



## Ocean Warming

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# OCEAN WARMING

*The ocean absorbs most of the excess heat due to global warming caused by greenhouse gas (GHG) emissions, leading to rising ocean temperatures*

**Increase in Ocean Temperature**

**1.2°C** from 1950 to 2020

**Projected to Future Increase**

**1.7°C to 3.8°C** from 2020 to 2100

### Impact of Ocean Warming

- **Sea Level Rise:** Warmer water expands, causing sea levels to rise
- **Coral Bleaching:** Corals expel the algae (*zooxanthellae*) living in their tissues and turn completely white
- **Ocean Acidification:** Ocean absorbs ~1/4<sup>th</sup> of total CO<sub>2</sub> thus making it more acidic (non-metallic oxides - acidic in nature)
- **Impacts on Marine Life:** Causes many marine species to shift towards the poles and disrupts food webs
- **Impacts on Climate Patterns:** Influences atmospheric circulation patterns, such as El Niño and La Niña & extreme weather events

### Causes of Ocean Warming (due to Global Warming)

- **GHG Emissions:** Fossil fuels burning releases CO<sub>2</sub> and GHG
- **Deforestation:** Lesser trees → More CO<sub>2</sub> & GHG → Global Warming → Warming of Ocean
- **Industrial Activities:** Emit various pollutants that contribute to greenhouse effect
- **Agricultural Practices:** Produces methane and nitrous oxide – potent greenhouse gases
- **Heat Absorption by Oceans:** Oceans absorb ~90% of excess heat generated by GHGs



**Drishti IAS**

**Read More:** [Indian Ocean Warming Accelerates](#), [Marine Heatwave and its Impacts](#)

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