The Hague International Model United Nations

Forum: Environment Commission Conference of the Parties on Biodiversity 2 (EC2)

Issue: The question of deep-sea mining

Student Officer: Eetu Laaksonen

Position: Deputy President of Environment Commission 2

Introduction

Deep-sea mining refers to the extraction of valuable minerals from the ocean floor[1], most commonly in the deep parts of the Pacific, Atlantic, and Indian oceans. These minerals include cobalt, nickel, copper and manganese, which are highly important for manufacturing many different types of technologies such as: wind turbines, car batteries and advanced electronics. Due to the increasing demand for these materials, many governments and companies see the deep seabed as a large potential source of supplies.

The issue has become internationally significant due to the fact that deep-sea mining takes place in areas that do not belong to any single country. These areas are regulated by United Nations Convention on the Law of the Sea (UNCLOS)[2] and the International Seabed Authority (ISA). The ISA is responsible for organizing and controlling all mining activities in the international seabed, for the benefit of humankind as a whole.

central debate concerns whether deep-sea mining should begin before the full environmental impact is understood. While supporters argue that it may provide essential materials for the global transition to renewable energy, critics warn that mining could cause irreversible damage to fragile deep-sea ecosystems, many of which are still poorly studied.[3] Sediment plumes, loss of habitat and long recovery times are among the concerns raised by scientists. This tension between resource demand and environmental protection has made the topic one of the most important emerging issues in global ocean governance.

Definition of Key Terms

International seabed authority (ISA)

Autonomous body of the United Nations established under the United Nations Convention on the Law of the Sea, whose main purpose is to preserve the marine environment from harmful effects that seabed activities could cause. ISA has over 160 member states[4].

United Nations Convention on the Law of the Sea (UNCLOS)

United Nations treaty, signed on 10 December 1982, which is also known as the Law of the Sea, and defines rights and responsibilities of all marine and maritime activities.

The Area

Refers to the seabed, ocean floor, and subsoil beyond national jurisdiction. Under the Law of the Sea, the Area and its mineral resources are designated as the “common heritage of humankind.” Activities in the Area are regulated exclusively by the International Seabed Authority (ISA).

Polymetallic Nodules

Potato-sized mineral deposits rich in nickel, cobalt, copper, and manganese. They form over millions of years on abyssal plains(plain in deep ocean floor usually at depths between 3000 and 6000 metres), especially in the Clarion–Clipperton Zone (CCZ). These are the primary economic target of proposed deep-sea mining operations.

Clarion–Clipperton Zone (CCZ)

A major region of the Pacific Ocean between Hawai'i and Mexico, containing one of the world’s largest known reserves of polymetallic nodules. It is the most actively explored zone under ISA licences.

Background Information

Humanity has been aware of mineral deposits on the ocean floor since the 1860s, when early predictions suggested that the seabed contained significant quantities of valuable materials, although

the technical challenges of extraction were not yet fully understood. Interest in these resources increased substantially in the 1960s, particularly following the publication of John L. Mero's influential work The Mineral Resources of the Sea, in which he argued that the deep seabed could become a crucial source of minerals to meet growing global demand. This publication contributed to a notable speech delivered by Malta's Ambassador Arvid Pardo before the United Nations General Assembly, calling for seabed resources to be treated as the common heritage of mankind. Decades later, building upon the mechanisms proposed by the General Assembly, the International Seabed Authority (ISA) was established, and today it includes over 160 member states that have ratified the United Nations Convention on the Law of the Sea (UNCLOS).

Since then, the ISA has authorized numerous exploration contracts across the Pacific, Indian and Atlantic Oceans, targeting polymetallic nodules, cobalt-rich crusts and polymetallic sulphide deposits. Even though many countries are in favour of deep seabed mining, over 32 countries, such as Finland, Germany, and Costa Rica have showcased their support for a ban or pause on deep seabed mining due to concerns in environmental issues.

Rights and roles of coastal states

Many proposed mining sites lie near or within the maritime zones of coastal states, including Small Island Developing States (SIDS). These countries often rely heavily on fisheries, tourism, and marine resources for livelihoods, food security and economic development. Deep-sea mining-related environmental damage threatens those livelihoods. It could be argued that the sovereignty of these coastal states could be endangered and bring many concerns in the aspect of international law to the debate.

While mining in "the Area" is regulated by ISA, coastal states may still face cross-boundary environmental externalities for example, plume spread, migratory species impacts, water quality changes. Given the transboundary nature of oceans, damage from Deep-sea mining could possibly affect states that did not authorize or benefit from mining. There is concern about equity and fairness, nations with limited capacity or resources may bear environmental and/or social costs, while more technologically advanced states or private companies may reap economic benefits.

Alternatives to deep-sea mining

Given environmental risks and scientific uncertainty, continuing to invest in deep-sea mining may carry. Some researchers and organisations argue that alternatives can supply needed critical minerals with far less ecological risk.

These possible alternatives could be recycling of existing materials such as batteries,

electronics and other devices already containing metals like nickel, cobalt, manganese, and copper. Improved infrastructure for recycling and reusing these metals could reduce demand for virgin minerals.

Environmental protection and scientific uncertainty

The International Seabed Authority (ISA) has reviewed scientific findings indicating that deep-sea mining could result in “wide-ranging, long-lasting, and irreversible effects” on marine ecosystems, including biodiversity loss, disruption of ecological processes, and the release of toxins and sediment plumes. Beyond these environmental concerns, deep-sea mining also raises ethical questions. Since the deep ocean remains largely unexplored, the potential for irreversible damage is not yet fully understood. Critics therefore argue that, as a precautionary measure, activities should be suspended to safeguard natural heritage rather than pursued for short-term economic gain.

There is additional concern regarding Indigenous communities whose cultural practices, food security, and livelihoods are closely tied to marine ecosystems. Environmental degradation associated with deep-sea mining could profoundly affect these communities, potentially eroding vital aspects of their cultural identity. Meaningful engagement and communication with these groups is essential for all stakeholders.

Major Countries and Organizations Involved

International Seabed Authority (ISA)

The ISA is the primary international body created under the United Nations Convention on the Law of the Sea (UNCLOS) to regulate mineral-related activity in the seabed beyond national jurisdiction (the “Area”).

Declaration of Principles Governing the Sea-Bed and the Ocean Floor

Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, 17 December 1970 (A/RES/2749(XXV)) . This resolution declared the seabed beyond national jurisdiction (the Area) and its resources to be the “common heritage of mankind.”

United Nations Division for Ocean Affairs and the Law of the Sea (UNDOALOS)

UNDOALOS supports implementation of UNCLOS, offers technical/legal assistance to states, and helps coordinate ocean governance under the convention. The legal framework defined by UNCLOS (ratified by most UN member states) established that the Area is not subject to national appropriation and must be managed collectively.

China

China holds one of the largest portfolios of ISA exploration contracts. It supports deep-sea mining as a strategic source of critical minerals (nickel, cobalt, manganese, rare earth elements) needed for industry, technology, and green energy transition. Its stance tends to emphasise the potential economic benefits and resource security.

Russia

Russia is also an active proponent of seabed mineral exploitation. It pursues exploration of resources such as polymetallic sulphides in areas under ISA jurisdiction and has argued for resource access on behalf of its state-sponsored companies.

India

India maintains exploration licences under ISA and supports development of DSM (Deep-Sea Mining) for national economic and industrial development. It sees seabed minerals as potentially important for future resource supply.

Nauru

The small Pacific island state has a noteworthy role. In 2021 Nauru invoked the so-called “two-year rule” under UNCLOS, triggering a deadline for the ISA to finalise its exploitation regulations, potentially compelling rapid progress towards commercial mining. This underscores how even small states can influence global seabed governance.

Norway

Norway has shown interest in seabed mining both within its Arctic and Norwegian Sea zones (under national jurisdiction) and participates actively in international discussions. It emphasises rigorous scientific assessment and environmental oversight before any exploitation proceeds, reflecting a more cautious but pragmatic approach.

Timeline of Events

Date	Description of event
August 17th, 1967	Ambassador Pardo calls for seabed resources beyond national jurisdiction to be declared the “common heritage of mankind.”
December 10th, 1982	Adoption of the United Nations Convention on the Law of the Sea (UNCLOS)
November 16th, 1994	International Seabed Authority (ISA) formally established
June 25th, 2021	Nauru informs ISA that it intends to sponsor a mining application, triggering a two-year deadline for the ISA to finalise its exploitation regulations (“Mining Code”).
July 2023	The ISA Council decides that more negotiation and scientific research are needed before exploitation can begin.

Previous Attempts to solve the Issue

The foundational governance mechanism, the UNCLOS, faced immediate implementation challenges regarding Part XI, which designates the Area as the 'Common Heritage of Mankind'. The primary diplomatic resolution was the 1994 Agreement Relating to the Implementation of Part XI, which modified the original text to address the market-oriented concerns of industrialised nations. While this successfully secured near-universal ratification, it arguably diluted the equitable benefit-sharing mechanisms and introduced the controversial 'Two-Year Rule' under Section 1, Paragraph 15, a clause that has since precipitated the current regulatory crisis by allowing Member States to compel provisional approval of mining plans in the absence of finalised regulations.

Following this foundational compromise, the International Seabed Authority (ISA) focused on establishing a regime for the prospecting phase, successfully adopting three sets of Exploration Regulations between 2000 and 2012. As detailed in ISA documents such as ISBA/19/C/17, these frameworks effectively managed thirty-one exploration contracts but failed to establish the necessary financial and environmental thresholds for the exploitation phase. This created a significant 'regulatory gap' wherein commercial investment proceeded without a clear legal pathway for extraction or liability. In an effort to resolve this inertia, the Republic of Nauru invoked the aforementioned 'Two-Year Rule' in 2021, attempting to force the finalisation of the Mining Code

by July 2023.[6] This diplomatic manoeuvre, however, resulted in significant polarisation rather than consensus; the deadline passed without a finalised code, catalysing a reactionary coalition of States, including France and Chile, to call for a moratorium due to the lack of scientific certainty.

Possible Solutions

Improving further research

A pivotal requirement for addressing the challenges associated with deep-sea mining is the establishment of an efficient research framework, supported by sufficient resources. Such a robust research base would empower the International Seabed Authority (ISA) to formulate and implement regulations governing deep-sea mineral exploitation. This regulatory regime could thus be crafted to safeguard the marine environment, align with the United Nations Convention on the Law of the Sea (UNCLOS), and simultaneously facilitate sustainable economic development.

Ensuring the Participation of Indigenous Peoples

A potential avenue for resolving the friction between exploration activities and the interests of non-state stakeholders involves the formal integration of the Free, Prior, and Informed Consent principle within the International Seabed Authority's (ISA) Mining Code. This approach proposes the establishment of consultative mechanisms that align the ISA's regulations with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Prioritisation of Circular Economy Frameworks and Terrestrial Efficiency

A sustainable resolution to the resource scarcity driving deep-sea mining interests lies in the accelerated adoption of a global circular economy framework. Rather than expanding extractive frontiers into the deep ocean, this approach proposes a multilateral commitment to 'urban mining' and Extended Producer Responsibility, whereby States incentivise the recovery of critical minerals from existing anthropogenic stocks, such as electronic waste.

Endnotes

1. "Deep-Sea Mining | Secretary-General's Scientific Advisory Board." *Secretary-General's Scientific Advisory Board*, 2025, www.un.org/scientific-advisory-board/en/deep-sea-mining.

2. United Nations. “United Nations Convention on the Law of the Sea.” United Nations, 10 Dec. 1982.
3. The. “Why Deep-Seabed Mining Needs a Moratorium.” *Pew.org*, The Pew Charitable Trusts, 6 June 2025, www.pew.org/en/research-and-analysis/fact-sheets/2025/06/why-deep-seabed-mining-needs-a-moratorium.
4. “Home - International Seabed Authority.” *International Seabed Authority - International Seabed Authority*, 2022, isa.org.jm/.

Bibliography

Between Rocks and a Hard Place: Seabed Mining in the Pacific." Asia Maritime Transparency Initiative, Center for Strategic and International Studies, https://amti.csis.org/between-rocks-and-a-hard-place-seabed-mining-in-the-pacific/

Convention on Biological Diversity. United Nations,

https://www.cbd.int/

"Deep Sea Mining." Scientific Advisory Board, United Nations, https://www.un.org/scientific-advisory-board/en/deep-sea-mining?

"Deep-Sea Mining: International and National Frameworks." Congressional Research Service, IF12578, https://www.congress.gov/crs-product/IF12578

"Deep Sea Mining Risks Leads Study to Urge Shift to Circular Solutions." Institute for the Oceans and Fisheries, University of British Columbia, 14 Apr. 2025, https://oceans.ubc.ca/2025/04/14/deep-sea-mining-risks-leads-study-to-urge-shift-to-circular-solutions/.

"Deep Sea Reveals Significant Environmental Risks." Phys.org, Apr. 2025, https://phys.org/news/2025-04-deep-sea-reveals-significant-environmental.html?

"Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction." United Nations,

https://www.un.org/bbnjagreement/en.

International Seabed Authority.

https://isa.org.jm/

United Nations Convention on the Law of the Sea.

https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

Lodge, Michael W. "The International Seabed Authority and Deep Seabed Mining." UN Chronicle, United Nations, https://www.un.org/en/chronicle/article/international-seabed-authority-and-deep-seabed-mining.

"Maritime Assignment." Scribd,

https://www.scribd.com/document/836661201/Maritime-Assignment?.

"Status of Reserved Areas." International Seabed Authority, 2019, https://www.isa.org.jm/wp-content/uploads/2022/06/statusofreservedareas-01-2019-a_1-1.pdf.

"Summary of the 28th Session of the ISA Council (Part III)." Earth Negotiations Bulletin, International Institute for Sustainable Development, https://enb.iisd.org/international-seabed-authority-isa-council-28-3-summary.

"Why Deep Seabed Mining Needs a Moratorium." The Pew Charitable Trusts, June 2025, https://www.pew.org/en/research-and-analysis/fact-sheets/2025/06/why-deep-seabed-mining-needs-a-moratorium?.