

## **OCEANS ON THE EARTH**

There are four oceans. In order of their size, they are: Pacific Ocean, Atlantic Ocean, Indian Ocean and Arctic Ocean.

## Pacific Ocean

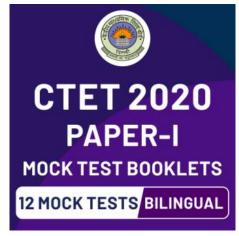
- The explorer Ferdinand Magellan; who circumnavigated the Earth, named the ocean 'Pacific' meaning calm or peaceful.
- The Pacific Ocean is the **largest** ocean of the world.
- It is the **deepest ocean** with an average depth of 4,280 m (14,040 feet).
- The **Mariana Trench** is the world's deepest trench with a depth of 11,034 metres (36,201 feet).
- Most of the islands of this ocean are of **volcanic or coral origin**.

## Atlantic Ocean

- The Atlantic Ocean is the **second largest ocean** in the world Average depth: 3,300 metres.
- Its name is derived from Atlas, a Titan (giant) in Greek mythology
- The Atlantic Ocean, body of salt water covering one fifth of the earth surface has the longest coastline.
- The Atlantic Ocean is the **busiest ocean for trade and commerce** since its shipping routes connect the two most industrialized regions, namely Western Europe and N.E. United States of America.
- The Atlantic Ocean was formed millions of years ago when a rift opened up in the Gondwanaland and the continents of South America and Africa separated. The separation continues even today and the Atlantic Ocean is still widening.
- The continental islands of **Newfoundland and British Isles** are the major ones.
- Volcanic islands are fewer and they include those of **Cuba**, **Jamaica and Puerto Rico Iceland** is the largest island of volcanic origin.

## **Indian Ocean**

- The Indian Ocean is the only ocean named after a country. Its average depth is 3,960 metres.
- The Indian Ocean is **deeper than the Atlantic Ocean**.
- It contains numerous continental islands, Madagascar and Sri Lanka are being the largest ones.
- Some of the islands of volcanic origin are those of Mauritius, Andamanand Nicobar, Seychelles, Maldives and Lakshadweep are of coral origin.



#### South Indian Ocean

- Warm currents:
  - 1. South Equatorial
  - 2. Mozambique
  - 3. Madagascar
  - 4. Agulhas.
- Cool Currents:
  - 1. Antarctic drift
  - 2. West Australian currents.



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## **Arctic Ocean**

- The Arctic Ocean is the smallest of all the oceans.
- It lies within the Arctic Circle, hence the name Arctic Ocean.
- The **North Pole lies in the middle** of the Arctic Ocean.
- Most of the parts of Arctic Ocean **remains frozen** with thick ice for most of the days every year.
- It is the **shallowest** of all oceans, with an average depth of 987 metres.
- It has the least salinity of all the oceans. It has a salinity of 30 ppt.

#### **Ocean Currents**

- The flow of a large amount of water in a definite direction with a great intensity is known as Ocean Current.
- Ocean Currents are of two types Hot and Cold.

#### **Hot Currents**

The currents flowing from tropical zones of lower latitudes to higher temperate and sub polar zones are known as hot water currents.

## **Cold Currents**

- The currents flowing from higher latitudes to lower latitudes are known as cold water currents.
- The only exception to the conduction of ocean currents is found in the Indian Ocean. The flow of currents changes here with a change in the direction of the Monsoon Winds. The hot currents flow towards cooler oceans and the cold currents flow towards the warmer oceans.

## Pacific Ocean currents

Sl.	Current	Nature
1.	North Equatorial Current	Hot or Worm
2.	South Equatorial Current	Warm
3.	Kuroshio Current	Warm
4.	East Australian Current	Warm
5.	North Pacific Drift	Warm
6.	Humboldt or Peruvian Current	Cold
7.	Alaska Current	Warm
8.	Kuril or Oyashio or Okhotsk Current	Cold
9.	Equatorial Counter Current	Worm
10.	California Current	Cold

Sl.	Current	Nature
11.	El Nino Current	Warm
12.	Antarctica Circumpolar Current	Cold
13.	Tsushima Current	Warm
14.	Antilles Current	Warm
15.	Brazilian Current	Warm
16.	Florida Current	Warm
17.	Labrador Current	Cold
18.	Gulf Stream	Warm
19.	Canary Current	Cold
20.	Norwegian Current	Warm
21.	Benguela Current	Cold
22.	Irminger Current	Warm
23.	Antarctica Circumpolar Current	Cold
24.	Falkland Current	Cold

## **Indian Ocean currents**

Sl.	Current	Nature
1.	North Equatorial Current	Warm & Stable
2.	N - E Monsoon Current	Cold & Unstable
3.	Mozambique Current	Warm & Stable
4.	Somali Current	Warm
5.	Agulhas Current	Warm & Stable
6.	Western Astralian Current	Cold & Stable
7.	S - W Monsoon Current	Warm & Unstable
8.	South Indian Ocean Current	Cold

