UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Ocean Floor And Its Features (Geography Notes for UPSC)

Ocean Floor Configuration

Divisions of the Ocean Floors

An oceanic basin is the land surface under an ocean that includes the topography under the water. The ocean floors can be divided into four major divisions:

- The Continental Shelf
- The Continental Slope
- The Deep Sea Plain
- The Trenches

Ocean Floor Geography

Minor relief features in the ocean floors

Besides, the major divisions, there are also major and minor relief features in the ocean floors like

- Ridges
- Hills
- Seamounts
- Guyots
- Trenches
- Canyons

Continental Shelf

- The continental shelf is the stretched margin of all continent occupied by comparatively shallow gulfs and sea.
- It is the shallowest part of the ocean
- The shelf normally ends at a very steep slope which is called the shelf break.
- The average width of continental shelves is about 80 km.
- The Continental shelves are very narrow or almost absent along certain margins like the
    - Coasts of Chile
    - The west coast of Sumatra
- The Siberian shelf in the Arctic Ocean is the largest in the world

- Enormous sedimentary deposits received over a long time by the continental shelves, turn out to be the source of fossil fuels.

Continental Slope

- The continental slope links the continental shelf and the ocean basins.
- It starts where the bottom of the continental shelf abruptly drops off into a steep slope.
- Canyons and trenches are seen in this region.

Deep Sea Plain

- Deep sea plain is gently sloping areas
- These are the flattest and flattest areas
- These plains are completely covered with fine-grained deposits like silt and clay.

Oceanic Deeps or Trenches

- Trenches are the deepest parts of the oceans.
- The trenches are comparatively steep-sided and have narrow basins.
- They are some 3-5 km deeper than the adjacent ocean floor.
- They are found at the bases of continental slopes and along island arcs
- Trenches are associated with active volcanoes and strong earthquakes.
- That is why they are very important in the study of plate movements.