

Environmental effects of maritime activities

Potential project ideas:

Shipping-relevant contaminants

Shipping results in a number of chemical discharges originating from antifouling paints, scrubber water, bilge water, cooling water and ballast water. These contain typically metals, PAHs and biocides, combinations of which can have diverse – and often unpredictable – effects on the marine ecosystem. Your project can investigate:

- Effects of different contaminants, alone or in combination
- Combined effects of contaminants and environment (t, s, pH)
- Effects of organismal traits to their response

New fuels – ammonia and methanol

Shipping is de-carbonizing, and ships sailing with ammonia or methanol as a fuel will increase in future. However, we know very little of potential effects of spills of these new fuels in the marine ecosystems. You can investigate this in different set ups, focusing on organisms, their interactions, concentrations and exposure times or environment, among other factors.

Propagule pressure

Whether or not a non-indigenous species can establish a population in the new area depends on the propagule pressure – the number of individuals that are released and the frequency of releases – and the similarity between areas (among other things). However, little experimental evidence exists on the thresholds of colonization. In this project you could investigate the population growth of algae and microzooplankton in relation to propagule pressure.

