

## Effects of hazardous substances on ecosystem health in coastal and brackish-water ecosystems: present research, monitoring strategies, and future requirements (I)

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Marine ecosystems are still facing multiple uses and severe anthropogenic impacts even though the input of various chemicals has been reduced in the past decades. Effects of contaminants can be recorded at different biological levels and their impact on the ecosystem has to be estimated when assessing its health status.

The ultimate task to increase the power of risk assessments is to bridge the gap between concentrations of chemicals and their biological effects at different ecosystem levels. Presently, suitable tools (e. g. EcoQOs, indicators, reference levels) and monitoring strategies are under development. However, particularly in coastal and brackish-water systems, variability of natural environmental factors (oxygen availability, salinity, temperature, hydrography) is known to have an influence on chemical pathways (exposure) and biological responses. Moreover, projected changes in some of these variables due to climate change have to be taken into account when assessing biological effects of hazardous substances and developing ecosystem-based management strategies. Regional and sub-regional approaches are required, while integrated chemical–biological assessments concerning contaminant impacts have to be further developed and linked to environmental monitoring and assessment programmes.

The theme session aims at providing an overview concerning (1) on-going research activities, (2) present monitoring strategies, (3) the development and application of suitable indicators, and to identify (4) gaps and future requirements in respect to pollution impacts and the assessment of ecosystem health in coastal and brackish-water ecosystems. Papers addressing any of these topics are welcomed to this session.

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