## The dynamic deep subsurface of high-energy beaches (DynaDeep) -Phase 2-

#### Spokesperson: Prof. Dr. Gudrun Massmann Carl von Ossietzky Universität Oldenburg



The research unit **DynaDeep** is a collaborative project of the University of Oldenburg (Institute for Biology and Environmental Sciences, IBU, Institute for Chemistry and Biology of the Marine Environment, ICBM) and the Alfred-Wegener-Institute - Helmholtz centre for polar and marine research (AWI) in Bremerhaven, the LEIBNIZ Centre for tropical Marine Research (ZMT) in Bremen, the Leibniz-Institute for Applied Geophysics (LIAG) in Hannover, and the University of Kiel. DynaDeep investigates the hydrodynamic and biogeochemical processes in subterranean estuaries, i.e. the connective zones between land and sea. In the first project phase, the subprojects jointly established a Subterranean Estuary Online Observatory on the East Frisian barrier island Spiekeroog collecting a novel data set in interdisciplinary field campaigns that were supported by laboratory work and modelling. In Phase 2, new research questions regarding the role of reactive zones, specific events (e.g. storm floods), and compounds for the overall turnover of the biogeochemical reactor that evolved during Phase 1 at the core field site Spiekeroog will be addressed. In a next step, the transferability and generalisability of these results will be challenged by conducting research at additional high-energy field sites (De Panne, Belgium and Truc Vert, France) and with different global model approaches. With this interdisciplinary strategy, DynaDeep will elucidate the global relevance of the dynamic deep subsurface of high-energy beaches for carbon, nutrient and trace element cycling.





Learn more!





# We are seeking motivated doctoral researchers for the following positions, available as part of the DFG-funded research unit DynaDeep

"The Dynamic Deep Subsurface of High-Energy Beaches" (Phase 2) starting at the next possible date (earliest 10/2025).

Please note that all positions are subject to the final favourable decision of the DFG joint committee in early July.

https://uol.de/en/icbm/dynadeep

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### Subproject P1 - Morphodynamics and subsurface flow and transport

Three doctoral researchers (m/f/d), pay grade 13 TV-L, 75% for 3,5 years

(1) Geomorphologist, working group for Coastal Geology and Sedimentology at Kiel University, contact: christian.winter@ifg.uni-kiel.de

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- (2) Geophysicist, Leibniz-Institute for Applied Geophysics (LIAG) in Hannover, contact: Mike.Mueller-Petke@leibniz-liag.de
- (3) Hydrogeologist, working group for Hydrogeology and Landscape Hydrology at Oldenburg University, contact: gudrun.massmann@uol.de

#### Subproject P2 - Metabolic rates: From heterotrophic to autotrophic processes

Two doctoral researchers (m/f/d), pay grade 13 TV-L, 75% for 3,5 years

- (4) Microbiologist, working group for Benthic Microbiology at Oldenburg University, contact: martin.koenneke@uol.de
- (5) Biogeochemist, Alfred-Wegener-Institute Helmholtz centre for polar and marine research (AWI) in Bremerhaven, contact: moritz.holtappels@awi.de

#### Subproject P3 - Organic Matter: Abiotic transformations and microbial interactions

#### Two doctoral researchers (m/f/d), pay grade 13 TV-L, 75% for 3,5 years

- (6) Organic biogeochemist, research group for Marine Geochemistry at Oldenburg University, contact: jutta.niggemann@uol.de
- (7) Organic geochemist, research group for Marine Geochemistry at Oldenburg University, contact: hannelore.waska@uol.de

#### Subproject P4 - Trace elements and metal isotopes: Transformation and fractionation One doctoral researcher (m/f/d), pay grade 13 TV-L, 75% for 3,5 years

(8) Geochemist, working group for Marine Isotope Geochemistry at Oldenburg University, contact: k.pahnke@icbm.de or anja.reckhardt@uol.de

#### Subproject P5 - Microbial niche space

Two doctoral researchers (m/f/d), pay grade 13 TV-L, 75% for 3,5 years

- (9) Microbiologist, working group for Benthic Microbiology at Oldenburg University, contact: julius.degenhardt@uol.de
- (10) Microbiologist, working group for Benthic Microbiology at Oldenburg University, contact: bert.engelen@uol.de

#### Subproject P6 - Reactive transport

Two doctoral researchers (m/f/d), pay grade 13 TV-L, 75% for 3,5 years

- (11) Groundwater modeler, working group for Hydrogeology and Landscape Hydrology at Oldenburg University, contact: stephan.seibert@uol.de
- (12) Groundwater modeler, working group for Hydrogeology and Landscape Hydrology at Oldenburg University, contact: janek.greskowiak@uol.de

#### Subproject P7 - Global variability

#### One doctoral researcher (m/f/d), pay grade 13 TV-L, 75% for 3,5 years

(13) Hydrogeologist, Leibniz Institute for Tropical Marine Research (ZMT) in Bremen, contact: nils.moosdorf@leibniz-zmt.de