

Article

## Authority in Ocean Governance Architecture

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### Abstract

In this article, we demonstrate that the ocean is a space of politics and explore the what, who, and how of ocean governance. We first sketch the governance architecture and examine challenges and shortcomings concerning political authority. Starting from a definition of “ocean governance,” we highlight that two fundamentally different regulatory approaches are applied to the ocean: a spatial ordering on the one hand and a sectoral segmentation on the other. States are the central actors regulating the use and protection of marine areas, but state sovereignty is stratified, with diminishing degrees of authority farther from the shoreline. As vast marine spaces are beyond the exclusive control of any given territorial state, political authority beyond areas of national jurisdiction must first be created to enable collective decision-making. Consequently, a multitude of authorities regulate human activities in the ocean, producing overlaps, conflicting policies, and gaps. Based on recent contributions to the fast-growing ocean governance research field, we provide a thematic overview structured along the dimensions of maritime security, protection of the marine environment, and economics to unveil patterns of authority in ocean governance.

### Keywords

authority; blue economy; coordination; marine environmental protection; maritime security; ocean governance

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### 1. Introduction

The last decade has been marked by an increased interest in ocean governance—both in policymaking and academic scholarship. In 2017, the United Nations held its first-ever Ocean Conference, and the UN Decade of Ocean Science for Sustainable Development commenced in 2021. At its core, marine science studies the nature of marine systems grounded in natural sciences. Yet as humankind interacts extensively with the ocean, scholars from various backgrounds explore these interactions within their particular fields. There are maritime historians, economic experts, legal scholars, and many more. Surprisingly, political science has rarely engaged with ocean governance. In turn, many scientists with other backgrounds have explored aspects of ocean governance, stumbling upon regulatory gaps and policy inco-

herencies. As highly specialized journals, such as *Marine Policy*, *Ocean and Coastal Management*, and *Ocean Development & International Law*, lead the field, central questions on governance beyond the territorial state are debated elsewhere than in political science journals.

This article introduces ocean governance to a wider political science audience to reclaim a productive subject. We illustrate that the ocean is a space of politics and explore the what, who, and how of ocean governance. The ocean is an arena of great power competition as well as international cooperation on matters of security, environmental policy, and economics. While humanity has striven for most of its history to establish political authority over dry land, efforts to establish authority over maritime areas have intensified in recent decades. The United Nations Convention on the Law of the Sea (UNCLOS) provides a comprehensive legal framework

for ocean governance. Since the ocean both separates and connects all landmasses, ocean governance is inherently international. Although some oceanographic measurements (e.g., salinity, currents) warrant subdivisions, the world's ocean basins are interconnected. As a result, many local impacts also eventually affect distant areas. The obvious need for interstate cooperation to govern the ocean—which borders many nations—raises crucial questions at the heart of political science, like which actors can take binding decisions on human activities in the ocean, how conflicts on the use and protection of ocean space are addressed, and what effects the asymmetrical power structures of the international system create with regard to ocean justice. We first sketch the governance architecture and examine its crucial characteristics—including major shortcomings—concerning political authority. We structure our thematic illustrations in terms of the domains of security, environment, and economics.

## 2. What Is Ocean Governance About?

We define ocean governance as all rules, policies, laws, and institutions designed by governmental and/or non-governmental actors on all levels of decision-making, which regulate any human activities concerning the ocean. Our definition is similar in its comprehensiveness to that of marine governance as proposed by van Tatenhove (2011, p. 95). We strongly echo Bromley (2008, p. 8), who emphasized that ocean governance is about controlling the behavior of individuals that affects the ocean rather than about fish, benthic organisms, and hypoxia. We refer to the sum of all ocean governance arrangements as the architecture of ocean governance.

Thus, ocean governance is about claims to authority over ocean space. We denote authority as the legitimate exercise of power. We are particularly interested in who enjoys the legitimacy to make binding decisions on activities in ocean space. In the modern world, the exercise of power is firmly intertwined with the notion of governments holding the legitimacy to rule and the notion of state sovereignty. States enjoy the legitimate power to rule within their territory, thus authority is spatially bounded. Yet as a vast amount of ocean space lies outside any state's territory, no obvious entity enjoys authority over these areas beyond national jurisdiction. We emphasize that there is a fundamental difference between studying governance in spaces under state sovereignty and spaces beyond national jurisdiction. Since the high seas are outside the exclusive authority of territorial states, the legitimate right to rule these vast marine spaces first needs to be created and will necessarily have to be shared among all states. Thus issues of who enjoys the power to create rules, the legitimacy of decision-making procedures, and how regulations can be binding and enforced become magnified. Monitoring activities in oceanic space is difficult, making effective management particularly challenging (DeSombre, 2017, p. 99).

Commonly, states use international treaties to establish global cooperation. Treaties specify the area of cooperation and establish substantial rules as well as procedural rules. In terms of authority, states delegate decision-making power to an international governmental organization and/or assign responsibilities, rights, and obligations to the state parties or other specified bodies. Moreover, shared overarching norms may be internalized in the sense of “standards of appropriate behavior for actors with a given identity” (Katzenstein, 1996, p. 5), which stipulate international cooperation and may also further consolidate the political authority of international organizations, such as through norm convergence (see Biermann et al., 2009; Holzscheiter et al., 2016). States thus may enter into treaties and/or less formal governance arrangements to establish shared rules on the kinds of ocean-related activities to be regulated, as well as how and by whom this should be done. In this manner, states create, define, and limit authority to govern the ocean beyond their territory. However, states are also free to never commit to as well as to exit such arrangements.

Political efforts to tackle ocean governance have produced several international treaties and regional agreements. The current cornerstone is UNCLOS, which entered into force in 1994. As of early 2022, membership is near-universal with 168 parties. The treaty aims to regulate all uses of the ocean and its resources. Regarding authority, UNCLOS divides the ocean into different zones granting varying levels of state authority. The further seawards, the lesser the powers of coastal states. Coastal and island states enjoy full sovereignty over their territorial waters including the seabed underneath, giving them exclusive authority in these zones. Regarding their continental shelf, that is the submerged natural prolongation of their land masses up to 200 nautical miles (with a possible extension to 350 nm) depending on geological properties, coastal and island states have exclusive rights to natural resources in that part of the ocean floor. In the exclusive economic zone (EEZ), the water column adjacent to the territorial sea, coastal states also enjoy authority over the use of natural resources, the exclusive right to authorize any construction, and to set policies to protect the marine environment in that zone. All other parts of the ocean are the high seas, to which all claims of sovereignty are invalid. Moreover, all states enjoy the same rights on the high seas, turning approximately 60% of the ocean into a common pool. Hence, land-locked states enjoy the same rights as coastal states on the high seas but do not possess maritime zones that fall under their exclusive control. The ocean floor and its subsoil beyond national authority are designated into yet another zone called the Area. States cannot claim sovereignty over the Area; moreover, the mineral resources occurring in the Area belong to all of humankind. UNCLOS has created a new intergovernmental organization, the International Seabed Authority (ISA), to govern the exploitation of deep-sea minerals on behalf of humankind.

We use the examples of the ISA and International Maritime Organization (IMO) to assess the authority of highly specialized ocean governance institutions. What on the surface looks like a strong transfer of authority to an intergovernmental organization is however less strong when assessed using the framework of Hooghe and Marks (2015). This is due to minimal formal delegation of authority to the ISA, as the small secretariat has no executive functions and formally provides only secretarial support. Regarding the pooling of authority, the transfer of authority to take binding decisions to an international organization with individual states ceding their capacity to block decisions, this variable is above the median for the international organizations analyzed. In the ISA, the general voting rule is consensus, but should a matter come to a vote, Council member states take majority votes in four chambers. Adopted decisions are binding, thus diminishing the overall capacity of individual states to block ISA decisions. In the case of the IMO, Hooghe and Marks (2015) find very weak delegation of authority but extensive pooling of authority. Many IMO decisions are taken by majority voting, while IMO conventions are binding once ratified by two-thirds of its member states.

Two fundamentally different regulatory approaches are used simultaneously in governing the ocean. Parallel to the spatial logic previously discussed, a sectoral logic is also applied to human activities in the ocean. States and non-state actors set policies for specific sectors including fishery, transport, and tourism. Authority is divided among separate governance arrangements with mandates limited to the respective sectoral sphere. There is no actor or institution with the authority to design and implement ocean-related policies for all activities in every sector. Despite the inherent connectivity of ocean space, the mutual impacts of human activities in that space are systematically disregarded in a sectoral logic. The result is a striking fragmentation of ocean governance. On the global level, there is a “patchwork of, often, conflicting maritime activities, regulated by (fragmented) sectoral public policies operating at multiple levels with specific governance structures and regulations” (van Tatenhove, 2013, p. 298), while Bromley (2008, p. 17) shows evidence of “flawed and incoherent” policy solutions.

Moreover, there are multiple governance arrangements for the same activity, adding to the complexity of sectoral splits. The architecture of ocean governance is characterized by the concurrence of multiple political authorities, that is legitimate governance institutions. Regulations are made at multiple levels by many different authorities: They include governments at the level of territorial states as well as sub-state levels, and regional fora such as the Arctic Council and intergovernmental organizations including the Food and Agriculture Organization (FAO) of the United Nations on the international level. In addition to public authorities, there are different civil society actors involved in rule-making.

Consequently, ocean governance is multi-level governance by many actors.

We briefly illustrate the fragmented authority using a fishing vessel. For instance, while the IMO is the global standard-setting authority for the safety of international shipping, there are exemptions for fishing vessels from its International Convention for the Safety of Life at Sea (SOLAS Convention), producing a gap regarding their safety and seaworthiness. This particular gap is addressed by several non-mandatory instruments, for which the IMO collaborates with other UN agencies. A different organization, the International Labour Organization (ILO), enjoys the authority to set labor standards. Thus, the ILO Work in Fishing Convention 2007 applies to workers on commercial fishing vessels, an international treaty that has outlined minimum requirements for working conditions. Authority to regulate the actual fishing largely depends on where the activity is taking place; authority may rest with either national governments or regional fishery bodies to set catch quotas, regulate fishing gear, etc.

We now turn to the domains of security, environment, and economy to illustrate the ocean governance architecture in light of spatial and sectoral ordering.

### 3. Maritime Security

Maritime security has been mainly addressed as a special case of international security and national defense with studies on naval strategies. Since the 2000s, the term maritime security has been in common use and refers to “a set of policies, regulations, measures and operations to secure the maritime domain” (Germond, 2015, p. 137). Bueger and Edmunds (2017) propose national security, the state of the marine environment, economic development, and human security as core dimensions of maritime security. Topics thus reach far beyond defense against seaborne invasions to also include securing international shipping routes, fighting piracy, maritime terrorism, countering drug trafficking, enforcing trade sanctions, illicit border-crossings, and search-and-rescue (SAR) operations.

Despite many conceptual similarities, maritime security differs from land-oriented security concepts in having to account for both actions in maritime zones exclusively controlled by coastal states and in zones beyond national sovereignty. The Westphalian system has established states’ sovereignty within their borders, backed up by an international legal order that emphasizes territorial integrity and places all land under the de-jure sovereignty of a single state. This is not the case with ocean space. Yet the legal zoning of ocean space drives the territorialization of maritime space by granting states authority in territorial waters, the continental shelf, and EEZ. Consequently, the negotiation of UNCLOS and its entry into force in 1994 prompted coastal states to claim such zones. Overlapping claims produced maritime boundary disputes between states (Mondré, 2015, p. 54).

Unfortunately, UNCLOS lacks precise rules for delimitation, and in addition, some states evade its compulsory dispute settlement system. While the majority of these disputes were settled peacefully, some disputes turned into militarized conflicts. Examples include the delimitation of the EEZ between China and Japan in the East China Sea and the multiple overlapping claims in the South China Sea (Koo, 2017). The South China Sea disputes also highlight contestations of the legal order at sea. UNCLOS sets maximum limits to how far away from its coast a coastal state may legitimately claim authority over maritime areas. Contrary to these provisions, the People's Republic of China entertains far-reaching claims with its nine-dash-line based on historic rights and has rejected the international arbitration award on its dispute with the Philippines as "null and void" (Government of the People's Republic of China, 2016). Selective acceptance and continuous contestation of UNCLOS norms by great powers endanger the normative framework of ocean governance. In contrast to China, the United States of America has not ratified UNCLOS but regularly conducts so-called freedom of navigation operations to demonstrate its opposition to what they consider to be excessive maritime claims. The latter is an example of a major power supporting central UNCLOS principles without formally joining the treaty.

Yet not all maritime security issues stem from interstate competition. When piracy threatened major shipping routes in the mid-2000s, international cooperation emerged to protect the backbone of the globalized economy. To combat piracy off the coast of Somalia, the UN Security Council adopted Resolution 1816 in 2008, calling on states to deploy in the area. In this instance, states have made use of the standing high degree of delegation of authority to the Security Council to take binding decisions. This led to the European Union's Operation Atalanta, the US-led Combined Task Force 151, and NATO's Operation Ocean Shield. In addition to states operating at sea, African littoral states prosecuted captured pirates. Various actors entered into bilateral treaties that established transnational and international cooperation in prosecuting and combating piracy. The EU and individual UN bodies funded numerous capacity-building measures in this area. For example, the EU supported regional law enforcement in Somalia. New fora were established, such as the Contact Group for Piracy off the Coast of Somalia and Shared Awareness and De-Confliction, which provided a platform for regular and organized military exchanges. The latter is an important but informal governance arrangement without notable formal delegation and pooling of authority. The IMO played an important role in providing guidelines, management methods, and a voice for the shipping industry. The challenges in controlling maritime spaces were met by establishing risk and security zones. Maritime domain awareness initiatives collect information on a large scale to improve the planning and imple-

mentation of counter-measures (Bueger & Edmunds, 2017, p. 1303). Shipping companies employed private guards to protect their cargo ships against piracy. Due to a combination of military organizational cultures regarding commercial vessel protection as being outside their core mission and civilian decision-makers fearing diplomatic incidents due to the presence of military personnel on private vessels, flag states eventually supported the use of private security providers to protect cargo ships (Cusumano & Ruzza, 2018). We consider this development as another kind of delegation of authority. In line with a general trend of security privatization, states diffuse their legitimate monopoly on the use of force to private actors when delegating the provision of security to private companies.

Another area with significant involvement of non-state actors is the dimension of human security, especially assisting persons in distress at sea. While the obligation to rescue all persons in distress at sea is well-established in international law (SOLAS Convention) and widely accepted by seafarers, NGOs providing assistance have repeatedly clashed with states' security interests. The use of sea routes by migrants has raised coastal states' concerns over illicit border crossings. Heavy loss of life at sea, often due to ill-equipped vessels, has raised suspicions of premeditated distress situations intending to force civilian actors and/or coast guards to bring migrants on land enabling them to seek refugee status. In several Mediterranean states, and also in Australia, rescue operations have become strongly contested and their securitization has merged border control with SAR operations (Ghezelbash et al., 2018). Coastal states have considered humanitarian NGO operations as undermining their authority to police their borders.

#### 4. Marine Environment

Turning to the marine environment, we see a notable expansion of programs and activities on international marine protection since the 1970s, not least induced by the first United Nations Conference on the Environment in Stockholm, 1972.

On the global level, issues of marine environmental protection and preservation are mainly addressed by UNCLOS, which contains a number of general principles obliging states to take measures to prevent and reduce harm to the marine environment (for further details see Mossop, 2018). As UNCLOS contains only weak provisions for addressing environmental conservation in areas beyond national jurisdiction, UN negotiations for a new legally binding agreement for marine biodiversity in these areas have been initiated, although these have proven lengthy and are as yet incomplete. Moreover, the IMO also issues binding regulations for the protection of the marine environment, although these concentrate on selective issues such as the prevention of pollution from ships (MARPOL) or the prevention of marine pollution by dumping of wastes (London Convention).

Against this background of the limited political authority of global regimes, endorsement of the development of regional agreements for marine protection in UNCLOS can be considered a reasonable consequence. On the regional level, the UNEP Regional Seas Programme, initiated in 1974, is of particular importance. This consists of different conventions and action plans across 18 different marine regions, initiatives referred to as regional seas programmes (RSPs). While there are conventions directly administered by UNEP, such as the Convention for the Protection of the Mediterranean Sea, there are also four independent regional governance arrangements: HELCOM for the Baltic Sea region, the Antarctic Treaty, OSPAR for the North-East Atlantic Region, as well as the high-level intergovernmental forum of the Arctic Council. RSPs differ substantially with regard to the transfer of political authority—pooling and delegation.

Initially, all RSPs concentrated on marine pollution. However, most have extended their mandates to include further issues. HELCOM and OSPAR are, for example, highly dedicated to issues of marine biodiversity, marine protected areas, and sustainable marine development (Grip, 2017, p. 420), while the Abidjan Convention, as well as the Nairobi Conventions, are increasingly committed to advancing the ecosystem-based management approach to marine governance in Africa (Adewumi, 2021).

Moreover, there are growing initiatives for cross-regional coordination between RSPs. For example, there are regular meetings striving for alignment as well as an exchange of experiences (Mahon & Fanning, 2019). However, coordination efforts are often hampered by differing institutional settings, predominantly weak organizational bureaucracies, and by the high heterogeneity of different regions (Giannopoulos, 2021). Still, there are also examples of successful regional coordination: The cooperation between HELCOM, OSPAR, and EU-MSFD is said to work quite well (Grip, 2017, p. 419), also fostered by high compatibility of normative goals concerning marine environmental protection.

The level of cooperation and coordination between different sub-regional governance mechanisms also varies widely within the regions. Within the broader marine Arctic region, there are the Arctic Council, the Nordic Council, and the Barents Euro-Arctic Council, as well as OSPAR (regarding Denmark and Norway), all of which cover issues of marine environmental protection but propound partly differing norms (Humrich, 2017).

Considering cross-sectoral coordination, there are expanding initiatives to foster horizontal integration of marine environmental concerns within RSPs. HELCOM, for instance, has established an environment/fish forum as well as an environment/agriculture forum as platforms for communication and collaboration (Grip, 2017, p. 424). Nevertheless, states have delegated little authority to the environmental programs; the programs hold few regulatory competencies over economic sectors (Rochette et al., 2015, p. 14), and accordingly suffer from limitations of political authority. Consequently, regional

cross-sectoral cooperation still depends to a large extent on personal relationships, while organizational bureaucracies are usually rather small and not of major executive importance (Grip, 2017, p. 421).

Considering spatial issues of authority within marine environmental governance, we also have to keep in mind that the majority of RSPs do not have a mandate for the high seas, nor have they given major consideration to neighboring areas beyond national jurisdiction (Johnson et al., 2021).

Marine environmental governance within the EU can be considered an exception to some degree, and their approach has been heralded as a role model for other marine regions. It is mainly since the adoption of the European Marine Strategy Framework Directive (MSFD) in 2008 that the EU has been labeled a “central player in marine policies” (van Tatenhove & van Leeuwen, 2015, p. 184). Within the EU, the ecosystem approach and marine spatial planning as guiding principles of the MSFD are important instruments to overcome sectoral fragmentation (Boyes et al., 2016). For instance, there is currently a single EU Commissioner for the Environment, Oceans and Fisheries leading both the Directorate-General Maritime Affairs and Fisheries and the DG Environment.

We also find a relatively high level of delegation of political authority in the case of EU marine environmental governance. While, for instance, neither HELCOM nor the Arctic Council enjoys political authority to adopt legally binding decisions, EU marine environmental governance provides for shared competencies between the European Commission Directorates and the member states (Maier, 2014).

Regarding implementation, the specific integrative capacity depends on various national and local contextual features, e.g., types of knowledge that are being incorporated in marine spatial planning processes (Said & Trouillet, 2020), the functioning of informational flows (Toonen & van Tatenhove, 2020), and the role of non-state actor participation (Karnad & St. Martin, 2020). Yet several issues have received too little attention, such as environmental challenges in land-sea interactions such as acidification (Mendenhall, 2019).

Different groups of non-state actors participate in marine environmental governance. Scientific committees have a particularly key role within most regional seas agreements (Mahon & Fanning, 2019). We consider the inclusion of scientific expertise, although usually limited to political advisory and agenda-setting, as a strategy to enhance the legitimacy of political decisions. In some cases, however, non-state actors fulfill a more comprehensive political function, such as indigenous representatives in the Arctic Council.

## 5. Maritime Economy

With its living and non-living resources, the ocean is also a space for economic activity. Again, both spatial



and sectoral orderings structure governance mechanisms. The marine economy encompasses the fishery sector and increasingly aquaculture, commercial shipping, offshore-energy, biotechnology, and the emerging field of deep-sea mining as well as sea-oriented tourism.

In the past, there has not been any coherent economic governance architecture but separate regimes and regulating institutions for different sectors of the marine economy. The debate has turned to the buzzword “blue economy,” encompassing all economic activities in ocean space. Best known is the “Blue Growth” concept of the European Commission from 2012. Given its major—and still growing—economic relevance, the European Commission sees Blue Growth as a “long term strategy to support sustainable growth in the marine and maritime sectors as a whole” (European Commission, 2013), and in May 2021, modified this into a new approach for a sustainable blue economy. The strategy is based on marine spatial planning as basic ordering principle and attempts the integration of different sectors. We consider this an attempt to centralize authority by clustering several regulatory authorities across segments. The Blue Growth strategy can also be interpreted as a step toward the commodification of marine nature (Campbell et al., 2016; Voyer et al., 2018, p. 2). The private sector is keen on business opportunities, making public/private partnerships a key driver of success for the Blue Growth strategy (Voyer et al., 2018, p. 13). Due to its international nature, commercial shipping is globally regulated by the IMO, a specialized UN agency with the mandate to ensure the safety, security, and sustainability of international shipping. Only recently, especially due to the development of EU shipping policy, has there been a limited trend towards regional shipping governance in European waters (van Leeuwen, 2015). The central role of major shipping companies has placed them in a position to influence global regulations. As an example, industry proposals on environmental standards have been accepted by the IMO to increase buy-in and compliance (Alger et al., 2021, pp. 158–159). This is an instance of the rise of private authority in global governance supplementing the decision-making power of states.

In stark contrast, the global fisheries sector best illustrates the fragmentation of governance in shared ocean space. All in all, the industrialization of the sector resulted in overfishing and socio-economic conflicts. Global intergovernmental fishery regimes are manifold but rather poorly developed—either containing little specific regulations such as the UNCLOS or being composed of mostly non-binding guidelines such as the FAO Code of Conduct for Responsible Fisheries. Global fishery governance institutions are complemented by relatively strong fishery institutions at the regional level, by regional fishery bodies. Functionally, regional fishery bodies can be divided into regional fisheries management organizations mandated to establish legally binding agreements on one hand and regional fishery bodies with primarily advisory mandates on the other. Currently, there are

about 50 regional fishery bodies worldwide, some of which are highly specialized in the management of a particular species of fish, such as the Commission for the Conservation of Southern Bluefin Tuna, or a specific region, such as the Pacific Islands Forum Fisheries Agency. In addition to intergovernmental organizations, there are also numerous non-governmental actors engaged in shaping fisheries governance, ranging from marine industries to NGOs, as well as local stakeholder groups such as local fishermen (Guggisberg, 2019, p. 319).

There are numerous regulatory overlaps between different regional fishery bodies, but at the same time, some marine regions remain largely unregulated by regional fishery bodies. The FAO is fostering inter-regional cooperation and coordination of regional fishery bodies, including through the Regional Fishery Body Secretariats Network (Rochette et al., 2015, p. 15). More recently, the same has also been true of cross-sectoral coordination, in particular initiatives to foster horizontal integration of fishery and marine environmental concerns. Effective implementation is still hampered by low cross-sectoral regulatory authority as well as partly incompatible norms across sectoral policies. Regarding the implementation of regional fishery agreements as well as monitoring of catch quotas, all international fishery bodies ultimately depend on effective national mechanisms. More recently, there has been growing cooperation between NGOs such as Global Fishing Watch and governmental institutions with a view to more effective monitoring (Guggisberg, 2019). The situation is different within the aquaculture activities, which are mainly regulated by national laws. We find high regional disparities: Many Asian states as well as Norway and Chile have actively promoted aquaculture expansion, whereas growth of the aquaculture sector has been constrained in other regions such as Europe and the United States of America (Naylor et al., 2021, p. 559).

Concerning non-living ocean resources, governance depends on their location. While coastal states enjoy the right to govern the exploitation of all resources in their territorial waters and EEZs, as well as their continental shelf, mineral resources in the high seas are the common heritage of humankind. Since no state may own the latter, states created the ISA to regulate their exploitation and share the benefits (Feichtner, 2019). Interest in deep-sea minerals containing valuable metals waxes and wanes with fluctuating market prices. International negotiations on the regulations have been ongoing for decades and are marked by diverging state interests, concerns over environmental harm, and calls for greater stakeholder inclusion (Mondré, 2021). A coalition of specialized industry and interested states is pushing for their finalization to allow deep-sea mining to commence in the near future.

## 6. Conclusion

We have illustrated the architecture of ocean governance in three dimensions of politics. The fundamental

questions of who gets what, when, and how also apply to the vast ocean. The legal order at sea establishes a spatial ordering. States are the central actors regulating the use and the protection of marine areas, but state sovereignty is stratified with diminishing degrees of authority farther out into the ocean. There is no central authority governing the high seas, here political authority first needs to be created to enable collective decision-making in a shared space. Specialized ocean governance institutions with little formal delegation of authority, such as ISA or IMO, demonstrate the hesitation of various states to transfer political authority to international organizations. Such specialization also reflects the strong sectoral segmentation that results in path dependencies and conflicting norms that impede more coherent ocean governance.

Highly disparate governmental positions on the scale and specific modalities of delegating authority to global organizations are also illustrated by the long-running negotiations for a legally binding instrument to protect marine biodiversity beyond national jurisdiction (De Santo et al., 2020). Different types of non-state actors enjoy varying but largely increasing degrees of access to ocean governance mechanisms. However, non-state actors do not possess the same means as states to participate in collective decision-making. While economic actors are at the center of many conflicts over uses of ocean space, they have direct access to only some of the agreements. Environmental NGOs are granted observer status in several international organizations and scientific advisory committees support some of the organizations, especially in the domain of environmental marine governance.

One implication of the spatial ordering is state competition over maritime areas to control larger zones for power projection and additional economic resources. This results in conflicts over maritime boundaries and creates struggles to define and maintain principles of international order. In matters of security, states are notoriously reluctant to cede decision-making powers to multilateral bodies. At best, they cooperate with like-minded partners with shared interests, for instance combating piracy to protect the shipping routes on which the global economy is built. In the other dimensions, implications are disparities in regulatory aims. A multitude of regional fishery governance arrangements seek to mitigate the tragedy of the commons and several multilateral agreements protect the marine environment, but low cross-sectoral regulatory competencies, diverging institutional designs, and partly contested norms on sustainable marine development hamper shared rules and effective enforcement. Regulation of economic activities in the ocean space is especially strongly separated into different segments. National economic interests fuel competition over ocean resources, but also foster multilateral governance arrangements, although mostly with very limited authority.

With its many small parts, the governance architecture contrasts sharply with the unitary nature and connectivity of the ocean. All human activities in maritime

space interact and affect it cumulatively. Neither analytical nor regulatory silos correspond to the ocean's oneness. The ocean is a physically different space than land territory, yet practices of ocean governance construct marine spaces as quasi-territories by applying land-based models of governance to the fluidity of the sea, missing the opportunity for innovative governance of globally-shared spaces (e.g., Lambach, 2021; Peters, 2020; Ryan, 2019; Steinberg & Peters, 2015). A common response to the high fragmentation of ocean governance is to call for more coordination and greater policy coherence. Recalling that functional differentiation viewed through the lens of differentiation theory can also be considered "a rational response to the increasing complexity of society" (Zürn & Faude, 2013, p. 120), regionally bounded marine spatial planning may be the most promising tool for such integrated ocean management. Our analysis revealed some trends towards a form of regionalization. Despite a growing number of initiatives aimed at overcoming sectoral splits, we still see a limited degree of delegation and pooling of authority in most regional marine governance institutions. For further consolidation of this development, one avenue would be a further empowering of the role of bureaucracies of regional ocean governance organizations. In addition to institutional capacity, shared overarching norms matter. In this regard, at a minimum, the convergence of normative principles on how to govern is necessary to integrate policies across sectoral and spatial divides. The normative goals set by the Sustainable Development Goals may serve here as basic guiding principles.

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### Conflict of Interests

The authors declare no conflict of interests.

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