

## Competitive Exams: Oceanography Salinity

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Find this video at: <https://www.youtube.com/video/SxzTNDjA8do?rel=0>

### Salinity

It is defined as the ratio between the weight of the dissolved material and the weight of sample sea water.

- Generally salinity is defined as the total amount of solid material in gm. contained in one kg. of sea water and is expressed at part 1000 means 30 gm.
- The average salinity of 35% is recorded between  $10^{\circ}$  –  $30^{\circ}$  latitude in the southern hemisphere.
- The zone between  $40^{\circ}$   $60^{\circ}$  latitude in both the hemisphere records lowest salinity where it is 31%-33%

### Pacific Ocean

- Near the equator, salinity is 34.85%;
- It increases to 35% between  $15^{\circ}$   $20^{\circ}$  latitude in the north hemisphere; But in the southern hemisphere, it increases to 36% i.e. more than sea;
- Besides salt, silver, gold and radium also occur but in minute proportion in sea water.
- These elements are 0.3 (silver), 0.006 (gold) and 0.0000002 mg/metric tonne or part/1000 million.

### Atlantic Ocean

- Average salinity is 35.67%;
- Highest is between  $15^{\circ}$   $20^{\circ}$  latitude;
- In  $5^{\circ}$  North latitude, salinity is 34.98% and in  $15^{\circ}$  North, it is 36%;
- In  $15^{\circ}$  South, salinity is 37.77%.

## Indian Ocean

- From  $0^{\circ}$   $10^{\circ}$  North latitude, salinity is 35%;  $10^{\circ}$   $30^{\circ}$  North, the salinity is 33.5%;
- Near Persian Gulf, 40%; highest is in Red sea, 36.41%. (In the landlocked sea, lowest salinity is in Caspian sea, i.e. 14% in the northern part. But in the Kara Bnpa? bav salinity is highest i.e. 170%).
- Near Salt Lake (US), salinity is 220%. In Red sea, salinity is 240%, in Dead sea, it is 238%.

## Distribution of Salinity

The average salinity in the oceans and the sea is 35%.

Horizontal Distribution: on an average, salinity decreases from equator towards the poles. The equator accounts only 35% of salinity.

- The highest salinity is observed between  $20^{\circ}$   $40^{\circ}$ N.. because this zone has high temperature, high evaporation, but low rainfall i.e. 31%, near Manchurian, it is 34%, this salinity in Manchuria is severe because of Oyashio current coming from Berring Strait.
- In the Southern hemisphere, lowest is near the Peruvian and Chilean coast i.e. 33%.

## Discussions & Questions