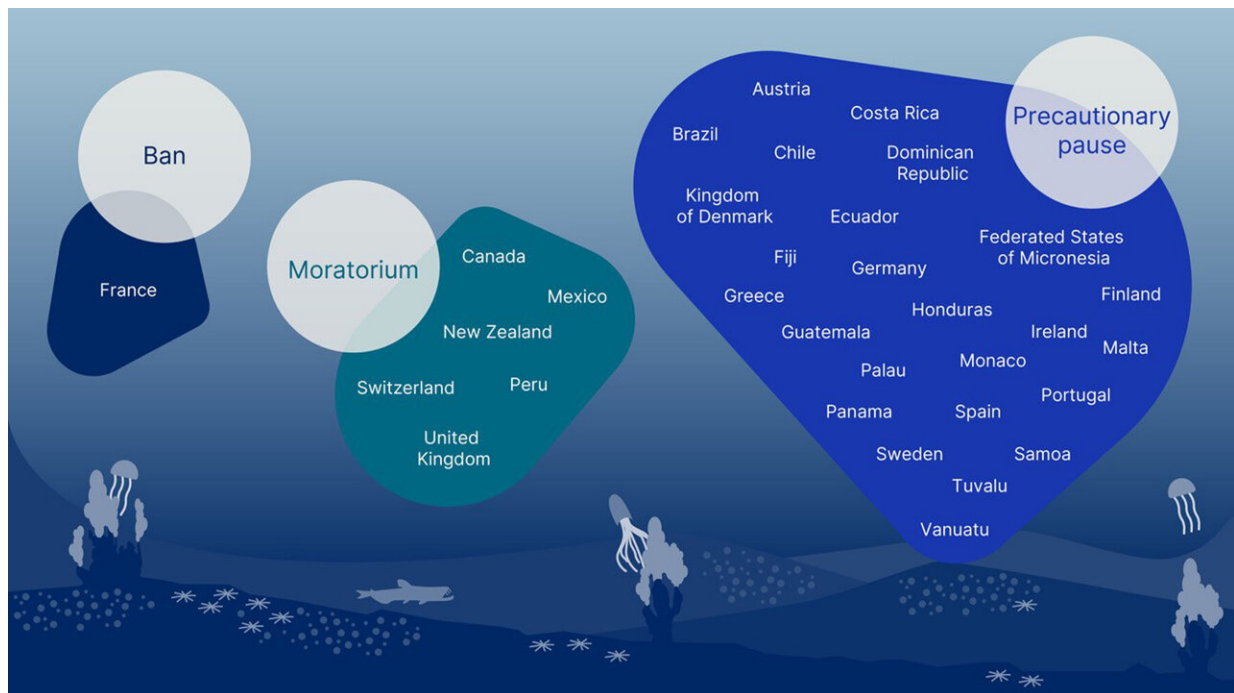


A 'precautionary pause' is logical way forward for deep-sea mining, say researchers

March 10 2025, by Bianca Schröder



States that have expressed a specific position at the International Seabed Authority. Credit: RIFS@GFZ

Pressure on the International Seabed Authority (ISA) to finalize and adopt regulations for deep-sea mining is increasing. While some ISA member states are hoping to see progress soon, a growing number of states are demanding more time to research the environmental impact of mining raw materials on the seabed and to develop an appropriate

regulatory framework. What are the legal forms such a delay could take and what would the political consequences be?

A team of researchers, led by Pradeep Singh from the Research Institute for Sustainability (RIFS), has [addressed](#) these matters in the journal *Ocean Development & International Law*.

Many of the 169 member states of the ISA have spoken out in favor of a precautionary pause or moratorium on [deep-sea mining](#). Many of them likely felt compelled to do so when the island state of Nauru triggered a treaty provision known as the "two-year rule" in 2021. The provision requires the International Seabed Authority (ISA) to develop and adopt regulations for deep-sea mining within a 2-year period.

However, the ISA was unable to agree on any regulations before the passing of the deadline. Many states and observers are worried that an application for exploitation could now be submitted for approval with no regulations in place.

A moratorium has more legal force, but a precautionary pause can deliver the needed outcome

With many of the outstanding issues requiring further study and debate, a suitable legal measure is needed to delay any mining activities. Environmental concerns are at the forefront of calls for a moratorium or precautionary pause on deep-sea mining, but there are other "gaps" that must be filled before mining activities can be properly regulated, assessed, and authorized. These gaps relate to research, technology, regulation, institutional and procedural ambiguities and other issues related to global governance more broadly.

According to the researchers, the legal basis for deferring deep-sea

mining is clearly present under international law, given that states have many obligations and responsibilities that are yet to be fulfilled before such activities can commence responsibly.

"There are more convergences between the terms 'precautionary pause' and 'moratorium' than differences. The effect is more important than the label or terminology," says Singh. Both a pause or moratorium at the ISA can effectively have a "freezing effect"—in accordance with the precautionary approach—on the transition from exploration to exploitation.

Postponement can have unintended consequences, but is still a sensible pathway to take

The authors describe a moratorium as a formal and binding stop. It carries considerable weight in international law and usually requires a formal agreement or resolution. In view of the interests involved and the tendency of the ISA to operate based on consensus, this could be difficult to achieve in the first instance.

A precautionary pause in some ways could be seen as a weaker measure in legal terms, as it can result from informal agreements and feature softer parameters. For pragmatic reasons, however, the ISA might prefer it, as it might face less resistance, and it preserves the intention to continue the development of the necessary frameworks and define the acceptable parameters with the intention of applying them in future.

The moratorium option would then be ripe for consideration further down the line if it becomes apparent that a fit-for-purpose regulatory framework for the responsible governance of extraction activities is not achievable.

The paper notes that there is already a clear pattern from the position of the ISA Council and many states that commercial mining should not commence in the absence of regulations, and that more time and knowledge is needed to develop a strong, enforceable, and robust framework that is fit for purpose.

However, a decision to postpone activities at the ISA could also have unintended consequences, the authors concede. This includes possible geopolitical tensions or turning the attention towards seabed mining in areas within national jurisdiction. Nevertheless, the paper concludes that the benefit of implementing a pause would outweigh any decision to go ahead with commercial exploitation on the international seabed.

Negotiations remain complex

Previously, ISA members had agreed to continue negotiations on regulations with the goal of their adoption in 2025. However, this now seems highly unlikely, given the many outstanding matters that remain to be negotiated and the lack of scientific knowledge to inform decision-making.

"It is quite inevitable that a revised roadmap would have to be agreed," says Singh. Moreover, if an application for exploitation is submitted for consideration in the absence of regulations later in the year, this would further prolong the negotiations.

"ISA members will be compelled to take a stance when faced with the potentiality of exploitation occurring in the absence of regulations, which might mean even more states coming out in support of a pause or moratorium," he adds.

Whatever the terminology or label that is used, postponing the commencement of exploitation activities until the point that conditions

are met is a logical and responsible way forward.

More information: Pradeep A. Singh et al, A Pause or Moratorium for Deep Seabed Mining in the Area? The Legal Basis, Potential Pathways, and Possible Policy Implications, *Ocean Development & International Law* (2025). [DOI: 10.1080/00908320.2024.2439877](https://doi.org/10.1080/00908320.2024.2439877)

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