



Tectonic Plates

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TECTONIC PLATES

OR LITHOSPHERIC PLATES

ABOUT

- ▶ Massive, irregularly-shaped slabs of solid rock (Crust + Top Mantle)
- ▶ In 1967, McKenzie, Parker and Morgan came out with the concept of Plate Tectonics

TYPE

- ▶ Continental or Oceanic (whichever occupies the larger portion of plate)
- ▶ Pacific plate - Oceanic; Eurasian plate - Continental

MAJOR AND MINOR PLATES



THE INDIAN PLATE

- ▶ Includes - Peninsular India and the Australian continental portions
- ▶ East Extension - Rakim Yoma Mountains (Myanmar) to Java Trench
- ▶ West - Makrana coast of Balochistan (Pakistan)
- ▶ Rate of Movement - 54 mm/year in northeast direction
- ▶ Boundary b/w India and Antarctic plate - Marked by an oceanic ridge (divergent boundary)
- ▶ Formation of Himalayas - Collision of Indian and Eurasian plates

PLATE MOVEMENT

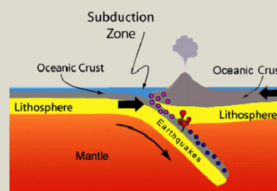
- ▶ Plates constantly move horizontally over the Asthenosphere
- ▶ Collision/drifting away of plates result in earthquakes/volcanic eruptions

Asthenosphere - a zone of Earth's mantle lying just beneath Lithosphere; believed to be much hotter and more fluid than Lithosphere

SUBDUCTION

Occurs when tectonic plates shift and one is pushed under another

Downgoing ocean plate → Pushed into hotter Mantle plate → Heats up → Mixes volatile elements → Produces magma → Volcanic eruption



BOUNDARIES OF PLATES

- ▶ **Convergent/Destructive**, where plates move into one another (subduction zones)
- ▶ **Divergent/Constructive**, where plates move apart (rift valleys)
- ▶ **Transform/Conservative**, where plates move sideways in relation to each other (creates faults)



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