Research Report

Committee: United Nations Environment Program (UNEP)

Topic: Evaluating the ecological risks of deep-sea mining and developing strategies to minimize further damage to marine ecosystems

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Introduction

The mining of the deep sea, and the potential environmental impacts of it, is an issue that is of singular relevance in today's world in which the transition to clean energy dominates both economic and political discourse. The topic is uniquely complex as it encompasses the interests of private businesses, the struggles over global dominance by nations like the United States and China, as well as legal questions over the jurisdiction of United Nations entities and the regulations they have been tasked with developing. This report provides delegates of the United Nations Environment Program with an overview of the topic and the main questions for delegates.

Background Information

Deep sea mining refers to the extraction of minerals from the seabed of the deep ocean, a region below a depth of 200. The United Nations Convention on the Law of the Seas (UNCLOS) created the concepts of a nation's territorial sea and Exclusive Economic Zone (EEZ). The territorial sea of a nation is defined as extending, at most, 12 nautical miles beyond the coastline of a nation, within which a country has full sovereignty over both the sea, seabed, and airspace above it. The Exclusive Economic Zone (EEZ) of a country extends 200 nautical miles beyond the outer limit of a country's territorial sea, within which a country has exclusive rights to exploit any natural resources, including potential mineral reserves. While this system of maritime resource rights is relatively well established, the fact that the 'deep sea' exists almost completely outside of the EEZs of any one nation, presents a significant challenge. Deep sea mining is primarily focused on extracting polymetallic nodules from the floor of the ocean. With the world's increasing appetite for precious

metals like cobalt, nickel, and manganese, the prospect of being able to extract these metals from the ocean has gained more traction in recent years.

The Clarion-Clipperton Zone (CCZ) in the Pacific Ocean has been the subject of most of the exploration and research into deep sea mining. The CCZ is located west of the Mexican coast and east of Hawai'i, and comprises over 4 million square kilometres of ocean floor. The CCZ is situated firmly within international waters and as a result the seabed of it is under the jurisdiction of the International Seabed Authority (ISA), headquartered in Kingston, Jamaica. The ISA is the United Nations body tasked with controlling and developing regulation for the mineral exploitation of the seabed and protecting its ecosystem. Under international law, the seabed is considered to be the "common heritage of all mankind". The ISA is the sole authority able to grant both exploration and mining permits to nations and corporations wishing to exploit mineral resources in ISA administered areas—though only exploration permits have been granted thus far. The ISA's mandate to develop regulation for deep sea mining has long been a point of contention as the organisation has existed for over 30 years and has been unable to develop a code of practice that has been accepted by the member states of the organisation. The mandate in and of itself is also seen by some as being contradictory, as the ISA is tasked with both protecting the seabed ecosystem and also developing regulations in order for it to be mined. The ISA is currently comprised of 168 members in addition to the European Union, with all member states represented in the ISA's assembly which elects a 36 member council tasked with approving exploration and mining permits.

While deep sea mining has so far never happened on a large scale, during the 1970s, many countries descended on mineral rich areas of the ocean, including the Clarion-Clipperton Zone, with the intention of mining the mineral rich nodules found there. As a result of this, many countries became concerned that the race to mine the seabed could result in a handful of large countries exploiting minerals found on the ocean floor en masse, with smaller countries having little chance to do the same. In response to this, when UNCLOS was being drafted, it included requirements that had to be met in order for exploration and mining permits to be approved. These requirements included that the activity be for the

benefit of all of humanity, consider the needs of developing countries, and ensure the protection of the environment. UNCLOS also required that any exploration permits must be sponsored by a member state of the ISA in order to be considered and that when permits are issued, a comparable part of the ocean must also be reserved for a developing country.

In addition to the regulatory challenges deep sea mining faces, scientists are increasingly also concerned about the potential environmental impacts that the extraction of polymetallic nodules could have on the extremely fragile ecosystem of the deep sea. Opponents of deep sea mining are concerned that extracting nodules from the ocean floor could agitate an ecosystem that we know quite little about. Proponents, on the other hand, argue that mining the deep sea is much less harmful to the environment compared to land-based alternatives which can cause deforestation as well as contaminate water sources.

Recent Developments

The most recent developments in deep sea mining have come from both small and large countries alike. In 2021, The Metals Company, a Canadian corporation partnered with the small island nation of Nauru to notify the International Seabed Authority of their intention to submit an exploitation request. This triggered the so-called “two-year rule” which required the ISA to develop relevant regulations within two years or risk being forced to approve the application even in the absence of a fully developed regulatory regime. Despite the two year timeline for developing mining regulations, by 2023, the ISA had been unable to approve any. Currently, the ISA aims to have developed a regulatory framework by the end of 2025.

On 24 April 2025, the President of the United States Donald Trump signed Executive Order 14285 entitled “Unleashing America's Offshore Critical Minerals and Resources”. The executive order states its intention to ramp up the development of deep sea mining with the United States as a central player. Reactions around the world largely criticised the move as attempting to thwart the ongoing negotiations within the ISA to establish international mining regulations, something the United States has not been involved in because it is neither a signatory of the United Nations Convention on the Law of the Seas nor a member

of the International Seabed Authority.

Questions for Delegates

Delegates, when researching the position of their respective delegations, should be able to answer two main questions. The first question relates to a country's stance on environmental protection. Delegates should research past actions their countries have taken in terms of the protection of maritime ecosystems as well as current steps being taken or favoured by their respective governments. The second question is how each country approaches international law and the guidelines the ISA is currently drafting. Delegates should be aware of whether their countries favour multilateral approaches to shared maritime issues or more unilateral actions.

More generally speaking, all delegates should be aware of the political situation in their countries in terms of the ideological leanings of incumbent governments as well as any recent political events which may have affected the policies representatives of each country might promote at the conference.

In addition to the resources linked later in this document, it is highly recommended that delegates read material produced directly by the governments they are representing. The United Nations Digital Library is another excellent resource, containing speeches made by world leaders dating back decades and voting data from previous resolutions.

Resources Used

ABC News In-depth. "The Trillion-Dollar Race to Mine the Ocean Floor | Four Corners Documentary." YouTube, 8 Sept. 2025, www.youtube.com/watch?v=eZ-gSBtjkLI. Accessed 20 Sept. 2025.

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