

Deep-Ocean Plastic Pollution Must be Considered in Treaty Negotiations

Plastic pollution exacerbates the many stressors already acting upon the deep ocean.

The deep sea is remote from human habitation and supports many vital planetary processes. It is therefore key to human survival but is not immune to human pressures.

Many man-made stressors are already affecting the integrity of the deep sea, most of which can also be linked to plastic (see table below). All plastic begins its life on land and, upon entering the ocean, much ultimately sinks to the seafloor. Plastic on the seabed is consumed by and entangles wildlife, causing untold harm within the food chain. Because of its persistence, plastic in the deep ocean will continue to cause harm for centuries to come.

We do not have the technology or resources to retrieve plastic from the deep ocean, and because of the linkages between plastic and other stressors, plastic pollution cannot be considered in isolation.

Stressor	Impacts Related to Plastic Pollution
Climate change causes and consequences	Plastic production is heavily reliant on the fossil fuel industry, and each stage of production, ranging from fossil fuel extraction to end-of-life, emits greenhouse gases.
Climate change mitigation activities	Most deep-sea geo- and bio-engineering schemes intentionally deposit material onto the seabed. Given the ubiquity of plastic in the environment, this will increase plastic pollution in the deep ocean.
Fisheries	Deep-sea fishing directly causes plastic pollution in the form of discarded or lost fishing gear, predominantly from trawling and bottom gillnet fishing.
Vessel traffic	Plastic pollution can occur due to lost containers, litter from vessels, inappropriate garbage disposal or incomplete incineration.
Coastal runoff	Plastics are a major part of pollutants flowing from population centers to the deep ocean, increasing partly due to rising plastic production and growing coastal populations.
Deep-sea mining	Plastic pollution can act as a co-stressor for deep-sea mining alongside physical disturbance, noise and chemical pollution.
Chemical pollution	Plastic adsorbs chemicals and can deliver them to the deep ocean.

Given the ubiquity of plastic in the ocean, its harmful effects on wildlife and the environment, and its ability to worsen the effects of other deep-ocean stressors, preventing new plastic pollution entering the deep ocean must be considered in Plastic Treaty negotiations.

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About DOSI:

The Deep-Ocean Stewardship Initiative is a global network of experts that integrate science, technology, policy, law and economics to advise on ecosystem-based management of resource use in the deep ocean and strategies to maintain the integrity of deep-ocean ecosystems within and beyond national jurisdiction.

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