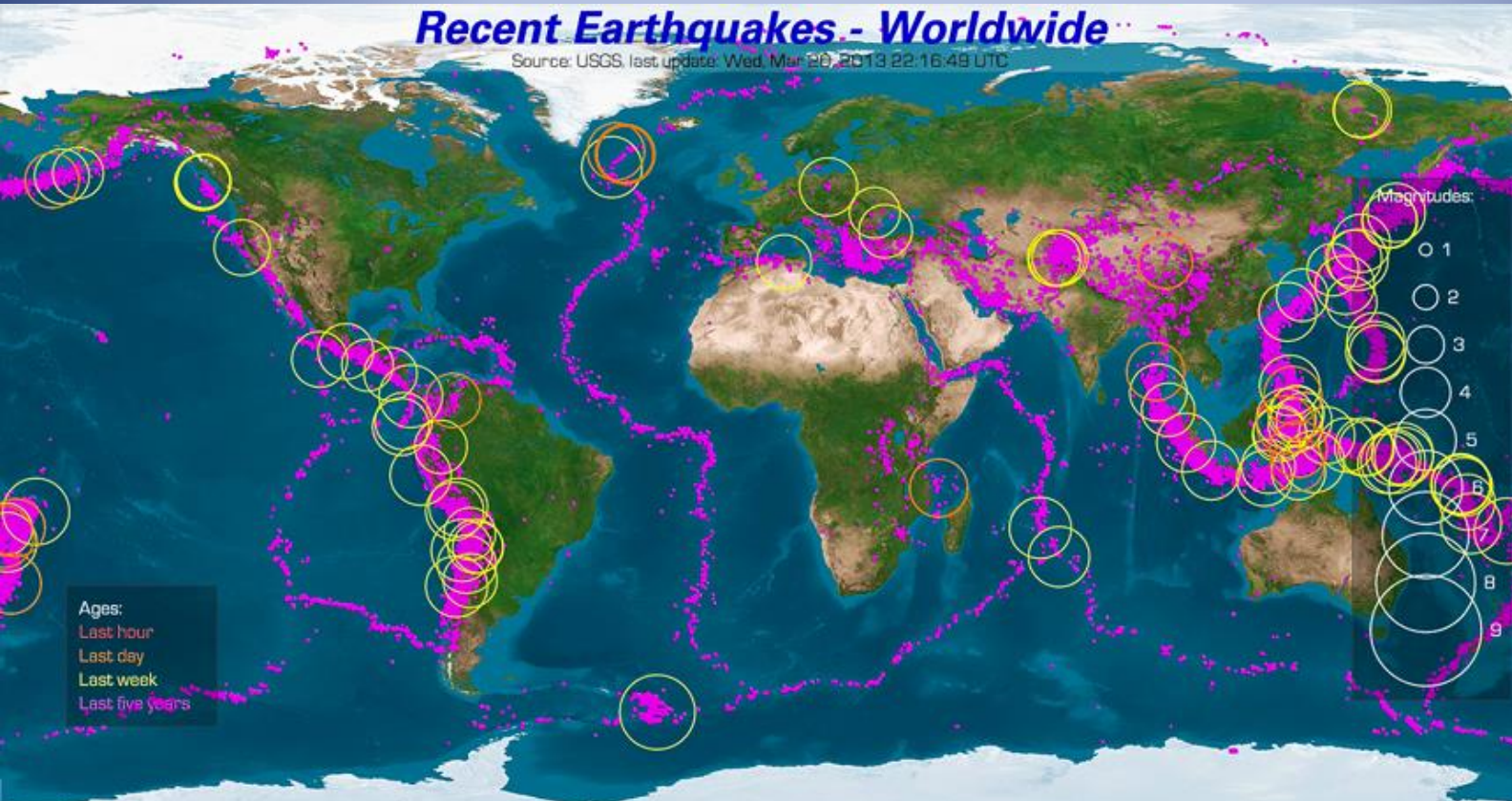


5. A sudden movement along the boundary of a tectonic plate is a(n) earthquake.



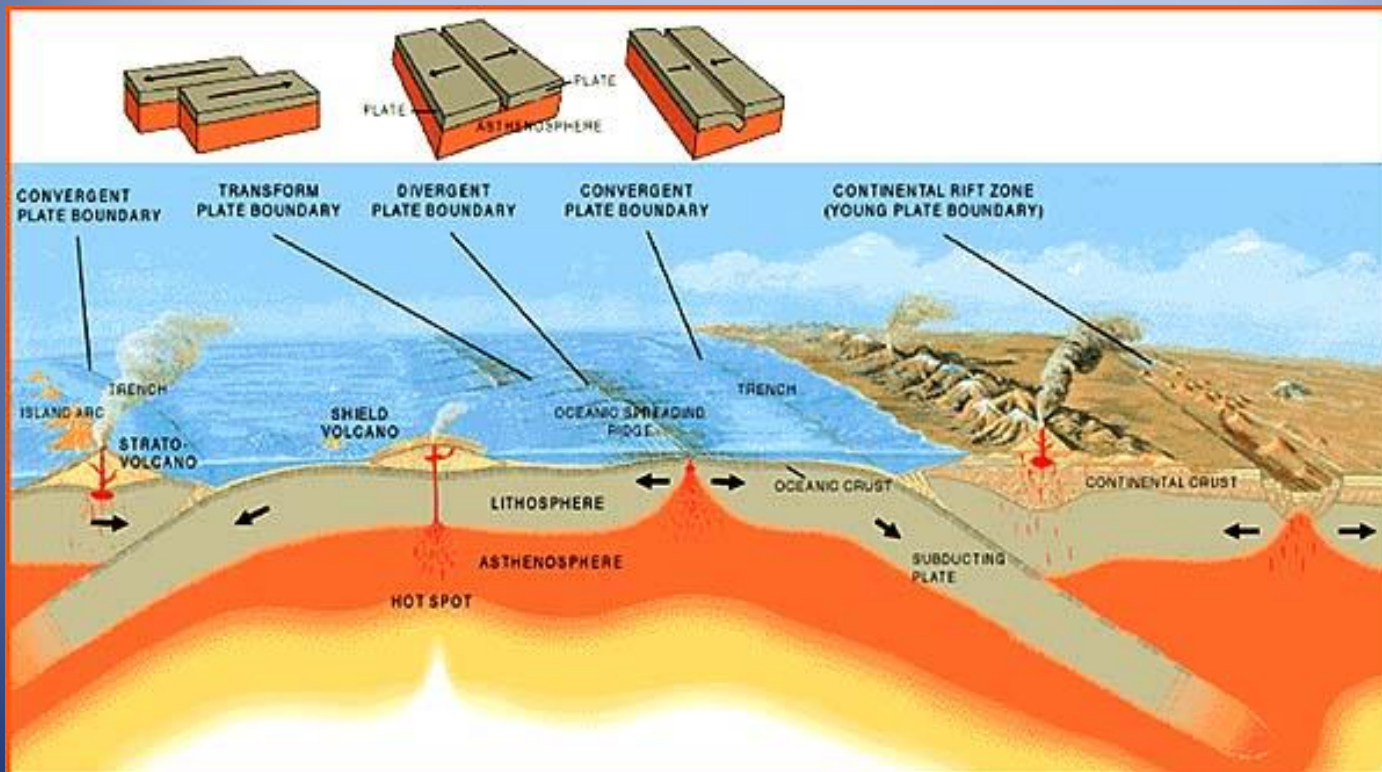
6. Frequent earthquakes in a given zone are evidence that

- That two or more plates may meet in the area.



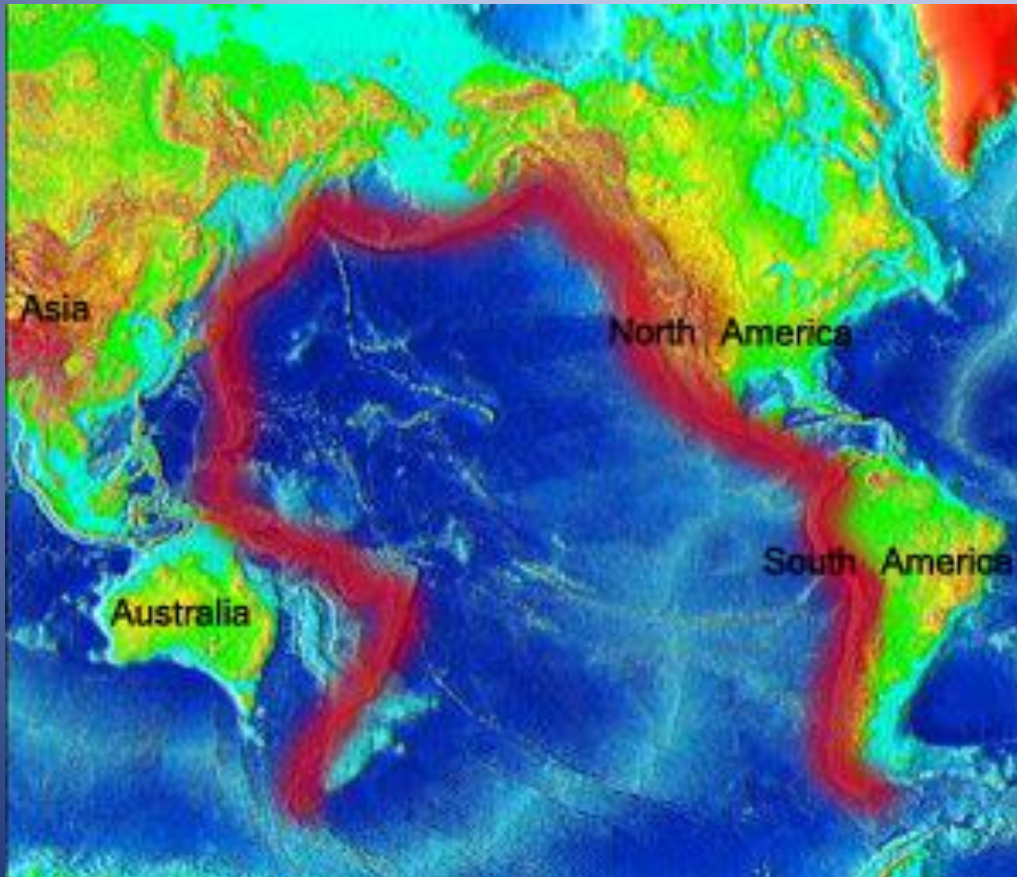
7. How do volcanoes help identify the locations of plates boundaries?

- Some volcanoes form when plate motions generate magma that erupts on Earth's surface.



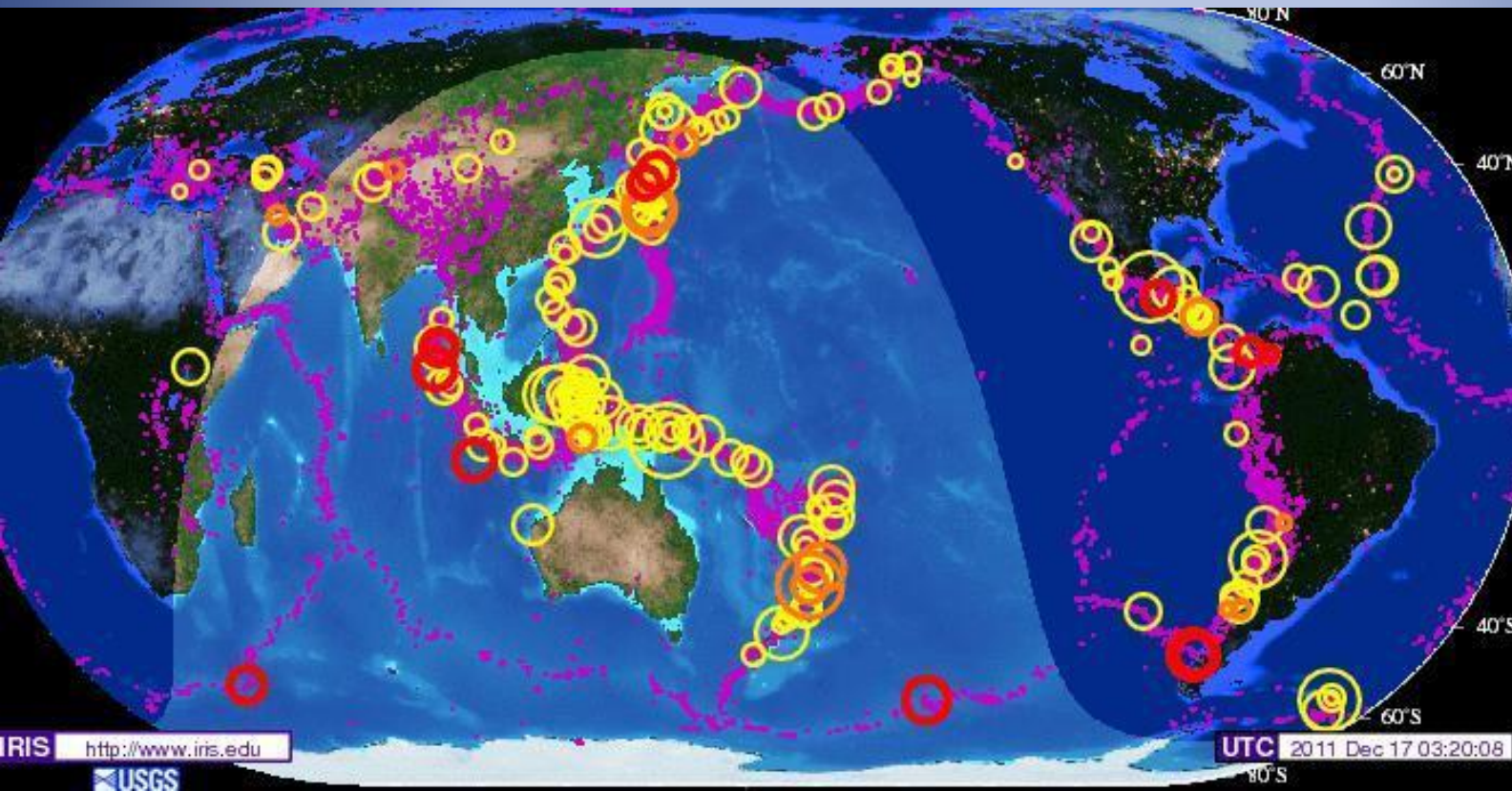
8. A zone of active volcanoes that encircles the Pacific Ocean is known as the

- Pacific Ring of Fire



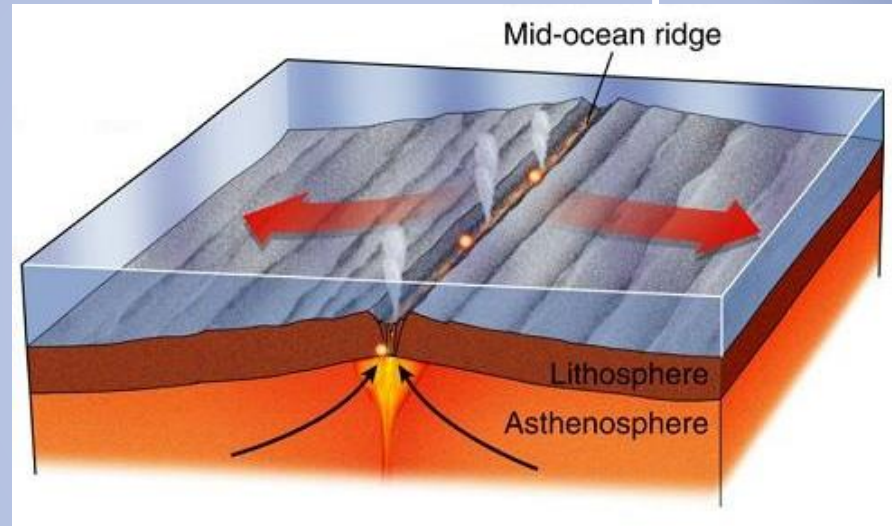
9. In addition to volcanoes, what also occurs frequently in the Pacific Ring of Fire?

- earthquakes

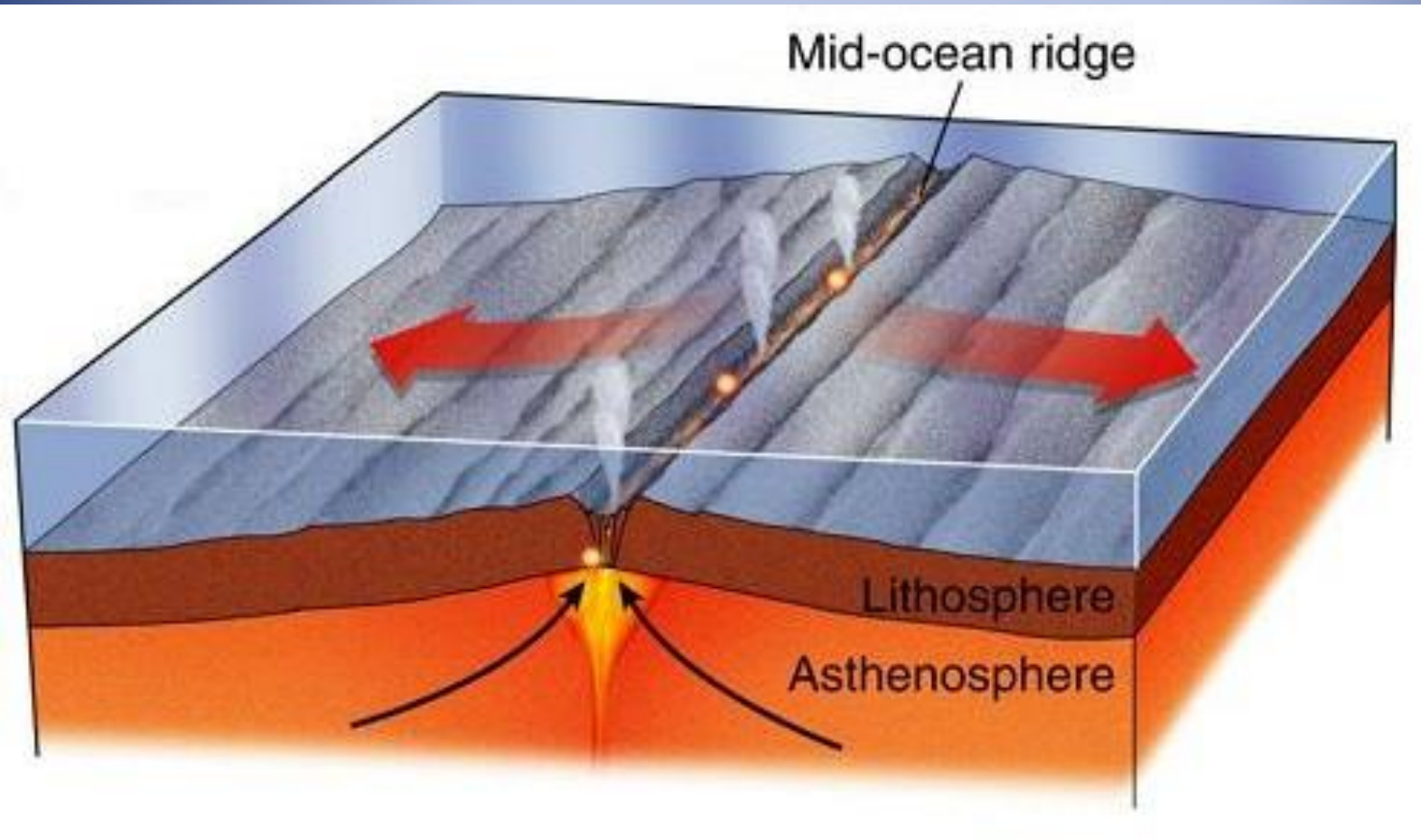


10. What happens to magma at divergent boundaries?

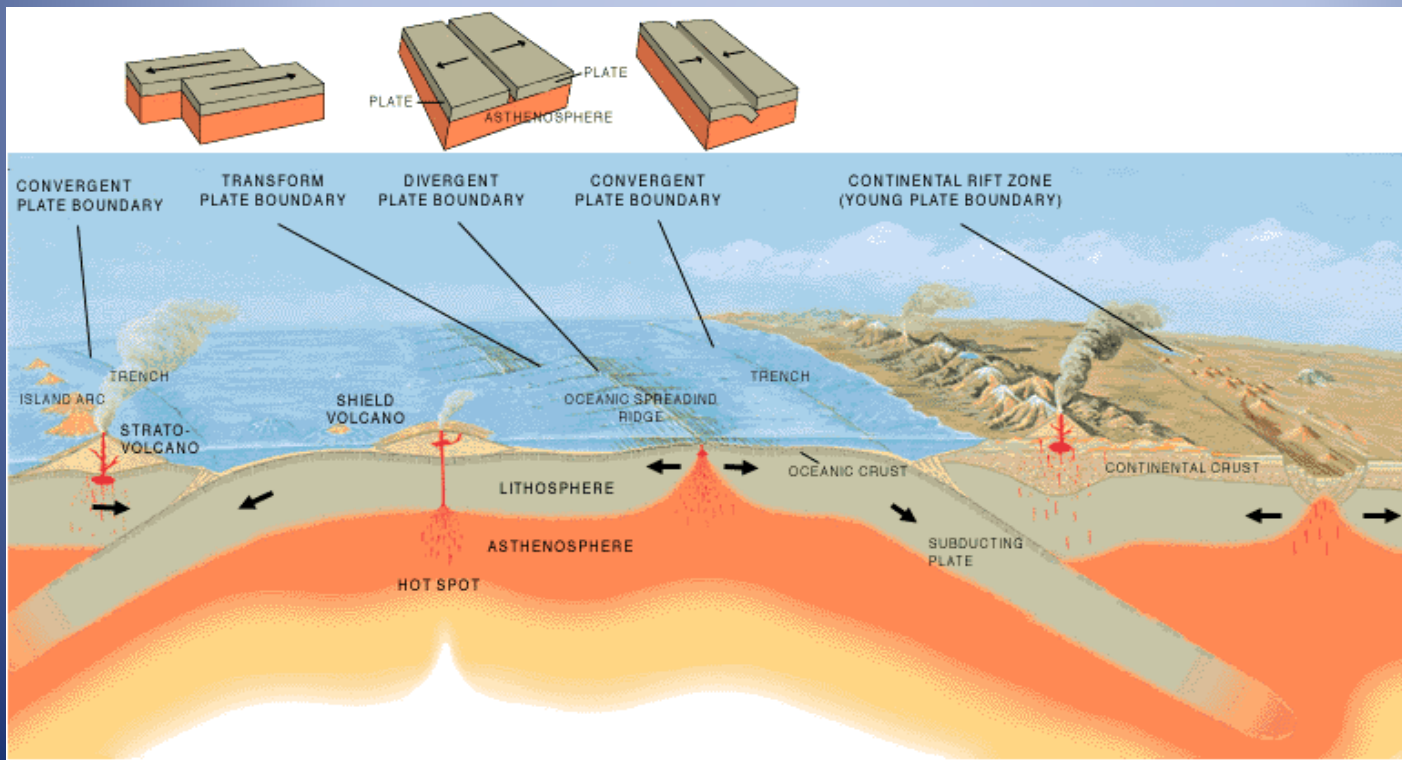
- Magma rises to the surface as plates move apart.



11. A narrow area that forms where the plates at a divergent boundary separate is called a rift valley.

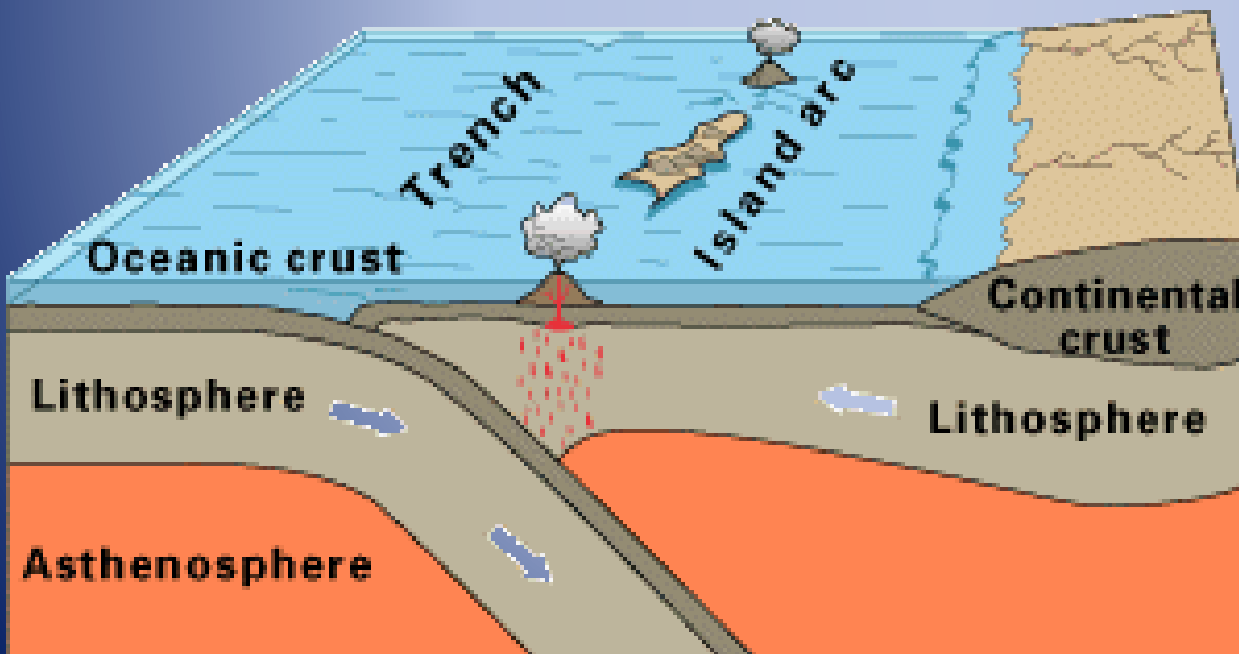
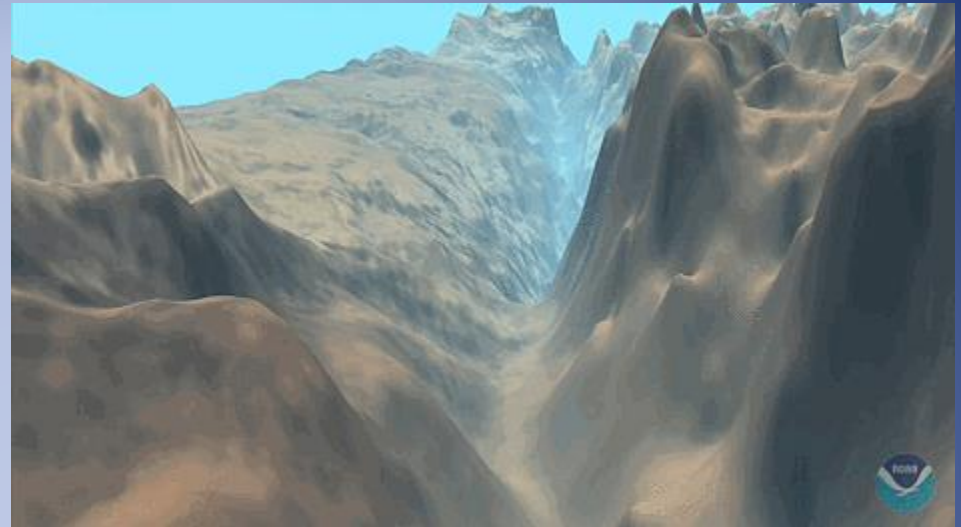


12. When oceanic lithosphere collides with continental lithosphere, the oceanic lithosphere is more dense than the continental lithosphere, so it sinks, or subducts .



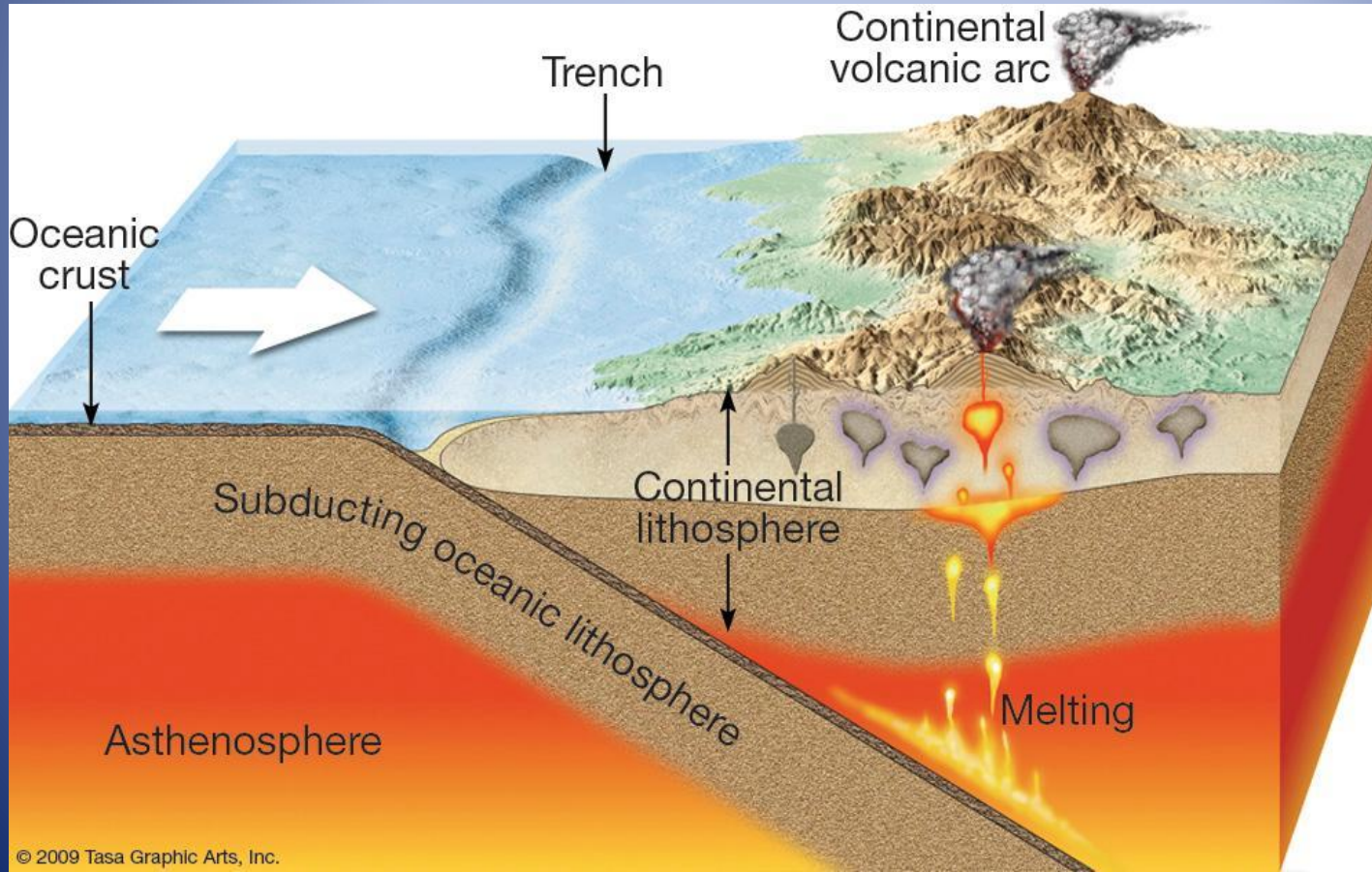
13. What deep-ocean feature forms at subduction zones?

- deep ocean trench



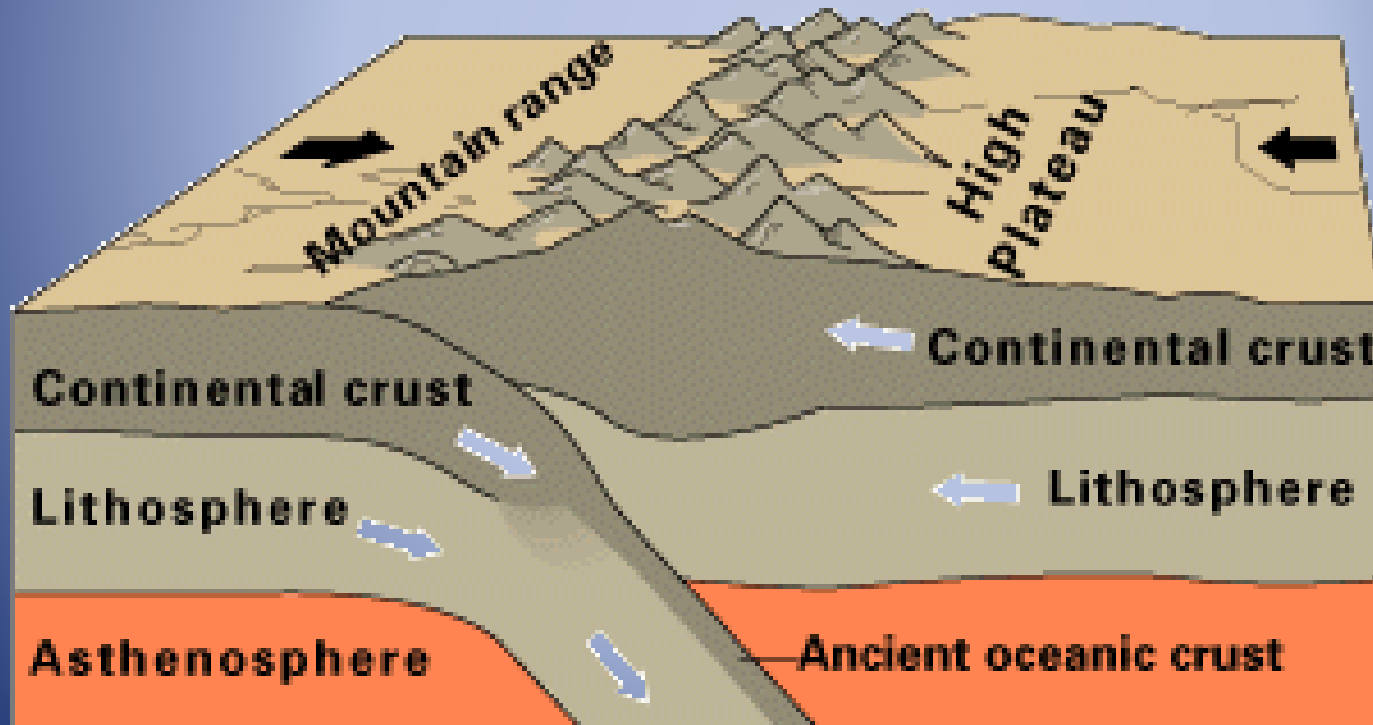
Oceanic-oceanic convergence

14. As the oceanic plate subducts, it releases fluids into the mantle, causing magma to form and rise to the surface, forming volcanic mountains.



15. What happens when two plates made of continental lithosphere collide?

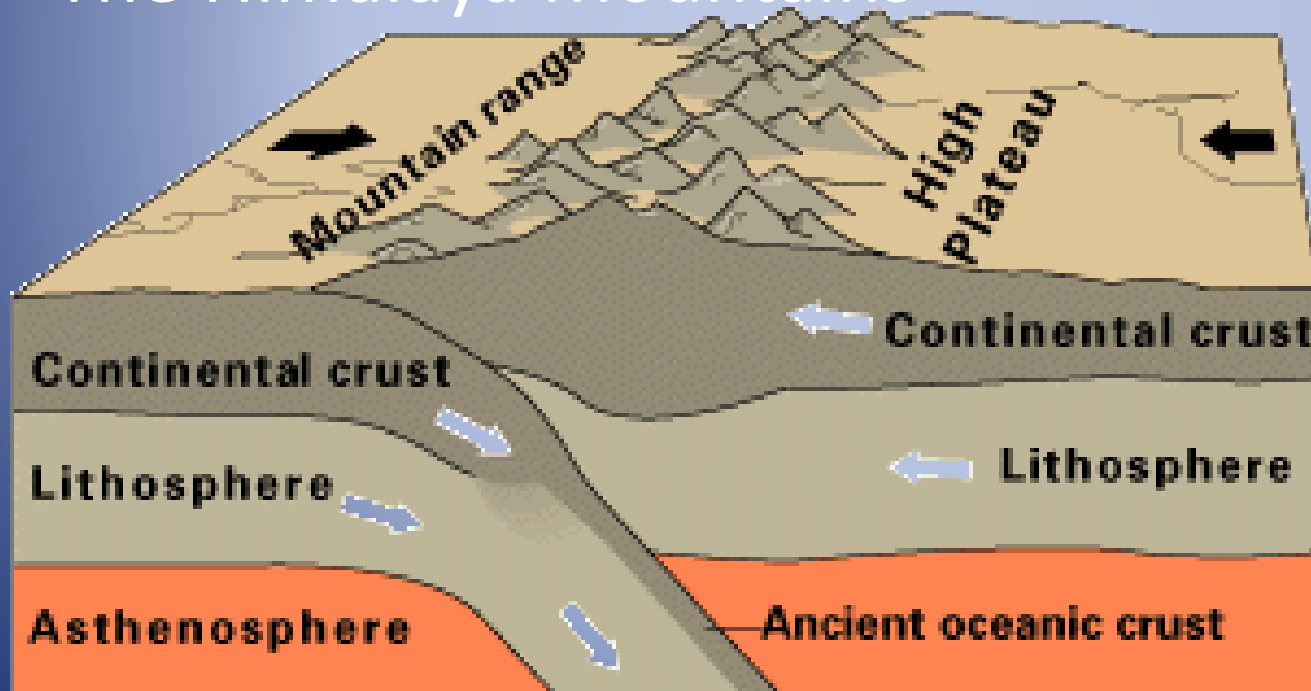
- The colliding edges crumple and thicken forming large mountain ranges.



Continental-continental convergence

16. What is an example of a large mountain range formed when two plates made of continental lithosphere collided?

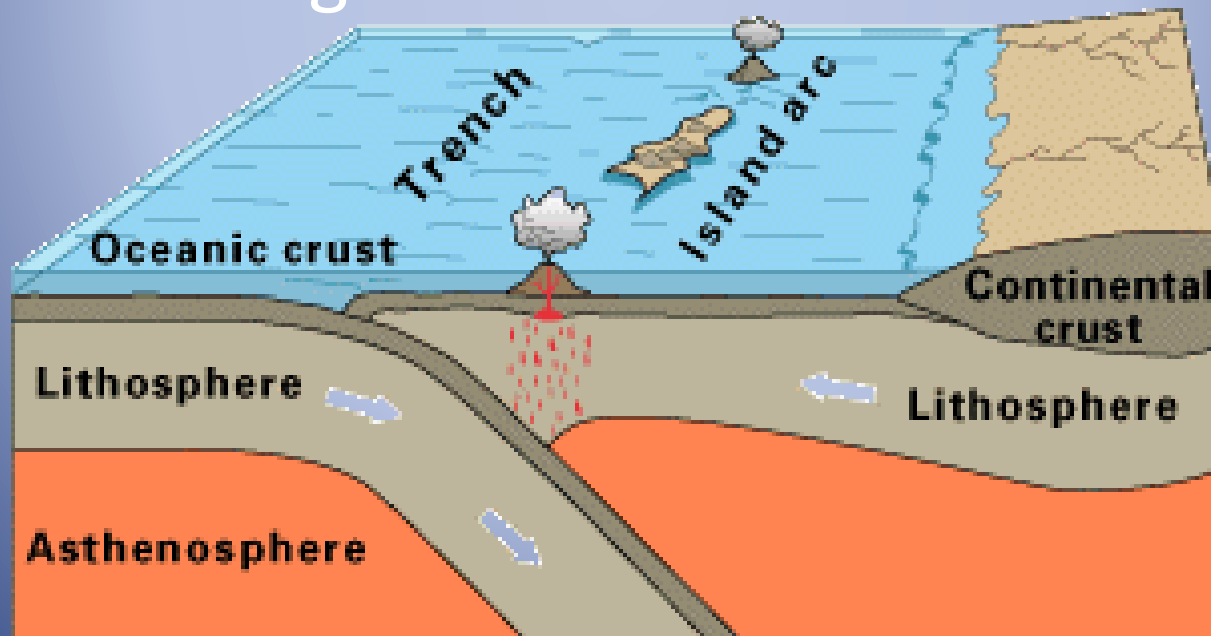
- The Himalaya Mountains



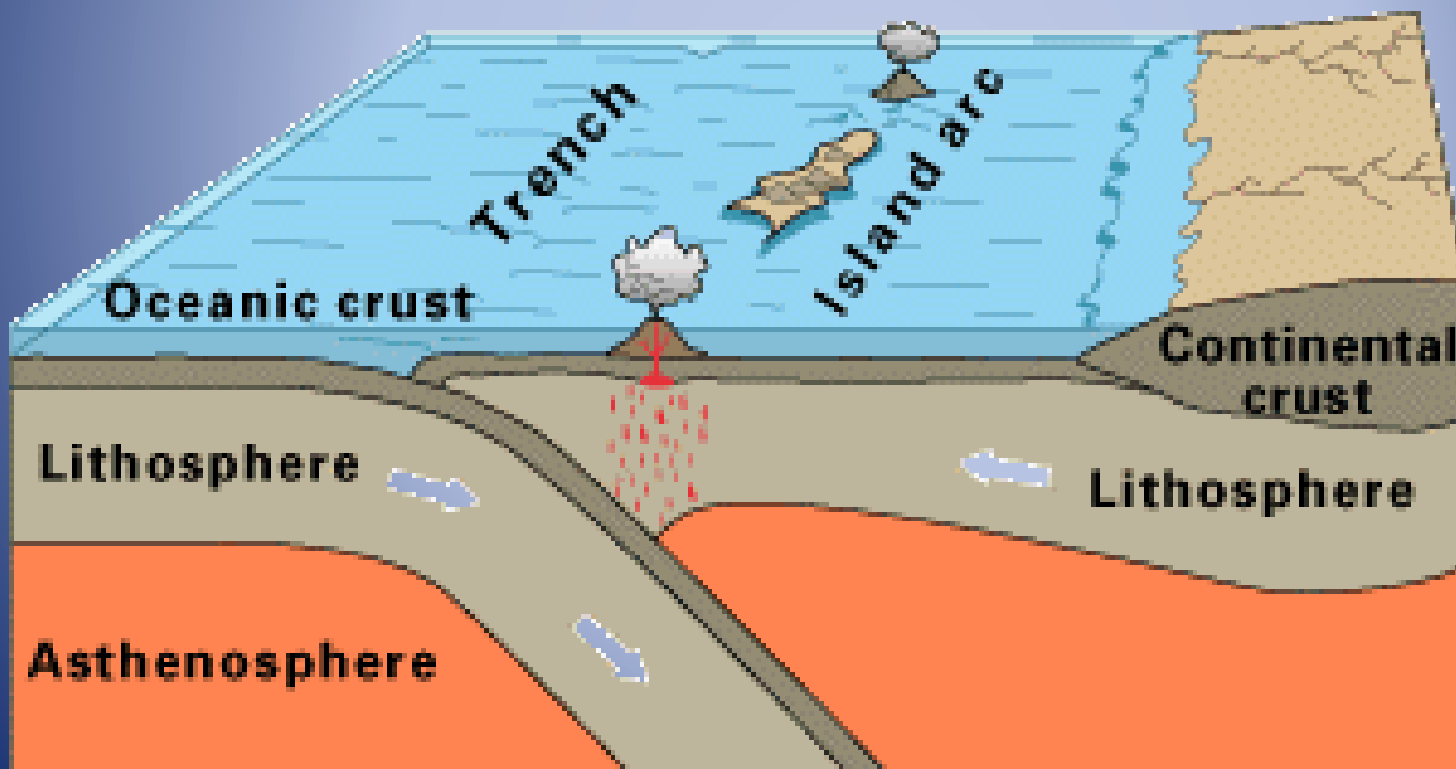
Continental-continental convergence

17. What happens when two plates made of oceanic lithosphere collide?

- One plate subducts under the other, forming deep-ocean trenches. Fluids from the subducted plate causes mantle rock to melt and form magma.



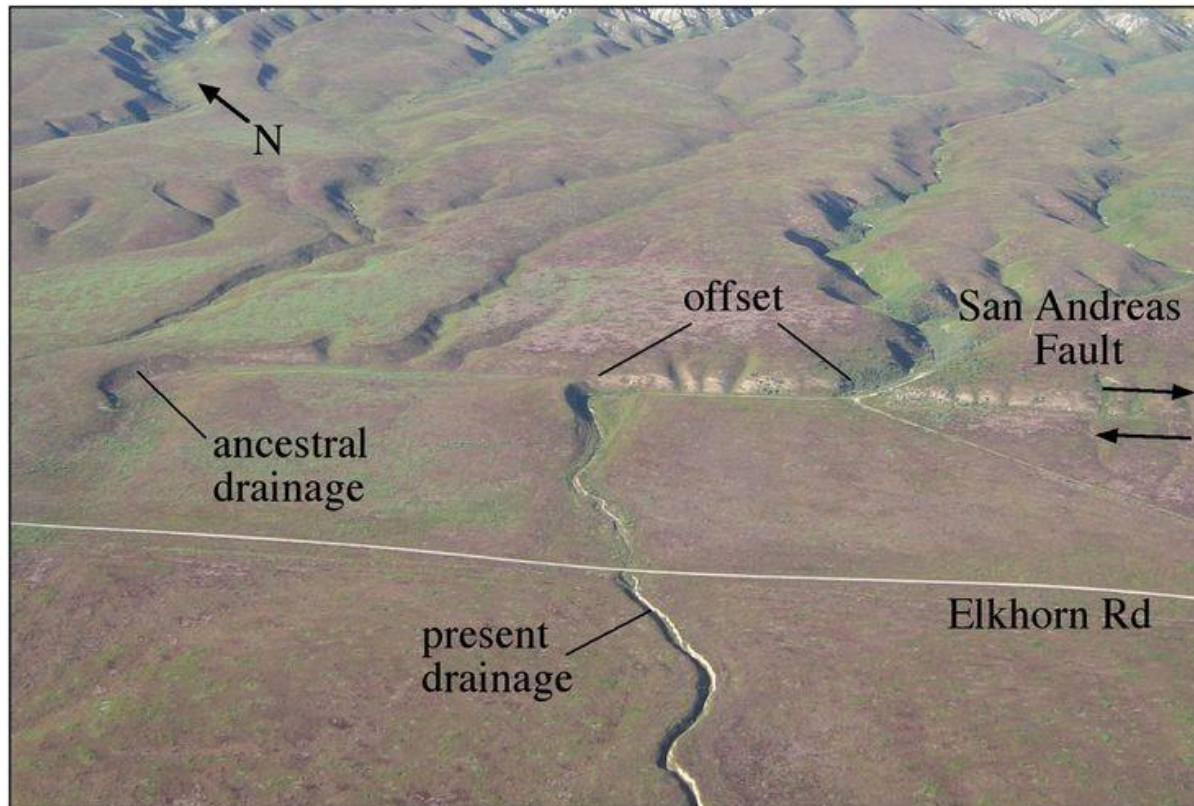
18. An example of a feature that formed when two plates made of oceanic lithosphere collided is an island arc (Japan).



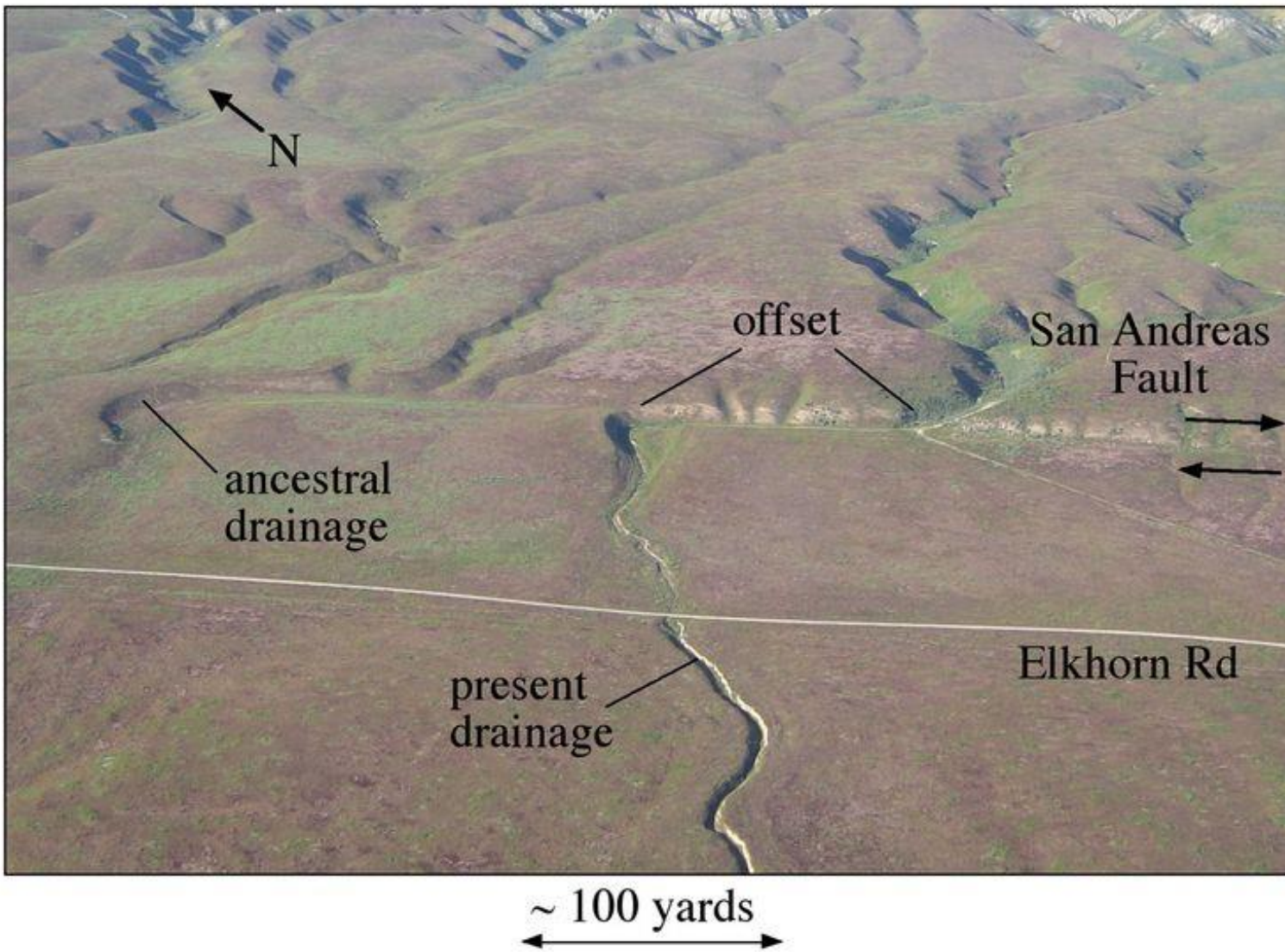
Oceanic-oceanic convergence

19. What causes earthquakes at transform boundaries?

- As plates slide past each other horizontally, they scrape against each other.

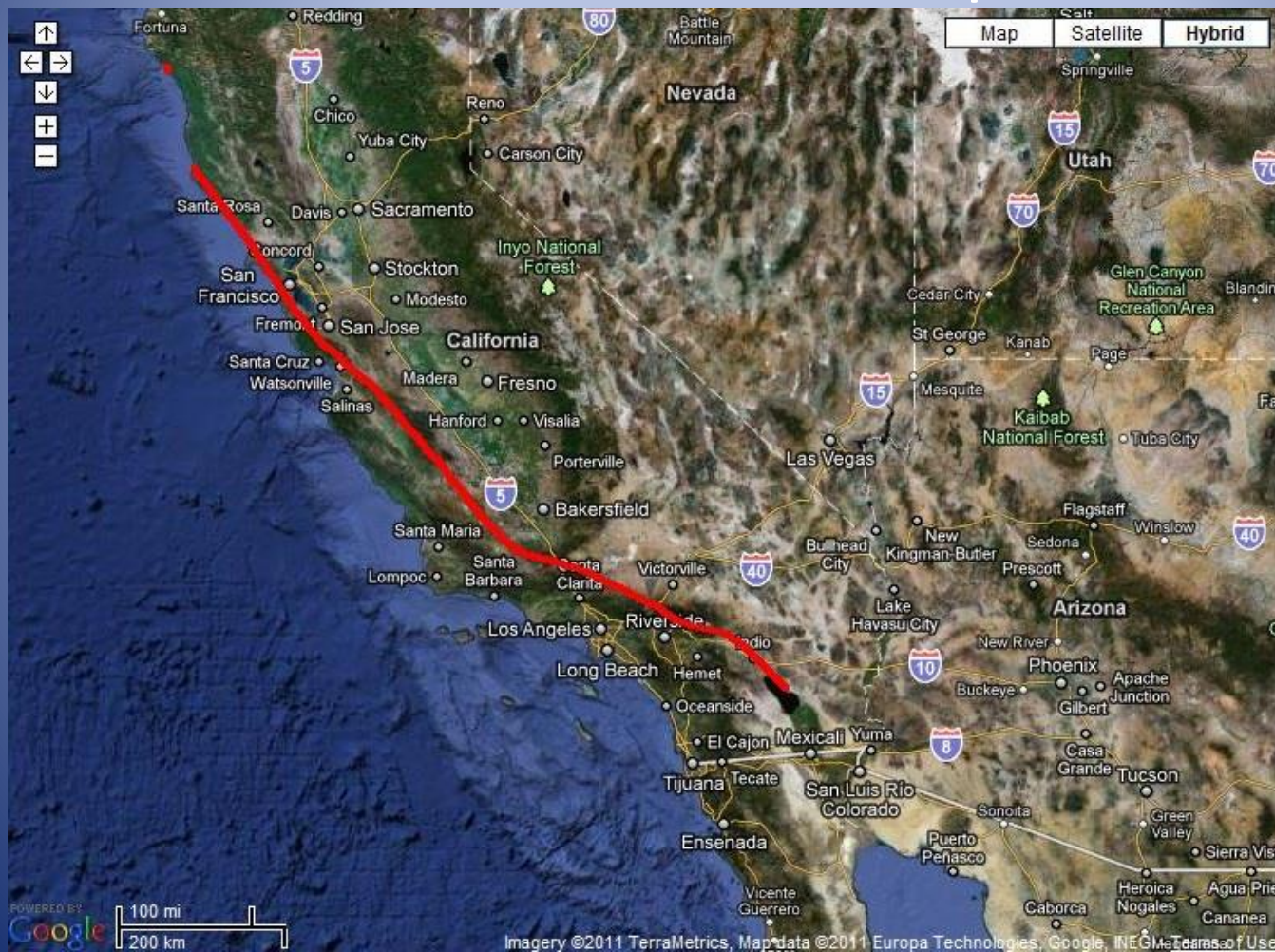


20. An example of a transform boundary is the San Andreas Fault.



21. The San Andreas Fault is located between what two plates?

- North American and Pacific plates



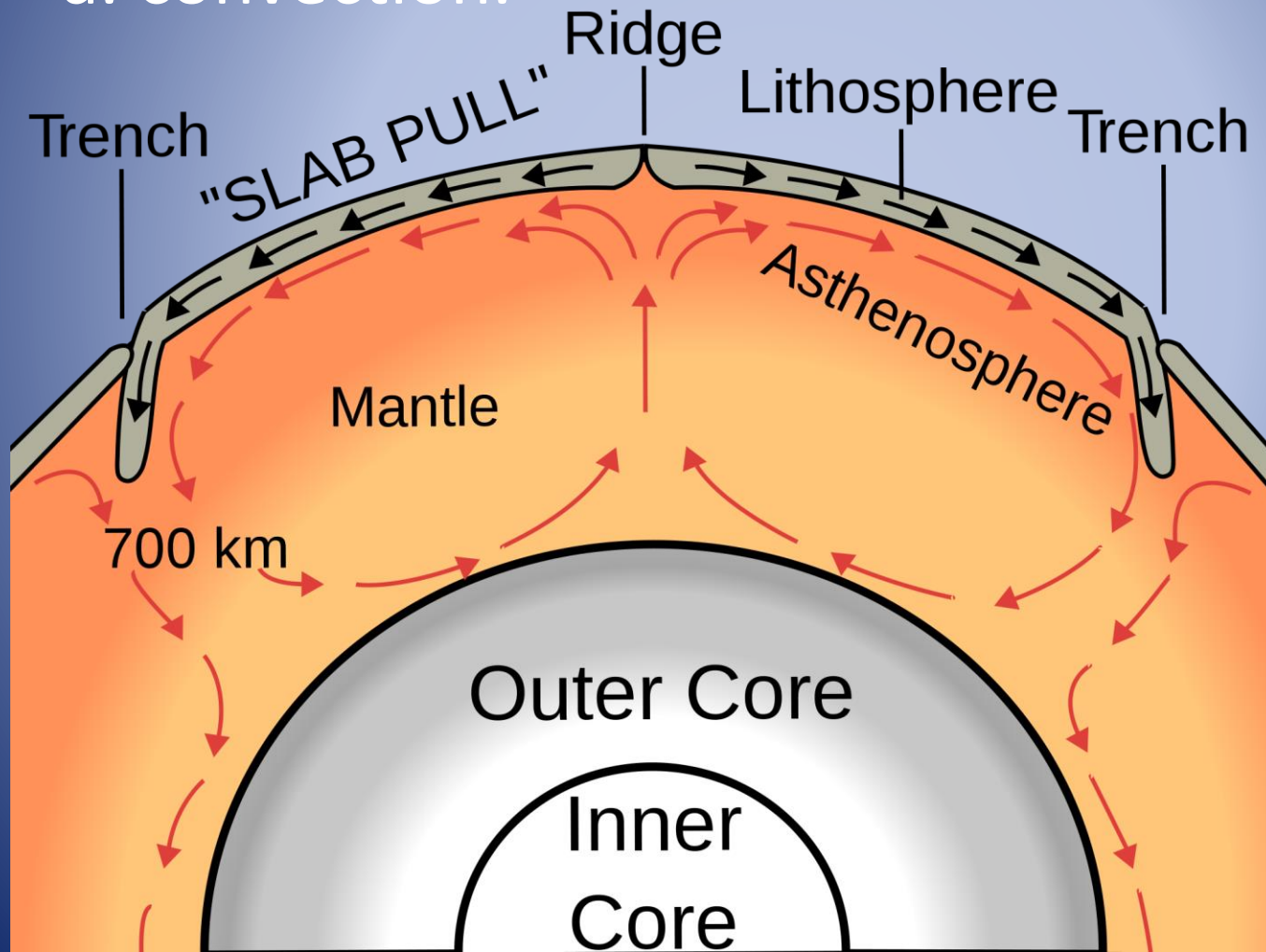
22. What is an example of a divergent boundary in the mid-Atlantic?

- The boundary of the North American and Eurasian plates.



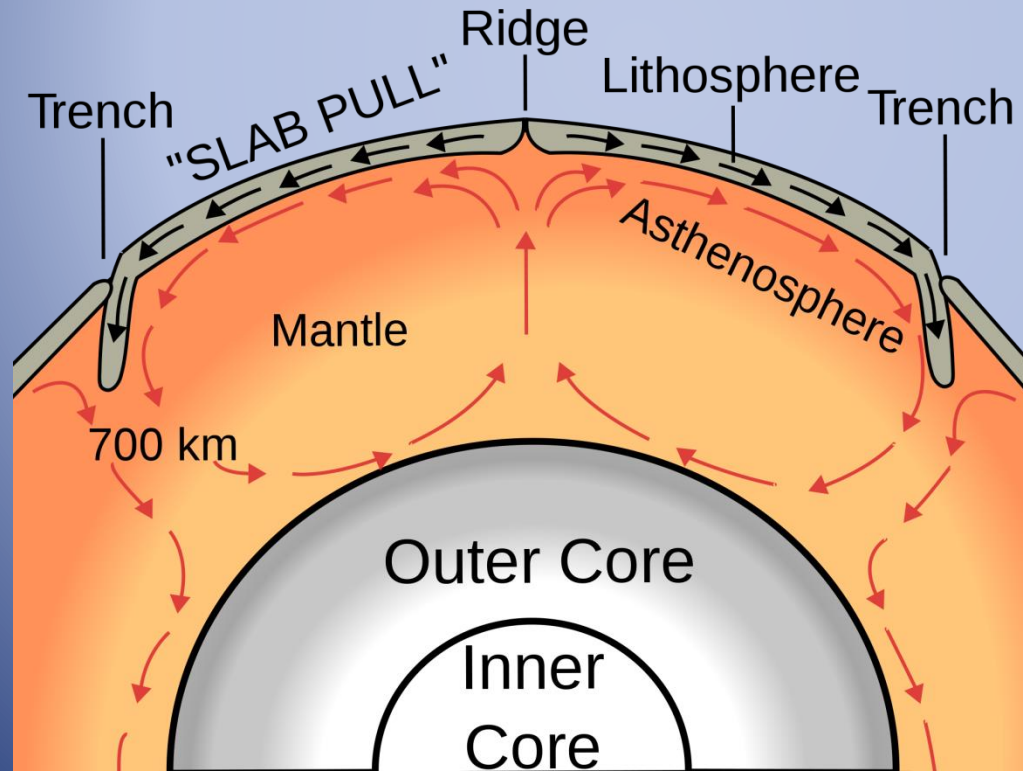
23. The movement of heated material due to differences in density is called

- a. convection.



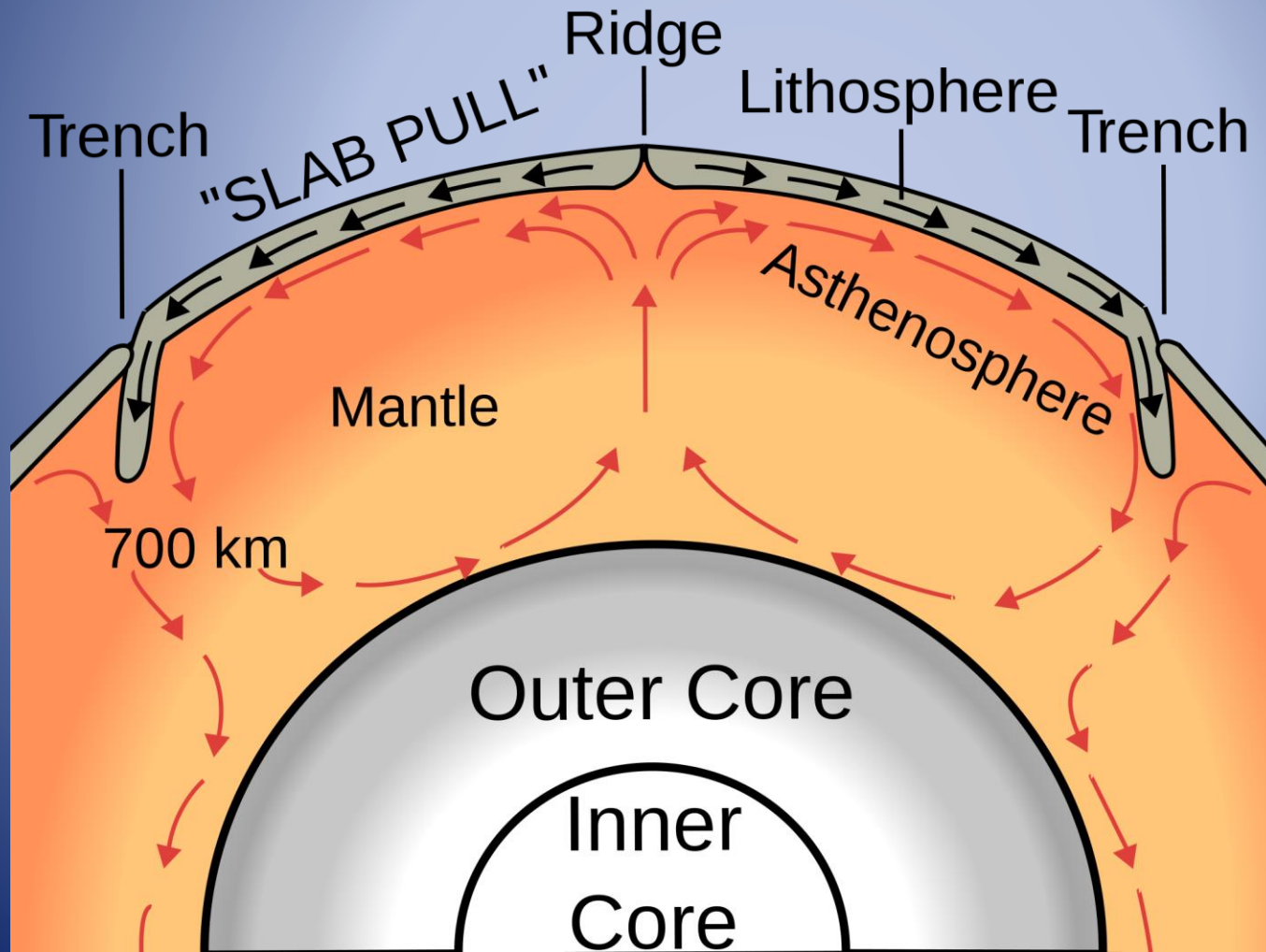
24. The cycle in which the cooler, denser water sinks and the warmer water rises to the surface to create a cycle is called

- c. a convection cell.



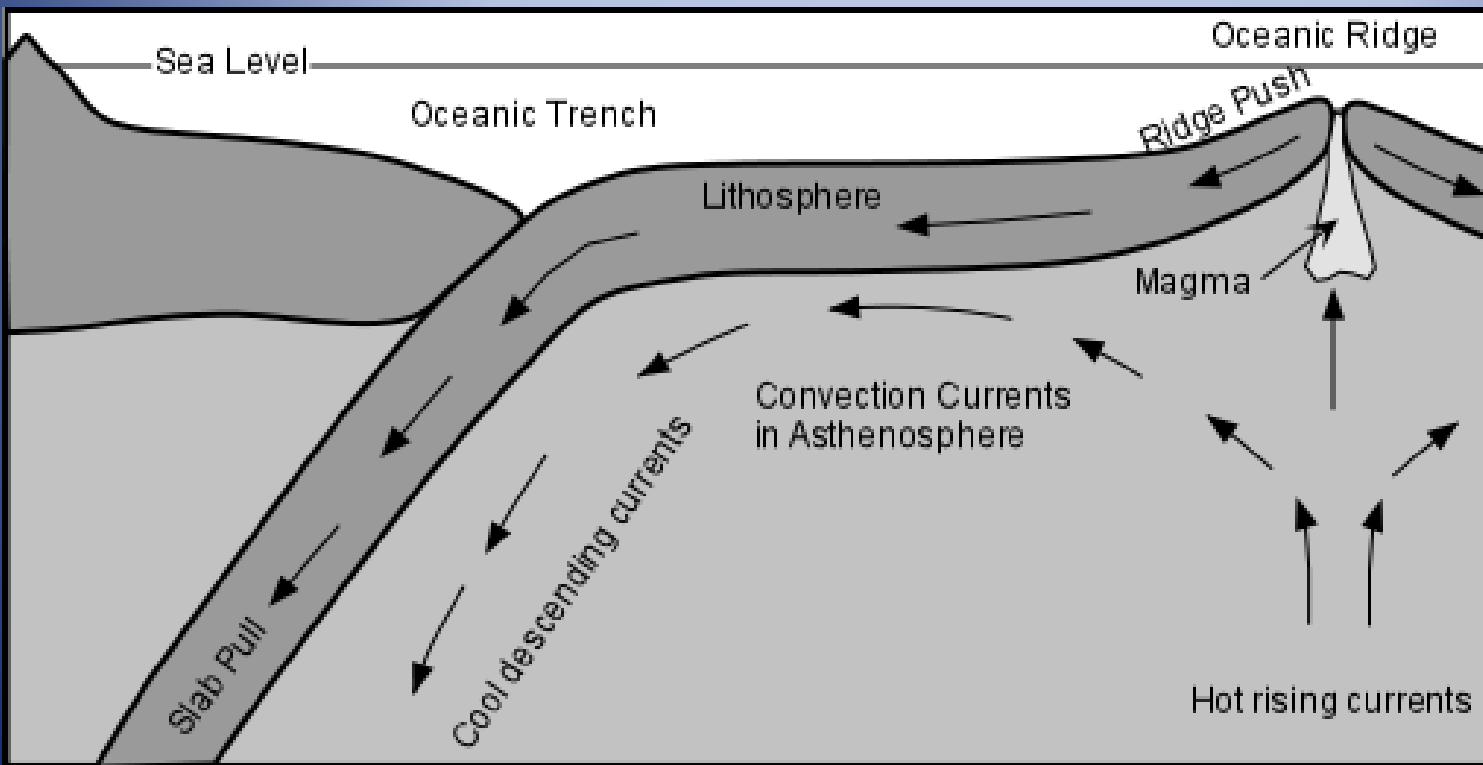
25. Earth's mantle is heated by

- b. core energy and radioactivity.



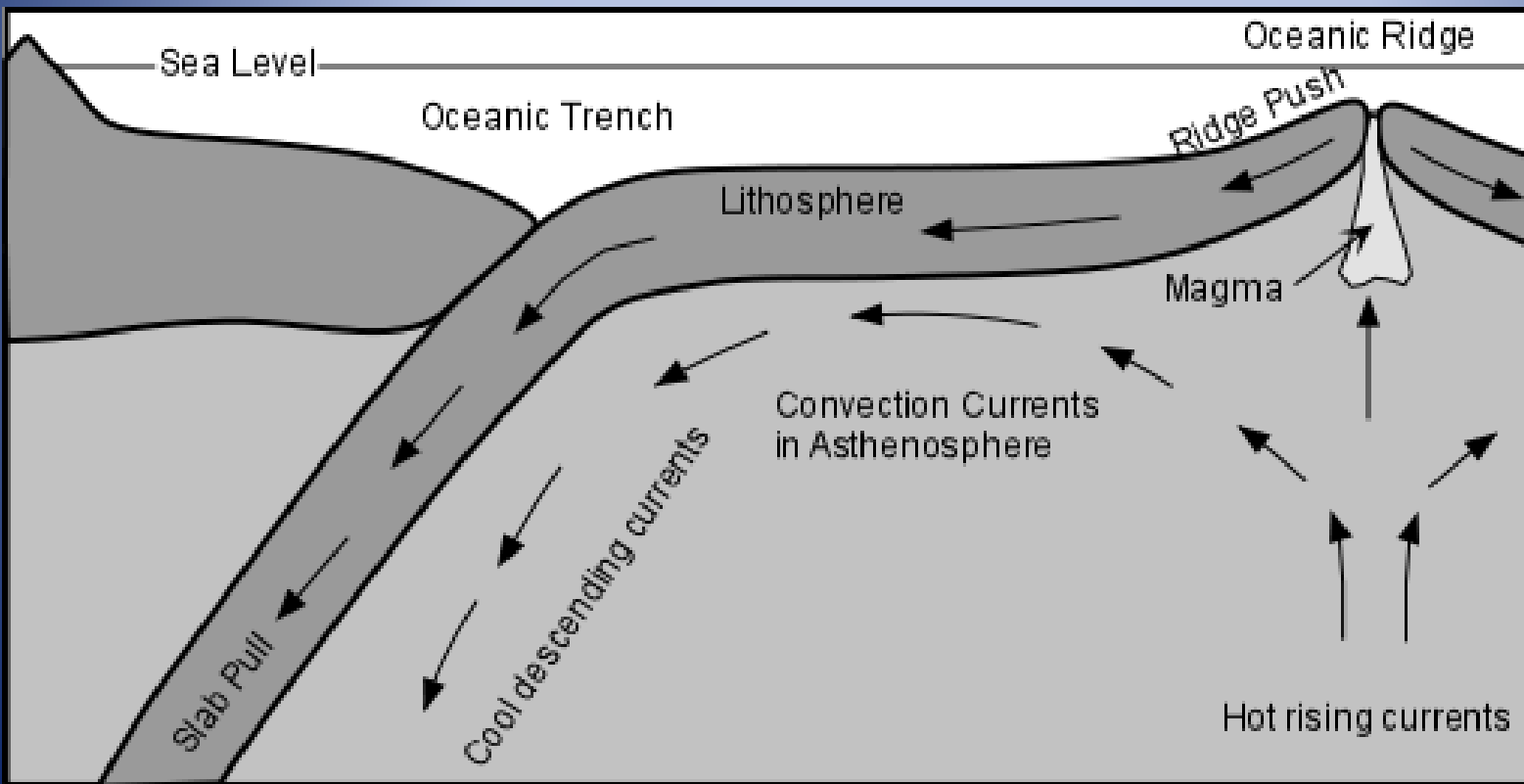
26. What causes tectonic plate movement?

- c. The mantle drags overlying tectonic plates along.

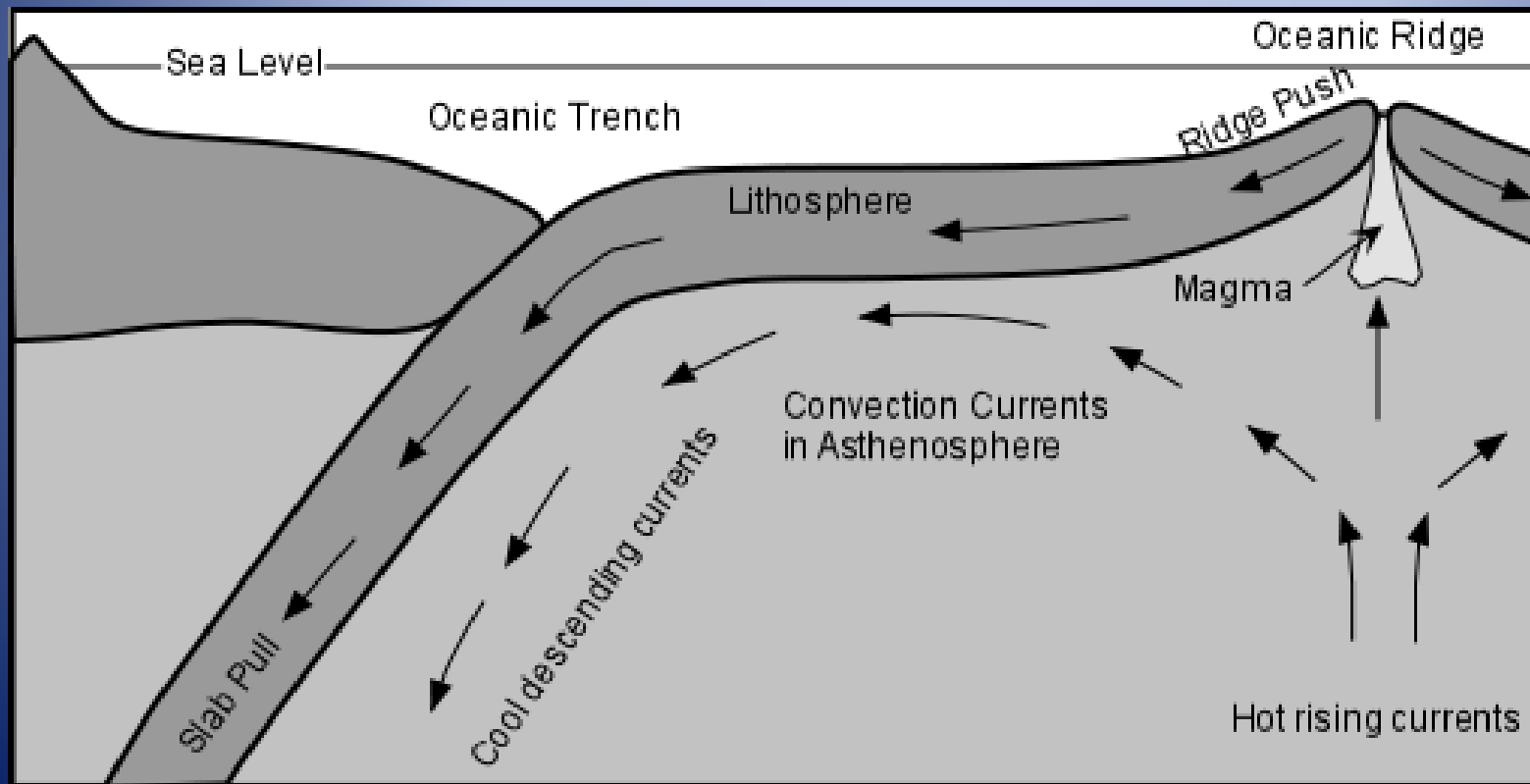


27. What happens to newer, warmer rock at a mid-ocean ridge as it cools?

- c. It sinks into the mantle and pulls away from the ridge.

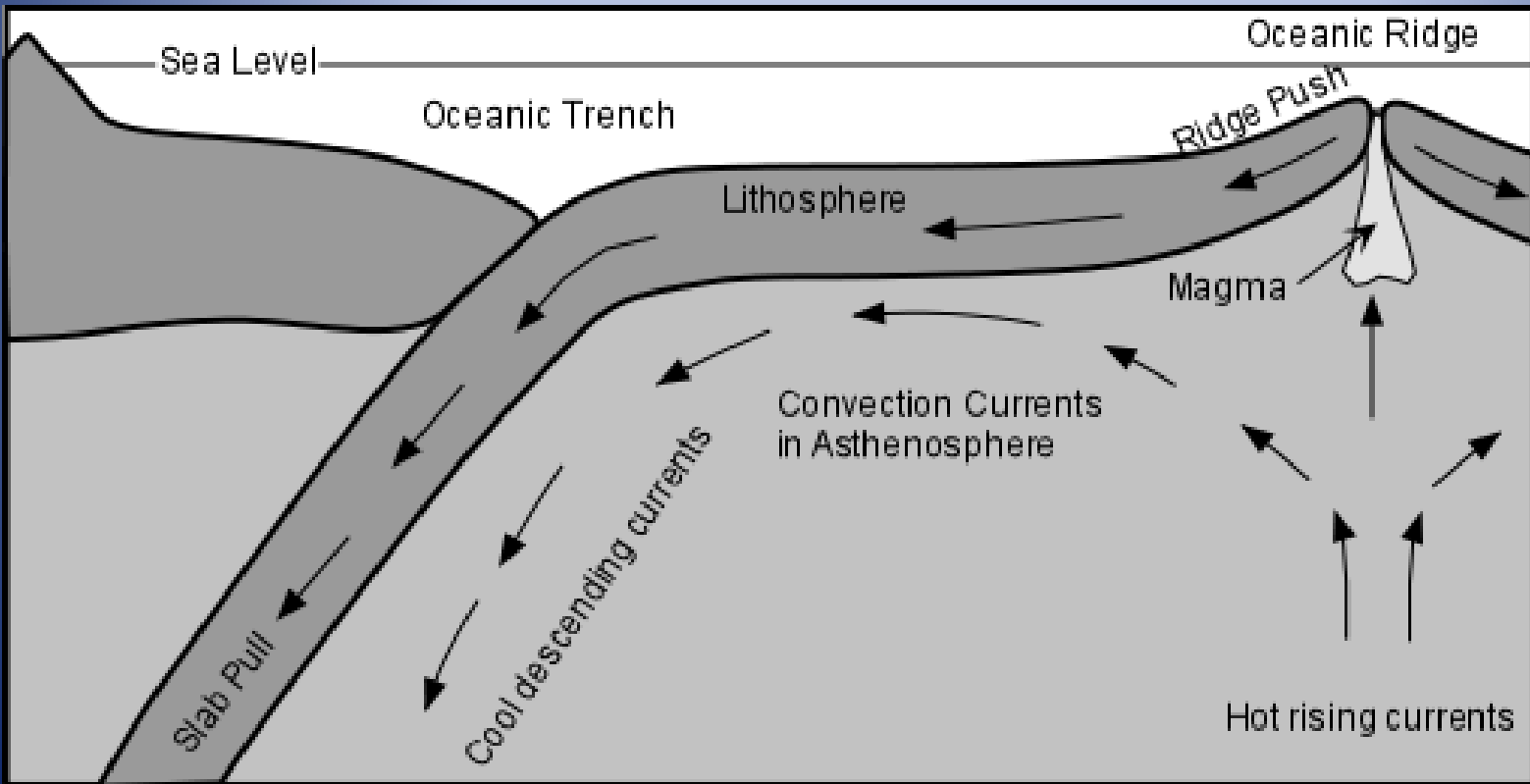


28. The force on the rest of the plate from the asthenosphere below the cooling, sinking rock is called ridge push.



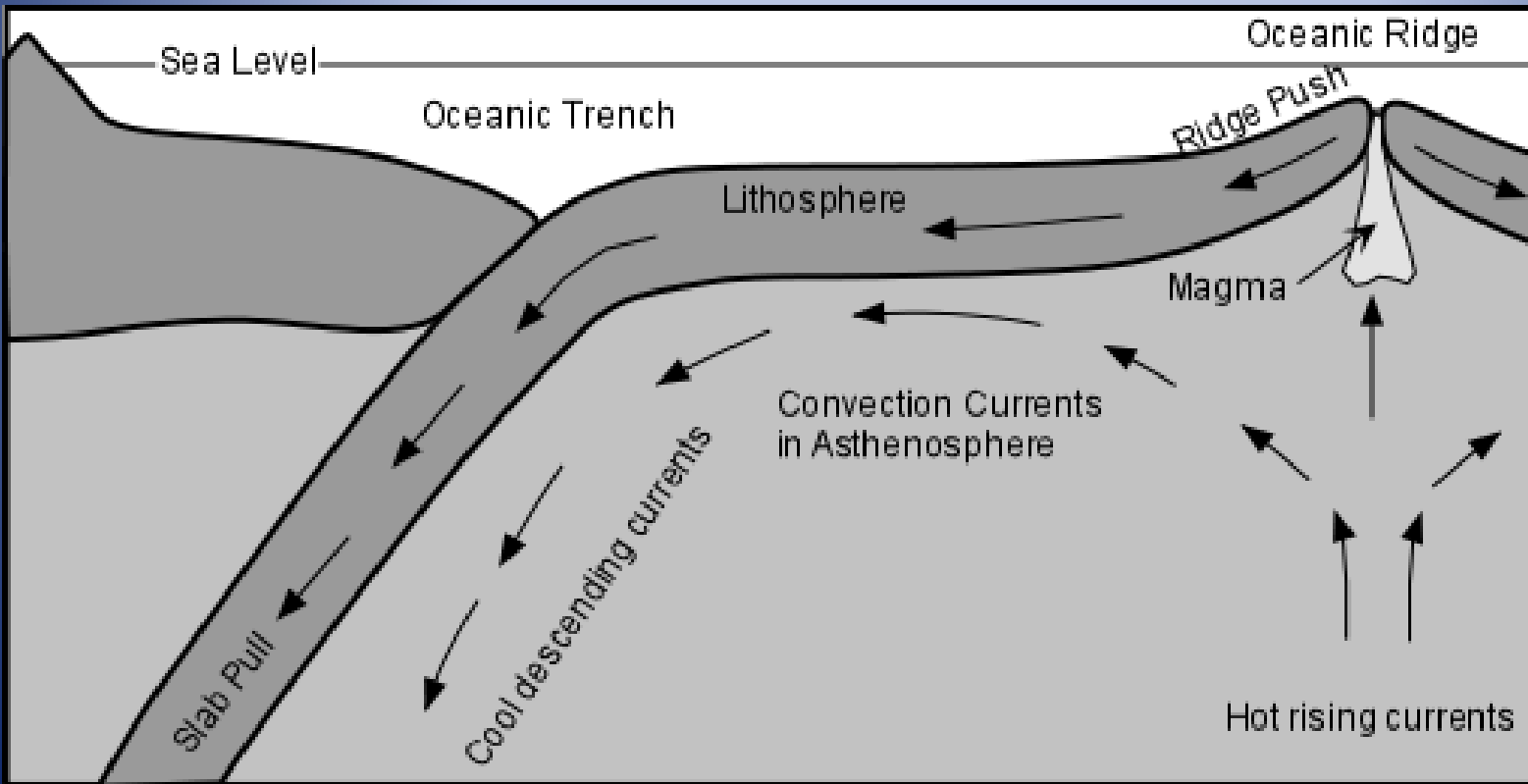
29. What happens as a result of ridge push?

- It pushes the rest of the plate away from the mid-ocean ridge.

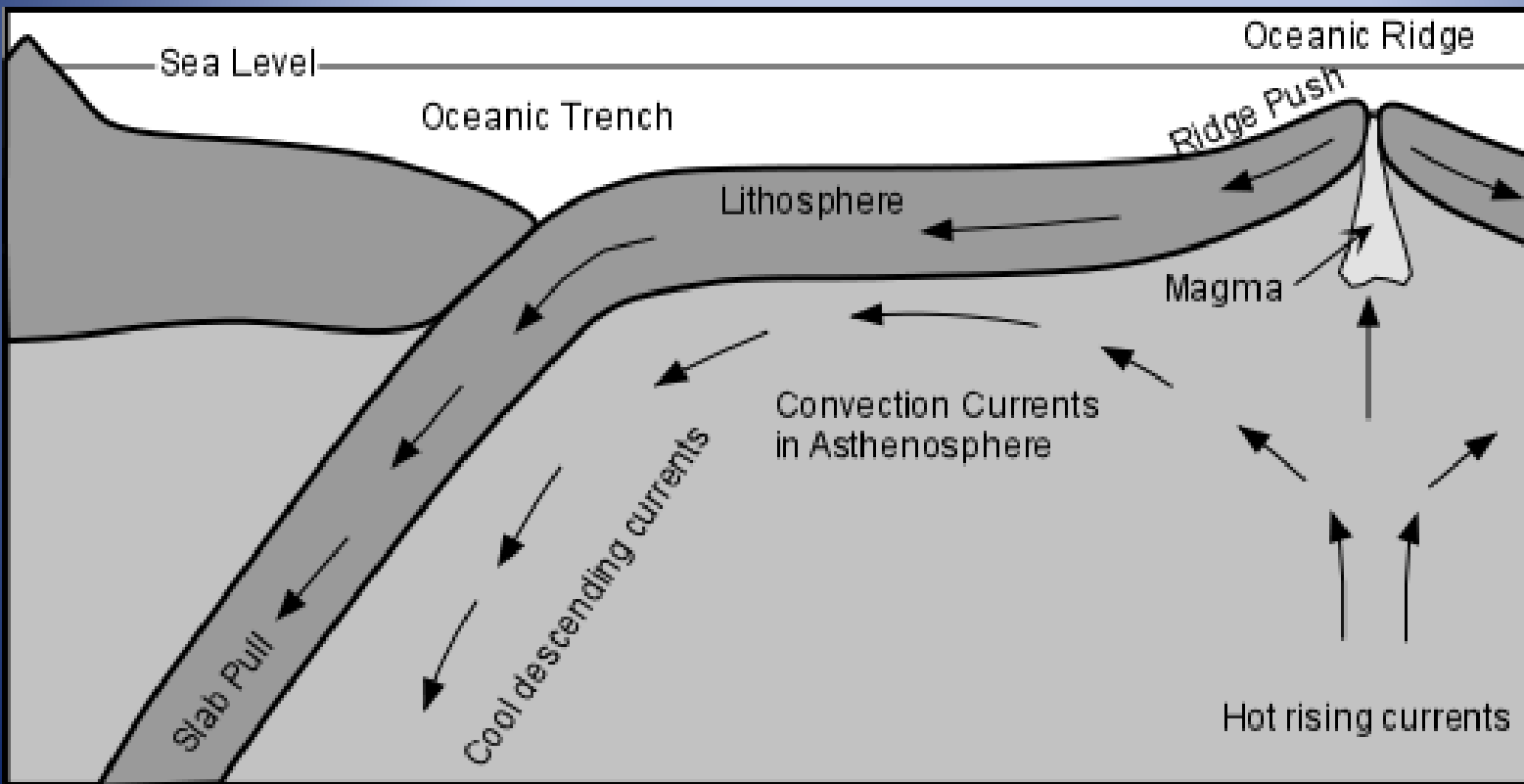


30. What happens to magma in places where plates pull away from each other at mid-ocean ridges?

- It rises to the surface.

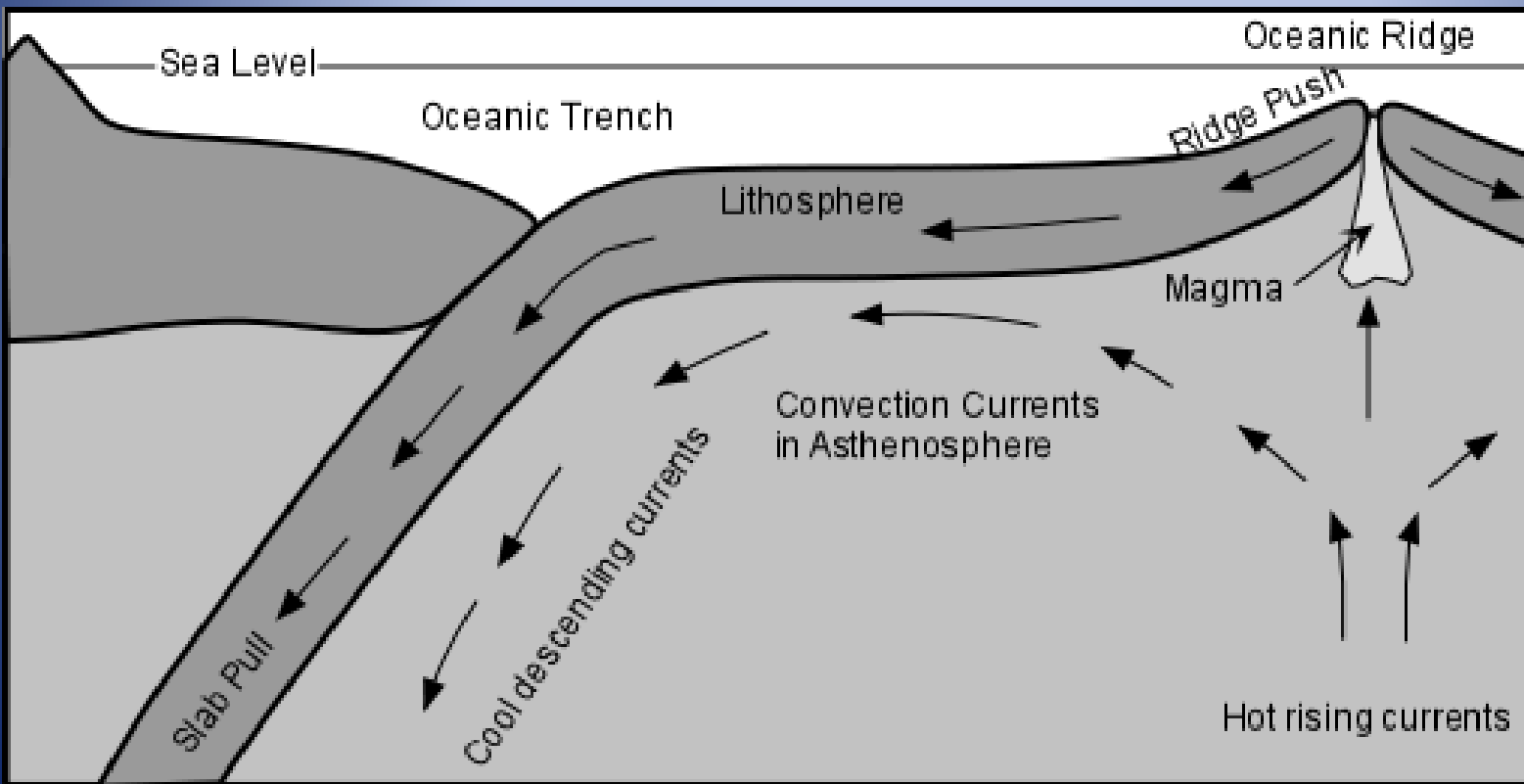


31. The force exerted by a sinking plate caused by the subduction of lithosphere into the asthenosphere is called slab pull.



32. What three forces work together to cause plate motions?

- Drag on the bottoms of tectonic plates, ridge push, and slab pull.



The End!!!

