

MiningImpact

Environmental Impacts and
Risks of Deep-Sea Mining

JPI
OCEANS

Project factsheet

Project Description

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Project period: August '18 - February '22



About

The MiningImpact project gathers 32 partners from 10 different countries and conducts an independent scientific monitoring of the impact of an industrial test to harvest manganese nodules in the Clarion Clipperton Zone. Manganese nodules are mainly composed of manganese and iron oxides, but also contain economically valuable metals, such as nickel, copper, cobalt, lithium, and rare earth elements.

The project follows up on the results of the first JPI Oceans supported Pilot Action which terminated in late December 2017. While the initial project investigated experimental and rather small disturbances of the seafloor over decadal timescales, the new project sets up a comprehensive monitoring programme to ensure an independent scientific investigation of the environmental impacts of an industrial trial of a nodule collector system by the Belgian contractor DEME-GSR.

The separately funded DEME-GSR collector test intends to harvest nodules in approx. 0.1 km² large areas of the seabed in the Belgian and the German contract areas of the Clarion Clipperton Zone in the Eastern Equatorial Pacific Ocean. MiningImpact researchers are planning two cruises (in 2019 and 2021) to the test areas in order to study the dynamics of the sediment plume created by the mining test and impact on the abyssal environment.

Objectives

The main objective of the project is to deliver input to the International Seabed Authority on the environmental impacts

and risks of seabed mining. To that end the project further studies regional connectivity of species in the deep-sea and their resilience to impacts, and the integrated effects on ecosystem functions, such as the benthic food-web and biogeochemical processes.

In this context, key objectives of the project are:

- To develop and test monitoring concepts and strategies for deep-sea mining operations
- To develop standardization procedures for monitoring and definitions for indicators of a good environmental status
- To investigate potential mitigation measures, such as spatial management plans of mining operations and means to facilitate ecosystem recovery
- To develop sound methodologies to assess the environmental risks and estimate benefits, costs and risks
- To explore how uncertainties in the knowledge of impacts can be implemented into appropriate regulatory frameworks

Impact

MiningImpact will further close existing knowledge gaps and reduce uncertainties on the environmental impacts of deep-sea mining. The project will specifically work towards policy recommendations to the International Seabed Authority (a project partner), to ensure that the latest scientific knowledge is available to the negotiations on the "MiningCode". By developing methods for monitoring impacts, the project will help to ensure that future Environmental Impact Assessments are based on the newest advances in science and technology.

Background

Funding support to the MiningImpact project does not imply that JPI Oceans or its member countries either endorse or disapprove of seafloor mining and related operations.

MiningImpact is conducted independently of DEME-GSR activities. DEME-GSR is responsible for obtaining all necessary

permissions for its operations and does not receive any funding from the MiningImpact project. Neither does the MiningImpact project receive any financial contributions from DEME-GSR. DEME-GSR is further responsible to set up a monitoring programme for its industrial component trial as required by the International Seabed Authority.

Consortium

Organisation	Acronym	Country
GEOMAR Helmholtz Centre for Ocean Research Kiel	GEOMAR	Germany
Max Planck Institute for Marine Microbiology	MPI	Germany
Senckenberg Gesellschaft für Naturforschung	SGN	Germany
Bielefeld University	UBielefeld	Germany
Alfred Wegener Institute Helmholtz Centre for Polar & Marine Research	AWI	Germany
Jacobs University Bremen gGmbH	JUB	Germany
Federal Institute for Geosciences and Natural Resources	BGR	Germany
MARUM - Center for Marine Environmental Science, University Bremen	MARUM	Germany
Walther Schücking Institute for International Law, Kiel University	UKiel	Germany
NIOZ – Royal Netherlands Institute for Sea Research	NIOZ	The Netherlands
Utrecht University	UU	The Netherlands
Delft University of Technology	TU Delft	The Netherlands
Ghent University	UGent	Belgium
Royal Belgian Institute of Natural Sciences	RBINS	Belgium
DNVGL	DNVGL	Norway
Norwegian Institute for Water Research	NIVA	Norway
Uni Research	URResearch	Norway
GRID-Arendal	GRIDA	Norway
Norwegian University of Science and Technology	NTNU	Norway
Universidade de Aveiro (CESAM)	UAveiro	Portugal
CIIMAR LA - Interdisciplinary Centre of Marine & Environmental Research	CIIMAR	Portugal
CIMA, Universidade do Algarve	UAlgarve	Portugal
IPMA - Instituto Português do Mar e da Atmosfera	IPMA	Portugal
IMAR (Institute of Marine Research)	IMAR	Portugal
Ifremer	Ifremer	France
Polytechnic University of Marche	UniVPM	Italy
Natural History Museum	NHM	U.K.
University of Southampton	USou	U.K.
University of Łódź	ULodz	Poland
International Seabed Authority	ISA	Jamaica