

# Assessing the Risks and Dominant Perspectives of Deep-Sea Mining

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**PURPOSE:** To provide educational content for the Inland Ocean Coalition (IOC) and relevant stakeholders. The collaboration between the IOC and CU Master's of the Environment Students aimed to assess the risks of Deep-Sea Mining, specifically poly-metallic nodule extraction, and identify the dominant perspectives towards the industry.

## BACKGROUND

To fuel the increasing demand for critical metals in the renewable energy transition, deep-sea mining (DSM) has recently gained widespread interest as a possible offset to the environmental impacts of terrestrial mining.<sup>2</sup> The commencement of the industry may occur in 2025 once the UN governing body, the International Seabed Authority, adopts the necessary rules and regulations, however, many countries, academics, corporations, and organizations are calling for a temporary pause or outright ban on DSM.<sup>3</sup>



## PROJECT DELIVERABLES

### LITERATURE REVIEW

We conducted in-depth research on deep sea mining, gathering over 100 sources throughout our research process, ending up with 60 utilized resources. During our research, we decided that our literature review would focus on the dominant perspectives in deep-sea mining for a comprehensive approach. Our discussion focused on the gaps in knowledge, loopholes, and stakeholder communication in the deep sea mining field.

### BLOGS

Our blogs covered various topics including the history of deep-sea mining, the ISA and its role in creating the rules for DSM, and the ISA's July 2023 decision to delay the adoption of the mining code. Our capstone partner was able to share our blogs with their advocacy network by posting the blogs on their website. Our blogs allowed our team to write about exciting subjects we could not fit into our literature review.

### INTERVIEWS

We conducted ten interviews with experts in deep-sea mining. The fields include the nonprofit/advocate sector, lawyers, scientists, and sustainability officers. The interviewees were both for and against DSM. We conducted interviews during the research phase of our project, which allowed us to gain a deeper understanding of the gaps in knowledge and refine our knowledge of deep-sea mining subjects.

## EXPERT PANEL

Our expert panel brings pro-deep sea mining and anti-deep sea mining experts together. The panel will bring a balanced discussion about deep sea mining to the Inland Ocean Coalition and the University of Colorado student community. Through a balanced discussion, we want our audience to come to their own conclusions about the benefits and drawbacks of deep-sea mining.

## SOCIAL MEDIA

We provided our capstone partner with content to post about deep-sea mining. Social media was an easy way for the IOC to keep their community updated about current events in deep-sea mining. Our team utilized Canva to create original content that the IOC could share on social media platforms.

## REPORT TO IOC

Our report to our capstone partner comprehensively overviews everything our capstone team researched throughout the project. The IOC can share the report through its ambassador program and aid its ocean advocacy efforts. The report will also allow the IOC to formally adopt a stance on deep sea mining by providing them with over thirty pages of academic research.

## Conclusion from Literature Review:

From the research and discussion done in our literature review, we concluded the following: The scientific understanding of the deep sea is severely lacking, there is a lack of communication between pro and con stakeholders in DSM, and there is an apparent lack of capability of the ISA to manage this new industry. We conclude that deep sea mining would benefit from a precautionary pause in order to fully understand the effects that deep sea mining would have on ocean ecosystems and for the ISA to develop the proper rules and address loopholes before mining condenses.

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Expert Panelists: Dr. Andrea Koschinsky-Fritsche, Dr. James Hein, Farah Obaidullah, Erica Ocampo

### Citations:

(1) (n.d.). Nodule. The Metals Company. <https://metals.co/nodule>

(2) Katona, S., Paulikas, D., & Stone, G. S. (2022). Ethical opportunities in deep-sea collection of polymetallic nodules from the Clarion-Clipperton Zone. *Integrated Environmental Assessment and Management*, 18(3), 634–654. <https://doi.org/10.1002/ieam.4554>

(3) Momentum for a Moratorium. (n.d.). Deep Sea Conservation Coalition. [https://savethehighseas.org/moratorium\\_2022/](https://savethehighseas.org/moratorium_2022/)