

UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Ocean Waves (Geography Notes for UPSC)

Ocean Waves

Waves

- Waves are formed by energy passing through water, resulting it to move in a circular motion.
- Water particles travel only in a small circle as a wave passes.
- The Wind provides energy to the waves.
- The Wind causes waves to travel in the ocean and the energy is released on coastlines.
- The movement of the surface water rarely affects the stagnant deep bottom water of the oceans.
- As a wave approaches the coastline, it slows down. This is due to the friction happening between the moving water and the sea floor.
- When the depth of water is less than half the wavelength of the wave, the wave breaks.
- The largest waves are found in the open oceans.
- Waves continue to grow larger as they move and absorb energy from the wind.
- The size and shape of the waves reveal its origin.
- Steep waves are young ones and are perhaps created by local wind.
- Slow and steady waves originate from faraway places, probably from another hemisphere.

Characteristics of Waves

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Wave crest and trough	The highest of a wave is called crest. The lowest point of a wave is called trough.
Wave height	It is the perpendicular distance from the bottom of a trough to the top of a crest of a wave.
Wave amplitude	It is one-half of the wave height.
Wave period	It is merely the time interval between two successive wave crests or troughs as they pass a fixed point.

Wavelength	It is the horizontal distance between two successive crests.
Wave speed	It is the rate at which the wave moves through the water. It is measured in knots.

