

What is the topography of the sea floor?

Based on measurements

- lead weight on the rope
- sonar, echo sounder
- gravity anomalies

Vertical Exaggeration

Harry Hess, 7th fleet W.W. 2
sunken islands in the Pacific

Main topographic features

- Continental shelf
- Continental slope
- Continental rise
- Abyssal plains (ocean basins)
- Guyots
- Abyssal hills (seamounts)
- Islands and Island Arcs

- Ridges and Rises
- Trenches
- fringing reefs (atolls)

Most of the islands and seamounts are fundamentally volcanic

Darwin (1831-1936 on the Beagle voyage) suggested the process of atoll formation.

1. Changes in sea level
 - a) Vertical motion on the Earth
 - b) Climate changes
2. Moving the ocean bottom

Change in the sea level

GLOBAL

Eustatic

Vertical movement
caused by P.T.

Increased activity

→ sea level RISE

Activity subsides

→ sea level DROP

LOCAL

Tectonic

Earthquakes
locally lift up
or sink down

