



Hydrographical long term measurements and high resolution transects in tidal estuaries of the Southern North Sea

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The tidal flats of the Wadden Sea and connected estuaries such as the Ems-Dollart are highly dynamic and diverse ecosystems and are of high economic value to the neighbouring regions. The Institute for Chemistry and Biology of the Marine Environment (ICBM) at the University of Oldenburg has expertise in observing and analysing environmental data from such complex systems. A research platform located at a tidal inlet between the East Frisian Islands Spiekeroog and Langeoog has collected hydrographical, meteorological and biogeochemical time series data for more than ten years. Currently, the bilateral Dutch-German research project "Future-Ems" deals with the highly dynamic exchange processes of the river Ems and its estuary (Dollart). Here, we present hydrographical long-term data sets obtained from the research platform as well as short-term high-resolution measurements from the same location and the river Ems. We focus on exchange and mixing processes as well as water mass transport through the respective tidal channels.