

Chapter 1 Section 4: Sea-Floor Spreading

Mid-ocean Ridge: The longest chain of mountains in the world. (East Pacific Rise)

Sonar

- A device that bounces sound waves off an object and then records the echoes of these sound waves. The time it takes for the echo to arrive indicates the distance to the object. (Mid-Ocean Ridge was mapped using this).

Crustal movement: Movement of plates begin at the mid-ocean Ridge.

At the Mid-ocean Ridge, molten material rises from the mantle and erupts. The molten material then spreads out, pushing older rocks to both sides of the ridge.

Sea-floor Spreading

- The process that continually adds new material to the ocean floor.
Evidence from molten material

- magnetic stripes.
- drilling samples

Magnetic poles reverse every 600,000 years, when the molten rock cools iron bits lined up in the direction of earth's magnetic poles.

Deep-ocean trenches

- A deep ocean trench forms where the oceanic crust bends downward.

Subduction: the process by which the ocean floor sinks through a deep-ocean trench and back into the mantle.