Special Issue

Development Methods and Technologies Used in Deep-Sea Mining

Message from the Guest Editors

Although, due to certain economic and technical difficulties, commercial deep-sea mining has not been realized as yet, several research groups as well as private enterprises have become involved in the methods and technologies used in deep-sea mining. In the field of exploration in deep-sea mining, relatively new approaches were proposed for analyzing bulk data to quantify the best site for mining. While research on developing prototypes for deep-sea mining technology is underway, innovative techniques in robotics improved the possibility of deep-sea mining. Similarly, although several routes in metallurgical processing have been developed, an environmentally friendly method has yet to be established. In the field of environmental monitoring and the preservation of deep-sea ecosystem in deep-sea mining, studies on establishing baseline conditions were initiated, and small-scale experiments to predict potential impacts due to deep-sea mining were conducted, but the impacts of large-scale mining and ecosystem functioning are not yet understood.

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Minerals welcomes submissions that report basic and applied research in mineralogy. Research areas of traditional interest are mineral deposits, mining, mineral processing and environmental mineralogy. The journal footprint also includes novel uses of elemental and isotopic analyses of minerals for petrology, geochronology and thermochronology, thermobarometry, ore genesis and sedimentary provenance. Contributions are encouraged in emerging research areas such as applications of quantitative mineralogy to the oil and gas, manufacturing, forensic science, climate change, geohazard and health sectors.

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