

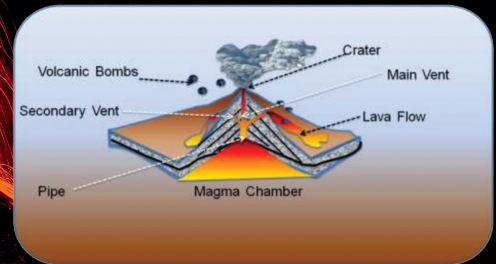


Volcanoes

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VOLCANOES

A volcano is a vent or a fissure in the crust from which lava (molten rock), ash, gases, rock fragments erupt from a magma chamber below the surface



Types: On basis of -

Periodicity of Eruption:

- Active volcano: Recently Erupted
- Dormant Volcano: Potential for eruption, no imminent signs
- Extinct: No recent eruptions, low possibility in future

Nature of Eruption:

- Hawaiian: Calmest types (low gaseous content)
- Strombolian: Formation of large gas bubbles in magma
- Vulcanian: More explosive
- Plinian eruptions: Magma's volatile gases rise via a narrow conduit
- Icelandic: Often build lava plateaus

Shape of Volcanoes:

- Shield volcanoes: Composed of basaltic lava, low slope
- Cone volcanoes (Cinder Cones): Most abundant
- Composite cones (stratovolcanoes): Formed by layers of diverse materials.

Volcanic Features:

Extrusive :

- Crater: Cone-shaped vent for magma
- Caldera: Large, crater-like depression
- Volcanic Plateaus: Levelled areas from fissure eruptions

Intrusive:

- Batholiths: Central core of a volcanic mountain.
- Dyke: Vertical intrusion cutting across country rock bedding.
- Sills: Tabular intrusions along sedimentary bedding.
- Laccoliths: Magma injection along horizontal sedimentary bedding.

Minor:

- Geysers: Underground water above 100°C, powered by magma, results in powerful eruptions with steam and diluted minerals.
- Hot Springs: Heated water flows quietly along fault zones.

Distribution of Volcanoes:

- Subduction zones (Circum Pacific Belt)
- Divergence zones (Mid Atlantic Ridge)
- Intra-plate oceanic volcanism (Hawaiian chain)
- Mid-continental belt and volcanoes in Mediterranean region

Volcanoes in India:

- No volcanoes in Himalayans
- Barren Island (Only active volcano)

Products of Volcanic Eruption:

- Gases: H, C, O, S, N, CH₄, NH₃
- Solid: Pyroclastic materials
- Liquid: Lava



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