Aseismic ridges vs. chains of ocean islands and/or seamounts

How they are the same: **Both are intraplate* linear arrays of volcanic rock.**
Both do not have significant earthquakes.
Both form over hotspots (over mantle plumes).

* *not* at plate boundaries

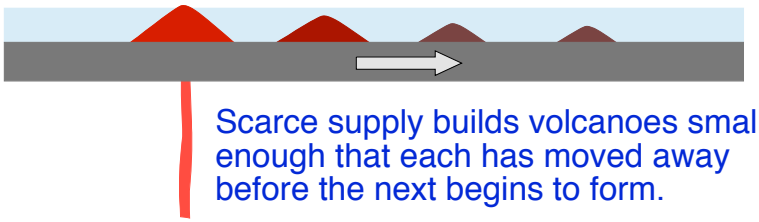
Aseismic ridges ***Ocean islands and/or seamounts***

How they differ:

Continuous **Discontinuous**

Why one may form instead of the other, Part 1: Control by magma supply

Plentiful supply builds volcanoes large enough they merge onto one another.



Scarce supply builds volcanoes small enough that each has moved away before the next begins to form.

Why one may form instead of the other, Part 2: Control by speed of seafloor movement

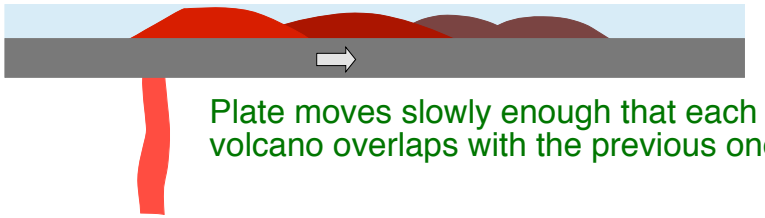


Plate moves slowly enough that each volcano overlaps with the previous one.

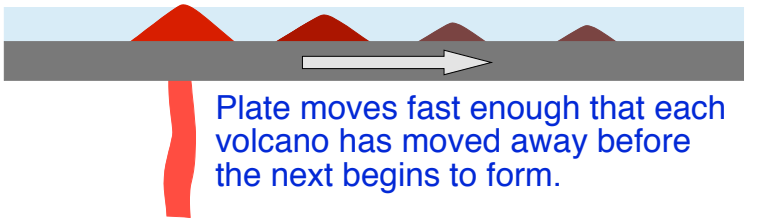


Plate moves fast enough that each volcano has moved away before the next begins to form.

Reminder: an aseismic ridge is not a mid-ocean ridge, and an ocean island is not part of an island arc.