- A fault is actually a sharp break in the crustal rocks. The release of energy happens along a fault. Rocks along a fault moves in opposite directions.
- As the overlying rock layer presses them, the friction locks them together. But their tendency to move apart at some point of time able to overcomes the friction. Hence, the blocks get deformed and eventually, they slide across one another abruptly. This causes a release of energy and these energy waves travel in all the directions.
- Point where the energy is released is known as the **Focus** or **Hypocenter** of an earthquake. The energy waves travel in different directions to reach the surface.
- Point on the surface of earth, which is nearest to the focus is called the **Epicenter**.
- The intensity of the earthquake will be highest in the epicenter and decreases as one moves away. All-natural earthquakes take place in the lithosphere.
- Earthquakes are highly unpredictable and destructive among all the natural disasters.
- Tectonic earthquakes are the most destructive as compared to earthquakes associated with volcanic eruptions, rock falls, landslides, subsidence, and other phenomena that have a small area of impact and scale of damage.

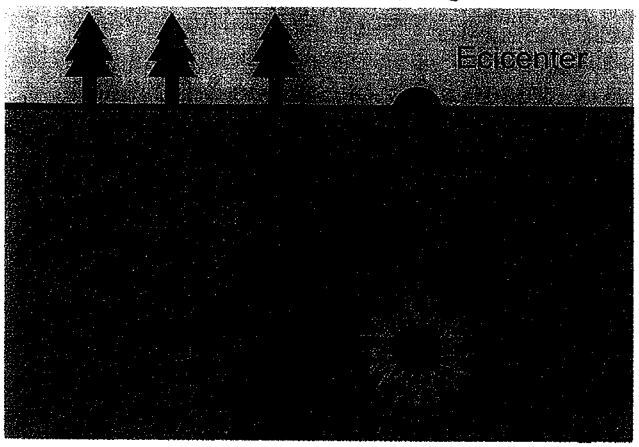

Image 5.10: Hypocenter & Epicenter of Earthquake

Causes of Earthquakes

- Most of them are causally related to tensional or compressional stresses built up at the margins of the huge moving lithospheric plates.
- The immediate cause of most shallow earthquakes is the sudden release of stress along a fault, or fracture in the earth's crust.
- Sudden slipping of rock formations along faults and fractures in the earth's crust happen due to constant change in volume and density of rocks due to intense temperature and pressure in the earth's interior.
- Volcanic activity can also cause an earthquake but the earthquakes of volcanic origin are usually less severe and more limited in extent than the ones caused due to fracturing of the earth's crust.
- Land slipping along the fault lines, divergent,convergent and transform boundaries causes earthquakes. E.g.: San Andreas Fault is a transform fault where Pacific plate and the North American plate moves horizontally to each other causing earthquakes along the fault lines.

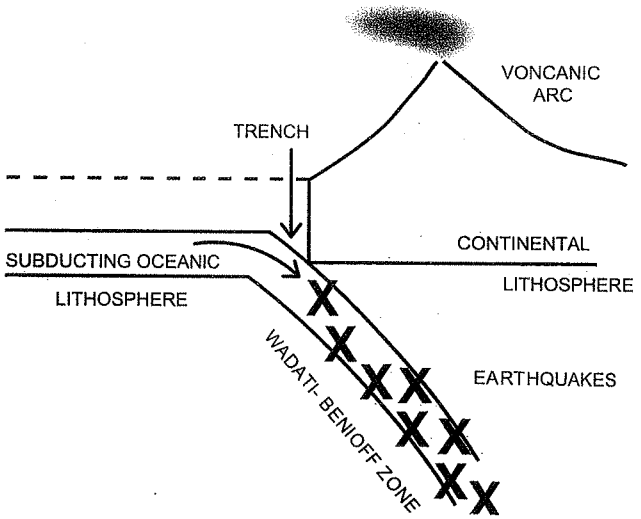

Image 5.11: Subduction of Plate