

## UPSC Civil Services Examination

### UPSC Notes [GS-I]

#### Topic: Minor Relief of the Ocean floor [Geography Notes for UPSC]

##### Minor Relief

The ocean floors can be divided into four major divisions and some minor relief features in the ocean floors like

- Mid-Oceanic Ridges
- Seamounts
- Guyots
- Trenches
- Canyons

##### Mid-Oceanic Ridges

- A mid-oceanic ridge is an underwater mountain range, formed by plate tectonics.
- It is composed of two chains of mountains divided by a large depression.
- The mountain ranges can have peaks as high as 2,500 m and some even reach above the ocean's surface.
- Examples for Mid-oceanic ridges:
  - Mid-Atlantic Ridge, Atlantic Ocean
  - East Pacific Rise
  - Pacific-Antarctic Ridge

##### Seamount

- Seamounts are mountains with pointed peaks, mounting from the seafloor, and that do not reach the surface of the ocean.
- They are volcanic in origin.
- Seamounts can be 3,000-4,500 m tall.
- An extension of the Hawaiian Islands in the Pacific Ocean which is known as The Emperor seamount is an example of seamount.

## Submarine Canyons

- Submarine Canyons are a kind of narrow steep-sided valleys.
- It originates either within continental slopes or on a continental shelf.
- Congo Canyon is regarded as the largest river canyon.
- The Hudson Canyon is the best-known submarine canyon in the world.
- The largest submarine canyon in the world is Zhemchug Canyon.

## Guyots

- It is a flat topped seamount.
- It is also known as a table mount.
- They show evidence of slow subsidence through stages to become flat-topped submerged mountains.
- It is expected that more than 10,000 guyots and seamounts occur in the Pacific Ocean only.

## Atoll

- It is a ring-shaped coral reef containing a coral rim that encompasses a lagoon incompletely or completely.
- These are low islands found in the tropical oceans.
- It may be a part of the sea (lagoon), or occasionally form encircling a body of brackish, fresh, or highly saline water.