Job posting

Type of position
☒ scientific
☐ administrative

Target group
☒ graduates
☐ post docs
☒ other

Title
Scientist (m/f/d) Position

Institution
For over 200 years the Senckenberg Gesellschaft für Naturforschung (SGN) represents one of the most relevant institutions investigating nature and its diversity. Currently, scientists from more than 40 countries across 11 locations in Germany conduct research in the fields of biodiversity, earth system analysis and climate change. The department Senckenberg am Meer (SaM) and the German Centre of Marine Biodiversity Research (DZMB) are located in Wilhelmshaven and are the northernmost locations of our association. They cooperate with important research establishments of the German oceanography as well as colleges and universities. Situated directly on the North Sea, Wilhelmshaven also offers local recreation in unspoilt nature and a wide range of cultural activities.

Within an integrated multi-partner BMBF-project called DAM (Deutsche Allianz für Meeresforschung) - CREATE (DAM Schutz und Nutzen - CREATE: Concepts to reduce the impact of anthropogenic pressures and benefits on marine ecosystems and biodiversity) for our section Marine Sedimentology at our Institute Senckenberg am Meer located in Wilhelmshaven we invite applications for a

Scientist Position (m/f/d)
(100 %)

Position
Within “CREATE” the full-time scientist will be responsible for the subproject “Optimization of classification processes of hydro-acoustic seafloor data with respect to the habitat dynamics in marine protected areas of the North Sea” which is part of the work-package “Evaluation and optimization of spatial monitoring”.

For a sustainable conservation of the complex ecosystems, high demands on assessment and management by decision makers from politics, nature conservation, economy and tourism become necessary. This necessitates constant monitoring of the ecological status and structure of habitats. But because of the external anthropogenic and natural impact variability habitats are subject to dynamics, characterised by changes in
morphology, substrates and their settlement structures, which are reflected, among other things, in their spatial variability. One instrument for recognizing this dynamic is the regular area-based cartographic recording of marine habitats with the help of hydro-acoustic methods as part of underwater remote sensing. The often still manual and thus time-consuming conversion into maps of bathymetry and morphology as well as substrate characterisation requires trained personnel and standardised assessment criteria in catalogues that allow an equivalent comparison of time series. Main mission of this subproject is the improvement of current classification methods of hydro-acoustic seafloor data in order to their optimal use and degree of automation and their efficiency in the area of complex heterogeneous substrate structures. The results should help to optimise existing assessment procedures (e.g. Marine Strategy Framework Directive MSFD D6).

Salary and benefits are according to a full-time public service position in Germany (TV-H E 13, 100 %). The contract should start as soon as possible in 2022 and will initially be limited for 18 months.

The Senckenberg Research Institutes support equal opportunity of men and women and therefore strongly invites women to apply. Equally qualified handicapped applicants will be given preference. The place of employment is in Wilhelmshaven, Germany.

**Responsibilities**

Your tasks:
- Define spatial dimension and return intervals of measurements of bathymetry, sea floor characteristics, and hydrographic data inside the Natura 2000 areas in context with the other work packages
- Prepare, organize and operate field measurements (hydro-acoustic and hydro-graphic measurements such as velocity, turbidity, suspended load) in the study sites as well as the granulometry of bottom sediments
- Homogenize existing data sets of hydro-acoustic devices (side-scan sonar and multibeam echo sounder data) to given grid sizes
- Test and evaluate automatic classification approaches – using individual datasets with the various classification/object identification algorithms for their detection quality and evaluation efficiency
- Compile acoustic class distribution maps with ground truth data into habitat maps and to prepare of an effort analysis
Requirements

Your profile:
• Master’s degree in Geo-Science / Physical Geography / Geoinformatics
• Experience with GIS, remote sensing techniques, data analysis of spatial data
• Familiar with object-identification and classification algorithms/procedures
• Familiar with programming tools (e.g. MatLab)
• Experience with hydro-acoustic backscatter data
• Base-knowledge in Sedimentology
• Interest into interdisciplinary research collaboration
• Interest into the interaction with policy and stake holders
• Willingness to work off-shore and in the field

Application procedure (deadline etc.)

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Please send your application, mentioning the reference of this job offer (ref. #02-21007) before December 22nd, 2021 by e-mail (attachment in a single pdf document) and including a cover letter detailing research interests and experience, a detailed CV and a copy of your full academic certification to recruiting@senckenberg.de or use our online application form on our homepage www.senckenberg.de.

Contact

For more subject-specific information please contact Dr. Alexander Bartholomä (alexander.bartholomae@senckenberg.de).