

Mercator Fellow – Dr. Markus Huettel

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Measurements of benthic oxygen flux using the Eddy covariance technique

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Marine sediments are central sites for primary production, mineralization and nutrient regeneration. Oxygen flux can be used as a proxy for organic matter production and mineralization, but quantification of the flux can be difficult because the measuring techniques may influence the water currents and light that can affect the fluxes. We compared flux measurements conducted with an eddy covariance instrument and parallel deployments of benthic chambers in sandy seabeds. The results show a good agreement between the fluxes measured using eddy covariance instrument and chambers. The recorded fluxes reveal relatively high microbial production and decomposition activities in these sediments, and show how the fluxes are directly influenced by light and currents.

Eddy covariance
instrument
deployed on a sandy
sea bed (Photo:
Huettel)

