

Expert Authority Politics in the Marine Biodiversity Complex

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Abstract

The negotiations for a new instrument for the conservation and sustainable use of high-seas marine biodiversity (marine biodiversity beyond national jurisdiction; BBNJ) finally concluded after difficult negotiations. The BBNJ negotiations had to address a regime complex of sectoral and regional organizations regulating different aspects of marine biodiversity and a political struggle about the epistemologies that ought to inform marine biodiversity governance, which is driven by limited, unequally distributed, and contested knowledge. However, to be implemented, the new BBNJ Agreement will have to be equipped with expert authority to be able to address these challenges and make competent statements about the state of high-seas marine biodiversity. We address a gap in empirical work on expert authority in the regime complex by analyzing state references to the expertise of different international organizations in the BBNJ negotiations. Combining collaborative event ethnography and social network analysis, we show that states strategically and politically refer to the expertise of international organizations, and we coin the term *authority shopping* to describe this behavior.

Keywords: marine biodiversity, expert authority, BBNJ, international negotiations, international organizations

The ocean and its biodiversity are threatened by increasing human activity, including marine pollution and resource extraction (Druel and Gjerde 2014). Still, approximately 90 percent of its volume lies in areas beyond national jurisdiction, and its biodiversity remained without a protective international legal regime for decades. Two main challenges have limited the governance of marine biodiversity on the high seas. First, marine governance is characterized by a fragmented framework of sectoral and regional organizations that regulate different aspects of marine biodiversity, representing a regime complex (Langlet and Vadrot 2023b). Second, knowledge about marine biodiversity and its state is contested and political for several reasons. It is limited, as scientists claim that large parts of marine species and the functioning of marine ecosystems are still unknown and understudied, particularly in high- and deep-sea areas, due to the

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technological equipment necessary to access these remote regions (Drakopoulos et al. 2022; Intergovernmental Oceanographic Commission [IOC] 2020). At the same time, it is unequally distributed (IOC 2020; Ryabinin et al. 2019; Tolochko and Vadrot 2021), and there has been a tension between different ways and methods to assess and measure biodiversity loss, which is exemplified in the struggle around recognizing scientific concepts and traditional knowledge from local communities and Indigenous peoples (Gray et al. 2014; Gustafsson and Lidskog 2018; Hughes and Vadrot 2019; Scott et al. 2014).

Under these challenges, it proved difficult to negotiate a new, legally binding instrument for the conservation and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ) under the United Nations Convention on the Law of the Sea (UNCLOS) (Mendenhall et al. 2019). The BBNJ Agreement is meant to close gaps in UNCLOS and to complement relevant global, regional, subregional, and sectoral instruments and frameworks without undermining them. To fulfill the objectives of the agreement and to address the scientific uncertainties regarding marine biodiversity, it is necessary to equip the BBNJ institutions with the necessary expert authority to make competent statements on the state of marine biodiversity while acknowledging the regime complex of existing international organizations (IOs) and the political nature of expertise. Although scholars have attached particular relevance to expert authority in regime complexes (Gomez-Mera et al. 2020), it has become increasingly challenging to identify and locate authority in regime complexes (Alter and Meunier 2009, 13). Where the international system is characterized by complexity, scholars observed that there is “no single source” of authority (Orsini et al. 2019, 5) but rather a “diffusion of authority” (Orsini et al. 2019, 1) into multiple sites of authority (Abbott 2014). At the same time, literature has observed a political struggle over expert authority (Pouliot 2021; Vadrot 2020), in which states refer to the expertise provided by IOs strategically for their use (Pouliot 2021). When states pursue political aims by referring to expertise from “their” IOs, the questions arise: How do states refer to the expertise of specific IOs in international negotiations, and how can those references shape authority relations within a specific issue area?

This article addresses these questions and contributes to global environmental politics literature by combining insights from regime complex studies with research on global environmental agreement-making and negotiations. Empirically, it maps state references to IOs’ expertise in a political negotiation and analyzes how different statements incorporate notions of IO expertise to authorize the position and role of an IO within a specific issue area. Using observational data and social network analysis, the article identifies references to IO expertise during three intergovernmental conferences (IGCs) of the BBNJ negotiations (2018–2019) and analyzes the underlying political alliances and arguments. We conclude that states in negotiations strategically shop expert authority by referring to the expertise of different IOs. We interpret this as a strategic device of states to realize their interests related to a negotiation outcome,

which may have the (intended or unintended) effect of confirming or contesting the expert authority of an IO. To make this case, we introduce the concept of *authority shopping*, combining a relational understanding of authority (Sending 2017) in the context of agreement-making (Hughes and Vadrot 2023) with the idea of “forum shopping” (Busch 2007; Helfer 1999) as a practice occurring in multilateral negotiations, when a multiplicity of options within a regime complex are available, allowing state parties to strategically select among expertise in different IOs. The concept authority shopping can help in understanding the social foundations of authority in global environmental politics and contribute to their empirical study in the context of multilateral negotiations. Advancing such a social understanding of authority complements research arguing that struggle (especially between the Global North and South) over expert knowledge is inherent to global environmental agreement-making (Hughes and Vadrot 2019; Vadrot 2020) and diplomatic debates on the future of marine biodiversity conservation and sustainable use (Gray et al. 2014; Mendenhall et al. 2019; Tessnow-von Wysocki and Vadrot 2022).

The Struggle over Expert Authority in International Marine Biodiversity Governance

Knowledge about marine biodiversity on the high seas is growing: international programs such as the Census of Marine Life have increased the number of species known to science and laid an essential basis for future research on how to protect marine ecosystems (Snelgrove 2016). At the same time, the United Nations (UN) Decade of Ocean Science, launched by the Intergovernmental Oceanographic Commission (IOC) in 2021, has broadened the scope of marine scientific research by calling for increased recognition of knowledge from local communities and Indigenous peoples, the fishery sector, industry, and other relevant stakeholder groups (Ryabinin et al. 2019). In light of the BBNJ Agreement, usable knowledge, defined as “accurate information that is of use to politicians and policymakers” (Haas 2005, 387), is becoming more relevant but, at the same time, more contested (De Santo et al. 2020; Vadrot 2020). In international marine biodiversity governance, IOs, such as the Food and Agriculture Organization (FAO) and the International Seabed Authority (ISA), claim their place not only as existing intergovernmental decision-making bodies regulating aspects of marine biodiversity but also as expert authorities (Gustafsson and Lidskog 2018): the FAO with expertise in fisheries and the ISA operating deep seabed and ocean databases. IOs in international governance regularly attempt to gain authority based on their expertise and knowledge production processes (Gustafsson and Lidskog 2018).

Although classical conceptions of international relations largely precluded the existence of authority (Lake 2007), leading to a marginalization of the concept of “authority” (Cronin and Hurd 2008, 4) and possibly a lack of “clarity in the definition” (Hurd 2008, 23), authority has assumed an increasing role in

international rule and policy making (Bauer 2006). Finnemore and Barnett (2004, 21) state that “authority provides the substance of which IOs are made.” Accordingly, authority is described as “the ability of one actor to use institutional and discursive resources to induce deference from others” (Finnemore and Barnett 2004, 5). It is expressed in relationships in which “one actor claims authority and the other actor recognizes this claim, taking into account what the first actor says when deciding on a specific action” (Busch and Liese 2017, 104). Generally, literature moved from understanding authority as the attribute of an actor toward understanding authority in relational terms, whereby authority relationships constitute the social and political order (Lake 2009; Sending 2017). While characteristics, such as charismatic traits, can contribute to authority, this article speaks to a relational definition of expert authority building on Busch and Liese (2017), who defined expert authority in IOs as the “recognition that an actor can make (and communicate) competent statements, judgments, assessments, and recommendations on the basis of its knowledge” (107), to study the influence of IO secretariats (Bauer 2006). Accordingly, expert authority is seen as relational, describing not an attribute such as collective expertise, a way of working related to processes of knowledge generation, management, or handling, nor the outcomes of such processes, but instead the recognition of states (Sending 2017).

However, when states refer to the expertise of IOs in political negotiations, they do so strategically, referring to expertise of different IOs to advance their political interests in the negotiations and not necessarily to recognize the authority of said IO. The employment of such strategies makes expert authority inherently contested and unstable or “liquid” (Sending 2017). Still, expert authority is essential for implementing the BBNJ Agreement because its institutions are expected to inform the international community and assess compliance based on scientific assessments and expertise. Various aspects of the new agreement require the recognition of expert authority. For example, for the identification and designation of marine protected areas (MPAs), as well as for the conduct and evaluation of environmental impact assessments (EIAs), states expect the BBNJ regime to exert expert authority as defined by Busch and Liese (2017). The need to equip the BBNJ regime with expert authority for marine biodiversity governance was also recognized in the negotiations. One state delegate mentioned during negotiations, “It would be essential to establish an implementing authority to guarantee the effective function of the implementing agreement” (MARIPOLDATAbase, September 4, 2018). This may become problematic given the political struggle over expert authority, where states refer to knowledge relating to “particular claims of policies and facts” (Vadrot 2017, 61). Adding to this, knowledge of marine biodiversity is not only limited, as an estimated 91 percent of marine species are yet to be classified (Mora et al. 2011) and approximately 80 percent of the ocean remains unmapped (National Oceanic and Atmospheric Administration 2023), but also unequally distributed around the world (Tolochko and Vadrot 2021). For example, the

knowledge on the use of marine genetic resources (MGR) is centered mainly in industrialized countries, leaving most of the planet without the ability to research and access these resources (Blasiak et al. 2018). Thus expert authority for the BBNJ regime is negotiated against the backdrop of limited, unequally distributed, and contested knowledge on the state of marine biodiversity.

At the same time, the BBNJ Agreement was not negotiated in a vacuum, and states oriented themselves on existing IOs and their expertise when drafting the treaty text. Delegates realized that “we need to be aware that we are creating a regime complex” (MARIPOLDATAbase, August 20, 2019). This article conceptualizes the elements of a regime complex along the lines of Biermann and Siebenhüner (2009) to be IOs, for example, institutional arrangements that combine a normative framework; member states; and a body, such as a secretariat, embodying the normative framework (Langlet and Vadrot 2023b). Institutional fragmentation, regime complexity, and questions of authority have been common themes in global environmental politics (Gomez-Mera et al. 2020; Zelli and Van Asselt 2013). According to Alter and Raustiala (2018, 332), regime complexity is at its core about “how diverse elemental institutions establish overlapping ... authority claims regarding international governance.”

Forum shopping is a key concept in regime complexes; it refers to the strategy employed by actors, typically states, of choosing the most advantageous jurisdiction or venue to resolve a dispute or achieve a regulatory outcome. While it was initially developed in legal studies referring to the shopping between different courts (Helfer 1999), it has commonly been applied in the context of international relations, global governance, and regime complexity. Actors might engage in forum shopping to exploit differences in rules, standards, or enforcement mechanisms across different international regimes or organizations by selecting the forum that best suits their interests (Raustiala and Victor 2004). While forum shopping can be viewed in terms of relations (typically a relationship from state to IO) and has commonly explained state behavior in regime complexes, it has largely neglected the effects of such behavior on the authority of IOs. When, in international negotiations, states refer to the ability of different IOs to “make (and communicate) competent statements, ... on the basis of its knowledge” (Busch and Liese 2017, 107) as a political strategy, they can be said to shop authority from different IOs to pursue their political goals in negotiations. This article analyzes relationally how states refer to the expertise of different IOs in the BBNJ negotiations and, in a next step, discusses how these references represent expert authority shopping and how this may actually contribute to the authority of IOs. The following section outlines the methodological approach.

Using International Negotiations to Analyze the Politics of Expert Authority

International negotiations provide a useful entry point to studying the politics of expert authority because they make states’ references to expertise visible.

Negotiation “sites” represent organized social spaces that assemble a diversity of actors, including representatives of IOs, seeking recognition (Sending 2017) and pursuing political objectives. In this way, they offer “windows into broader networks of global environmental governance” (Campbell et al. 2014, 2), where scholars can empirically investigate networks (Paterson 2019); the performance of power, authority, and legitimacy (O’Neill and Haas 2019; Vadrot 2020); and regime complex formation (Langlet and Vadrot 2024).

The data for this study were collected at the BBNJ negotiations. The collaborative event ethnographic (CEE) data collection builds on approaches that used intergovernmental negotiations as field sites (Campbell et al. 2014; Hughes et al. 2019; Hughes et al. 2021; Vadrot 2020). During the second and third two-week IGCs held at the UN headquarters, two researchers conducted CEE at the negotiation site. We coordinated in a way that at least one researcher was present during plenaries, working group sessions, and informal negotiations to take field notes. The field notes were systematic and similar throughout the research team in that they were guided by a note-taking matrix that included a description of each statement’s content and contextual factors, such as the delegation of the speaker, the time of the statement, the package item, and the specific provision that was being addressed. Hence notes are close to contextualized transcripts of statements and represent a state’s expression of views. For the first IGC, which we did not attend, we watched the proceedings via the UN webcast and used the same systematic observational methodology. During IGCs 4–5 (and 5.2), which the research team also attended, the negotiations primarily took place in informal settings under Chatham House rules, meaning that we could not name states; therefore we excluded these IGCs from this analysis.

We scanned the field notes (approximately 12,500) systematically for references to IOs.¹ Any time a state mentioned an IO, we added it to our sample to be qualitatively analyzed. After identifying 712 statements in which states referred to IOs during the first three IGCs, we conducted a qualitative content analysis assessing whether states referred to the expertise of IOs.² We found that in 161 (out of 712) cases, states referred to specific expertise in IOs. In the rest of the statements, IOs were mentioned, but no reference to expertise could be detected, or a handful of times, states argued that the expertise of the IO was not suitable for the BBNJ context. A categorization of the statements showed that states referred to IOs mainly to propose elements of a treaty as a model for a similar provision in the BBNJ Treaty, to avoid provisions that might overlap with another IO’s mandate, or to delegate implementation tasks to it. Only in the selected 161 statements did states refer to IOs to highlight experience or models of producing knowledge and expertise or conducting or managing scientific work.

1. See Langlet and Vadrot (2023a) for a quantitative overview of IO involvement in the BBNJ negotiations.
2. Refer to the Appendix at the end of this article for our detailed coding rules.

Next, we conducted a social network analysis (SNA) with the 161 references to expertise (Paterson 2019, 2023; Zachary 1977) to explore the underlying patterns of states' strategic references. This methodological approach is informed by literature on regime complexes that in recent years, owing to the inclusion of a myriad of international actors, has guided researchers toward using system-theoretic approaches, such as network analysis (Morin et al. 2017; Scott 2015; Song et al. 2020) and complexity theory (Morin et al. 2017; Orsini et al. 2019), or a combination of approaches (Kim 2013; Kim and Mackey 2014). The network approach is widely applied in the field of global environmental governance, as "networks allow us to study the decentralization and fragmentation of governance arrangements, with power and authority widely diffused" (Barros-Platau et al. 2019, 2). Its focus on relations means that "social network analysis permits analysing the multiple interconnections among the various legal instruments, organizations, and public and private actors in regime complexes" (Gomez-Mera et al. 2020, 10) to explore questions relating to new forms of power in international governance (Hafner-Burton and Montgomery 2006), for example, when assessing the influence of IO secretariats (Song et al. 2020). We use SNA as an analytical tool to study the politics of expert authority, focusing on the structure of interactions in the negotiations. In such a structural view, "order does not rely on a clear authority but on the system itself and on its multiple interactions" (Orsini et al. 2019, 3).

SNA brings two analytical tools for the study of authority politics in international governance: community detection, to identify patterns in states' references, and centrality, to identify accumulations of references. First, community detection has been used to identify which groups of actors are structurally closer to each other than to others. Accordingly, a community-detection algorithm (Blondel et al. 2008) can be used to detect communities of states that jointly refer to the expertise of certain IOs. Second, centrality is often associated with social capital, authority, and power (Burt 2009). Network theory specifies that in specific political environments, not the number of connections but the position between otherwise unconnected groups of the network facilitates the ability to exert more authority (Chikhaoui et al. 2017).

Betweenness centrality, which measures how often a node lies on the shortest path between each actor pair in a network (Freeman 1978), has been shown to have the potential to explain why certain actors can exert more authority than others and has generally been associated with "brokerage" abilities in political networks (Hafner-Burton and Montgomery 2010) and the ability to mediate between different stakeholders and interests (Ingold et al. 2010). Actors with higher betweenness centrality can better control the flow of information and resources between actors (Brewington et al. 2009) and are more effective in shaping governance agendas (Carpenter 2007) or in "naming and shaming" (Brewington et al. 2009; Keck and Sikkink 2014) and coordinating international responses to crises (Moore et al. 2003). Accordingly, the IOs to which most states referred will likely occupy a preferential position in the network, which in turn could inform accounts of authority.

Results: The Politics of Expert Authority—How Do States Refer to the Expertise of IOs in the BBNJ Negotiations?

This section shows how states referred to the expertise of IOs and distinguishes between different arguments used by different groups of states. With a relational view, we depict in Figure 1 references to expertise in the BBNJ negotiations in a network graph in which states (in lowercase letters) refer to IOs (in black circles and capital letters).

Figure 1 shows that states typically referred to the expertise of only a few different IOs, indicating that most individual states have clear preferences. Many states in the center of the network, which referred to many different IOs (Egypt, Algeria, Palau, Barbados), made statements on behalf of alliances, reflecting more diverse preferences. Other states, such as New Zealand and Japan, can be interpreted to be more flexible. We ran a community-detection algorithm that categorizes states and IOs into communities based on their network positions. The algorithm based on modularity-optimizing factors differentiated the network into six communities, indicated by the different colors in Figure 1. This section explores which communities refer to expertise from which IOs and explores their arguments.

Many developing states consisting of small island, Caribbean, and African states form a community (in orange). These states jointly refer to the

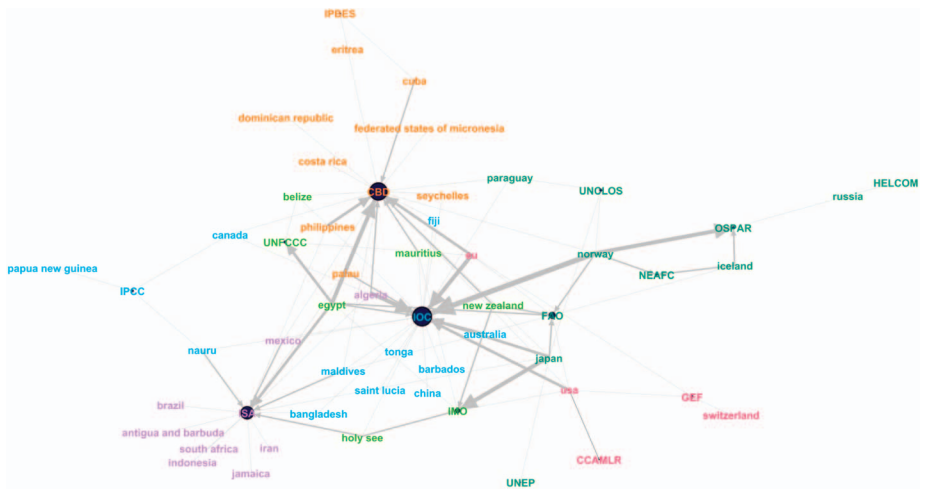


Figure 1
States' References to IO Expertise

States (in lowercase letters) refer to expertise from IOs (in capital letters and black circles). The size of circles represents the number of references an IO received.

Convention on Biological Diversity (CBD), the IOC, and the ISA. Many of these states refer to the CBD (and the Intergovernmental Platform on Biodiversity and Ecosystem Services) because of its progressive inclusion of traditional knowledge (TK) from local communities and Indigenous peoples, its emphasis on the fair and equitable sharing of nature's contributions to people, and aspects of capacity building. This group used four different arguments when referring to the CBD: the existing guidelines for capacity building and transfer of marine technology (CBTMT) (MARIPOLDATAbase, September 6, 2018) and EIAs (MARIPOLDATAbase, September 11, 2018); learning from the scientific and technical exercise under the CBD to identify ecologically and biologically significant areas (EBSAs) (MARIPOLDATAbase, March 27, 2019), which included TK and the role of local and traditional knowledge for the management of MPAs (MARIPOLDATAbase, September 4, 2018); acknowledging the CBD's Subsidiary Body on Scientific, Technical, and Technological Advice as a model for the future BBNJ scientific body (MARIPOLDATAbase, August 29, 2019); and including traditional knowledge for the MGR package of the treaty (MARIPOLDATAbase, March 27, 2019), referring to the place that traditional knowledge occupies in the CBD provisions on genetic resources in article 8. In addition, this group referred to the IOC mainly regarding the modalities that the IOC has created for delivering CBTMT (MARIPOLDATAbase, September 6, 2018) or as an adequate host for the clearinghouse mechanism (CHM) (MARIPOLDATAbase, September 6, 2018).

Similarly, many developing states referred to the ISA, pronounced mainly by members of the African or Latin American group (pink in Figure 1). These states are supporters of the common heritage of humankind principle, which they advocated as a principle to be included in the BBNJ Treaty text, referring to the effect this has had in the context of the ISA, where mineral resources are considered a global common (Vadrot et al. 2021). In addition, these countries highlighted the ISA's work to develop the mining code (MARIPOLDATAbase, August 19, 2019; International Seabed Authority 2022) and indicated that the experience of the ISA institutions could help to track the use of MGRs (MARIPOLDATAbase, September 12, 2018) and the equitable sharing of benefits resulting from their use. The conflict around the question of whether MGRs (should) form part of the common heritage of humankind principle has been discussed on many occasions (Jaekel 2013; Leary 2019; Tladi 2019). This article does not repeat the arguments for or against the inclusion of this principle in the BBNJ Treaty (Vadrot et al. 2021) but shows how the political differences are expressed in the discussions about expertise for the governance of marine biodiversity. The ISA was referenced by many countries from the Global South because it is seen as having expertise in organizing an effective CBTMT mechanism. Many states referred to the ISA guidelines for scientific cooperation and transfer of technology to influence discussions on the CHM of the agreement. The ISA itself demonstrated its capacity to host such a CHM ("deep data") during a side event at IGC 3.

Countries from this community also referred to the expertise of the IOC—mainly regarding the CBTMT package element of the BBNJ Treaty. They highlight, for example, the work of the IOC in developing the medium-term strategy (MARIPOLDATAbase, September 6, 2018; Intergovernmental Oceanographic Commission 2017b) or the ad hoc report that the IOC developed for the BBNJ Preparatory Committee (IOC 2017a) outlining the IOC's activities concerning capacity development and transfer of marine technology. The IOC is also referred to under the aspect of the management of a CHM for marine biodiversity research and data. This is an area in which the IOC has repeatedly actively showcased its ongoing work and expertise. Representatives of the IOC took the floor during the negotiation meetings to highlight their specific knowledge on gathering relevant data and managing and organizing a CHM. Furthermore, the IOC has a long tradition of organizing scientific cooperation and exchange, which a variety of states acknowledged.

A group of states with considerable fishing interests favoring a more regional approach to BBNJ governance forms another community (dark green). These states (Iceland, Russia, and Norway) referred to the expertise of regional fisheries management organizations (RFMOs) such as the North-East Atlantic Fisheries Commission (NEAFC) or regionally active IOs such as OSPAR, the Baltic Marine Environment Protection Commission (HELCOM), or the FAO, which stands for a regionally oriented RFMO system. These states indicate favoring a regional management approach for BBNJ and engage actively in fishing and RFMOs. Countries from this community referred to expertise exclusively in regard to the Area-Based Management Tools (ABMT)/MPA chapter and all using the same argument: that these IOs already have experience in cooperating to establish MPAs (MARIPOLDATAbase, September 10, 2018; MARIPOLDATAbase, September 9, 2018).

The red community consists of countries such as the European Union (member states), the United States, and Switzerland, which highlighted the existing work of the Global Environment Facility (GEF 2023) in financing global programs in international waters through its large marine ecosystem program (MARIPOLDATAbase, April 2, 2019) or in mainstreaming financing streams for capacity building (MARIPOLDATAbase, April 2, 2019).

The other two communities are more mixed and referred to a variety of IOs. These countries are placed more at the center of the network, as they referred to the expertise of several different IOs, such as the IOC concerning its experience in organizing the exchange of scientific data (MARIPOLDATAbase, April 4, 2019). Members of the light green community referred to the IMO, FAO, IOC, UNFCCC, and CBD. They highlighted the work the IOC has done in preparing a CHM for the BBNJ Agreement (MARIPOLDATAbase, September 6, 2018; MARIPOLDATAbase, April 2, 2019) and the expertise of the CBD and the UNFCCC in managing a CHM (MARIPOLDATAbase, September 6, 2018) regarding expert knowledge on marine biodiversity. Furthermore, they referred to the IMO, FAO, and CBD concerning the development of scientific standards for

establishing MPAs (MARIPOLDATABASE, September 7, 2018; MARIPOLDATABASE, September 10, 2018). Lastly, the light blue community consists of a great variety of states that referred (almost exclusively) to the IOC. It is a very heterogeneous group of states from all different continents and political alliances. They emphasized the experience of the IOC in dealing with the management and dissemination of data as required for a CHM and in setting up modalities for CBTMT, such as training courses for researchers. Table 1 summarizes the arguments of state references to the expertise of IOs.

Although the community-detection algorithm is entirely independent of political considerations, alliances, and qualitative considerations,³ its classification strongly resembles political alliances indicating that states refer to expertise, similarly to other states in their political alliance, from IOs in which they see their political interests best represented. States seem to strategically refer to expertise from IOs they expect to fit their political goals. Hence we interpret this behavior as authority shopping because states strategically select expertise from a multiplicity of options to realize their political interests in negotiations.

When mapping the references to the expertise of IOs in Figure 1, the IOC, CBD, and ISA are the most central IOs, indicating that most states shopped authority from them for the marine biodiversity negotiations. The IOC received twenty-four references in total, the CBD twenty-two, and the ISA sixteen (Table 1). States not only shopped authority from different IOs but also used different arguments when doing so. For example, the IOC's references stem largely from the recognition of its competencies to handle data in a CHM and provide training opportunities for scientists from developing countries (Table 1). However, the second most widely recognized IO, the CBD, is mentioned not only for handling scientific information but also for providing scientific criteria for MPA designation, as illustrated by the EBSA identification process (Table 1). Similarly, the ISA is mentioned in several different aspects, such as its experience in handling data and providing capacity-building programs, but also for the existing scientific review process of its activities. While further exploring these different arguments to IOs' expertise lies outside the scope of this article, these insights open avenues for further scholarly engagement.

Discussion

This section discusses the results and their implications for the struggle over expert authority in the BBNJ negotiations and the marine biodiversity regime complex. Although literature highlights the importance of knowing how and where "pockets of authority" (Zürn 2018) emerge to understand why IOs are "asymmetrically supported" by states (Young and Friedman 2018, 123), the empirical study of related dynamics is challenging. By studying the references

3. See Blondel et al. (2008) for the specificities of the Louvain community detection algorithm, which detects communities in the graphs, seeking to optimize the modularity of each node.

Table 1
Arguments of State References to the Expertise of IOs

<i>Abbreviation</i>	<i>Full Name</i>	<i>References</i>		<i>Arguments Used by States</i>
		<i>to Expertise (number)</i>	<i>Betweenness Centrality</i>	
IOC	Intergovernmental Oceanographic Commission UNESCO	24	0.392219	Modalities for CBTT; expertise in managing CHM; strategy for CBTT; host of CHM; expertise in data sharing; experience in organizing scientific data sharing; modalities for CBTT (training courses)
CBD	Convention on Biological Diversity	22	0.360712	Guidelines for CBTT and EIAs already developed; EBSA process includes TK; CBD SBSTTA already has knowledge; Nagoya protocol of CBD has experience in handling scientific information; scientific criteria for MPA designation could be used; expertise in managing CHM
ISA	International Seabed Authority	16	0.241475	Existing platform to manage data; modalities for CBTT; draw on code of conduct for seabed mining; expertise in capacity building; experienced secretariat; existing scientific review process

Table 1
(Continued)

<i>Abbreviation</i>	<i>Full Name</i>	<i>References to</i>		
		<i>Expertise (number)</i>	<i>Betweenness Centrality</i>	<i>Arguments Used by States</i>
OSPAR	Ospar Commission for the Protection of the Marine Environment of the North-East Atlantic	3	0.075241	Existing coordination with other IOs when establishing MPAs
FAO	Food and Agriculture Organization of the United Nations	8	0.069574	Scientific criteria for MPA designation; vessel tracking system
IPCC	Intergovernmental Panel on Climate Change	3	0.037879	Working network of experts; scientific criteria for MPA designation; assessing effects on oceans
GEF	Global Environment Facility	3	0.03757	Experiences in funding (through large marine ecosystems program)
IMO	International Maritime Organization	6	0.01581	Designate ABMTs based on data; ability to track vessels through identification system; scientific criteria for MPA designation
UNCLOS	United Nations Convention on the Law of the Sea	3	0.004902	
NEAFC	North-East Atlantic Fisheries Commission	2	0.002565	Existing coordination with other IOs when establishing MPAs
UNFCCC	United Nations Framework Convention on Climate Change	3	0.002096	Expertise in managing CHM; guidelines for CBTMT

Table 1
(Continued)

Abbreviation	Full Name	References		
		Expertise (number)	Betweenness Centrality	Arguments Used by States
IPBES	Intergovernmental Science-Policy Platform for Biodiversity and Ecosystem Services	2	0.000349	Definition of terms
HELCOM	Baltic Marine Environment Protection Commission	1	0	Existing coordination with other IOs when establishing MPAs
UNEP	United Nations Environment Programme	1	0	Formulation of EIA guidelines
CCAMLR	Convention for the Conservation of Antarctic Marine Living Resources	1	0	Scientific criteria for MPA designation

to the expertise of IOs within the marine biodiversity regime complex based on data collected during the BBNJ negotiations, we identified patterns suggesting that developing and developed states shop expert authority from different IOs. By adopting a social network perspective, we showed that states referring to expert authority in IOs form communities that do not only share similar preferences regarding which IOs should play active roles in the governance of marine biodiversity in the future but also converge on strategic and political interests. In the following sections, we discuss the findings, pointing to our approach's limitations and future research directions.

Expert Authority Politics Along the Global North–South Divide

Our results confirm that states refer to expertise in IOs according to their political alliances (Vadrot 2020), supporting the view that states do not perceive IOs as “neutral providers of knowledge” (Pouliot 2021, 147) or that states “defer to international organizations because the latter ‘know better’” (Pouliot 2021, 144) but rather use the expertise provided by IOs strategically for their political aims (Pouliot 2021). The struggle over expert authority seems, to some extent,

to run along the “North–South divide” (Vadrot 2020), as many developing states from the Global South refer to expertise from IOs that developed states from the Global North mention much less. While developing states shop expert authority primarily from IOs that have developed expertise in capacity building, fair and equitable sharing, and TK inclusion (CBD, ISA, IOC, UNESCO), developed states tend to refer to IOs with a pronounced focus on scientific data (FAO) and science advice to support marine conservation (OSPAR). Observing this political struggle over epistemological dominance in the BBNJ negotiations expresses several issues relevant to global environmental politics. It corroborates the contention put forth by Zürn et al. (2012) that the politicization of authority within IOs has witnessed a notable upsurge. Although, as far as our current understanding extends, no analogous research has investigated references to expertise within equivalent negotiation contexts, a tally of 161 attributions across three successive two-week IGCs appears relatively modest, particularly as the BBNJ negotiations were said to be heavily dependent on scientific input (Tessnow-von Wysocki and Vadrot 2020). This may imply a deliberate endeavor by states to uphold a relatively depoliticized atmosphere in the BBNJ negotiations.

The research team had expected to find that expertise occupies a more central role, and so the strategy of some states appeared to entail a conscious avoidance of burdening the negotiations with extensive authority discussions (Zürn et al. 2012). Overall, we noted that a majority of the 161 references to expert authority came from developing countries, indicating that they expect most political gains from shopping expert authority from existing IOs (Littoz-Monnet 2017) and that they may have learned from past negotiations that it is important to gain dominance over the epistemologies that inform international environmental governance (Haas and Ernst 1995). Hence developing countries actively and strategically used references to expertise possibly to counter existing imbalances in global institutional hierarchies. A particularity in the BBNJ case is the position of traditionally disenfranchised knowledge groups, such as traditional and indigenous knowledge holders. Whereas these groups remained underrepresented for many years, their role has been continuously strengthened in environmental governance in recent years and negotiations (Suiseeya et al. 2022). In the BBNJ negotiations, many states proactively supported their role not only in providing knowledge for marine biodiversity governance but also in being recognized as an equally valuable knowledge system. Consequently, the final text makes twenty-nine references to traditional and indigenous knowledge, including an explicit reference to “expertise in relevant traditional knowledge of Indigenous Peoples and local communities” in article 49 on the Scientific and Technical Body.

Implications for the Governance of BBNJ

This central position of traditional and indigenous knowledge holders may also reflect a changing global power structure in which developing countries actively shape the epistemologies that govern environmental politics, and the outcome

reflects these changes to some extent. Nonetheless, the references to IOs in the final text paint a somewhat different picture: the IOC, ISA, FAO, IMO, and GEF are mentioned, but the CBD, which many developing countries had supported (Figure 2; see Appendix at end of article), is not. Conversely, the FAO, the IMO, and particularly the GEF were supported mainly by developed countries and found their way into the final agreement text. The use of betweenness centrality can serve to identify potential agreement between states, as it indicates which IOs are referred to by otherwise distanced states. Table 1 indicates that not only were the IOC and CBD referred to most often; they also had references from the greatest variety of actors. Following these two IOs, the ISA has the third highest betweenness centrality. The rest of the IOs follow with a gap. This means that the IOC, the CBD, and, to a lesser extent, the ISA are the IOs from which most states have shopped authority. Thus they could possibly be the best political compromise for becoming expert authorities in the field of marine biodiversity governance. Indeed, the network approach would have almost correctly predicted which IOs are mentioned in the final agreement. The IOC, ISA, FAO, and IMO occupied central roles as reflected in the network graph and the network measurements. Other IOs that occupied a rather peripheral position (United Nations Environment Programme [UNEP], Convention for the Conservation of Antarctic Marine Living Resources [CCAMLR], NEAFC, and Intergovernmental Panel on Climate Change [IPCC]) were accordingly not mentioned in the final text. There are two outliers here: first, the CBD, which was strongly supported by many states and scored well regarding network centrality but is not mentioned in the outcome, and second, the GEF, which was mentioned only by a few very developed countries and is mentioned twice in the final text.

Studying the Social Foundations of Authority in Global Environmental Politics

Beyond these implications for the unfolding of political struggles, the findings also have methodological and conceptual implications for the study of expert authority. Methodologically, a combination of CEE methods, with SNA and qualitative content analysis to analyze patterns of references to expertise, can be applied independently of the case to study authority in IOs. International negotiations offer great potential for research on authority, as it is in these fora that states publicly refer to existing IOs and justify their references, and we suggest that SNA can use these references to explore the social foundations of authority. The fact that the detected communities are surprisingly close to existing political alliances is worth highlighting and could guide further study.

Conceptually, the results can speak to the constitution of expert authority in IOs through a relational logic. While individual states refer to the expertise of certain IOs in a political logic, that is, to pursue their negotiating aims, regardless of whether states actually recognize an IO's authority, such references can contribute to the authority of said IO—at least in the eyes of the other states and IOs that also heard the statement at hand. Hence we suggest that the references to authority

form a relational structure that can contribute to the actual authority of an IO regardless of the initial intent of the state that made each statement. This would support the notion that “authority is a social construction which cannot be understood and, indeed, does not exist apart from the social relations that constitute and legitimate it” (Finnemore and Barnett 2004, 20), advancing a “more socio-logically informed account of the role of expertise in shaping global governance” (Sending 2017, 8). However, this article contributes with data on references to expertise in a political context, and thus statements about the actual authority of said IOs remain indicative and require further investigation into the constitution of expert authority in IOs. SNA can give a structural view on the pattern of references, but references from a few politically powerful states may be more influential than a preferential network position. This dimension of power is not accounted for in the network and demonstrates one of the weaknesses of SNA.

Network analysis, as a methodological tool, has some inherent limitations relating to data completeness and temporal and contextual depth, such as the challenge of comprehensively capturing the nuances of international relations and networks within the negotiation setting. Incomplete data can lead to gaps in the network analysis, making it difficult to draw robust conclusions. Missing links or nodes can significantly impact the accuracy of network metrics. Furthermore, international relations are dynamic and multifaceted, with relationships evolving over time and with varying depths. SNA snapshots may not capture these temporal dynamics adequately, potentially missing the evolution of alliances or conflicts, nor may they provide a deep understanding of the context and motivations behind specific relationships, as well as of the nuances of diplomatic negotiations. Extracting the references to IOs disregards many aspects, details, and nuances of statements, such as different speech-writing styles across national delegations or different political goals of the statements. Hence, while SNA can provide valuable insights, SNA visualizations are always only simplified representations of reality that may not capture the full complexity of the relationships. To overcome some of these limitations, we suggest applying SNA in conjunction with other methodologies, such as qualitative interviews, in-depth case studies, content analysis, or historical research. A multimethod approach can help provide a more comprehensive understanding of expert authority in the context of multilateral negotiations and regime complexity, which would benefit from research beyond the negotiation setting, including analysis of how expertise is developed and used within IOs at different sites of knowledge production and use.

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Appendix: Coding Rules

We operationalized expert authority based on the understanding that states recognize “their limits of rationality and, therefore, the need for third parties or specific expertise” (Zürn 2018, 60). Hence we filtered the sample of references to IOs to select references in which states related to the scientific work conducted by an IO (such as assessments or publications), the method of producing knowledge and expertise, the management of scientific research and data, or the experience of an IO. To clarify this operationalization, we give some examples. Nauru recognized the ISA’s work by saying, “We see the example of the ISA being a leader in this area ... of operational work” (MARIPOLDATAbase, June 9, 2018). States also attributed expert authority when they referred to IOs concerning the “development of standard criteria based on the best available science” (Maldives, MARIPOLDATAbase, July 9, 2018) or concerning the management of a CHM that contains relevant data (Egypt, MARIPOLDATAbase, November 9, 2021) or when highlighting the work of IOs to scientifically assess the state of biodiversity of certain ecosystems. This qualitative content coding was conducted in Atlas.ti.



Figure 2
Example of Qualitative Coding