

Deep-seabed mining – impacts, conservation, governance

Sabine Gollner, Royal Netherlands Institute for Sea Research (The Netherlands),
sabine.gollner@nioz.nl

Matthias Haeckel, Geomar (Germany), mhaeckel@geomar.de

The Deep-Ocean Stewardship Initiative (DOSI) Minerals working group and JPI Oceans Mining Impact project invite for contributions to a special session on deep-seabed mining, including baseline knowledge and impacts on biodiversity and ecosystem functioning, conservation, and governance. Deep-seabed mining is approaching the transition from exploration to exploitation in our world oceans, both in areas within and beyond national jurisdiction. The extraction of polymetallic sulphides at hydrothermal vents, cobalt-rich ferromanganese crusts at seamounts, and polymetallic nodules on abyssal plains imposes risks for loss of biodiversity and ecosystem functions. The International Seabed Authority (ISA) is mandated under the UN Convention on the Law of the Sea to organize, regulate and control all mineral-related activities in the international seabed area and has the duty to ensure the effective protection of the marine environment from harmful effects that may arise from deep-seabed related activities.

Baseline knowledge on biodiversity, connectivity and ecosystem functioning from microbes to megafauna is essential to address challenges related to deep-seabed mining. These include for example standardized concepts and methodologies for monitoring and impact assessments, establishment of mitigation measures such as spatial management plans and means to facilitate ecosystem recovery, valuing of the risks and benefits, and evaluation of uncertainties and how these can be implemented into regulatory frameworks.