

Large scale seafloor classification based on sediment quality guidelines

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Thorough maritime spatial planning requires proper knowledge of the seafloor. When a sea area like the Baltic Sea is loaded with harmful substances, sometimes with rather high toxicity levels, established sediment quality guidelines (SQGs) provide good frame for evaluation of sediment quality for the permitting authorities. In the Gulf of Finland this approach was used on two datasets of 84 sediment cores of different length and subsample separation. The data consists of altogether 1806 subsamples which were classified using North American SQGs. The obtained results reveal that in the majority of the subsamples the metals and arsenic exceed the threshold levels of the used SQGs, some exceed also the probable effect level. Heavy metal and arsenic deposition in surface sediment of the eastern Baltic Sea is declining, but As, Cd, Hg, and especially Zn concentrations still occur at unacceptably high levels in the Gulf of Finland sediments. This is important to remember in environmental impact assessments and maritime spatial planning of the Gulf of Finland.

References:

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