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Session abstract

Title: Climate Change impacts on coastal waters and sediments

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The currently projected climate-induced changes in temperature and precipitation may lead to a different frequency and intensity of hydrological and meteorological extreme events such as extreme floods or also extended periods with low river runoff into estuaries. Together with a predicted rise of the sea surface level and a different pattern of storm surges, this may affect the quantity as well as the quality of sediments and waters in coastal areas including estuaries.
Extremely high river discharges, for example, often lead to increased erosion of – potentially contaminated - sediments from rivers and river banks and, consequently, to their transport downstream. Together with a high sediment load, an increased contaminant load may thus be associated with the transport of suspended matter and/or with the high water volume if dissolved in the water phase. How much this load is reflected in the concentrations of contaminants in water and sediment depends on the characteristics of the watershed.
In addition to climate change related processes in the upstream river basin, the projected rise in sea surface level leads to an upstream transport of marine sediments in estuaries and hence, will impact sediment budgets, the dynamics of sediment transport and sediment quality.

This session invites contributions addressing existing and future impacts of climate-related factors on quantity and quality issues with regard to water and sediment in coastal and estuarine regions. Analyses of field and/or monitoring data and numerical modeling, for example, may provide insight into existing processes and interrelationships. Abstracts on case studies as well as methodical papers are welcome.