Seabed Community Initiative:

communicating sustainability challenges of marine sand use in a changing world <Seabed4U>

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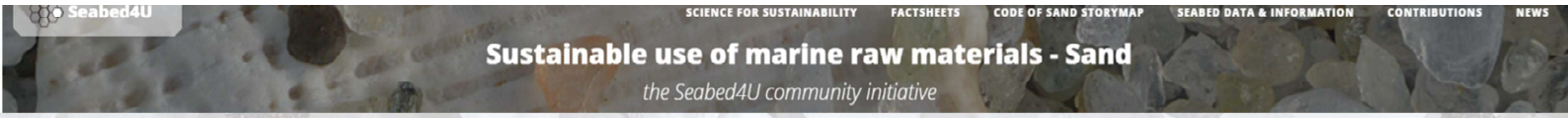
The foundation of sustainability in a sand resource context is the availability of a knowledge base comprising the quality and quantity of the resource, in combination with reliable estimates of the environmental impact of extraction. For the Belgian and southern Netherlands part of the North Sea relevant data and models, building on years of research and exploration, are now available via standardized data bases on geological properties and subsurface models. The synthesis was done during a four-years multidisciplinary research project <TILES>, funded by Belgian Science Policy (Transnational and Integrated Long-term marine Exploitation Strategies) (see Van Lancker et al., this volume for an update). Furthermore, the continuous monitoring of seabed state and dynamics has reached a level of maturity to predict adverse effects to the benthic ecosystem accounting for extraction rates, intensity and geological context (Wyns et al., this volume).

Meanwhile, a wider international debate is ongoing on the long-term use of marine sands. With UNEP's 2019 report on "Sand and sustainability: Finding new solutions for environmental governance of global sand resources", a new impetus was given to initiatives, from diverse stakeholders, to discuss common challenges and solutions. The report led to a United Nations Environmental Assembly (UNEA-4) highlighting the need to identify principles guiding sustainable sand management. A principles report is now drafted for UNEA-5, and IUCN adopted a resolution "for the urgent global management of marine and coastal sand resources" (WCC-2020-Rec-029-EN).

Recognizing the needs set out by these global initiatives, a further digitization of the Belgian geological knowledge base is ongoing and is further embedded in European research actions (e.g. on the establishment of a Geological Service of Europe) and data portals (e.g., EMODnet-Geology and the European Geological Data Infrastructure) under the umbrella of the European Geological Surveys, and in cooperation with the Belgian Geological Survey in particular. Modelling frameworks are further investigated, seabed mapping products updated (e.g., on grain size, gravel distribution, (non-)depositional areas), as well as developing new decision support tools, and knowledge systems to function in a wider European context.

A newly developed Seabed4U platform synthesizes all on-going initiatives, bringing awareness on the challenges of using finite resources (also via #SeabedMatters), and stimulating a wider community to participate in resource mapping and innovate in solutions. We have further embedded an illustrated Code of Sand (<TILES>) with messages on a more sustainable management of marine sand.

Keywords: sustainable sand management, geological knowledge base, resource mapping, community platform



Dynamic platform to communicate information on sand use at the '**Glocal**' scale

Illustrated Code of Sand

Link to EU and Global initiatives

Overview of data bases and mapping products

Building the path of sustainability, together

#SeabedMatters
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