



Ocean Warming

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	Projected to Future Increase
1.2°C from 1950 to 2020	1.7°C to 3.8°C from 2020 to 2100

Causes of Ocean Warming (due to Global Warming)

- ➔ **GHG Emissions:** Fossil fuels burning releases CO₂ and GHG
- ➔ **Deforestation:** Lesser trees → More CO₂ & 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

Impact of Ocean Warming

- ➔ **Sea Level Rise:** Warmer water expands, causing sea levels to rise
- ➔ **Coral Bleaching:** Corals expels the algae (*zooxanthellae*) living in their tissues and turn completely white
- ➔ **Ocean Acidification:** Ocean absorbs ~1/4th of total CO₂ 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

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

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