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New technologies, policies, and initiatives towards preventing and reducing marine pollution and its consequences: improving the sustainability of life below water

Description

According to the UN, our oceans — their temperature, circulation, chemistry, and ecosystems — play a fundamental role in making Earth habitable. Rainwater, drinking water, weather, climate, coastlines, and much of our food, are provided and regulated by the sea. Considering this, sustainable management of this essential global resource is a key feature for the future.

Consequently, the SDG 14, Life Below Water, has as its main goal to Conserve and sustainably use the oceans, seas, and marine resources, being the first target reducing marine pollution of all kinds, including marine debris and nutrient pollution. Aquaculture is one the main and most efficient food producing sectors in the world, which is a necessary for feeding the increasing global population, however it has complex impacts on the ecosystem. Marine pollution through litter (production debris, plastics and microplastics), or chemicals contaminants (nutrients, antimicrobials, heavy metals, pesticides etc.), is nowadays an issue of global concern. Nutrient pollution in turn leads to eutrophication with consequences such as hypoxia, fish kills, and harmful algal blooms.

There is an increasing need to find solutions to ocean pollution through multi-disciplinary strategies, increasing scientific knowledge, developing research capacity and new technologies. Also, the development of new policies, initiatives and actions that can bridge the gap between science, society, and industry are urgently needed.

Both Chile and Sweden are countries with long coastlines, sensitive archipelagos, and a long tradition of dependence on food from the sea. While Chile is surrounded by the Pacific Ocean, most of the Swedish coastline is along the brackish Baltic Sea.Despite these different marine ecosystems, the issues are largely shared – including various types of pollution, eutrophication, overfishing, heavy naval traffic, and climate change. Sharing new methodology and policies, and engaging in collaborative efforts,will be necessary to solve the complex problems at hand.

Expected outcomes

In this session we invite talks centred around novel technologies and strategies to measure pollutants, toxins, monitoring organisms (populations and migration), mitigation of eutrophication (nutrient flow), fishing strategies, and case studies of new initiatives, including citizen science, and more.Through this Research Theme, we wish to collect different approaches, including solutions for

all kind of pollution sources, present innovations in different scientific fields and show collaborative efforts leading to more sustainable life below water. Our goal is that this research theme will allow researchers from the two countries to connect, and thereby establish a foundation for future collaboration.

Possible site-visits

Not specified.

Planned activities

Workshop ”New technologies, policies, and initiatives towards preventing and reducing marine pollution: improving the sustainability of life below water”, 9:30 – 13:00. 6 talks of 15 min each. Half hour of coffee break. 4 talks of 15 min each and 30 min to general discussion and future collaborations.

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