

Stage 1: Submarine Stage

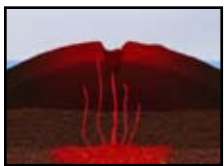
Volcano growth occurs below sea level at the outer edge of a hotspot, an area cooler than the area directly over a hotspot. Cool, sticky magma from the melting zone at the base of the Pacific Plate slowly builds a steep-sided volcano.



Stage 2: Shield-building Stage

The volcano grows quickly, because it has moved directly over a hotspot. The hot, fluid magma flows out to form a short volcano with gently sloping sides in a shield shape.

In the shield-building stage, magma stops at a temporary storage area called a magma chamber on its way to the surface. Magma chambers feed eruptions. If a large eruption occurs during this stage, the magma chamber drains and its roof collapses to form a caldera.



Stage 3: Capping Stage

The volcano has moved across the hotspot to the other side. Because the edge of the hotspot is cool, the magma rising to the surface is sticky. The magma chamber has cooled and crystallized and erupting lava flows now come from the melting zone at the base of the Pacific Plate. Short, small eruptions of magma from the melting zone occur to form cinder cones and lava flows that cap the surface of the volcano, creating a bumpy appearance.



Stage 4: Late Stage

As the volcano moves farther from the hotspot, volcano growth slows. The source of magma at the base of the Pacific Plate begins to crystallize, and new pathways are found for pasty magma to reach the surface.



Stage 5: Atoll Stage

The volcano has moved so far from the hotspot that magma no longer reaches the surface and growth stops. Over millions of years, the volcano surface above sea level erodes away leaving only a large ring-shaped atoll created by coral reefs that have been built up around its edges. Coral reefs, which are made up of the skeletons of billions of marine organisms, grow in the shallow ocean water along the coastline of a volcano. Coral reef-building rules during the atoll stage.