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Nota di contenuto	Chapter 1: Deep-sea mining – Resource potential and future prospects -- Chapter 2: Data management for Marine Scientific Research -- Chapter 3: Data Management Strategies for Deep-Sea Exploration of Polymetallic Nodules and Seafloor Massive Sulfides in the Area -- Chapter 4: Data Needs for Holistic Environmental Impact Assessments of Deep-Sea Mining -- Chapter 5: Geospatial data management and integration for resource and environmental modelling of marine systems -- Chapter 6: Facilitating scientific contributions to support development and implementation of global environmental protection regulations: examples for seabed mining -- Chapter 7: Assessment of cumulative effects for environmental management of deep-sea areas targeted for resource extraction -- Chapter 8: Evolution of Area Based Management Tools for Environmental Impact Assessment of Deep-Sea Mining -- Chapter 9: The Role of Rapid Environmental Assessment in

Monitoring the Environmental Impacts of Deep-Sea Mining -- Chapter 10: Monitoring and modelling of deep-water sediment plumes from Deep-Sea Mining -- Chapter 11: A Policy Perspective on Integrating Sea Resource Utilization with Spent Lithium-Ion Battery Processing for Energy Metals Recovery -- Chapter 12: Land based mining versus seabed mining : how to achieve sustainable supply of critical raw materials. -- Chapter 13: Deep seabed mining and the United Nations 2030 Agenda for Sustainable Development -- Chapter 14: Deep sea mining and protest activities: a difficult relationship -- Chapter 15: Navigating challenges in Inspection, Compliance and Enforcement ('ICE') for deep seabed mining beyond national jurisdiction -- Chapter 16: Legal and Institutional Aspects of the Transition to the Exploitation Phase of Mineral Resources in the 'Area'.

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### Sommario/riassunto

Deep-sea mining is currently in a critical phase wherein, detailed resource estimation has led to identification of potentially rich areas on the seafloor that can be mined, as well as testing of pre-prototype seabed mining machines and establishment of pilot plants for processing of deep-sea minerals is underway. This coupled with rigorous environmental data collection along with impact assessment of simulated as well as test mining is not only providing requisite information for likely impacts for development of predictive models but also for developing mitigation measures to minimise such impacts. Interest in mining the seafloor deposits as potential source of critical metals has been enhanced in the current century owing to the rising population and consumer demands, as well as the fact that these minerals contain battery metals such as Co, Ni, Mn besides copper that can help transition to green energy alternatives. However, concerns over ecological impacts on marine ecosystems and those related to economic, social and cultural implications need to be addressed for ensuring sustainable mining of seabed mineral resources. With this in view, this fifth book in the series of 'Deep-sea Mining', focusses on issues related to management, policy and regulation. The book is divided into the following five sections: I – General issues on resource potential and future prospects II – Resource and environmental data management III – Approaches towards environmental monitoring IV – Techno-economic considerations for commercial deep-sea mining V – Implementation of Law of the sea and Establishment of Mining code Chapters in this volume have been contributed by experts having decades of experience in their respective fields with an aim to provide key insights towards operationalisation of different aspects of deep-sea mining. This information is expected to serve as reference material for all stake holders including researchers, contractors, mining companies, regulators as well as NGOs involved in deep-sea mining and marine environmental conservation.

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