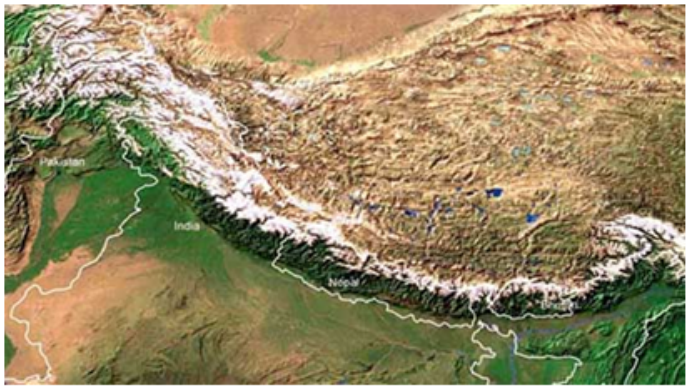
Collision

Convergent boundaries with continental lithosphere

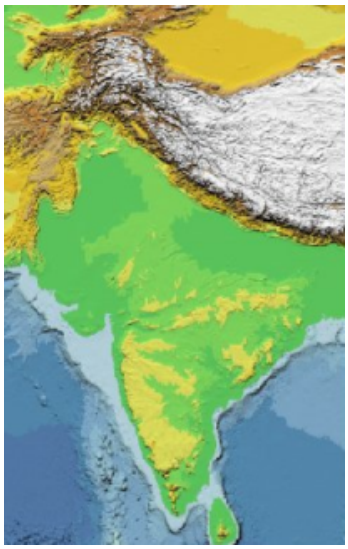
**Review:**

1. What evidence is there that continental lithosphere doesn't do subduction?
   The rocks on the continents are very old ( over 3 billion years) unlike the ocean floor rocks which are much younger. (180,000,000 years)

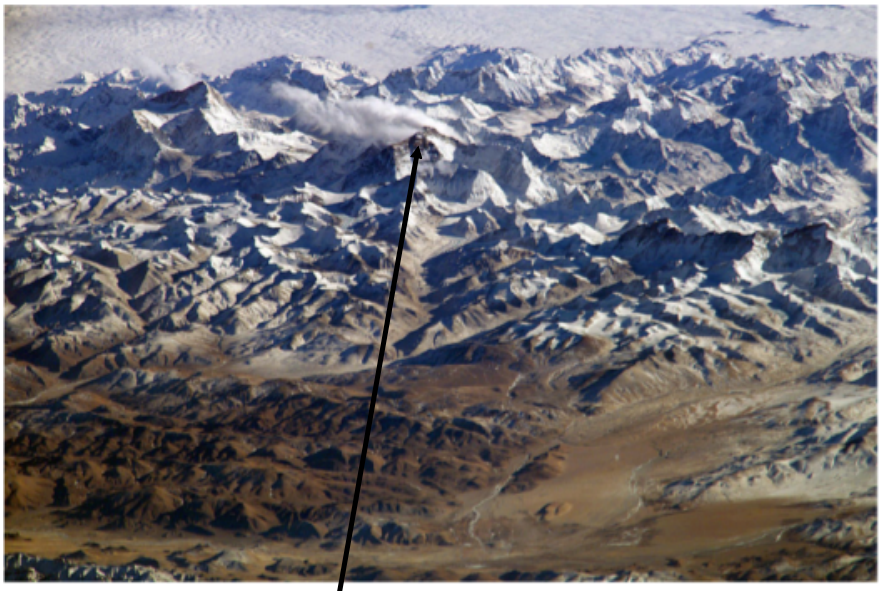
2. Why doesn't continental lithosphere subduct?
   Continental lithosphere is less dense than oceanic lithosphere.



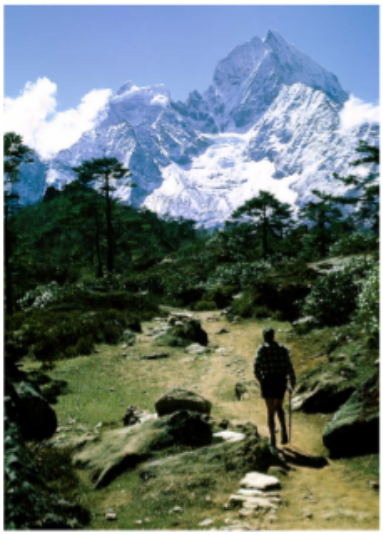
India and the Himalayas from space

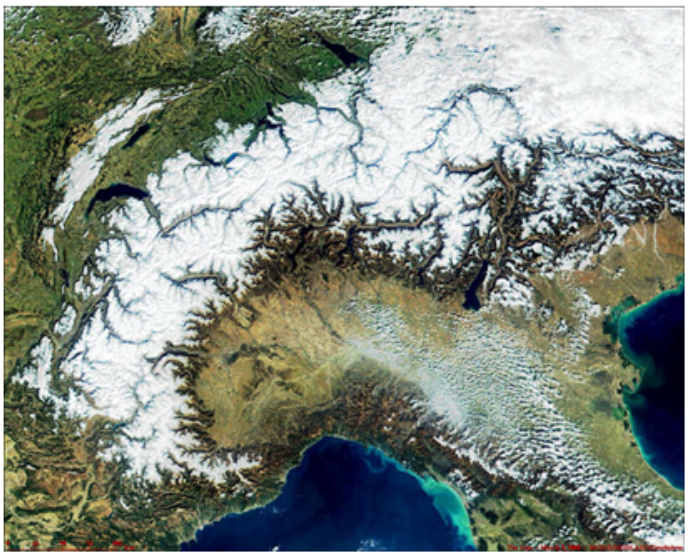


India running into Asia is our main example of a collision boundary. They Himalayas are the result of this collision boundary.



Himalayas and Mt. Everest from space



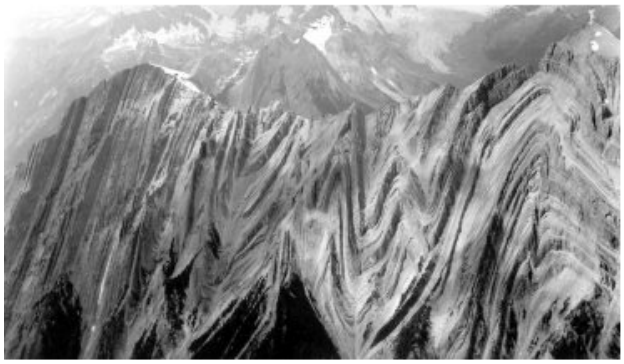


Italy and the Alps

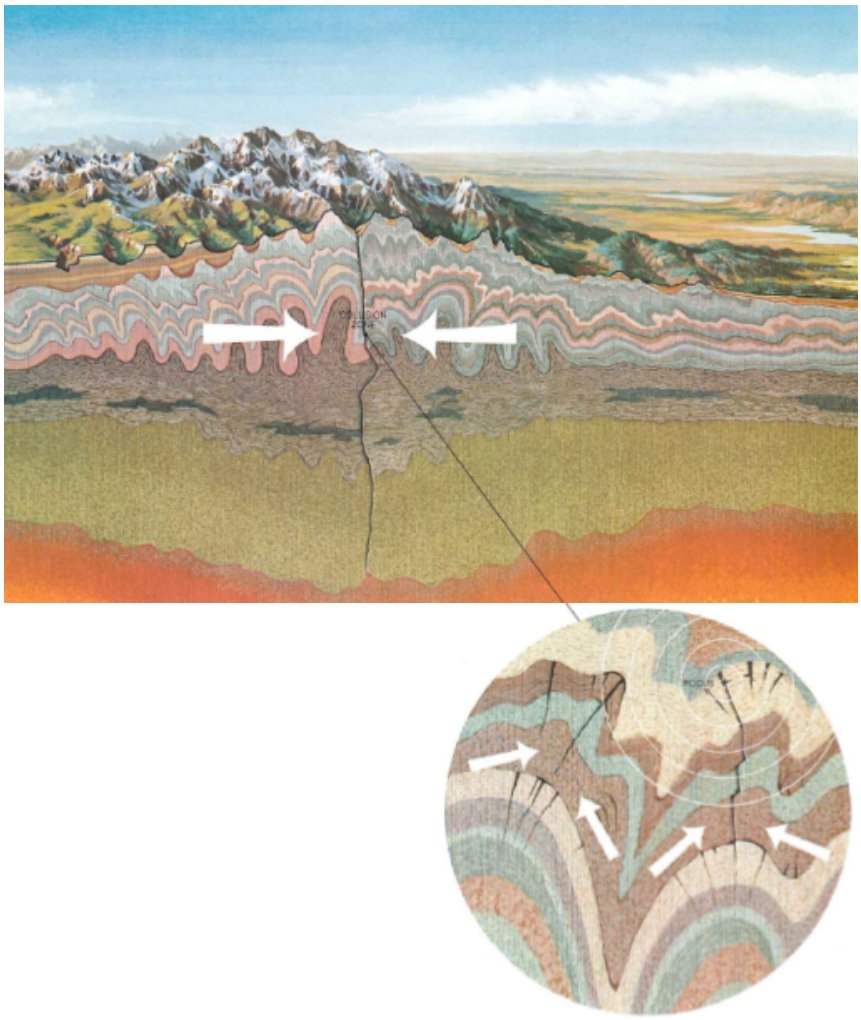
Alps

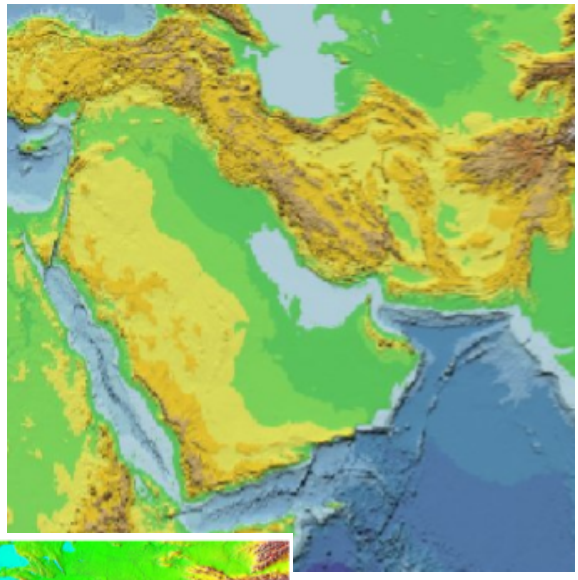
Another collision boundary between Italy and Europe.

Folded mountains

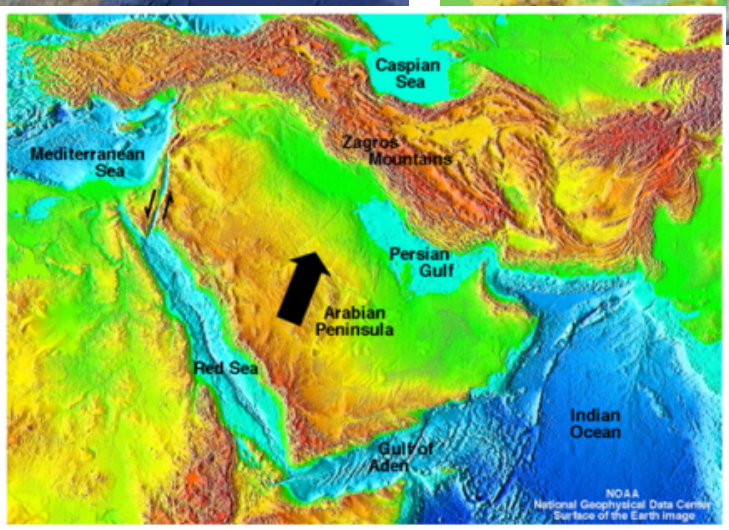


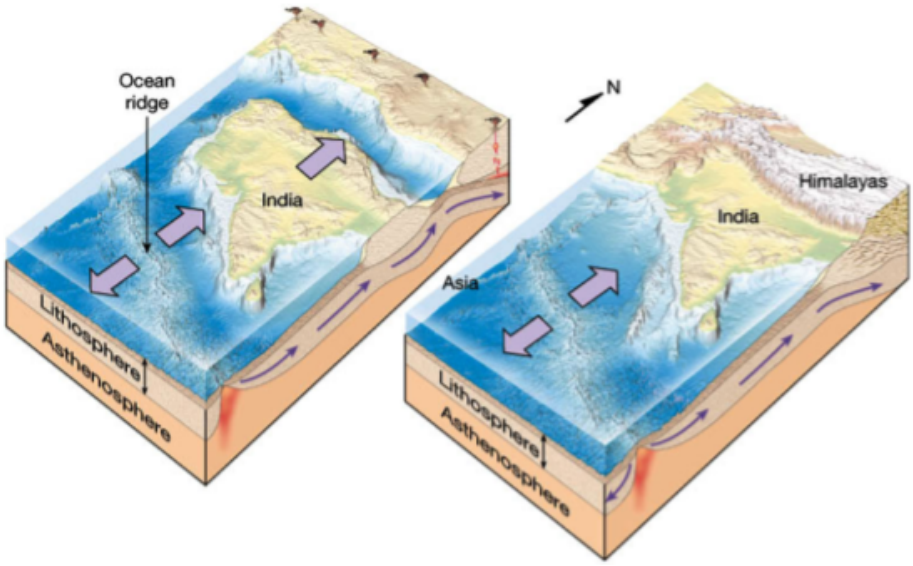
Collision boundaries often have folded mountains as a result of the plates pushing together.



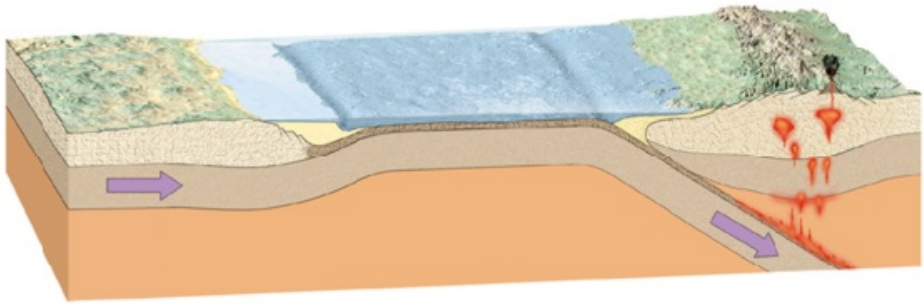


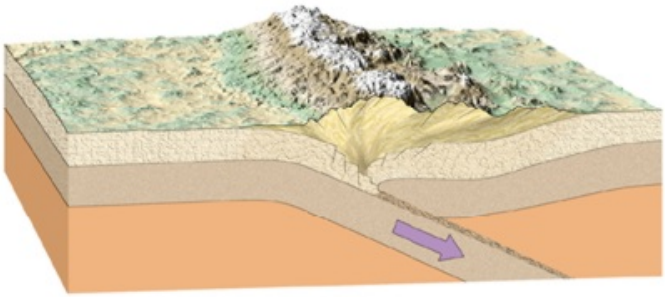
The Arabian Plate is colliding with Eurasia. Again mountains are the result.

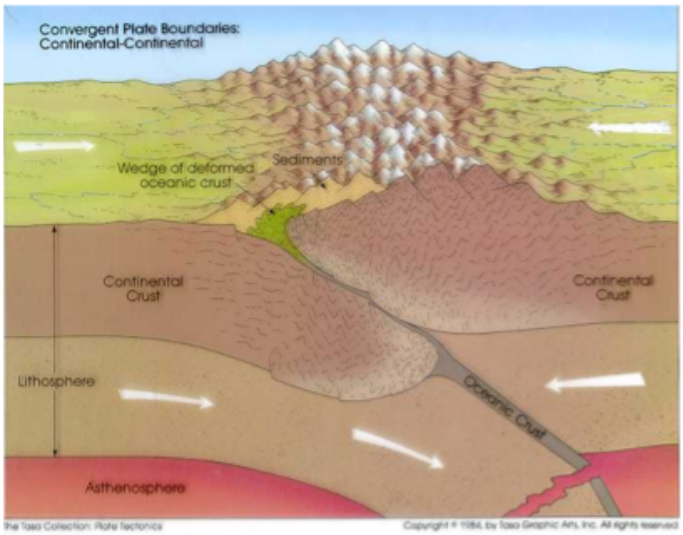


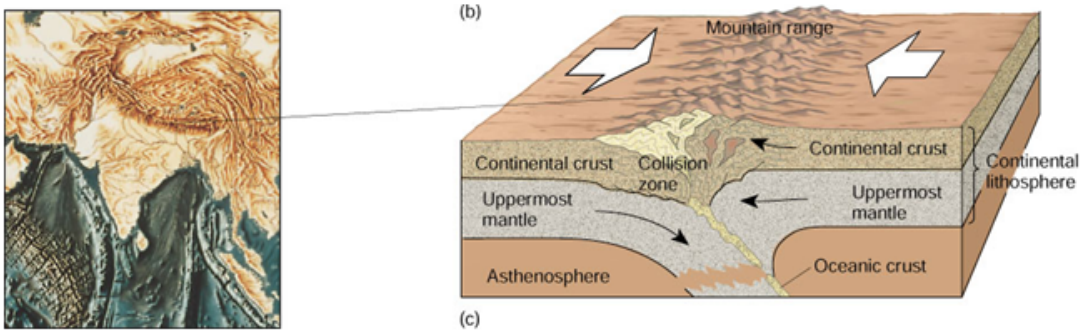




Before India made contact with Asia, there was ocean floor between the two areas of continent. That ocean floor subducted under Asia until it was all subducted. Then the two continental areas made contact and collision strated.





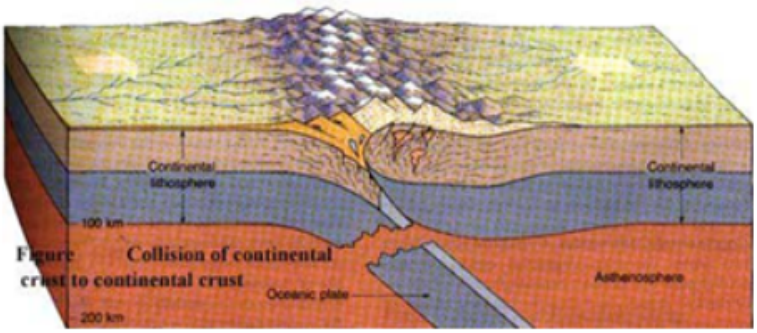



The part of the oceanic plate which had subducted continued to move downwards because of momentum. Because the continents slow way down when they collide, the oceanic lithosphere breaks off and continues moving down into the mante.

**Procedure:**

1. Use the **diagrams** to make at least three observations for collision boundaries. (3 points)



Figure

2. Look at the diagrams of India colliding with Eurasia. Describe what happened with India to explain how the Himalayas were formed. (3 points)
3. Look again at the first two diagrams of collision and explain why there is some oceanic lithosphere breaking off under the collision boundary. (2 points)
4. Italy long ago ran into Europe and caused the Alps to form. Find one other place on Earth where a collision boundary is **currently** happening. Look on both of the maps, the one that shows the features of Earth's surface and the one shows the directions that the plates are moving to figure this out. Don't use India and Asia again!!! (1 point)
5. Find a place on Earth where a collision happened long ago when Pangea existed. These mountains will be fairly small because they are so old and eroded. Describe the location and tell which pieces of continental lithosphere collided to form these mountains. (2 points)