BRIEFING PAPER

Save Our Oceans - Save Our World

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About the World's Oceans

The majority of the surface of the Earth is water (71%) including five oceans, these being (1) Pacific; (2) Atlantic; (3) Indian; (4) Arctic; and (5) Southern (Webb, 2019). These oceans contain approximately 1.3 billion km^3 of water and the area of the seabed underneath the oceans is estimated as being over 354 million km^2 (Costello *et al*., 2010). The global mean sea-surface temperature (SST) is often in the region of 20.8°C although there are localised variations based on place and time. In contrast, deep ocean temperatures are consistently between 0-3°C. In August 2026, the daily global sea surface temperature reached a record high of 21.1°C (Copernicus, 2026).

How the Oceans Influence the World's Weather Systems

The oceans are key to our world's weather systems as they regulate temperature, drive winds, generate storms, and shape rainfall patterns across the planet. According to the United Nations (2026a), the ocean generates 50 percent of the oxygen we need, absorbs 30 percent of all carbon dioxide emissions, and captures 90 percent of the excess heat generated by these emissions. Ocean currents regulate their own temperature by circulating warm water from the tropics to the colder poles. The oceans are also a major source of evaporation which creates the rain and snow that replenishes our freshwater rivers and reservoirs. This evaporation process transfers the energy that fuels global weather systems including hurricanes, typhoons and even monsoons, and of course the warmer the oceans, the more evaporation occurs.

The Scale of the Pollution in the Oceans

Despite the importance of the oceans to our survival as a species, the United Nations (2026b) reports that "over 17 million metric tons of waste clogged the ocean in 2021", that "between 5 and 12 million metric tonnes of plastic enters the ocean annually" and that "about 89% of plastic litter found on the ocean floor consists of single-use items like plastic bags". Even though the World Economic Forum claims that the oceans may contain more plastic than fish by 2050, this is probably not accurate; however, it does place a spotlight on the crisis. While some plastics never degrade, others do slowly over time and become microplastics (plastic pieces smaller than 5mm). Marine life then often consumes these microplastics resulting in a range of potential problems for them including reduced food intake, suffocation and/or behavioural changes, and through them these microplastics can also enter the human food chain to be consumed by people (United Nations, 2023).

How the Oceans are Changing

As the oceans absorb CO_2, they become more acidic and this chemical change damages marine life, particularly impacting CO_2 absorbing plankton, thereby reducing the ability of the oceans to absorb more CO_2 in the future. As the temperature of the oceans increases, their ability to retain CO_2 (and other gases) is reduced, resulting in more greenhouse gases staying in the atmosphere thereby amplifying the effects. Also, as sea temperatures rise, the proportion of oceans that are covered by sea ice decreases which is important because sea ice reflects lots of heat whereas open sea absorbs it, and so this change speeds up the process of temperature increase (Ocean Exploration, 2026).

Actions We Can All Take to Make a Difference

- Avoid leaving litter by the sea,
- Ensure that your purchases are ocean-friendly,
- Only purchase what you need and reduce waste,
- Reduce your use of single-use plastics and dispose of each item sensibly.

References

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