Tectonic Plates

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

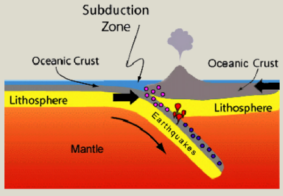
- Plates constantly move horizontally over the Asthenosphere
- Collision/drifting away of plates result in earthquakes/volcanic eruptions

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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