Intraplate Activity

Terrestrial Intraplate Activity

Intraplate activity is any sort of geological activity that takes place within a plate away from plate boundaries.

On Land:

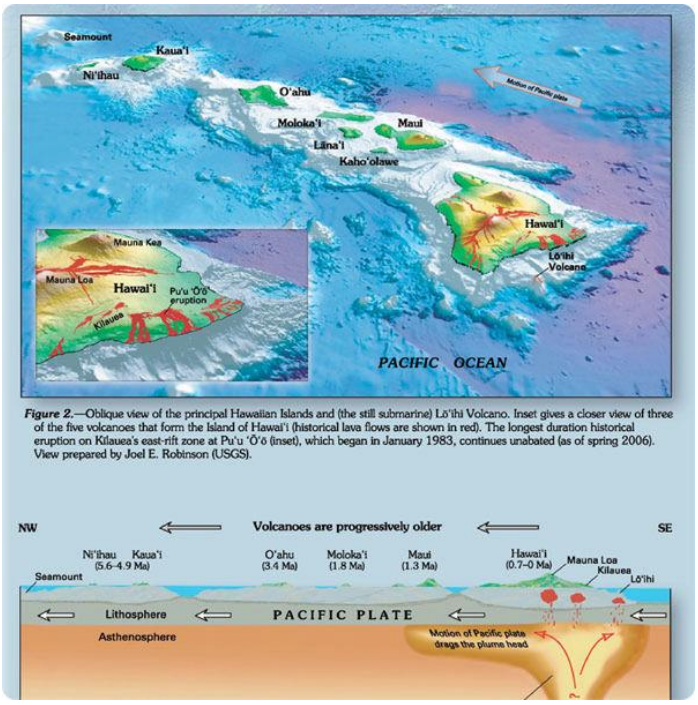
- **Hotspots** are areas of high pressure on the surface of a plate that causes melting. Mantle plumes that rise through the mantle cause these high-pressure areas.
- Eruptions at hotspots create volcanoes.
- Hotspot magmas rarely penetrate through thick continental crust, so hotspot activity on continents is rare.

Study Tip

The Latin term "intra" means within, therefore you can remember that intraplate activity is geological action that takes place in plates rather than at their boundaries.

Intraplate Activity in the Oceans

- The Hawaiian Islands were a product of oceanic hotspot activity.
- The islands are progressively older toward the northwest because they are further from the hotspot.
- The Pacific Plate is moving northwest over the hotspot.
- Since hotspots are stationary in the mantle, geologists can use some hotspot chains to tell the direction and the speed a plate is moving



The Hawaiian Islands are products of intraplate activity in the oceans

Concept Check

- What is intraplate activity?
- How were the Hawaiian Islands formed?
- How are hotspots formed?