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The Central Arctic Ocean as a beacon of hope for the global ocean

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The global ocean faces unprecedented challenges from overfishing, pollution, and climate change. The Central Arctic Ocean Fisheries Agreement is a rare, if not unprecedented, example of precautionary action in marine management. Further action is needed to address other forms of industrial activity in the region. Done well, this example can provide a model for sustainable ocean management around the world, based on sound evidence, inclusive governance, and long-term thinking.

The global ocean faces unprecedented challenges¹. Overfishing, pollution, climate change, and acidification threaten marine productivity, biodiversity, and livelihoods². Deep-sea mining is on the horizon, and many schemes have been proposed to further (ab)use the ocean to mitigate climate change^{3,4}. While promising conservation statements and commitments were made at the third United Nations Ocean Conference (UNOC3), held in Nice, France, in June 2025, many of the same countries continue to rush towards new ways to exploit marine resources. If the world's waters are to keep sustaining us and regulating our climate, a change of course is needed.

Amid this dreary picture, the Central Arctic Ocean (CAO) provides a welcome alternative. In 2018, nine countries and the European Union agreed not to fish in this high seas area for at least 16 years⁵. This rare, perhaps unprecedented, precautionary approach to marine governance also establishes a collaborative research and monitoring effort, drawing on both science and Indigenous knowledge. While specific elements, such as the rules governing exploratory fishing, remain to be worked out, the parties to the agreement continue to work together despite geopolitical turmoil.

An agreement on fisheries, however, does not provide governance for all potential activities. Continued loss of sea ice removes a major obstacle to commercial shipping and deep-sea mining in these waters. The loss of ice also affects global weather and climate⁶, as well as the biota shared with coastal states and, through migrations, countries farther south⁷. The CAO Fisheries Agreement points to a different way to approach marine governance, but more is needed in the region itself, as well as to extend this way of thinking around the world.

Scientists call for action

With all of this in mind, over 1000 scientists from around the world have joined a call for a robust and comprehensive agreement that would protect the CAO from all forms of industrial activity (Supplement 1), at least until we have a better understanding of the effects of these changes on the region's

ecosystems. The letter was released at UNOC3 and remains open for signing.

Without such action, it is possible that shipping, deep-sea mining, or other activities could damage the CAO ecosystem, thereby undermining the purpose of the fisheries agreement even before adequate information is obtained to inform future decisions, or any fishing actually takes place. Such an outcome would be a sad legacy for an otherwise visionary approach to marine governance. To fulfill the aims of the fisheries agreement, therefore, countries must complete the task.

The fisheries agreement provides a model for a full governance approach. In the unexploited waters of the CAO, a precautionary approach that postpones industrial activity serves two purposes. First, it avoids additional, possibly compounding impacts on an ecosystem already responding to rapid climate change⁷, allowing natural processes time and space to adjust and adapt. Second, it makes sure that human activity does not cause harm that would then have to be remediated, but instead allows for the development of sufficient understanding to avoid or reduce the risk of harm before it happens.

The need to understand before exploiting is another crucial feature of the CAO Fisheries Agreement. Its research and monitoring program is geared towards fisheries, but also takes an ecosystem approach, making it readily adaptable to address the potential impacts from other forms of human activity. In putting this program together, the Parties have set out an ambitious implementation plan that promotes research planning, scheduling, and coordination of their national and international research efforts. In other words, there is no need to start new research and monitoring programs when the existing CAO program could be expanded at much lower cost or use made of existing activities such as the Circumpolar Biodiversity Monitoring Programme⁸.

The fisheries agreement also sets an important precedent in explicitly incorporating the involvement of Arctic Indigenous Peoples and their knowledge. The research and monitoring program of the fisheries agreement calls specifically for engaging with Indigenous knowledge and for Arctic Indigenous knowledge holders to be directly involved in the planning and implementation of the research effort. Ample precedent for such collaboration can be found in Greenland, Arctic Canada, Alaska, and at the circumpolar level^{9–12}. So, again there is no need to invent something new, but simply to apply what is already in practice in nearby areas. The engagement of coastal residents not only harnesses millennia of experience in the region, but also promotes the social sustainability of governance by making sure it accounts for the needs of those who rely on these waters.

What comes next

The CAO Fisheries Agreement started with a 2008 resolution by the United States Senate, followed by a letter from over 2000 scientists supporting a moratorium on fishing in the region. This was in turn followed by a decade of effort by governments and non-governmental organizations¹³. The result

was a relatively simple agreement that established some fundamental principles, set a task to gain much-needed information, and avoided the pitfalls of trying to set up complex institutional arrangements and processes until such time as they might be needed.

And now, over 1000 scientists have spoken up again about the need to protect the CAO (Supplement 1). Even with that model for what an agreement should encompass and the precedent set by the signatories, developing a relatively simple agreement to tackle broader issues will take some time. Shipping rules at some point will likely involve the International Maritime Organization. Deep-sea mining is further complicated by overlapping extended continental shelves of the five Arctic coastal states¹⁴, which will need to be resolved, and which still leave a small area of seabed under the jurisdiction of the International Seabed Authority. The recent Biodiversity Beyond National Jurisdictions agreement¹⁵ also applies to the CAO. Though not all Arctic coastal states are likely to ratify it, the agreement may be a spur to creating an Arctic-specific approach if only to forestall the complications of full global involvement. Further work will be needed to evaluate the degree to which these various arrangements can address the governance needs of the CAO, including the interplay among them, and what additional mechanisms may be needed. Regardless of the pathway that is eventually taken, however, building on the principles of the CAO Fisheries Agreement and committing to broader responsible governance of the CAO is imperative now if such action is to precede industrial activity¹⁶.

It is also important to note that the fisheries agreement is not a permanent ban. Some signatories may have reasoned that fishing in the region is unlikely to start soon, so they were giving up little by signing while gaining a seat at the table where fisheries decisions will eventually be made. When and how those decisions are made, and whether they continue to take a careful, knowledge-driven approach, will determine the ultimate legacy of the agreement. Should a similar interim approach be taken for the governance of other human activities, long-term success will depend on countries' willingness to invest in the development of sufficient understanding of the ecosystem to support sound management decisions.

The CAO has a chance to remain a beacon of hope for sustainable marine governance globally. The consequences of unsustainable mismanagement of the oceans have been all too well documented around the world¹⁷. There are far fewer examples of alternatives that recognize present and future human interests and apply the precautionary principle. If the CAO experience can show that a long-term approach is both possible and effective, the legacy of its governance, underpinned by multilateral cooperation and including Indigenous knowledge, could be felt around the world for a long time to come.

Data availability

No data were generated or analyzed during the current study.

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Competing interests

The authors declare no competing interests.

Additional information

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