

# The sinking behavior of microplastic and their presence in various benthic and coastal environments

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**Introduction:** It has been estimated that there are orders of magnitude more microplastic on the sea floor than on the sea surface; though there is relatively little quantitative data to verify this, nor is there a good understanding of transport and weathering processes that can lead to microplastic accumulation in the sea bed.

**Methods:** Here we will present an overview of weathering and other processes that can lead to microplastic sinking, along with a recently developed model to account for these processes on the sinking rate. This microplastic sinking model, which is based on the drag coefficient and Reynold's number, is applicable to a wide variety of microplastic geometries, densities and sea water properties. In addition, a novel, efficient method to quantify microplastics in benthic sediments will be presented, along with surveying data of microplastic abundance from unique environments, including the Norwegian continental shelf, the Oslo harbor, and the coast of Havana.



**Fig. 1:** What causes plastic to sink?