

Title: Sediment–Biota Interactions and Mapping Marine Habitats (G)

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Currently, there is a wide range of international policies and objectives under OSPAR and ICES highlighting the importance of marine benthic habitat distribution in support of efficient marine spatial planning. At present multiple uses of the seabed (e.g. aggregate extraction, dredging, fisheries, wind turbine facilities) can affect the distribution of species and habitats. Therefore, the development of habitat maps is needed as a tool to support the proper management of a sustainable use of the seabed.

Recent developments in acoustic technologies with a combination of ground-truth techniques offer valuable opportunities to explore and map the seafloor at high-resolution levels. However, although the composition, abundance and functionality of benthic communities are dependent upon sediment character, the systematic role of sediments as regulators of the benthic communities is still elusive. Therefore, the leap from bathymetry and sediment type to biological habitat maps is considerable.

This theme session will highlight the use of techniques for collection of data, the associations between sediments and biota, and robust statistical procedures and models for the development of habitat maps. Priority topics will include:

- mapping species, habitats, sensitive habitats and managed areas;
- marine benthic habitat maps in support of spatial planning;
- new developments in acoustic technologies for survey and monitoring;
- ecosystem processes and sediment-biota interactions as regulators of community structure and biodiversity;
- statistical significance of the habitats maps;
- coupled sediment–biota models and their application for management and research.

This theme session should be of interest to resource managers and researchers in relation to a suite of activities including establishment of marine protected areas, dredging, aggregate extraction, wind turbine facilities, offshore mariculture, bottom trawling, etc. The presentations and discussion should improve the quality of marine classification systems and maps. Further, this theme session will promote the dialog between sedimentologists and benthologists on data needs in their respective disciplines; all too often cross-disciplinary data requests are confounded because they are poorly understood.

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