

**CLASS- IX**  
**SUBJECT- GEOGRAPHY**  
**CHAPTER- HYDROSPHERE {2ND TERM}**

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- ❖ **Hydrosphere:** It refers to the combined mass of water found on the surface, in the atmosphere and underground.
- ❖ **Hydrological Cycle:** The continuous exchange of water from the oceans to the atmosphere, then to the land and back to the ocean is called hydrological cycle.
- ❖ **3 ways of Ocean water movement:**
  - Ocean current
  - Tides
  - Waves
- ❖ **With reference to Ocean currents:**
  - Ocean currents are large masses of surface water that circulate in regular patterns around the oceans.
  - 2 types of Ocean Currents:
    1. Warm Ocean Current- They flow from the low latitudes towards the high latitude. Example- the Warm Gulf stream and Atlantic Drift.
    2. Cold Ocean Current- They flow from the high latitudes towards the low latitudes. Example- The cold Labrador Current and The Oyashio Current.
  - With reference to **The Warm Gulf Stream:**
    1. It originates in the Gulf of Mexico
    2. It flows all along the eastern coastlines of the United States and New foundland.
    3. It influences the climate of the east coast of North America from Florida to New found land.
    4. It is a significant potential source of renewable power generation.
  - With reference to **The Labrador Current:**
    1. It originates from the Arctic Ocean.
    2. It merges with the Gulf Stream near New foundland and causes dense fog.
  - With reference to **The North Atlantic Drift:**
    1. It is a warm Atlantic Ocean current.
    2. It keeps the ports of Europe free from ice even in winter.
  - Effects of Ocean Current:
    1. Dense fog occurs where the warm and cold currents meet.
    2. Mixing of warm and cold currents help in the production of planktons.

3. Influence of warm ocean currents keeps the harbour ice free.

❖ **With reference to Tides:**

- The rise and fall of sea water due to the gravitational forces of the sun and the moon twice in a day is called Tides.
- Nature of Tides:
  1. High Tide
  2. Low Tide.
- 2 types of Tides:
  1. **Spring Tide:** It occurs when the sun, the moon and the earth are almost in the same line. It is 20% higher than the normal tide.
  2. **Neap Tide:** It occurs when the sun, the earth and the moon are in a right angle form. It is 20% lower than the normal tide.
- Effects of Tides:
  1. Tides help in making the sea navigable.
  2. They keep the harbours clean by removing the debris.
  3. They are harnessed to generate electricity.
  4. They also help in sailing to the sea and returning to the harbour.

*\*Waves- Not in syllabus\**