UNIVERSIDADE DE BRASÍLIA
INSTITUTO DE RELAÇÕES INTERNACIONAIS
PROGRAMA DE PÓS-GRADUAÇÃO EM RELAÇÕES INTERNACIONAIS

POWER, ARCHITECTURE, AND AGENCY IN THE MARINE BIODIVERSITY BEYOND NATIONAL JURISDICTION TREATY: AN EARTH SYSTEM GOVERNANCE PERSPECTIVE

Carlos Henrique Rubens Tomé Silva

Brasília
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Tese apresentada ao Programa de Pós-Graduação em Relações Internacionais da Universidade de Brasília, como requisito parcial para a obtenção do título de Doutor em Relações Internacionais.

Orientadora: Profª. Drª. Ana Flávia Granja e Barros

Coorientadora: Profª. Drª. Leandra Regina Gonçalves

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Data: 26 de maio de 2023

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Resumo

A biodiversidade marinha em áreas além da jurisdição nacional (BBNJ) está ameaçada. Demanda crescente por recursos e desenvolvimento tecnológico tornaram economicamente viável a exploração e a explotação de recursos ambientais em áreas antes inacessíveis. Desde 2004, a Organização das Nações Unidas sediou negociações para a elaboração de um tratado internacional para regular a conservação e o uso sustentável da BBNJ marinha. Porém, essas negociações não ocorreram no vazio. Aspectos relacionados à distribuição global de *poder*, à *arquitetura* institucional vigente e à *agência* das potências oceânicas se manifestaram também nessas negociações. Esta pesquisa aplica elementos da estrutura de pesquisa proposta em 2018 pelo Earth System Governance (ESG) Project para investigar de que modo poder, arquitetura e agência se articulam nas negociações BBNJ. Minha hipótese é que poderosos interesses geopolíticos e geoeconômicos prevaleceram sobre a proteção ambiental, resultando em um tratado que poderia ter sido mais inovador e ambicioso, com linguagem mais precisa e obrigações mais claras. Ficou decidido que o tratado seria legalmente vinculante e subordinado à Convenção das Nações Unidas sobre o Direito do Mar (CNUDM), mas seu escopo seria limitado por regimes setoriais, notadamente sobre pesca. De qualquer modo, o tratado preenche uma importante lacuna no direito internacional do mar. Finalmente, sua efetividade dependerá de como a comunidade internacional o implementará, *vis-à-vis* outros regimes preexistentes e à ordem internacional vigente.

Abstract

Marine biodiversity in areas beyond national jurisdiction (BBNJ) is threatened. Growing demand for resources and technological development made the exploration and exploitation of environmental resources in previously inaccessible areas economically viable. Since 2004, the United Nations hosted negotiations of a treaty to regulate the conservation and sustainable use of marine BBNJ. However, these negotiations did not take place in a vacuum. Aspects related to the global distribution of *power*, the current institutional *architecture* and the *agency* of the ocean powers manifested themselves also in these negotiations. This research applies elements of the research framework proposed in 2018 by the Earth System Governance (ESG) Project to investigate how power, architecture and agency are articulated in BBNJ negotiations. My hypothesis is that powerful geopolitical and geoeconomic interests prevailed over environmental protection, resulting in a treaty that could have been more innovative and ambitious, with more precise language and clearer obligations. It was decided that the treaty would be legally binding and subordinated to the United Nations Convention on the Law of the Sea (UNCLOS), but its scope would be limited by sectorial regimes, notably on fisheries. In any case, the treaty fills an important gap in international law of the sea. Finally, the effectiveness of the BBNJ treaty will depend on how the international community implements it *vis-à-vis* other preexistent regimes and the international order.

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List of acronyms

5G: Fifth Generation Wireless Telecommunications
AAC: Arctic Athabaskan Council
ABA: Arctic Biodiversity Assessment
ABMT: Area-based Management Tools
ABNJ: Areas Beyond National Jurisdiction
ABS: Access and Benefit-sharing
ACAP: Arctic Contaminants Action Programme
ACIA: Arctic Climate Impact Assessment
ACOPS: Advisory Committee on Protection of the Sea
AEPS: Arctic Environmental Protection Strategy
AHDR: Arctic Human Development Report
AHTEG: *Ad Hoc* Technical Expert Group
AIA: Aleut International Association
AIIB: Asia Infrastructure Investment Bank
AINA: Arctic Institute of North America
AMAP: Arctic Monitoring and Assessment Programme
AMSA: Arctic Maritime Shipping Assessment
AOSIS: Alliance of Small Island States
APEC: Asia-Pacific Economic Cooperation
APEI: Areas of Particular Environmental Interest
AR: Assessment Report
AR4: Fourth Assessment Report
AR5: Fifth Assessment Report
ASEAN: Association of Southeast Asian Nations
ASMA: Antarctic Specially Managed Areas
ASOC: Antarctica and Southern Ocean Coalition
ASPA: Antarctic Specially Protected Areas
ATCM: Antarctic Treaty Consultative Meetings
ATCP: Antarctic Treaty Consultative Parties
ATS: Antarctic Treaty System
AUKUS: US-British-Australian Security and Defense Pact
AWG-KP: *Ad Hoc* Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol (UNFCCC)
AWG-LCA: *Ad Hoc* Working Group on Long-term Cooperative Action (UNFCCC)
AWRH: Association of World Reindeer Herders
BBNJ: Biodiversity Beyond National Jurisdiction
BBO: Billion Barrels of Oil
CAFF: Conservation of Arctic Flora and Fauna
CAMLR: Conservation of Antarctic Marine Living Resources
CAO: Central Arctic Ocean
CARA: Circum-Arctic Resource Appraisal

CARICOM: Caribbean Community
CBD: Convention on Biological Diversity
CBDR: Common but Differentiated Responsibilities
CBTMT: Capacity-building and the Transfer of Marine Technology
CCAMLR: Commission for the Conservation of Antarctic Marine Living Resources
CCAS: Convention for the Conservation of Antarctic Seals
CCP: Chinese Communist Party
CCU: Circumpolar Conservation Union
CDB: China Development Bank
CEP: Committee for Environmental Protection
CHEXIM: Export-import Bank of China
CHM: Common Heritage of (Hu)mankind
CIC: China Investment Corporation
CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLAM: Core Latin American Countries
CLCS: Commission on the Limits of the Continental Shelf
COMNAP: Council of Managers of National Antarctic Programs
COP: Conference of the Parties
CRAMRA: Convention on the Regulation of Antarctic Mineral Resource Activities
DDBJ: DNA Data Bank of Japan
DOALOS: Division for Ocean Affairs and the Law of the Sea
DSI: Digital Sequence Information
DWT: dead weight tons
EEZ: Exclusive Economic Zone
EIA: Environmental Impact Assessments
ENA: European Nucleotide Archive
ENB: Earth Negotiations Bulletin
EPPR: Emergency Prevention, Preparedness and Response
ESG: Earth System Governance
EU: European Union
FAO: United Nations Food and Agriculture Organization
FoS: Freedom of the Seas
GBF: Global Biodiversity Framework
GBO: Global Biodiversity Outlook
GCI: Gwich'in Council International
GDP: Gross Domestic Product
GHG: Greenhouse Gases
IA: Implementing Agreement
IAATO: International Association of Antarctica Tour Operators
IASC: International Arctic Science Committee
IASSA: International Arctic Social Sciences Association
ICC: Inuit Circumpolar Council
ICES: International Council for the Exploration of the Sea

IFRC: International Federation of Red Cross & Red Crescent Societies
IGC: Intergovernmental Conference
IGO: Intergovernmental Organizations
IGY: International Geophysical Year
IISD: International Institute for Sustainable Development
ILBI: International Legally Binding Instrument
IMF: International Monetary Fund
IMO: International Maritime Organization
INSDC: International Nucleotide Sequence Database Collaboration
IOC: Intergovernmental Oceanographic Commission
IPBES: Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services
IPCC: Intergovernmental Panel on Climate Change
IPLC: Indigenous Peoples and local communities
IPR: Intellectual Property Rights
ISBA: International Seabed Authority
ITPGRFA: International Treaty for Plant Genetic Resources for Food and Agriculture
IUCH: International Union for Circumpolar Health
IUCN: International Union for the Conservation of Nature
IUU: Illegal, Unreported, and Unregulated (Fishing)
IWC: International Whaling Commission
IWGIA: International Work Group for Indigenous Affairs
JUSCANZ: Japan, the US, Canada, Australia, and New Zealand
LMMC: (Group of) Like-minded Megadiverse Countries
LMO: Living Modified Organisms
MAT: Mutually Agreed Terms
MDG: Millennium Development Goals
MGR: Marine Genetic Resources
MOC: The Meridional Overturning Circulation (MOC).
MPA: Marine Protected Areas
MRV: Monitoring, Reporting and Verification
NAMMCO: North Atlantic Marine Mammal Commission
NASA: National Aeronautics and Space Administration (the US)
NATO: North Atlantic Treaty Organization
NCBI: National Center for Biotechnology Information
NCM: Nordic Council of Ministers
NDB: New Development Bank
NDC: Nationally Determined Contribution
NEFCO: Nordic Environment Finance Corporation
NF: Northern Forum
NGO: Non-governmental Organizations
NSD: Nucleotide Sequence Data
NSR: New Silk Road
OSPAR: Convention for the Protection of the Marine Environment of the North-East

Atlantic
PAME: Protection of the Arctic Marine Environment
PfP: Partnership for Peace
PIC: Prior Informed Consent
PIF: Pacific Islands Forum
PIP: Pandemic Influenza Preparedness Framework
ppp: purchasing power parity
PrepCom: Preparatory Committee (BBNJ negotiations)
PSIDS: Pacific Small Island Developing States
PSSA: Particularly Sensitive Sea Areas
QSD: see QUAD
QUAD: Quadrilateral Security Dialogue
RAIPON: Russian Association of Indigenous Peoples of the North
RAPAL: Reunión de Administradores de Programas Antárticos Latinoamericanos
RCEP: Regional Comprehensive Economic Partnership
RFMO/A: Regional Fisheries Management Organization or Arrangement
RSP: Regional Seas Program
SAO: Senior Arctic Official
SAR: Second Assessment Report
SBI: Subsidiary Body for Implementation
SBSTA: Subsidiary Body for Scientific and Technological Advice (UNFCCC)
SBSTTA: Subsidiary Body on Scientific, Technical and Technological Advice (CBD)
SCAR: Scientific Committee on Antarctic Research
SCO: Shanghai Cooperation Organization
SCPAR: Standing Committee of the Parliamentarians of the Arctic Region
SCTF: Task Force for Enhancing Scientific Cooperation in the Arctic
SDG: Sustainable Development Goals
SDSN: Sustainable Development Solutions Network
SDWG: Sustainable Development Working Group
SEA: Strategic Environmental Assessments
SES: Social-Ecological System
SIDS: Small Island Developing States
SMART: Specific, Measurable, Achievable, Relevant or Realistic, and Time-bound
SMOC: The Atlantic Meridional Overturning Circulation and Southern Meridional Overturning Circulation (SMOC)
SOFIA: The State of World Fisheries and Aquaculture (FAO)
SRF: Silk Road Fund
TAR: Third Assessment Report
TCF: Trillion Cubic Feet
TK: Traditional Knowledge
UArctic: University of the Arctic
UK: United Kingdom
UN: United Nations

UNCCD: United Nations Convention to Combat Desertification
UNCED: United Nations Conference on Environment and Development (Rio-92)
UNCLOS: United Nations Convention on the Law of the Sea
UNDP: United Nations Development Programme
UNEP: United Nations Environmental Programme
UNESCO: United Nations Educational, Scientific and Cultural Organization
UNFCCC: United Nations Framework Convention on Climate Change
UNFSA: United Nations Fish Stocks Agreement
UNGA: United Nations General Assembly
UNWCED: United Nations World Commission for Environment and Development
US: The United States of America
USD: US dollars
USGS: United States Geological Survey
USSR: Union of Soviet Socialist Republics (Soviet Union)
VACINE: Velocity, Agility, Creativity, Innovation, Network and Experimentation
VUCA: Volatile, Uncertain, Complex, and Ambiguous
WEF: World Economic Forum
WHC: World Cultural and Natural Heritage
WMO: World Meteorological Organization
WNC: West Nordic Council
WTO: World Trade Organization

INTRODUCTION

This thesis deals with global ocean governance, especially regarding conservation and sustainable use of marine biodiversity beyond national jurisdiction (BBNJ). More precisely, I seek to investigate how power-, architecture-, and agency-related aspects are articulated in the context of negotiations on a new international legally binding instrument (ILBI) to protect the marine BBNJ.

I propose an exploratory analysis, focusing on the field of International Relations. This thesis discusses power-related aspects of BBNJ negotiations and the central question to be answered is: how did the reconfiguration of world power distribution affect BBNJ negotiations? The hypothesis I intend to assess is that the reconfiguration of world power distribution affects the behavior of relevant players (the US, China, and Russia, among others), whose predominant interest becomes the improvement of their relative position on the global stage.

The BBNJ treaty has two key features. One is more historical and geopolitical, reflecting the outcome of other international regimes, in which power politics combined with legal aspects led to a fragmented ocean governance. The other is that the BBNJ treaty is the result of juridical and diplomatic choices, starting with the mandatory nature of the treaty, which became an ILBI. The text of the new BBNJ treaty tends to lack significant innovation, insufficiently filling gaps because both the global distribution of power, and the institutional architecture established by existing environmental regimes imposed constraints on the agency of major international players.

To fulfill the objective of this research, some secondary questions will be addressed throughout the following chapters:

- What were the main Earth system transformations that could potentially affect the treaty-making process?
- To what extent do international environmental regimes (UN Convention on the Law of the Sea (UNCLOS), the UN Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), the Antarctic Treaty System (ATS), and the Arctic governance regime) shaped BBNJ negotiations?
- How do countries and coalitions of countries positioned themselves in BBNJ negotiations?
- How the articulation between the dimensions of power, institutional architecture and agency manifested itself in BBNJ negotiations and in the BBNJ treaty?

In this research, I adopt a theoretical perspective inspired by complexity thinking, which assumes that complex systems, as the international system, are marked by dynamics of change, self-organization, and emergence (KAVALSKI, 2007). More precisely, 2018 Earth System Governance

(ESG) research framework (ESG PROJECT, 2018). This framework proposes as research focuses the points of intersection between contextual conditions and research lenses, as shown in Figure 1.

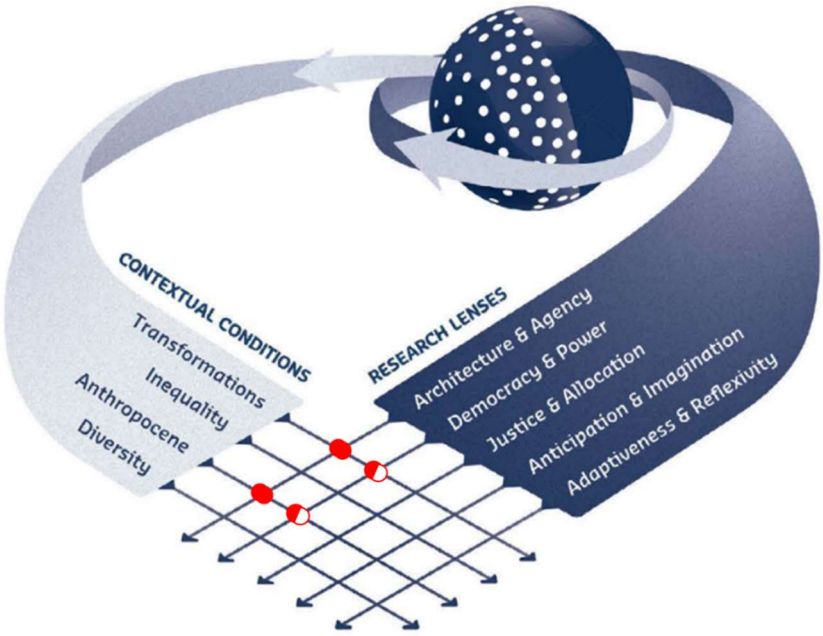

Figure 1. ESG Research Framework 2018 (ESG PROJECT, 2018, p. 19).

The focus of this research falls on two out of four contextual conditions: *transformations*, "the numerous political, technological and socio-economic transformations that are shaping and being shaped by governance processes;" and the *Anthropocene*, "the tremendous and contested impact of human beings on the entire Planet and the changing human-nature relationship" (BURCH *et al.*, 2019, p. 3).

I will apply three of the research lenses proposed by the ESG framework: *Power*, the "production, in and through social relations, of effects that shape the capacities of actors to determine their circumstances and fate" (BURCH *et al.*, 2019, p. 9); *architecture*, "the interlocking web of widely shared principles, institutions and practices that shape decisions at all levels in a given area of earth system governance" (BIERMANN *et al.*, 2009, p. 31); and *agency*, regarding the agents in Earth system governance, their roles, and interests.[1]

Although the research focuses on the field of International Relations, there is no way to escape some degree of multidisciplinary approaches, given the nature of the subject investigated, the ocean. Additionally, this study lays the groundwork for future research on BBNJ treaty relationships with other ocean-related regimes, such as fisheries, centered on the 1995 UN Fish Stocks Agreement (UNFSA) and the various Regional Fisheries Management Organizations or Arrangements

[1] I will not apply democracy, associated with power in the ESG framework, as this would not bring focus and benefits for the purposes of this research.

(RFMOs/As), and mining in the Area, centered on the 1994 Part XI Agreement and the future mining code of the International Seabed Authority (ISBA).

The environmental, social, and economic importance of the ocean cannot be overestimated (COSTANZA, 1999). A healthy ocean is essential for life on the Planet and for humanity to survive and thrive. Humans interact with the ocean in multiple and complex ways. Ocean ecosystems provide goods and services that are valuable for human health and wealth, such as food, climate regulation, and nutrient cycling. On the other hand, human activities have been altering the ocean in its physical, chemical, and biological aspects through direct and indirect means, with potentially harmful consequences to life on the Planet (HALPERN *et al.*, 2008, p. 948; HALPERN *et al.*, 2019, p. 1).

According to the United Nations Food and Agriculture Organization (FAO), the ocean covers over 70% of the Earth's surface, contains approximately 80% of the world's biodiversity (largely unknown), provides food (living resources), and various other non-living resources, with a high potential for present and future explorations and exploitation in the context of the *blue economy*[2]. It produces half of the oxygen we breathe and provides important environmental services that contribute to climate regulation: it absorbs approximately 25% of greenhouse gas (GHG) emissions and stores 90% of the increase in heat from global warming. Without these services, the Earth's temperature would be too unstable to allow life to exist (BÄHR, 2017).

About 40% of the world's population live less than one hundred kilometers from the coast. According to FAO (2022a) estimates, "fisheries and aquaculture already support 58.5 million jobs in the primary sector, including part-time and occasional, and 600 million livelihoods". Additionally, "the trade in aquatic products provides an important source of hard currency and income for exporting countries and regions" (FAO, 2022a, p. 109). These industries provide an annual value of US$ 220–235 billion (PENTZ *et al.*, 2018). The ocean provides mineral resources (oil, gas, and minerals) and renewable energy (offshore wind and wave power).

Marine living resources contribute to food security and social welfare around the world: "aquatic foods are increasingly recognized for their key role in food security and nutrition, not just as a source of protein, but also as a unique and extremely diverse provider of essential omega-3 fatty acids and bioavailable micronutrients" (FAO, 2022a, p. vi). Marine fisheries are especially important in developing countries where food security is an ongoing concern (FAO, 2013; FAO, 2022a; FAO, 2022b). For many coastal communities, the ocean has great cultural significance, playing an

[2] "Whilst encompassing the concept of ocean-based economies, [the Blue Economy] goes far beyond that. … At the core of the Blue Economy concept is the de-coupling of socioeconomic development from environmental degradation. … The Blue Economy approach recognizes and places renewed emphasis on the critical need for the international community to effectively address the sound management of resources in and beneath international waters by the further development and refinement of international law and ocean governance mechanisms" (UNEP, 2012).

important role even in their identity and way of life. The ocean is also vital for recreation and leisure activities, as well as education and research.

On the other hand, the ocean is subject to "anthropogenic drivers of ecological change" (HALPERN *et al.*, 2008, p. 948), including climate change (causing ocean acidification, sea level rise, ocean warming and potentially abrupt changes in ocean currents and circulation patterns), pollution, introduction of invasive species, ocean noise (potentially disrupting communication, navigation, and other critical behaviors of marine animals), unsustainable fishing practices (causing overfishing), and other commercial activities (HALPERN *et al.*, 2019). Pollution is caused by land- and ocean-based human activities, affecting the entire marine environment, with multiple drivers strongly affecting a substantial portion of the ocean (over 41%) (HALPERN *et al.*, 2008). Between 2003 and 2013, an increase in cumulative impacts has been seen in coastal waters worldwide, putting coral reefs, seagrasses, and mangroves at risk. A significant increase in cumulative impact has been felt in approximately 59% of the ocean, due to climate change in particular, but also from fishing, land-based pollution, and shipping (HALPERN *et al.*, 2019).

The impacts of human action on marine areas beyond national jurisdiction (ABNJ) have historically been limited due to their inaccessibility, particularly from areas beyond the two hundred nautical miles from coastlines (BLASIAK *et al.*, 2016). However, recent data on plastic pollution shows they are everywhere, including in polar ice and birds guts. Moreover, technological innovations have been changing the scenario for the exploitation of living and non-living marine resources as states and companies rapidly expand their activities in ABNJ (MERRIE *et al.*, 2014). Despite its remoteness, interest in the exploration and exploitation of living and non-living resources in these areas have been driven by scientific and technological advances, coupled with a growing human population and demand for resources (WRIGHT, GJERDE and ROCHETTE, 2018).

In the face of global climate changes, achieving food security and promoting sustainable development depend directly on a healthy and productive ocean (ROCHETTE *et al.*, 2015a). The lack of an overarching framework for conservation and management of biological diversity in these areas has raised awareness of the urgent need for an international agreement on the conservation and sustainable use of the marine BBNJ in the context of UNCLOS (BLASIAK *et al.*, 2016).

Given the importance of the ocean for the conditions of possibility[3] of life and support of human health and wealth, it is worth investigating the quality of the multilateral response to this challenge in an increasingly complex international order. Considering the growing impact, direct and indirect, of human activities at the ocean, and the insufficiency of UNCLOS for the conservation and

[3] "Conditions of possibility" are understood as the conditions that make a certain outcome possible, replacing the notion of causality.

sustainable use of living marine resources, especially at the high seas, the issues of fragmentation and effectiveness of international public law and the law of the sea are of paramount importance. Put bluntly, the failure to address ocean governance challenges goes in line with the need for "commitment and compliance" in international environmental law (SHELTON, 2000).

Ocean governance is, in itself, a complex issue due to several factors: the vastness and diversity of the ocean, the lack of knowledge about the living and non-living resources in it, the growing pressure on these resources due to the increase in demand and technological advances that allow its exploration and exploitation, the proliferation of state and non-state actors with varied interests in the ocean, and the role it plays in the complex interaction with the terrestrial and atmospheric subsystems, among others.

We are currently experiencing a new wave of international interest in ocean governance (BARROS-PLATIAU *et al*., 2015; CHUN, 2018). Historically subject to the *freedom of the seas* (FoS) principle, the search for formal regulation of this issue dates back to the end of World War II, from when coastal states demanded greater jurisdiction and more rights over marine resources. In 1982, a decade-long negotiation process culminated in the adoption of UNCLOS (UN, 1982). This impressive monument of international law, often called the *Constitution of the Sea*, is nevertheless a product of its time. Created in the context of the Cold War, its guiding principle is the exercise of sovereignty rights based on territorial concerns and a geopolitical background. UNCLOS was completed before the Rio-92 Summit and the consolidation of the sustainable development paradigm. Although it only entered into force in 1994, it treats marine resources fundamentally as economic assets (UN, 1982).

In the early 1990s, two implementing agreements (IA) improved the regulation of access to straddling and highly migratory fish stocks (the 1995 UNFSA) and to mineral resources in the Area[4] (1994 Part XI Agreement). The focus was still on establishing rules to guarantee the economic sustainability of the exploration and exploitation of marine resources. From an environmental point of view, UNCLOS and its complements continued—and continue to this day—to be considered generic and not directly applicable to the protection of the marine environment in ABNJ (WRIGHT, GJERDE and ROCHETTE, 2018). It was only in the early 2000s that the UN decided to formally assess the need for a new agreement, aimed at establishing norms for the conservation and the sustainable use of marine BBNJ.

The concern that moved me to conduct this research was the possibility of the BBNJ treaty becoming a turning point for the conservation and the sustainable use of marine biodiversity. In view

[4] For the purposes of UNCLOS, "'Area' means the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction", while "high seas" refers to all parts of the sea that are located in ABNJ, that is, the water column above the Area (UN, 1982).

of the historical, structural and conjunctural conditions of the international system, I start from a skeptical position regarding the ability of the new treaty to produce a transformative change in that direction. As I will argue in the following chapters, the objective of giving greater coherence and effectiveness to the ocean regime complex (BARROS-PLATIAU and MALJEAN-DUBOIS, 2015) has been lost during the BBNJ negotiations. The fragmentation of international environmental governance persists, which can be exemplified by the virtual absence of "cross fertilization," as Delmas-Marty (2006) puts it, between the negotiations on BBNJ and on the ISBA mining code, both applicable to the Area and both to be finalized soon. The current international order, marked by a crisis of political leadership and the resurgence of geopolitical tensions, seems not to favor international cooperation in the intensity necessary to face the problems that the new treaty seeks to address. Conditions equivalent to those that prevailed during the Rio-92 Summit, which can be considered the pinnacle of global environmental governance, cannot be envisaged.

This thesis is structured in five chapters. Chapter 1 characterizes marine BBNJ as important resources under increasing pressure (Section 1.1) and briefly presents the institutional architecture in which the BBNJ treaty is embedded, aiming to confirm the existing gap in international law for the protection of marine BBNJ (Section 1.2). Finally, it addresses the two decades of multilateral negotiations at the UN on the conservation and sustainable use of marine BBNJ (Section 1.3).

Chapter 2 addresses power-related aspects of BBNJ negotiations, an ESG research lens. The question to be answered is: what were the main Earth system transformations that could potentially affect the treaty-making process? The hypothesis I intend to assess is that the current crisis of the liberal international order and the new great power competition negatively affected the possibility of building ambitious consensuses in the BBNJ negotiations, which is detrimental to the protection of the marine BBNJ in a scenario where human actions become decisive for the Earth's ecological stability. To do so, I analyze changes in the human-nature system, to demonstrate the current scenario of scientific and diplomatic uncertainty in which countries operate (Section 2.1), and I discuss the profound changes taking place in international politics against the background of scientific alerts (Section 2.2). Finally, I propose a classification of countries according to their ability to shape BBNJ negotiations to their interests (Section 2.3).

Chapter 3 investigates architecture-related aspects of the BBNJ negotiations, another ESG research lens. The question to be answered is: to what extent do existing international environmental regimes (UNCLOS, UNFCCC, CBD, Antarctica, and the Arctic) shape BBNJ negotiations? The hypothesis I intend to assess is that the possibilities of filling the gap left by the current institutional architecture (referring to the protection of marine BBNJ) are conditioned and limited by this same institutional architecture. To this end, I discuss the negotiating context, the principles and structures of governance, and the contemporary challenges of each of the regimes making up the institutional

architecture: UNCLOS (Section 3.1), UNFCCC (Section 3.2), CBD (Section 3.3), ATS (Section 3.4) and the Arctic governance regime (Section 3.5).

Chapter 4 investigates agency-related aspects of the BBNJ negotiations, the last of the ESG research lenses focused on in this thesis. The question to be answered is: how are countries and the coalitions of countries[5] positioning themselves in the BBNJ negotiations? The hypothesis I intend to assess is that countries and coalitions of countries position themselves according to their geopolitical and geoeconomic interests, leaving concerns with environmental protection in the background. To accomplish this goal, I discuss *blue acceleration*, the phenomenon of rapid intensification of economic activities in the ocean, and the economic concentration of these activities (Section 4.1). Then, I investigate how countries organize themselves into coalitions to participate in BBNJ negotiations (Section 4.2). Based on the Earth Negotiations Bulletin (ENB), reports on the BBNJ negotiations produced by International Institute for Sustainable Development (IISD), Section 4.3 analyzes the positioning of countries and coalitions of countries on selected issues under negotiation.

Finally, Chapter 5 seeks to discuss how power, architecture, and agency relate in BBNJ negotiations. Initially, I discuss dependency as an attribute of complex regime complexes (Section 5.1). Then, I investigate how global power distribution and the existing institutional architecture influence agency in BBNJ negotiations (Section 5.2). Section 5.3 seeks to evaluate what to expect from the BBNJ treaty, established in March 2022, in the resumed fifth Intergovernmental Conference (IGC-5.2).

Power-, architecture-, and agency-related issues occur in a scenario of growing hegemonic dispute, in which sustainability concerns are gradually losing importance. Geopolitical issues tend to reassume the top of the international agenda, to the detriment of socio-environmental issues, marked by three Fs: *finity*, represented by planetary boundaries; *fairness*, aiming to combat inequalities in access to resources and technology, and *fragility*, referring to the vulnerability of ecosystems.

[5] During BBNJ negotiations, many coalitions of countries were formed. The most active were the G77/China, the African Group, the High Ambition Coalition, the EU, the CARICOM, the CLAM, and the Pacific Small Island Developing States (PSIDS) (see Section 4.2).

1. CONSERVATION AND SUSTAINABLE USE OF MARINE BBNJ: THE MULTILATERAL DEBATE

Covering around half of the Earth's surface, ocean ABNJ represent the largest habitat for life on the Planet (BLASIAK *et al.*, 2016). It contains some 250,000 known species, with many more remaining to be discovered (WRIGHT, GJERDE and ROCHETTE, 2018; IISD, 2023). The oceans that we know in our daily lives actually form a single global ocean (Figure 2) (JOUFFRAY *et al.*, 2020). This has environmental and geopolitical implications. The international regime for this vast region is centered on UNCLOS, which assigns different legal natures to the high-seas and the Area (UN, 1982).

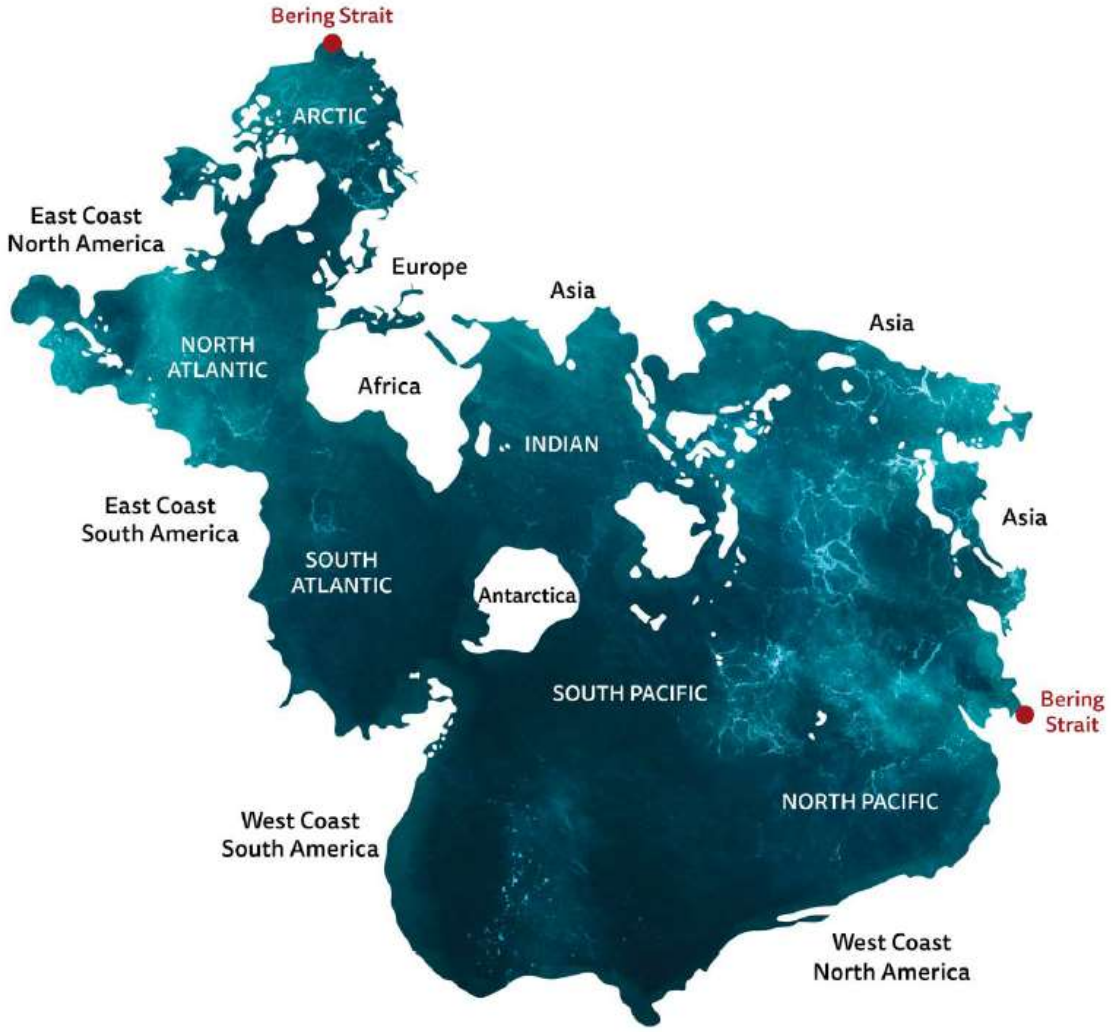

Figure 2 – The global ocean, based on the Spilhaus Projection (JOUFFRAY *et al.*, 2020)

The conservation and sustainable use of marine BBNJ raises lively debates in the international arena (TILLER *et al.*, 2023), at a time when the world is experiencing profound social, technological, economic, and political transformations (ESG PROJECT, 2018; NATIONAL

INTELLIGENCE COUNCIL, 2021). Regarding the ocean, the global environmental order is characterized by the rapid growth of the exploration and exploitation of living and non-living marine resources, including by emerging countries, as well as by the increasing complexity of governance mechanisms and the slow evolution of the law of the sea (BARROS-PLATIAU *et al*., 2015). Increasingly aware of this process, the UN has been informally discussing options to conserve and sustainably use marine BBNJ since the early 2000s (WRIGHT, GJERDE and ROCHETTE, 2018).

In the initial stages of the discussions, it was expected that the BBNJ treaty could place protection of marine biodiversity at the core of strategies for exploring and exploiting marine resources (BARROS-PLATIAU and MALJEAN-DUBOIS, 2015). Is this still the case? Can the BBNJ treaty significantly increase the coherence of the international regime complex for ocean governance? To answer these questions, it is fundamental to investigate the BBNJ negotiation process, the political and institutional structures in which it will be nested, the topics that have been negotiated and the interests defended by countries and coalitions of countries.

The aim of this chapter is to present an overview of the challenges raised in the BBNJ negotiations and some of their developments, to guide the reader through the following chapters. To do so, this chapter has three sections. Section 1.1 indicates the environmental, social, and economic importance of marine BBNJ. Section 1.2 aims to demonstrate the insufficiency of the current institutional architecture for the protection of marine biodiversity. Finally, Section 1.3 seeks to present the two-decade trajectory of the BBNJ negotiations within the UN.

Power-related aspects, i.e., the power transitions the world has been experiencing since the end of the Cold War, *architecture-related aspects*, i.e., the content of the institutional framework (international regimes) in which the BBNJ treaty will be embedded, and *agency-related aspects*, i.e., the positions of countries and coalitions around each of the main topics under debate, will be discussed over the Chapters 2, 3, and 4 of this thesis.

1.1. MARINE BIODIVERSITY BEYOND NATIONAL JURISDICTION (BBNJ): IMPORTANT RESOURCES UNDER INCREASING PRESSURE

As stated above, ABNJ cover around half of the Earth's surface (approximately two-thirds of the world's ocean) and contain a significant portion of global biodiversity. In Section 3.1, I will discuss the different zones in which UNCLOS territorializes the ocean and the different legal regimes applicable to each of them. For now, it should be noted that the ABNJ are those located beyond states exclusive economic zones (EEZs), that is, beyond the 200 nautical mile range from the coast, encompassing the high seas and the Area. Marine ABNJ are "a vast global commons under increasing pressure" (WRIGHT, GJERDE and ROCHETTE, 2018, p. 1).

Marine BBNJ has significant importance, not only environmental, but also economic and social. Its components provide a range of provisioning, regulating, cultural, and supporting services that benefit human societies (BLÜMEL *et al.*, 2021). Marine BBNJ refers to the variety of life forms found in ABNJ. According to the CBD (a science-based definition, politically accepted by this Convention), "'biological diversity' means the variability among living organisms from all sources (…), and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems" (UN, 1992a). In this sense, marine BBNJ includes a wide range of organisms, from microscopic plankton to large marine mammals such as whales, dolphins, and all the different species of fish. It also includes a diverse range of ecosystems, such as coral reefs, hydrothermal vents, and deep-sea canyons.

Marine BBNJ includes a wide range of fish species that are commercially important and provide a significant source of protein for human populations. The long productive chain in the fishing industry, from commercial fishing to consumer sales, generates significant economic activity. Many marine organisms found in ABNJ contain unique biochemical compounds that have potential therapeutic applications. Industry has used these compounds to develop a range of pharmaceuticals and cosmetics. Marine BBNJ is a rich source of genetic resources that have potential applications in biotechnology, such as the development of new biofuels, biomaterials, and bioremediation technologies. These applications have significant economic potential, particularly as demand for sustainable products and processes continues to grow. Marine biodiversity is a key driver of tourism in many parts of the world, generating significant revenue for coastal communities and national economies. Marine ecosystems play a critical role in carbon sequestration, and in regulating the global climate. This service has significant economic value, as it can reduce the costs associated with climate change mitigation and adaptation (BLÜMEL *et al.*, 2021). Ensuring the sustainable management of marine BBNJ is critical for maintaining its value for future generations.

Conservation and sustainable use of marine BBNJ is essential for maintaining the health and productivity of the oceans, which are critical for human well-being. Two factors contribute to the intensification in the exploitation of marine resources: the upsurge in demand, driven by productive needs and concerns about energy and nutritional security, and the accelerated technological development, that has allowed reaching previously inaccessible areas (BARROS-PLATIAU *et al*., 2015; JOUFFRAY *et al*., 2020). Added to these two factors, fragmented legal regimes make marine BBNJ increasingly vulnerable to "growing threats, including climate change, pollution, including plastic pollution, overfishing, habitat destruction, ocean acidification, and underwater noise" (IISD, 2023).

With the growing world population, which reached 8 billion people in November 2022 (UN, 2022d), and the increase in average *per capita* consumption on a global scale, the demand for goods

and services—and therefore the pressure on environmental resources—has been rising. In addition to traditional activities—fishing, navigation, installation of submarine cables—new activities became more viable with technological development, like prospecting for oil and mining in deep waters, large-scale and distant waters fishing, exploration of polar areas, production of energy, bioprospecting, and mass tourism. The expansion and intensification of these activities worsen the situation of, for instance, pollution and loss of biodiversity in the ocean (BÄHR, 2017).

The international regime for the ocean is fragmented. Several organizations, within the UN, are wholly or partially involved with aspects of the ocean governance. In Figure 3, "solid lines indicate direct dependencies between bodies and international agreements", while "dashed lines indicate functional links". The International Whaling Commission (IWC), the Arctic Council, and the ATS appear isolated, as they do not directly form part of the UN system. The target of protecting 30% of the ocean by 2030 through marine protected areas (MPAs), set by the Post-2020 Global Biodiversity Framework (GBF) adopted under the CBD in 2022, replaces "Aichi Target 11".

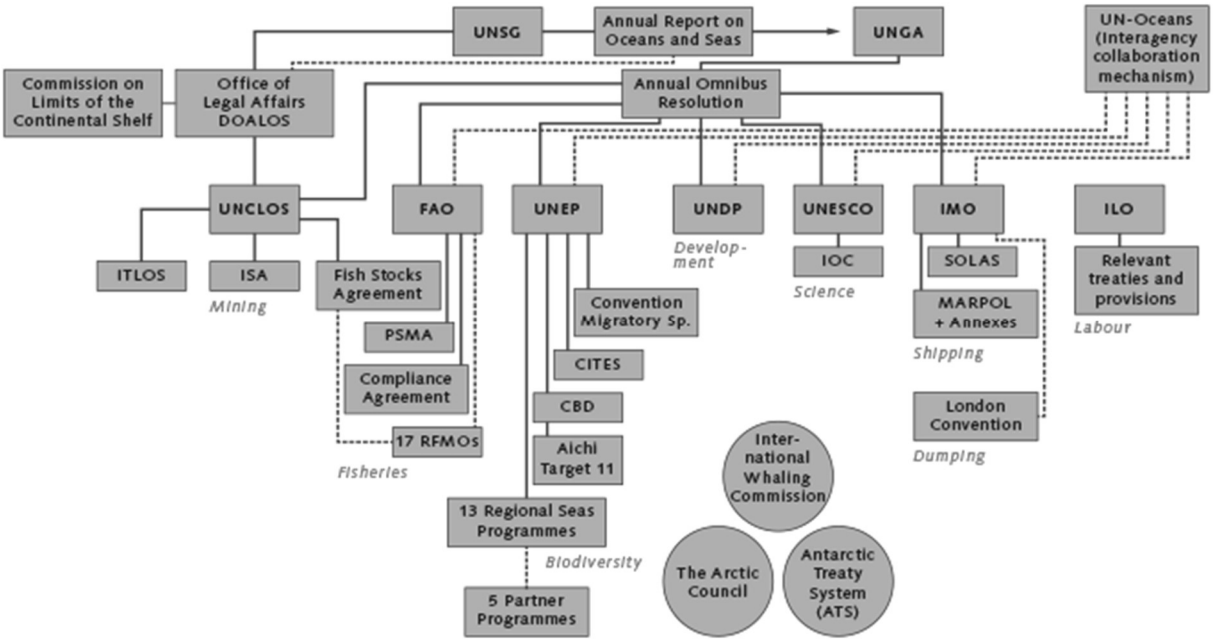

Figure 3 – Global ocean governance: A fragmented institutional framework (VAN DOORN *et al.*, 2015, p. 84).

Ocean governance becomes more complex also in scientific and technological terms (BARROS-PLATIAU *et al*., 2015). The behavior of powerful countries influences the behavior and technological development of others—particularly the access of emerging countries to innovative technologies. Therefore, influence from powerful countries may drive multilateral negotiations on the conservation and sustainable use of marine resources. The engagement of countries in these negotiations does not seem to be continuous, but occurs according to "waves of interest," as in the case of UNCLOS (BARROS-PLATIAU *et al*., 2015). We are experiencing another such wave, in

which a treaty to protect marine BBNJ is being negotiated to curb the degradation of this huge ecosystem due to the "unrestrained and increasingly risky exploitation of resources" (CHUN, 2018).

1.2. INSTITUTIONAL FRAMEWORK FOR THE PROTECTION OF MARINE BBNJ: A NECESSARY BUT INSUFFICIENT REGIME COMPLEX

As mentioned, the increased pressure on marine biological resources motivated the UN to initiate the BBNJ negotiations in 2004. However, even before identifying the need for a new treaty, a series of international agreements already contributed, directly or indirectly, to this objective. Among these treaties, this thesis seeks to investigate more closely the regimes that address:

- Ocean governance, centered on the 1982 UNCLOS;
- Mitigation and adaptation to climate change, centered on the 1992 UNFCCC;
- Conservation and sustainable use of biodiversity *under* national jurisdiction (terrestrial and marine), centered on the 1992 CBD;
- Governance of the Antarctic continent (a terrestrial ABNJ) and the Glacial Southern Ocean (a marine ABNJ), centered on the 1959 Antarctic Treaty, and the ATS; and
- Arctic governance (marine areas *under* and *beyond* national jurisdiction), provided by UNCLOS and complemented by the 1996 Arctic Council.

Other regimes, particularly those shown in Figure 3 above, could have been included in this analysis, such as the 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention), the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the 1979 Convention on the Conservation of Migratory Species of Wild Animals, the various RFMOs/As, the 1995 UNFSA, and many others.

However, I chose to restrict my research to those five regimes as I considered them to be the most linked to the protection of marine BBNJ. This set of regimes composes what we consider the institutional architecture in which the BBNJ treaty will be embedded (Figure 4). UNCLOS is fundamental to my analysis, given that the new treaty was negotiated as an IA of that Convention. Climate change has serious implications for the ocean—such as rising temperatures, with potential effects on the thermohaline current, and acidification, which causes coral bleaching, with dramatic effects on marine life—, not to mention the role of the ocean in absorbing heat and carbon dioxide from the atmosphere (IPCC, 2019). Even dealing with the conservation and sustainable use of biodiversity *under* national jurisdiction, the inclusion of the CBD is justified by the deep ecological interconnection between ABNJs and the marine ecosystems of the territorial seas (POPOVA, 2019), as well as terrestrial ecosystems. Also, by the recognition of Indigenous Peoples and local communities (IPLC) rights, interests, and knowledge. Finally, the Antarctic and Arctic governance

regimes were included in view of the Southern Ocean and the Arctic Ocean being, in fact, sub-regions of the global ocean. The ecological interconnection with ABNJs is unavoidable.

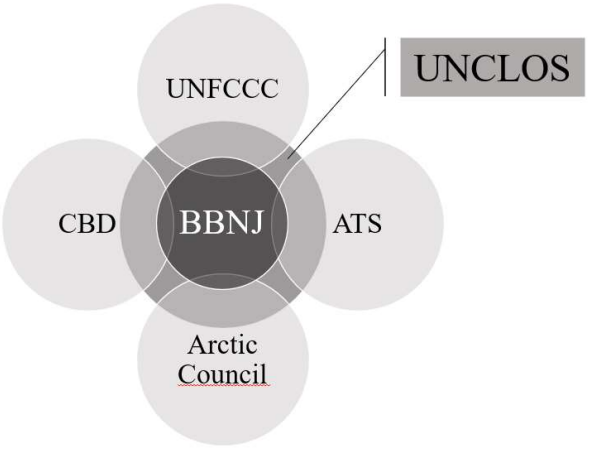

Figure 4 – Architecture: Selected regimes interacting with the BBNJ treaty.

Additionally, these regimes tend to undergo crucial changes in the near future. The ocean governance regime tends to change after the adoption of both the BBNJ treaty and the new ISBA mining code, still under debate. UNFCCC is entering a new implementation cycle after the conclusion of the 2015 Paris Agreement, which seeks to increase the level of ambition of the treaty. The same can be said about CBD and the adoption of the Post-2020 GBF in December 2022. The Antarctic Treaty can be revised from 2048 onwards, with potential implications for terrestrial and aquatic ecosystems from, for example, an eventual authorization for mining activities. Climate change causes rapid and intense changes, for example, in the Arctic (IPCC, 2019), with unforeseeable impacts for governance and geopolitics in the region, resulting from the melting of the ice cover and the consequent facilitation of access to natural resources, as well as the opening of new maritime routes (SORENSEN and KLIMENKO, 2017). If these subsystems change, the whole complex Earth System changes in all its dimensions, including environmental and political fields.

In sum, this research considers as relevant institutional architecture two minilateral arrangements (ATS, and the Arctic Council), and three multilateral regimes under the UN auspices (UNCLOS, CBD, and UNFCCC). Sectoral regimes such as fisheries, navigation, and mining were excluded from this research because they were also excluded from the BBNJ talks, despite their clear interconnection.

In Sections 1.2.1 to 1.2.5, I present the general lines of these regimes, with the sole purpose of demonstrating the insufficiency of this institutional architecture to protect the marine BBNJ. A more detailed debate about each one of these regimes and their connections with the BBNJ treaty will

be done throughout this thesis, especially in Chapter 3, dedicated to architecture-related aspects in which the treaty will be embedded.

1.2.1. The 1982 United Nations Convention on the Law of the Sea (UNCLOS): Geopolitical and sovereignty concerns in the ocean

In the late 1940s and early 1950s, coastal states demanded greater jurisdiction over the seas, and more rights over marine resources (ÁSGEIRSDÓTTIR, 2009). This led to three UN Conferences on the Law of the Sea: UNCLOS I, in 1958, which adopted four conventions, commonly known as the 1958 Geneva Conventions[6]; and UNCLOS II, in 1960, which did not result in any international agreements. UNCLOS III, from 1973 to 1982, addressed the issues brought up at the previous conferences (ÁSGEIRSDÓTTIR, 2009; GRID-ARERNDAL, 2014). In 1982, the UNCLOS III adopted UNCLOS, as a result of a long negotiation process that lasted more than a decade.

The Convention, often called the *Constitution of the Sea*, came into force in 1994. It is a "global framework that aims at organizing maritime spaces and activities occurring at sea" (LALLIER, 2014). UNCLOS filled an important gap in international law and represented a significant diplomatic advance when it was signed in 1982. The US leadership was decisive in creating the political conditions necessary for the construction of a text that would set basic rules for the use of the ocean. Notwithstanding, UNCLOS was created in the Cold War context when geopolitical concerns prevailed. Moreover, environmental concerns were poorly treated in multilateral agreements before Rio-92. As a consequence, UNCLOS deals only superficially with the protection of the marine environment, not preventing environmental crimes, for example.

After the signature of UNCLOS, two IAs were signed: the 1994 Part XI Agreement, which reformulates ISBA and restrains mining in the Area, and the 1995 UNFSA, on conservation and management of straddling fish stocks and highly migratory fish stocks. In the FAO sphere, the 2009 Port States Measures Agreement was formulated aiming at combating illegal, unreported, and unregulated (IUU) fishing. These three agreements seek to regulate access to marine resources (fish stocks and minerals), but mainly as economic resources.

However, little has been done for the environmental protection of marine biological resources since the signature of UNCLOS. While UNCLOS already satisfactorily addresses geopolitical and sovereignty issues, it became increasingly clear that, given the exploration and exploitation of marine resources already underway (JOUFFRAY *et al.*, 2021), the economic and environmental dimensions would need to be addressed. As aforementioned, the first two UNCLOS

[6] The Convention on the Territorial Sea and Contiguous Zone; The Convention on the High Seas; The Convention on Fishing and Conservation of the Living Resources of the High Seas; and The Convention on the Continental Shelf (GRID-ARENDAL, 2014).

IAs dealt with mining and fisheries. The BBNJ treaty, conceived as a third IA, seeks to address the economic and environmental dimensions of marine BBNJ present and future exploration and exploitation.

Since the beginning of the debate within the UN, it was decided that the legal framework on the conservation and sustainable use of marine BBNJ would be established by a multilateral agreement *under* the UNCLOS (UN, 2011b). In other words, UNCLOS would limit the "scope, parameters and feasibility" (UN, 2014a) of the new treaty. Blanchard, Spijkers and Duan's (2020, p. 355) argument corroborates this:

> There is thus a clear hierarchical relationship, with the "constitution of the oceans" (the UNCLOS) on top of that hierarchy, and the ILBI [(the BBNJ treaty)] below it. This relationship is different from the relationship between the ILBI and other international treaties, such as the [CBD]. With respect to those, the new ILBI "should not undermine existing relevant legal instruments and frameworks and relevant global, regional and sectoral bodies." The "not undermine" condition does not apply to the relationship between the ILBI and the UNCLOS.

Considering that the BBNJ treaty will operate under the UNCLOS, the position of the new regime in relation to the Convention is that of a nested regime (KEOHANE and VICTOR, 2010). As a result, the inclusion of UNCLOS in this analysis is unavoidable. On the other hand, UNCLOS deals with the protection of marine biodiversity only in a subsidiary way, being clearly insufficient to fulfill this objective.

1.2.2. The 1992 UN Framework Convention on Climate Change: Regulating global commons from top-down targets to bottom-up pledges

UNFCCC does not directly address the conservation and sustainable use of terrestrial or marine biodiversity. However, it is connected to different agendas, such as deforestation, and energy transition. Additionally, the separation between terrestrial, marine, atmospheric, and even social systems is artificial. The deep interactions between these elements point to the need for an approach inspired by complexity theory in the study of what is, in fact, only one system: the Earth System.

A changing climate is a major stressor that accelerates the loss of biodiversity, given the growing influence it exerts on the conditions for maintaining life on the Planet. Changes in temperature and rainfall distribution, for example, directly affect the life cycle of terrestrial living beings. In the ocean, global warming lowers the pH of water, a phenomenon known as ocean acidification, causing coral bleaching, and threatening to cause sudden and significant changes in ocean currents, jeopardizing marine life.

Addressing climate change is increasingly urgent and goes far beyond adopting measures for the preservation, conservation, and sustainable use of natural resources (IPCC, 2023). Stopping global warming and its environmental, social, economic, and political consequences implies

questioning the development model adopted at least since the beginning of the Industrial Revolution, centered on changing land use and, mainly, on the burning of fossil fuels.

Given the nature of climate change causes and the scope of the necessary actions to face it, solutions to the problem demand profound changes in the production and consumption patterns adopted in the industrial age and deepened since the end of World War II. Curbing global warming requires social and business engagement, subnational articulation, and international cooperation. Briefly, stakeholders from the state, market, and society need to work together to build better global architecture.

The First World Climate Conference, organized by the World Meteorological Organization (WMO), was held in 1979. It classified the global warming as a "serious possibility." In 1986, a joint report by WMO and US National Aeronautics and Space Administration (NASA) stated that climate change was already taking place at a relative rapid rate. In 1988, WMO and UN Environmental Programme (UNEP) organized the Intergovernmental Panel on Climate Change (IPCC), dedicated to consolidating the state of the art of world research on the phenomenon. Its 1990 First Assessment Report (AR) classified global warming as a "serious threat." In the same year, the UN General Assembly (UNGA) launched international negotiations on climate (UN, 1990). Formal negotiations began in 1991 within the *Intergovernmental Negotiating Committee for a Framework Convention on Climate Change*. UNFCCC was opened for signature during Rio-92.[7]

As mentioned, climate change has serious implications for the ocean and for life in the ocean (IPCC, 2019). Furthermore, the ocean plays a key role in absorbing heat and carbon dioxide from the atmosphere. Given the deep interconnection between the atmospheric and marine systems, and the fact that the atmosphere is a "global commons" (OSTROM *et al.*, 2002) like the ABNJ, I chose to also include the climate regime in my analysis.

1.2.3. The 1992 Convention on Biological Diversity (CBD): Sovereign rights over genetic resources within national territory

The late 1980s and early 1990s were marked by broad developments that include the intensification of globalization (as the internationalization of production and trade), and the promise of global cooperation and prosperity offered by the acceleration of technological, economic, and social changes (FINK, 2014). The general perception was of a "democratizing wave" and the feeling of optimism and hope prevailed: a "kind of euphoria (...) predominated in most societies"

[7] UNFCCC entered into force in 1994. Although the Clinton administration ratified the Convention, the US Senate vetoed its incorporation into that country's domestic legal system, claiming that the agreement signed should provide for mandatory emission reduction targets also for developing countries, especially emerging ones, or it would disproportionately harm the US economy.

(LINDGREN-ALVES, 2018, p. 40). The end of the Cold War gave rise to concerns previously overshadowed by the East *vs.* West rivalry[8]. Due to the end of bipolarity and the cooling of the security agenda, the world witnessed the international legitimation of other global themes, expanding the multilateral agenda far beyond the geopolitics of the bipolar world, including towards environmental protection.

Driven by the strengthening of civil societies, the belief in multilateralism brought—once the crisis of the 1980s has been overcome—greater prominence to the UN (LINDGREN-ALVES, 2018; FINK, 2014) and allowed the 1990s to become the "Decade of the Conferences" (LINDGREN-ALVES, 2018). Among these, one of the most relevant in terms of international adhesion, participation of organized civil society, and future impacts was the Rio-92[9], the culmination of important environmental debates held in previous decades[10].

Despite the favorable diplomatic context (TOMÉ *et al.*, 2020), the international atmosphere in June 1992, when Rio-92 was held, was no longer the same as at the turn of the decade. The hopes for a more peaceful and unified world were frustrated by the intensification of radical national and religious movements (FINK, 2014). In addition, once the East *vs.* West rivalry had been overcome, the traditional North *vs.* South cleavage gained prominence, inside and outside the UN. Even so, the Rio-92 Summit produced important outputs[11], with strong ramifications in the following decades, even today[12]. These results reflect "a greater willingness within the international community to respond to scientific evidence regarding the significant and even irreversible environmental threats to human health and the environment" (CHASEK, DOWNIE and BROWN, 2018, p. 363).

Until the mid-1980s, biodiversity protection took place through treaties with a regional approach or focus on threatened species and habitats. However, in the late 1980s and early 1990s it gradually became clearer that a comprehensive and global international agreement was needed to

[8] It also brought "old and recent, latent and overt antagonisms," which showed all their vigor, for example, in the former Socialist Federal Republic of Yugoslavia and in Chechnya. Also in these cases, the belief in multilateralism was present, with "an extraordinary number of peace operations, guaranteeing, in some cases, collective warfare against determined targets on behalf of the community of states" (LINDGREN-ALVES, 2018, p. 39).

[9] The 1992 UN Conference on Environment and Development (UNCED), or the Earth Summit.

[10] According to LINDGREN-ALVES (2018, p. 43), the Conferences of the 1990s dealt with their various themes, "for the first time, in a systemic, non-compartmental manner, in such a way that the deliberations of one conference would influence those of the others and not just the subsequent ones." The author argues that "sustainable development" and "human rights" were elements that provided the basis for the *complex interaction* between the conferences and produced a "commendable semantic contamination" (p. 45).

[11] According to YOUNG (2021, p. 57), "outputs involve creating the arrangements needed to administer regimes, outcomes have to do with the extent to which regimes influence the behavior of subjects, and impacts then become a matter of the extent to which regimes solve or alleviate the problems that led to their creation."

[12] The Agenda 21, an action plan to achieve sustainable development in the 21st century; the Rio Declaration, a political declaration of commitments and concepts; the Declaration of Principles on Forests; and two international treaties, binding for their signatories: CBD, and UNFCCC. Two years later, a third treaty, the UN Convention to Combat Desertification (UNCCD), was adopted as a direct output of Rio-92.

protect ecosystems and stop the growing pace of biodiversity loss. Negotiations on the CBD were favored by this positive context. The Convention opened for signature during the Rio-92 Summit.

The CBD aims at the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising from the utilization of genetic resources *under* national jurisdiction. The Convention is based on the principle of sovereignty of states over the genetic resources within their territory (including jurisdictional waters). Therefore, the scope of CBD is limited to spaces under national jurisdiction, thus excluding the high seas, Antarctica, and the Arctic. However, political boundaries do not impose themselves over environmental dynamics. The ecological interconnection between marine environments *under* and *beyond* national jurisdiction (POPOVA, 2019) makes it highly desirable that these two regimes be designed and implemented as interconnected as possible.

1.2.4. The 1959 Antarctic Treaty: Scientific cooperation as an instrument to circumvent geopolitical issues

In the late 1940s, distinct elements drew the attention to Antarctica as a political problem: (i) the return of territorial disputes in the Antarctic Peninsula between Argentina, Britain and Chile; (ii) the proposal for a third polar year, presented by the Geological Society of South Africa and rejected by the United Kingdom (UK) as there would be no way to prevent the participation of the Soviet Union; (iii) the acquisition by the Soviet Union of a German whaling flotilla under the terms of the 1945 Potsdam Agreement; and (iv) the Operation Highjump, a large expedition to Antarctica launched in 1946 by the US Navy and received with concern by the US State Department, as it could "be viewed with suspicion by American allies in Europe and the southern hemisphere" (BULKELEY, 2009, p. 10).

In the late 1950s, the Marshall Plan for Europe's recovery already showed practical results. Western Europe presented a broad industrial development. It should defend the values of capitalism against Soviet expansionism and guarantee US pre-eminence (SARAIVA, 2007). From the second half of the 1950s until the Cuban Missile Crisis (1962), the relationship between the two superpowers moved into a phase of "peaceful coexistence," induced by a set of factors: (i) the economic recovery and the beginning of the integration of Western Europe; (ii) the softening, in the domestic sphere, of the impetus for confrontation between the superpowers; (iii) the beginning of the disintegration of the communist bloc; (iv) the recognition of the destructive potential of nuclear weapons, which made the superpowers themselves "hostage" to their arsenals and produced a "bizarre balance of terror" (SARAIVA, 2007, p. 213-214). Therefore, Washington and Moscow doctrines of dissuasion led to the consensus that Antarctica should not be weaponized.

In 1947, the US had started discussions on options for Antarctica internationalization—first with the UK and later expanded to include the other six territorial claimants[13]. The American initiative gave birth to a long and difficult negotiating process that resulted in the 1959 Antarctic Treaty (BULKELEY, 2009), during the Cold War. In the years prior to the opening of preliminary "twelve-power talks"[14] on Antarctica in June 1958, three factors produced changes in the treatment of the issue: (i) the growing acceptance of the Chilean proposal to boost scientific cooperation and suspend territorial claims (*status quo* option), rather than replacing them with some form of pooled sovereignty; (ii) the US perception that scientific cooperation in Antarctica could usefully support political purposes; and (iii) the inclusion of the Soviet Union, proposed by the UK to prevent Antarctica from being submitted to a universal internationalization under the UN (*condominium* option), as was being defended by New Zealand and India (BULKELEY, 2009).

The 1957-1958 International Geophysical Year (IGY) was "the first major multi-nation research program in Antarctica and held the promise of significantly enhancing scientific understanding" (McIVOR, 2009, p. 142). Although the origin of the Antarctic Treaty is commonly associated with this event, it "did not inspire or initiate the diplomatic process that eventually resulted in the Treaty" (BULKELEY, 2009, p. 10), i.e., it was not the main factor triggering the celebration of the Antarctic Treaty. Still, the 1957-1958 IGY made two important contributions. First, it guaranteed the participation of soviet delegates, which allowed the Soviet Academy of Sciences to organize its Antarctic research programme and, in view of its performance in a "positive spirit" of cooperation in the scientific field, paved the way for the inclusion of the Soviet Union in the political debate (as proposed in the late 1950's by the UK). Second, it demonstrated that, despite the persistence of international rivalries, the Chilean proposal for suspending claims and focusing on scientific cooperation could work, at least for a limited period (BULKELEY, 2009, p. 10).

This brief history indicates that "the processes which actually led to the Antarctic Treaty were complex, lengthy, partisan, flukey, vulnerable, and never wholly under the control of those who tried to shape them" (BULKELEY, 2009, p. 11). Anyway, after the IGY, the treaty was completed in a short time. It was signed in December 1959, and entered into force in June 1961 (McIVOR, 2009). Perhaps for this reason, the IGY is often considered as the kick-off of the Antarctic Treaty.

Since the early 1960s, species such as Antarctic finfish, crabs, squid, and krill "have been exploited at various levels." By the late 1970s, some species of finfish, for example, had been "severely overfished in some areas"[15]. In this context, the Antarctic Treaty parties started in 1977 to

[13] Argentina, Australia, Chile, France, New Zealand, Norway, and the UK. The US and USSR have reserved the right to make territorial claims in the future (BEEBY, 1991).
[14] The twelve original signatories of the Antarctic Treaty: Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the Soviet Union, the UK, and the US.
[15] Source: < https://www.ccamlr.org/en/organisation/convention-history> Accessed July 22, 2021.

negotiate an agreement, "primarily to prevent overexploitation of Antarctic krill"[16] (CROXALL and NICOL, 2004, p. 569). The 1980 Convention for the Conservation of Antarctica Marine Living Resources (CAMLR Convention) "was concluded at a special conference intended to enable the participation of non-signatories of the Antarctic Treaty" (BECK, 1991, p. 245), aiming to promote the conservation and the rational use of Antarctic marine living resources (CAMLR CONVENTION, 1980, article II). Despite the Convention being successful in applying conservative yield models for toothfish and krill stocks, and in defining strict rules for undertaking new and exploratory fisheries (CROXALL and NICOL, 2004), its area of application is restricted to the Southern Ocean.

Here, too, political boundaries do not impose themselves over environmental dynamics. Given that the Southern Ocean is, in practice, a subregion of the global ocean, the Antarctic governance regime, especially as it relates to the CAMLR Convention, needs to be included in my analysis. The ecological interconnection between the Southern Ocean and the rest of the global ocean makes it highly desirable that these two regimes be designed and implemented as interconnected as possible, thus based on scientific reports.

1.2.5. The 1996 Arctic Council: Original focus on environmental issues transitioning to encompass geopolitics

The end of the Cold War did not change the way great powers and the Arctic states view the Arctic. It is seen as a place for security policy and strategic assessments (SMITH, 2022), as well as a space for international cooperation (ROTTEM, 2020). Previously bilateral and issue-specific, the collaboration that was now sought would be institutionalized at the regional level, encouraged by the atmosphere of the late 1980s. In its Murmansk speech of 1987, Mikhail Gorbachev, the last soviet leader, demonstrated his willingness to transform the Arctic into a zone of peace. In January 2989, Finland took the initiative to propose to the Arctic countries a debate on the environmental protection of the region. The so-called Rovaniemi process culminated in the Arctic Environmental Protection Strategy (AEPS), institutionalized in 1991 (ROTTEM, 2020).

In parallel Canada suggested in November 1989 the creation of an Arctic Council, a structure destined to debate security issues, with the purpose of supporting the demilitarization process that was insinuating after the end of the Cold War. Faced with the traditional US resistance to dealing with sensitive political questions through binding multilateral bodies, the Arctic Council was established in the 1996 Ottawa Declaration, not as an international organization, but as a high-level forum. Furthermore, in the wake of the growing importance of environmental issues in the

[16] Antarctic krill is a small crustacean found in high numbers in the Southern Ocean, and which plays a crucial role in its food webs and the Antarctic marine ecosystem (McIVOR, 2009).

international agenda, driven by the 1987 Brundtland Report and Rio-92, the Arctic Council would incorporate the AEPS and dedicate itself to environmental protection in the Arctic (ROTTEM, 2020).

Having taken place in the late 1980s and early 1990s, the debates for the constitution of the Arctic Council benefited from the atmosphere generated by the end of the Cold War. In this sense, it was inserted in the same historical context of Rio-92. However, having been formalized only in 1996, other geopolitical developments had already dissipated much of the euphoria initially generated by the end of the bipolar confrontation, burying the illusion that the world had entered a period of lull.

The end of the Cold War stimulated the thesis of the "end of history" (FUKUYAMA, 1989), while the conflicts registered in the early 1990s contributed to the thesis of the "clash of civilizations" (HUNTINGTON, 1993). The early 1990s were marked by the advance of globalization and democracy. However, there were also bloody wars[17] and a new phase of international terrorism.[18] The Warsaw Pact dissolved in 1991. In 1994, the North Atlantic Treaty Organization (NATO) created the Partnership for Peace (PfP) program, with the declared purpose of promoting "military and political cooperation between NATO and former members of the defunct Warsaw Pact" (O'HANLON, 2017, p. 10-11). It provoked distrust in Russia. In 1995, the US National Security Strategy of Engagement and Enlargement clearly announced the West's intention to expand its military alliance to the countries of the former Soviet bloc (O'HANLON, 2017).

In sum, the 1990s was a decade of great geopolitical shifts that started with optimism after the demise of the Soviet empire but ended with great deception after the 2002 World Summit for Sustainable Development in Johannesburg.

In this context, the Arctic Council was formalized in the 1996 Ottawa Declaration. Given the geographic features and geopolitical conditions in the region, the Arctic Council "is the main intergovernmental forum for the Arctic" (GERMAN ARCTIC OFFICE, 2020b, p. 2). As Arctic ice cover recedes, the Arctic Council finds itself between the protection of the Arctic environment, its original objective, and potential geopolitical tensions driven by economic interests arising from easier access to environmental resources and maritime routes.

Once again, political boundaries do not impose themselves on environmental dynamics. The same logic already presented in relation to the Southern Ocean applies to the Arctic Ocean. As the Arctic Ocean is, in practice, a subregion of the global ocean, the regional governance regime, centered on the Arctic Council, needs to be included in my analysis. The ecological interconnection between

[17] The Gulf War (1990-1991), the Yugoslavia Wars (1991-1995), the Rwanda Genocide (1994), the First Chechnya War (1994-1996) and the massacres of the Markale Market and Srebrenica (Bosnia and Herzegovina, 1994 and 1995 respectively), for example.

[18] The World Trade Center bombing (in New York, 1993), the Asociación Mutual Israelita Argentina bombing (in Buenos Aires, 1994), and the Oklahoma City bombing (1995), for example.

the Arctic Ocean and the rest of the global ocean makes it highly desirable that these two regimes be designed and implemented as interconnected as possible.

* * *

As can be seen, the regimes selected as the object of this thesis touch on the protection of the marine BBNJ. However, UNCLOS deals only marginally[19] with the protection of the marine environment. UNFCCC seeks to mitigate one of the main causes of the loss of marine biodiversity, but it deals only indirectly with the issue. CBD, the Antarctic and Arctic governance regimes deal with this issue, but do not properly address the deep ecological interconnectedness that exists between portions of the ocean under national jurisdiction, in the South and North polar regions, and in international waters. Therefore, none of these regimes tackles the issue of marine BBNJ conservation and sustainable use in a deep and comprehensive way. It is hoped that the BBNJ treaty will help to fill this gap, allowing for a better harmonization of the ocean governance regime complex, as it relates to the protection of marine life. In Chapter 3, I will analyze in more detail the institutional architecture in which the BBNJ treaty is embedded.

1.3. BBNJ NEGOTIATIONS: TWO DECADES OF AN ONGOING PROCESS

Having identified the growing pressure on living marine resources and the insufficiency of the existing institutional framework to protect them, the UN decided in the early 2000s to launch negotiations, initially informal, on a possible international regime to promote conservation and sustainable use of marine BBNJ. Since then, this issue has raised intense debate in the international field. As mentioned, in the initial stages of these talks, it was expected that the BBNJ treaty could mainstream biodiversity protection at the strategies for exploring and exploiting marine resources (BARROS-PLATIAU and MALJEAN-DUBOIS, 2015). UNGA undertook the BBNJ negotiations, asserting on several occasions the centrality of its role as the only truly global arena with the necessary political legitimacy to deal with the issue as a whole.[20]

Being conducted in the context of the UNGA, BBNJ negotiations would benefit from debates on the Law of the Sea, in particular those relating to UNCLOS. These debates are conducted

[19] Even though it was completed in the early 1980s, UNCLOS proved to be innovative by dedicating its entire Part XII to the "Protection and preservation of the marine environment". However, the focus of the Convention in dealing with this issue was pollution control. Concerns about the conservation and sustainable use of living marine resources would only emerge later, becoming one of the reasons for negotiating the BBNJ Treaty.

[20] For example, in Resolution 67/78, the UNGA "reaffirms its central role relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction". Similar declarations had already been made in the UNGA Resolutions on Oceans and the law of the sea since 2006: UNGA Resolutions 61/222 (UNGA, 2006, para. 89), 62/215 (UNGA, 2007, para. 103), 63/ 111 (UNGA 2008, para. 121), 64/71 (UNGA, 2009, para. 141), 65/37 (UNGA, 2010, para. 161) and 66/231 (UNGA, 2011, para. 165).

with support from the Division for Ocean Affairs and the Law of the Sea (DOALOS), acting as the UNCLOS Secretariat. The political legitimacy of the UNGA to discuss this matter also derives from the fact that a UN member states do not need to be a signatory of UNCLOS to participate in BBNJ discussions (WRIGHT, GJERDE and ROCHETTE, 2018).

1.3.1. Many steps of a long process: From the BBNJ Working Group to the fifth meeting of the Intergovernmental Conference (IGC-5)

1.3.1.1. The BBNJ Working Group

A possible new instrument should address the sparse nature of the international regime applicable to ABNJ, including the sea surface, the water column, and the seabed (TILLER *et al*., 2020). To address these limitations, the UNGA Resolution 59/24 created in 2004 "an *Ad Hoc* Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction", the BBNJ Working Group (UN, 2004, para 73). The same resolution brought for the first time the expression "marine biodiversity" in the title of one of its sections: "Marine environment, marine resources, marine biodiversity and the protection of vulnerable marine ecosystems" (UN, 2004, section X).[21]

The BBNJ Working Group was created aiming:

> (a) To survey the past and present activities of the United Nations and other relevant international organizations with regard to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction;
> (b) To examine the scientific, technical, economic, legal, environmental, socio-economic and other aspects of these issues;
> (c) To identify key issues and questions where more detailed background studies would facilitate consideration by States of these issues;
> (d) To indicate, where appropriate, possible options and approaches to promote international cooperation and coordination for the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction; (UN, 2004, para. 73)

Between February 2006 and May 2012, the BBNJ Working Group met five times. Uncertainty and optimism regarding the value of living and non-living marine resources set the stage at the beginning of BBNJ negotiations. From the outset, the negotiations were marked by intense controversy over the legal status of genetic resources in the high seas. Developed countries defended the application of the FoS principle, while developing countries argued that these resources would be "common heritage of [hu]mankind" (CHM). This opposition brought serious implications for the

[21] Until the UNGA Resolution 58/240 (UNGA, 2003), this section was more broadly dedicated to "Marine environment, marine resources and the protection of vulnerable marine ecosystems". After, in 2006, UNGA Resolution 61/222 (UNGA, 2006) began treating "marine biodiversity" (Section X) independently of "Marine environment and marine resources" (Section IX).

negotiations, remaining a controversial topic until consensus was reached on the final text, in March 2023. This issue will be further developed below.

At its fourth meeting, convened between May 31 and June 3, 2011, the BBNJ Working Group decided that the negotiation agenda would focus on a set of four issue areas. This "package deal" consists of: (i) marine genetic resources (MGRs), including questions on the sharing of benefits; (ii) measures such as area-based management tools (ABMTs), including MPAs; (iii) environmental impact assessments (EIAs); and (iv) capacity-building and the transfer of marine technology (CBTMT) (UN, 2011a). Since then, these set of topics, at the same time ambitious and of limited effects, form a crystallized agenda for the negotiations of the new agreement (TILLER et al., 2020).

In 2012, the UN Conference on Sustainable Development, also known as Rio+20, took place, following previous UN talks. In *The Future We Want*, the Conference outcome document, states recognized the importance of the conservation and sustainable use of marine BBNJ and commit to address this issue as a matter of urgency (UN, 2012). They also agreed "to decide by the end of the 69th session of the UNGA (September 2015) whether or not to launch negotiations for the conclusion of a new *international instrument*" (emphasis added) (UN, 2015a; ROCHETTE *et al*., 2015a).

In May 2013, the BBNJ Working Group held two intersessional workshops on MGRs, and on conservation and management tools. The sixth meeting of the group took place in August 2013. Between April 2014 and January 2015, the BBNJ Working Group had three special sessions to discuss "the scope, parameters and feasibility of an international instrument under [the UNCLOS]" (UN, 2014a). At the end of the third special session (the ninth meeting), the BBNJ Working Group approved a final report in which it recommended the UNGA to open formal negotiations.

According to the IISD, the BBNJ Working Group

> served to exchange views on institutional coordination, the need for short-term measures to address illegal, unregulated, and unreported (IUU) fishing and destructive fishing practices, MGRs, marine scientific research on marine biodiversity, [MPAs], and [EIAs] (IISD, 2023, p. 2).

1.3.1.2. The Preparatory Committee (PrepCom)

In June 2015, following the recommendation of the BBNJ Working Group, the UNGA adopted Resolution 69/292, calling for an intergovernmental negotiation process towards a new multilateral treaty. UNGA decided to develop an ILBI under the UNCLOS on the conservation and sustainable use of marine BBNJ (UN, 2015a) "that would thicken the rules and procedures for [ABNJ], including new obligations, rights, and regulations for activities on the high seas and deep seabed" (TILLER *et al*., 2020). The states agreed to explicitly use the expression "*international legally binding instrument*" instead of that adopted by Rio+20 ("*international instrument*"), which could have paved the way for a soft-law document (ROCHETTE *et al*., 2015a).

At the same time, a Preparatory Committee (PrepCom) was set up to gather subsidies for the task, prior to holding an Intergovernmental Conference (IGC) (UN, 2015a). According to Resolution 69/292, the UN established the PrepCom "to make substantive recommendations to the [UNGA] on the elements of a draft text of an [ILBI] under the Convention, taking into account the various reports of the Co-Chairs on the work of the [BBNJ Working Group]". Besides that, the PrepCom would "start its work in 2016 and, by the end of 2017, report to the Assembly on its progress" (UN, 2015a).

Between April 2016 and July 2017, four PrepCom meetings were held to provide substantive and procedural recommendations to the UNGA (DE SANTO, 2018). Although primarily driven by state delegations, the discussions also included contributions from non-governmental organizations (NGOs) and intergovernmental organizations (IGOs), providing scientific support, advocacy for conservation, and helping promote process transparency (TILLER *et al*., 2020). These meetings produced a final report on the proposed treaty and what should be included in it (UN, 2017a).

Despite diverging views, the PrepCom outcome comprised "non-exclusive elements of a draft ILBI text that generated convergence among most delegations," and "a list of main issues on which there is divergence of views, with the indication that both do not reflect consensus" (IISD, 2023, p. 2). PrepCom final report also recommended "that the [UNGA] take a decision, as soon as possible, on the convening of an [IGC], under the auspices of the [UN], to consider the recommendations of the [PrepCom] on the elements and to elaborate the text of an [ILBI] under the Convention" (UN, 2017a).

1.3.1.3. The Intergovernmental Conferences (IGC)

On December 24, 2017, based on the PrepCom final report, the UNGA adopted Resolution 72/249 (UN, 2017b) "effectively approving the start of negotiations for a new treaty on the area of the ocean that still lacked comprehensive global management" (TILLER *et al*., 2020). The UNGA decided to convene IGCs to elaborate the text of an ILBI under the UNCLOS on the conservation and sustainable use of marine BBNJ. The instrument should be developed "as soon as possible" (UN, 2017b), and negotiations should cover the "package deal" of four themes agreed within the BBNJ Working Group in 2011 (see Section 1.3.2).

An organizational meeting was held in April 2018, and the first round of formal negotiations took place in September 2018. In November 2019, the IGC President released a revised Draft Text that consolidated governance options raised at three previous negotiating sessions (HUMPHRIES *et al*., 2020). Initially planned as a final and concluding meeting (UN, 2020a), the fourth and final meeting was scheduled to take place between March 23 and April 3, 2020. However, IGC-4 was

postponed due to the Covid-19 pandemic (UN, 2020b; UN, 2021). As no final text was obtained, a fifth session (IGC-5) was scheduled to take place from 15 to 26 August 2022 (UN, 2022c).

Since UNGA Resolution 72/249 had only mandated four IGCs, IGC-5 was already an extra meeting. Although "many delegations, including some groups of states, expressed a strong desire to conclude the agreement" during the fifth session (UN, 2022c, p. 13), a final text was not reached. While many felt that IGC-5 had gone a long way in crafting a consensus text, negotiations on many crucial topics had not been completed, and the delegates decided not to close but to suspend the meeting (IISD, 2023).

IGC-5 considered that "an additional session of the conference was required as soon as possible to make progress" (UN, 2022c, p. 12). The IGC-5.2 convened from February 20 to March 3, 2023, in New York, with more than four hundred delegates, representing governments, UN specialized agencies, NGOs, and academia (IISD, 2023). IGC-5.2 sought to address several topics where negotiations remained open. Delegates intended to follow up on IGC-5 (or IGC-5.1), with a view to "pick up where we left off, as if from a long weekend" (IISD, 2023). Finally, delegates managed to reach a delicate compromise after more than 36 hours of President's consultations that took place behind closed doors. On Saturday, March 4, nearly 24 hours after the meeting deadline, an agreement to conserve and sustainably use the high seas was announced (IISD, 2023).

However, delegates did not review the final text. It was welcomed as discussed during the closed-door meeting. As a result, the agreement was not formally adopted at a plenary meeting. To complete the process and finally allow the formal adoption of the text,

> the IGC established an open-ended informal working group to undertake technical edits to ensure uniformity of the text and harmonize the wording in all six UN official languages and requested the working group to convene an additional summarized session of IGC-5 (IGC-5.3) to be held at a date to be announced (IISD, 2023).[22]

The conservation and sustainable use of MGR in ABNJ depend on the perception of the states that their long-term interests will be better served through compliance with the BBNJ treaty. For the new regime to be effective, states must feel that their interests, concerns, and views have been reflected in the agreement (BLASIAK *et al.*, 2016).[23] All BBNJ negotiations are very conflictual and slow. This is partly because this is one of the last major international agendas, designed to regulate an issue that has not been thoroughly explored yet (BARROS-PLATIAU *et al.*, 2015).

[22] The IGC-5.3 is expected to be held on 19 and 20 June 2023 (Source: <https://bit.ly/2oKzMnW> Accessed April 20, 2023).

[23] As mentioned above, architecture- and agency-related aspects of the BBNJ negotiations on each of the main topics under debate will be discussed over the following chapters of this thesis.

1.3.2. The 2011 package deal: All or nothing on an ambitious but restricted agenda

There are two central threads of disagreement during the BBNJ negotiations since its inception: the question of "what developed states should provide to developing countries in terms of capacity building, technology transfer, access and benefit-sharing," and "whether sharing of access, benefits, and technology should be mandatory or voluntary for states; and monetary or non-monetary" (TILLER *et al*., 2019). Another central topic was the dichotomy between the CHM and the FoS principles (TILLER *et al*., 2019; GANASHREE, 2021; VADROT, LANGLET and TESSNOW-VON WYSOCKI, 2022). This issue was one of the last hurdles for the agreement in March 2023.

States agreed that the new instrument must address all four package elements (Table 1) "together and as a whole" (UN, 2015a). Thus, there would be no consensus around the ILBI unless there were consensus on all elements of the package deal (HUMPHRIES *et al*., 2020). By including MPAs and MGRs in an indivisible agenda of matters, states decided that negotiations would only move forward if consensus was built around all four parts of the package deal (BLASIAK *et al*., 2016). Developed countries were concerned with the creation of high seas MPA mechanisms, while developing countries were interested in discussing the access to MGRs and the sharing of benefits arising from their use, showing little interest in the MPA agenda (BLASIAK *et al*., 2016).

The package deal represents the basic mandate of the BBNJ negotiations, which is to produce a single agreement that covers all of them. This mandate is restricted by the provision that any new agreement "should not undermine" relevant existing frameworks, bodies, and instruments (DE SANTO *et al*., 2020).

Table 1. The BBNJ Package Deal (UN, 2011a).

The BBNJ Package Deal
Marine genetic resources (MGRs), including questions on the sharing of benefits.
Measures such as area-based management tools (ABMTs), including marine protected areas (MPAs).
Environmental impact assessments (EIAs).
Capacity-building and the transfer of marine technology (CBTMT).

The package deal led to an apparent paradox in BBNJ negotiations. The scope of the negotiations is ambitious and, at the same time, restricted: ambitious because it seeks to discipline a set of complex issues so that it is applicable to nearly half the Earth's surface, and restricted because it only covers the four package issues and is subject to the not undermine requisite (BLASIAK *et al*., 2016). In the following sections, I present each element of the package deal. In the Chapter 4, I will

dive deeper to investigate agency-related aspects, i.e., the countries' positioning regarding each of the controversial topics in the negotiation.

1.3.2.1. Marine Genetic Resources (MGR), and Access and Benefit-sharing (ABS)

The exploration of MGRs—bioprospecting—in the ABNJ could be the spearhead of a major increase in economic activity (exploitation), projecting vast potential profits (TILLER *et al*., 2019). However, or perhaps precisely for this reason, the activity is the subject of disagreement between developed and developing states, especially in terms of benefit-sharing. Ignorance of the potential value of MGRs in ABNJ has marked all phases of BBNJ negotiations. The idea that they are a potential "gold mine" of vast profits persisted throughout the Working Group and PrepCom phases (TILLER *et al*., 2020).

Access to MGRs raises fundamental questions about "who gets which resources, under what conditions and at what price" (TILLER *et al*., 2020). Living marine resources, their potential and their value are largely unknown, making "all states currently suffer from a degree of maritime 'wealth blindness'—a phenomenon more acute among developing states" (TILLER *et al*., 2020), in addition to a "sea blindness" (BUEGER and EDMUNDS, 2017), meaning a "lack of a broader maritime culture" in several countries (RALBY, 2017). Wealth blindness has several dimensions. Each of the hypotheses presented in Table 2 challenges the achievement of consensus on rules related to access, exploitation, and benefits by impacting the preferred legal regimes of different international actors. Furthermore, a real knowledge gap exists, given that much of the ocean is still underexplored (TILLER *et al*., 2020).

Table 2. Ways of knowing and challenges thereto; all of which could be applicable to that of MGRs in ABNJ (TILLER *et al.*, 2020).

State of knowledge	Challenge
Knowing that given resources have real or potential value.	Not knowing how much it is worth.[24]
Knowing the raw value of a resource.	Not having the capacity or familiarity with the marketplace to maximize its value.[25]
Not knowing that a resource exists.	Having theoretical or legal access to potential resource, but not capacity to invest in knowledge about potential resources or their value.[26]

[24] To illustrate this hypothesis, Ralby (2017) uses the following metaphor: "If someone is handed a bucket of gold and told to sell it for as much as possible without looking up the price, they may be pleased to receive $ 100,000, not realizing that is only 10% of the value." Regarding marine resources, "without knowing the market value of a fishery or the industry standards for licensing fees, states can negotiate away marine resources at a fraction of their value" (TILLER *et al*., 2020).
[25] To illustrate this hypothesis, Ralby (2017) uses the following metaphor: "if handed a bucket of clay and told to fetch the best price for it, an individual might this time be pleased to receive $ 100 for it. But they may have overlooked that a local sculptor could have turned that clay into a work of art worth $ 10,000." According to Tiller *et al*. (2020), "wealth blindness often prevents states from seeing how much value they could add to marine resources—regardless of whether they know their raw value;" "Being unaware of the marketability of raw marine resources is only part of the problem of wealth blindness; the other part is market familiarity" (TILLER *et al*., 2020).
[26] "This could also be true for MGRs, since much of the work done here is still scientific only, and its applicability to different industries is not definitive" (TILLER *et al*., 2020).

Developed and developing states[27] diverge on several points on the MGRs agenda. As mentioned, one of the central elements of BBNJ negotiations is to know which of the two major principles provided for in UNCLOS applies to MGRs and their exploitation: the FoS principle or the CHM principle (DE SANTO *et al*., 2020). The solution to the dispute is not obvious (GANASHREE, 2021; VADROT, LANGLET AND TESSNOW-VON WYSOCKI, 2022), "because the organisms that contain MGRs could be attached to or dependent on the seabed or be free floating in the water column" (TILLER *et al*., 2019).

Regarding access to MGRs, one challenge is that they exist in three modes: *in situ*,[28] *ex situ*,[29] and *in silico*[30], including digital sequence information (DSI) (see Section 3.3.2.3). Despite some convergence around the need to avoid creating excessive burdens on private sector bio-prospectors by ABS rules, developing and developed countries disagree on several important topics (TILLER *et al*., 2019; BARROS-PLATIAU and OLIVEIRA, 2020), for example, about which stages should be subject to ABS.

Developed countries prefer to avoid any type of benefit-sharing on a monetary basis while developing countries support a set of rules that regulate access to MGRs, benefit-sharing (including both non-monetary and monetary mechanisms), and open access data repositories of *in silico* genetic information collected in ABNJ (TILLER *et al*., 2019).

In general, technologically advanced states noted "the need to avoid burdensome regulations and costs that might deter industry investment," while developing states argued that free access to MGRs and a weak benefit-sharing regime could allow multinational corporations to concentrate the full potential and profits generated by the activity (TILLER *et al*., 2019).

In the draft text that was the basis for discussions in the IGC-4, the objectives and framework of the MGR element appear to focus only on the CBD's concept of ABS, not considering "broader concepts of equity, or other tools to achieve equity, conservation and sustainable use" (HUMPHRIES *et al*., 2020).

In contrast to the CBD, "there is no legally recognized 'provider' entitled to prior informed consent and a share of the benefits from genetic resource use under bilateral arrangements" (HUMPHRIES *et al*., 2020), Sovereign rights are not recognized in ABNJs. Instead of relying on the informed consent provided for in the CBD (transactional approach), the ABS system of the BBNJ treaty has the challenge of creating incentives for governments and other stakeholders to be transparent about collection and use of MGRs from ABNJ and to share benefits arising from their use (HUMPHRIES *et al*., 2020).

[27] This is a common oversimplification, which will be further investigated in Chapter 5.
[28] On site in the ocean.
[29] In collections, and no longer in the ocean, for example in laboratories, gene banks or a biorepository.
[30] MGRs that exist as digital data representing the genetic sequences of interest.

In this context, negotiating parties recognize that ABNJ is a peculiar jurisdictional area, but they insist on adopting "objectives, values and tools based on the CBD's concept of ABS that suits genetic resource transactions (material and knowledge exchanges) within national jurisdictions" (HUMPHRIES *et al*., 2020).

> First, a narrow view of the CBD's approach to equity and technology transfer has been adopted as the basis of MGR governance, rather than conservation of MGRs, equity and efficiency as envisaged by UNCLOS. Second, the CBD's approach of regulating access to MGRs based on the form and location of the tangible or intangible genetic resource, compounds the governance challenges already faced in national jurisdictions. Third, a 'one size fits all approach' to benefit-sharing and monitoring, imports the CBD's model of benefit-sharing that is dependent on establishing a direct link with access (the transaction approach)—an approach that would consume enormous resources for monitoring and compliance (HUMPHRIES *et al*., 2020).

Regarding both the level of technological development and International Relations, the context in which BBNJ negotiations took place is fundamentally different from that in which the original ABS concept as a solution to conserve and sustainably use genetic resources was created. Technological advances referring to "discovering, collecting, using, storing and sharing genetic resources and associated information are continuing to push the boundaries of the current models of ABS" (HUMPHRIES *et al*., 2020). By recognizing this fact and seeking innovative approaches, negotiators would have the chance to fulfill the UNCLOS objectives of equitable and efficient use of MGRs and protection of the marine environment. This would require governance mechanisms, including ABS instruments, more suited to ABNJ environmental and geopolitical conditions (HUMPHRIES *et al*., 2020). That is exactly what happened until this thesis was produced, in April 2023. However, there are many details to be negotiated in future Conferences of Parties (COPs)

1.3.2.2. Area-Based Management Tools (ABMT), and Marine Protected Areas (MPA)

MPAs are spaces in which human activities are limited by regulatory instruments that offer a greater degree of protection in relation to the surrounding areas. In addition to MPAs, ABMTs include Emission Control Areas, Special Areas, Particularly Sensitive Sea Areas (PSSAs), seasonal or year-round area fisheries closures, and Areas of Particular Environmental Interest (APEIs). MPAs allow long-term *in situ* conservation, while other "ABMTs may be more adaptive/tailored to particular sectors, but also potentially [to seek] shorter-term measures" (DE SANTO, 2018).

Regarding ABMTs, BBNJ negotiations could not identify a foundation at UNCLOS. Only sectoral organizations, such as RFMOs/As, the ISBA, the International Maritime Organization (IMO), and the Commission for the CAMLR (CCAMLR), for example, have tools for creating and managing ABMTs in ABNJ (TILLER *et al*., 2019).

A central aspect of the ABMTs debate concerns the body that would be competent to create and manage it. The designation of ABMTs should be assigned to regional and sectoral bodies or to a new or existing global organization? The solution to this impasse is not trivial (TILLER *et al*., 2019). Both proposals have defenders in the scope of international negotiations on the topic. Some states argue that regional approaches in operation already work well, with no need to duplicate efforts. Others advocate the adoption of a global approach to designing and implementing ABMTs.

Seeking to find a middle ground, some propose a hybrid approach. It could involve delegating oversight of regions to existing regional bodies (RFMOs/As or UNEP Regional Seas Programs (RSP), for example), which would also consult with a global authority, such as the COP for the BBNJ treaty. In the latter case, the global organization would have the role of sharing best practices or proposing new sites for the implementation of ABMTs by regional organizations, aiming to improve the coherence of the system (TILLER *et al.*, 2019). Whether or not ABMTs should be time-bounded or periodically reviewed or subject to adaptive management is another matter of concern for states (TILLER *et al*., 2019), and most details will be discussed at future COPs.

There are, therefore, overlapping regimes that need to be harmonized. Conflicts can arise over (i) "ABMTs/MPAs in ABNJ that have been/would be established by existing regional and/or sectoral bodies," (ii) "the mandates and competences of other international and regional bodies," (iii) "the 1982 UNCLOS and its two IAs adopted in 1994 and 1995 respectively," and "other international and regional agreements" (SHI, 2019).

The creation of MPAs seems to correspond to the interests of conservation and sustainable use of marine living resources. On the other hand, it can affect immediate economic exploitation. Creating a large network of marine reserves would restrict the current freedom to fish, among other activities. This could raise resistance, which would undermine conservationist goals. In the context of ATS, for instance, a marine reserve in the Antarctic's Ross Sea was proposed in 2011 "but it was only in October 2016 that is passed—and was a third smaller than originally planned" (CHUN, 2018).

1.3.2.3. Environmental Impact Assessments (EIA)

This package deal element aims at creating conditions for the application of EIA, an instrument usually operated on land by local governments, to international waters (CHUN, 2018). However, requiring EIAs, as well as the creation of MPAs and other ABMTs, would be a limitation on the FoS principle enshrined in UNCLOS (CHUN, 2018).

UNCLOS Article 204.1 states that "states shall… endeavor… to observe, measure, evaluate and analyze, by recognized scientific methods, the risks or effects of pollution of the marine environment," "as far as practicable," and "directly or through the competent international

organizations" (UN, 1982). In addition, Article 206 of the Convention states that "states (...) shall… assess the potential effects of… activities on the marine environment and shall communicate reports of the results of such assessments." This prescription applies when "states have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment" (UN, 1982).

However, there is no clear obligation to carry out EIAs, nor the definition of objective criteria of what types of activities demands it, the methods to be employed, the basic information that must be sought, the mitigating or compensatory measures of environmental damage, the format, and the content of the report, and, mainly, on which authority should evaluate the results of the study and decide on the environmental feasibility of the enterprise. In practice, operators are not subject to any obligation to submit an EIA before starting deep-sea mining under their jurisdiction (CHUN, 2018), or any activity on the high seas or in the Area, as installation of deep-sea cables and pipelines, for instance.

This lack of clarity in the UNCLOS text justifies the inclusion of EIA as one of the main elements to be discussed in the BBNJ negotiations (TILLER *et al.*, 2019). During the negotiations, efforts are made to establish, for example, whether EIA would be necessary for any activity in ABNJ, or if only when such activity would entail a high risk of environmental harm (TILLER *et al.*, 2019). Most states agree the EIA should be under the responsibility of the state undertaking the activity, but they still disagree on what should be done with the assessment: "some states, mostly developing countries, wanted a scientific committee attached to a global body to review the EIAs," while some "developed states [argue] that global review of EIAs would indicate a lack of trust in the scientists who drafted those already existing" (TILLER *et al.*, 2019). Unsurprisingly, the ocean powers (see Section 2.3) are the most interested in ocean activities, with the strongest scientific communities and the less interested in heavy bureaucracy.

Another point under negotiation concerns Strategic Environmental Assessments (SEA). Regarding the debates during IGC-1, Tiller *et al*. (2019) reported:

> There was some argument over what exactly SEAs were and how it related to an EIA where some delegates argued that it was a type of EIA, but one that included future prospects as well. Others similarly argued that the difference centered on the fact that EIAs would be developed prior to a proposed project to measure risk and would therefore not include future concerns like SEAs would. There were also queries about whether SEAs were called for under UNCLOS Articles 204–206, and if they were allowed, when they should be used rather than EIAs. This is not to say there was no agreement whatsoever. Most states that spoke agreed that there needed to be a clearinghouse mechanism to store EIAs and emphasized that the point of this was to make them publicly available. This public access was cited by many states as vital, and the only condition put upon it was the protection/redaction of material related to intellectual property rights or other sensitive information.

These points spark vivid debates in the context of BBNJ negotiations. Furthermore, presenting EIAs is only the beginning of a process. To be adequate to current challenges of sustainable

use and effective for the future conservation of marine health and wealth, these assessments must be based on scientific evidence and take sustainability as a priority.

1.3.2.4. Capacity-Building and the Transfer of Marine Technology (CBTMT)

Some states argue that Parts XIII and XIV of the UNCLOS already deal with capacity building and technology transfer, respectively. Others argue that the effectiveness of the objectives and principles inscribed in the final text rely on a clear obligation on states with associated funding through the BBNJ instrument (TILLER *et al*., 2019).

Despite commitments under the UNCLOS to build capacity and transfer marine technology to developing states, many countries are in practice excluded from activities that can boost their development because they do not have the means to access resources in ABNJ or benefit from their exploitation. In some cases, these countries do not even have the capacity to sustainably and effectively fish within their own jurisdictions (BLASIAK *et al*., 2016).

To reverse this situation, the ability to fulfill rights and obligations under the BBNJ treaty depends on developing and strengthening the capacities of countries that need and request help. The debate, however, seems to ignore this imperative and focus on whether or not the CBTMT measures should be mandatory or voluntary for states to participate in, and whether there should be any financial assistance obligation for that purpose (TILLER *et al.*, 2019).

Understanding the concept of technology is essential for defining technology transfer. The very nature of technology involves not only products that incorporate technological advances, but also the ability to absorb and adapt these advances. This is an indication of what technology transfer means. However, developed and developing countries have different views on the issue, which makes it difficult—and, until now, has prevented—the effective transfer of technologies in any field. In developed countries, the notion that technology transfer consists of selling technology packages to developing countries has prevailed. In this case, developing countries do not necessarily incorporate the acquired technology into their cultural heritage. The change in this conception has been a constant demand from developing countries, which aim to assimilate the knowledge associated with technology (TOMÉ, 2011).

Although CBTMT is an independent element of the package deal, the topic is reflected in debates on access to MGR and the sharing of benefits arising from their use, as well as on marine conservation and impact assessment (TILLER *et al*., 2019). According to Tiller *et al*. (2019), during IGC 1,

> developing states sought to build on the general commitment of UNCLOS by suggesting the creation of new institutions to facilitate capacity building and technology transfer, including a trust fund for disbursement of monetary benefits and a clearinghouse to register specific needs requests. Some small island developing states (SIDS) pointed out though that

> assistance would be required to even determine the specific capacities and technologies needed. There was also disagreement about whether the agreement should include a list of possible technologies that could be transferred or capacities that ought to be built. The question of obligations though—what should be provided, who should provide it, and to whom it should be provided—represented a significant obstacle to consensus building around the discussion on the development of a possible draft text.

As negotiations progress, it will be possible to identify the extent to which states are willing to promote the capacity of developing countries in terms of exploiting and protecting ABNJ, as well as assessing their worth, and to what degree there should be a global sharing of benefits arising from the use of these resources (TILLER *et al*., 2020).

1.3.3. Cross-cutting issues: Topics that condition BBNJ treaty effectiveness

Although not part of the package deal, the IGC has been negotiating a set of topics that are instrumental in building the marine BBNJ conservation and sustainable use regime. This includes issues such as institutional arrangements, financial resources, and dispute settlement mechanism, among others (TILLER *et al.*, 2023; OLIVEIRA *et al.*, 2022).

Institutional arrangements are of great importance for the effective implementation of the BBNJ treaty. The bodies created and/or empowered by the ILBI will provide the organizational framework responsible for ensuring that the duties and rights under the agreement are fulfilled. In this context, the creation of a number of bodies was discussed, such as a COP, its competences (including in relation to each of the package deal elements), the periodicity of its meetings, and the voting mechanisms; a scientific and technical body, its role and purposes, and the procedure for appointing its members; and a Secretariat, especially which body should serve in that capacity; among others (TILLER *et al.*, 2023; OLIVEIRA *et al.*, 2022).

Effective funding strategies and mechanisms will be essential for the proper implementation of all the package deal elements. It was debated whether the financial contributions would be mandatory or voluntary, who would be the beneficiaries of these resources, and what was the most appropriate institutional arrangement to comply with BBNJ treaty (TILLER *et al.*, 2019; MENDENHALL *et al.*, 2022; OLIVEIRA *et al.*, 2022).

Dispute settlement is likely to be "a crucial aspect of BBNJ implementation" (MENDENHALL *et al.*, 2022), given the likelihood of frequent disputes surrounding the issues arising from the entry into force of the BBNJ treaty. It was debated whether the dispute settlement system established in Part XV of UNCLOS would be applicable, or whether it would be more appropriate to create a new system, tailored to the BBNJ context and accessible to UNCLOS non-parties (MENDENHALL *et al.*, 2022; OLIVEIRA *et al.*, 2022).

Other cross-cutting issues under negotiation include use of terms, objectives and application of the treaty, relationship with other relevant normative and institutional frameworks, principles and approaches, and international cooperation (OLIVEIRA *et al.*, 2022).

Controversial points in the negotiation of cross-cutting issues, as well as the positions of different states and coalitions (agency-related issues), will be investigated in Chapter 4.

* * *

This chapter highlighted selected issues debated during de IGC meetings in order to guide the reader through the following chapters. The subordination relationship with UNCLOS, the "not undermine" requisite in relation to other treaties, the CHM principle, and the package deal are four examples of key points to understand the scope, the limits, and the future challenges of the BBNJ treaty. Other issues became relevant during the process, such as the mention to IPLC and traditional knowledge (TK), the funding mechanisms, the integrated approach, and the principles retained in the final version of the text. They will be discussed more superficially because, although they are truly relevant from a theoretical and normative perspective, they may be undervalued when the treaty entries into force. After this overview of the BBNJ treaty and how it is juxtaposed to other international regimes, the following chapter will tackle a "new reality" which has two main features. One is the enormous changes in natural systems, represented by the concept of the Anthropocene (CRUTZEN and STOERMER, 2000), and the other is the international politics analyzed through the lens of power, notably with the concept of "ocean powers" that I propose.

2. POWER: THE CHANGES IN NATURAL SYSTEMS AND OCEAN POWERS IN INTERNATIONAL POLITICS

This chapter seeks to investigate BBNJ negotiations according to the first ESG framework research lens: Power (Figure 1). The primary objective here is to seek a categorization of international players, aiming to identify *ocean powers*.

As seen in the previous chapter, the international community identified an important gap in the regime complex for the ocean: The insufficiency of existing international treaties to regulate the conservation and sustainable use of marine BBNJ, increasingly subjected to anthropogenic pressures. In the two decades in which this issue has been under negotiation at the UN, the configuration of global power has been changing, especially but not exclusively due to the crisis of Western leadership, the rise of China, and Russia's quest to reaffirm its importance as a global player. Also in these two decades, signs of the strong impact of human activities on Earth System became increasingly evident, leading to a new geological epoch, known as the Anthropocene.

Therefore, it is worth investigating how the ongoing redistribution of world power affects BBNJ negotiations in the context of the Anthropocene. As mentioned, the hypothesis that I want to test is that the current crisis of the liberal international order (PEOPLES, 2022) and the new great power competition (KAUSIKAN, 2023) negatively affect the possibility of building ambitious consensuses in the BBNJ negotiations, which is detrimental to the protection of the marine BBNJ in a scenario where human actions become decisive for the Earth's ecological stability. The instability of the international political scenario affects the behavior of relevant players, particularly the US, China, and Russia. These actors fall back on the quest for relative gains, inclining towards a behavior consistent with the realist theory of International Relations. They are ocean powers, but they are not the only ones. As a consequence of the current crisis, there is little confidence on multilateral negotiations in general (HLAB, 2023). As Kausikan (2023) puts it: "Policymakers and analysts worry that the future will be riven with divisions, with countries separated into hostile, competitive blocs and geopolitics becoming a zero-sum game."

To fulfill its goal, this chapter begins by discussing the Anthropocene as a new geological epoch and the importance of this image for the social sciences in general, and International Relations in particular (Section 2.1). Then (Section 2.2), I investigate the rise and fall of the US-led Western Liberal Order as an international order, as well as some elements referring to the new great power competition, which basically puts the US and China on opposite sides. Finally, Section 2.3 presents the concept of *ocean powers* and seeks to classify countries according to their resources and ability to act in the ocean affairs.

2.1. CHANGES IN THE HUMAN-NATURE SYSTEM: THE ANTHROPOCENE AND THE WIDESPREAD IMPACT OF HUMAN ACTIVITIES ON LIFE-SUPPORTING SYSTEMS

The world is going through a period of acceleration in history (McNEILL and ENGELKE, 2016; BLASIAK, 2020). As human beings and as a global civilization, we are increasingly facing crucial choices resulting from several rapid, revolutionary, simultaneous, convergent changes (GORE, 2013). The drivers of these rapid changes have many denominations: drivers of global change (GORE, 2013), civilizing macro-vectors (VIOLA, FRANCHINI and RIBEIRO, 2013), major drivers of the international system (VIOLA, 2019), vectors (ABRANCHES, 2017), elements of "the rise of connectivity" (YOUNG, 2017).

Ten years ago, Gore (2013) highlighted six *drivers of global change*: (i) the emergence of a deeply interconnected global economy, (ii) the emergence of a planet-wide electronic communications grid, (iii) the emergence of a new balance of political, economic, and military power in the world, (iv) the emergence of a rapid unsustainable growth, (v) the emergence of a new set of powerful biological, biochemical, genetic, and material science technologies, and (vi) the emergence of a radically new relationship between the aggregate power human civilization and the Earth's ecological systems, including the atmosphere and climate balance.

According to Viola, Franchini and Ribeiro (2013), globalization, the international system of hegemony of democracies and climate change are *civilizing macro-vectors*. More recently, Viola (2019) listed as *major drivers of the international system*: (i) globalization continuing, (ii) technology disruption, (iii) dangerous climate change, (iv) China looking for global authoritarian hegemony, (v) crisis of democracy and (vi) a new Cold War.

Abranches (2017) named the great transition that the world is going through as "the age of the unforeseen," characterized by three *vectors*: (i) increase in economic, social, and political complexity, (ii) scientific and technological revolution, with unpredictable direction and disruptive effects, and (iii) ecological and climatic instability. Young (2017) characterized this great transition as *the rise of connectivity*, whose elements would be: (i) globalization, (ii) interconnectedness between biophysical systems and socioeconomic systems, and (iii) teleconnections or telecouplings, by that "forces operating in one part of the Earth system can trigger unintended and often surprising consequences that show up in distant parts of the system" (YOUNG. 2017, p. 5).

However different in scope, all of the above characterizations lead to the conclusion that deep changes are underway, bringing up challenges on a global scale. The World Economic Forum (WEF) Global Risks Report 2020 highlighted pressing challenges in four dimensions of the same interconnected reality: the economy, the environment, technology, and public health. Addressing

these challenges cannot wait for the consolidation of the global geopolitical and geo-economic scenario in formation (WEF, 2020). The WEF Global Risks Report 2023 is even more incisive:

> Concurrent shocks, deeply interconnected risks and eroding resilience are giving rise to the risk of polycrises—where disparate crises interact such that the overall impact far exceeds the sum of each part. Eroding geopolitical cooperation will have ripple effects across the global risks landscape over the medium term, including contributing to a potential polycrisis of interrelated environmental, geopolitical, and socioeconomic risks relating to the supply of and demand for natural resources (WEF, 2023, p. 9).

The intensity and scope of the challenges imposed by the Anthropocene interfere in Earth's ecological dynamic and in international and domestic politics. The changes in the way humans relate to nature and the political challenges derived from this new relationship are elements that amplify complexity in the field of International Relations. In this section, I will use the concepts of Anthropocene, planetary boundaries, donut economics, and black swans to highlight the environmental, and political impacts of human activities (Section 2.1.1). Next, I will investigate the scientific and diplomatic uncertainties that allow characterizing the current scenario as increasingly VUCA: volatile, uncertain, complex, and ambiguous (Section 2.1.2). Combined, they contribute to understanding the "potential polycrises" mentioned above. Finally, Section 2.1.3 presents the global response to the Covid-19 pandemic, which is the most acute example of the current difficulty for nations to build multilateral solutions to global problems.

2.1.1. The Anthropocene: Human-made transformations in a global scale

The magnitude, variety, and durability of human activities now shape a new geological epoch: the Anthropocene (CRUTZEN and STOERMER, 2000). Although it is a controversial concept among geologists, social scientists have been using it to raise awareness about the consequences of unsustainable activities on planetary boundaries (KAVALSKI, 2015b; FRANCHINI, VIOLA and BARROS-PLATIAU, 2017; LE PRESTRE, 2018; VEIGA, 2019). It highlights the fundamental importance of human interference—especially changes in land use and atmosphere composition—on the stability of the global environment, from biogeochemical cycles to the evolution of life itself. Human activities are now global and the dominant cause of most contemporary environmental change (BIERMANN, 2012; LEWIS and MASLIN, 2015), and "are moving several of Earth's sub-systems outside the range of natural variability typical for the previous 500,000 years" (BIERMANN *et al.*, 2012, p. 1306).

Humankind has achieved unprecedented power to deal with natural dynamics. In this vein, it becomes legitimate to question whether we are in an ecological crisis or heading towards environmental collapse as Frémaux (2019) puts it. Nowadays, human activities are responsible for significant changes in the ecological dynamic of the Earth. Are humans also strong enough to forge

technological solutions to reverse human-made risks and damages? Are technological solutions appropriate for changing human behavior? It seems to be a paradox between the available scientific knowledge and the possibility of changing human behavior worldwide. It cannot be said that the more scientific knowledge we gather, the best the political reaction will be.

The Anthropocene can be considered as a new geological epoch in which the Holocene environmental stability is being progressively lost due to the anthropogenic causes (VIOLA and BASSO, 2016). It suggests that it is no longer possible to treat natural systems, on the one hand, and historical, social, economic, and political processes, on the other, as independent dimensions of reality[31]. Nature no longer operates according to fixed laws, while politics and culture no longer operate in a separate sphere of autonomy and freedom (CHANDLER, 2018). Human activity has become the main driver of change in the planetary system (IPCC, 2023).

The usefulness of the concept of Anthropocene stems from three underlying ideas: (i) "nature is no longer independent from humans;" (ii) humans can shape nature's dynamics to the point of jeopardizing its ability to provide social goods and services; and (iii) "environmental changes reflect the evolution of societies" in the context of a "profound transformation of international politics." Therefore, the scenario is new both in terms of the evolution of the biosphere and human-biosphere interactions, which change our image of nature, and in terms of international politics, which requires new ways of addressing international environmental governance (LE PRESTRE, 2018), aiming to overcome inconsistencies, deadlocks, fragmentation, and overlaps.

For the purposes of the contemporary studies on global environmental governance, the identification of the precise moment in which the Anthropocene began is of minor importance. The debate about the Anthropocene's chronological boundaries, based on the stratigraphic formalization of a new geological epoch, undermines the recognition of the history and diversity of the interconnections between socioeconomic and environmental systems, as well as their contribution to the production and reproduction of undesirable conditions (BAUER and ELLIS, 2018). In this regard, "there is no longer a separation between culture and nature;" today, "human history cannot be understood as separate to geological history" (CHANDLER, 2018, p. 23-24). Therefore, the boundaries between the natural and social sciences are increasingly blurred.

Despite the growing structure of international environmental governance, the coordination of international action to solve environmental problems has proved difficult (WHITEHEAD, 2014). In the modernist paradigm, reductionist causal connections, generalizations, and experience shaped governance and the discourses of progress and development. In a more complex, contingent, and

[31] The classical cleavage between environment and economy is no longer admissible. In the Anthropocene, it is impossible to consider the ecosystem services as external to the economic system. Economics must mainstream the services provided by oceans, forests, and climate (SCHWÄGERL, 2014, p. 176).

interrelated world, these assumptions no longer hold: "without the 'outside' of 'nature,' as opposed to the 'inside' of 'culture,' the modernist governance assumptions that there are always possible solutions and 'happy endings' no longer make sense" (CHANDLER, 2018, p. 26).

From a scientific standpoint, Rockström *et al.* (2009a; 2009b) offered an illustration of the connection between human activities and the Planet's integrity. They identified nine interdependent *planetary boundaries*, within which there are conditions for humanity to exist and perpetuate itself in a sustainable way. They are, therefore, limits of resilience of the Planet (VIOLA and BASSO, 2016). For seven of these boundaries, the authors establish metrics and identify maximum values that, once exceeded, generate the "risk of systemic environmental disruption" (VIOLA and FRANCHINI, 2012, p. 471). In other words, crossing these boundaries increases the risk of generating large-scale abrupt or irreversible environmental changes. At least six of them have already been crossed: climate change, loss of biosphere integrity, land-system change, altered biogeochemical cycles, environmental pollutants and other "novel entities" including plastics, and freshwater, due to the inclusion of "green water" (the water available to plants) into the boundary assessment for the first time (STEFFEN *et al.*, 2015a; PERSSON *et al.*, 2022; WANG-ERLANDSSON *et al.*, 2022) (Figure 5). It may lead to the breakdown of environmental stability experienced since the end of the last glaciation on the Planet, some 10,000 years ago (ROCKSTRÖM *et. al.*, 2009a; 2009b).

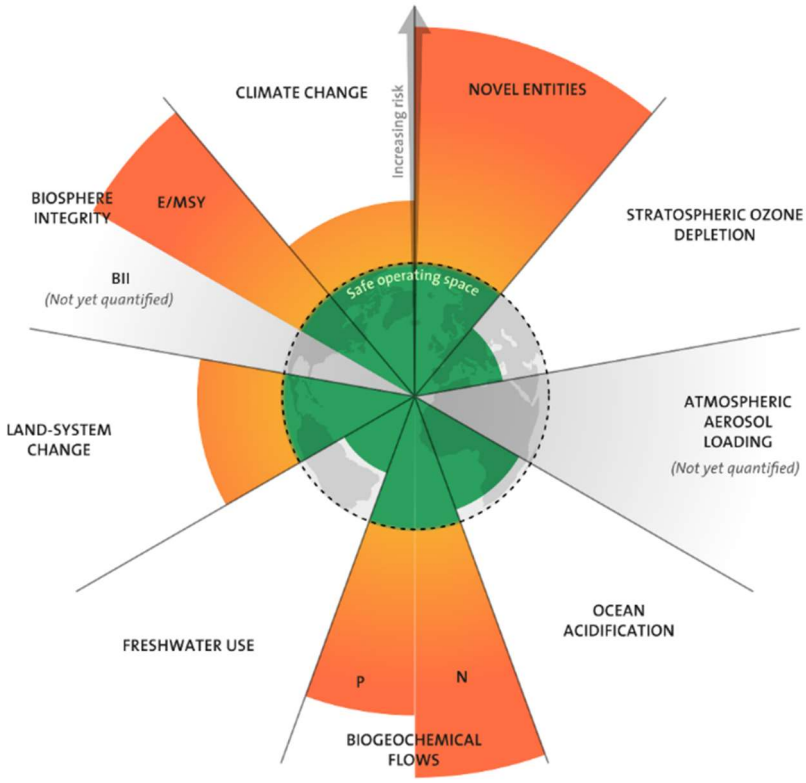

Figure 5. The status of the control variables for seven of the nine planetary boundaries (STOCKHOLM RESILIENCE CENTRE, 2022).

According to Biermann (2012, p. 5), the traditional political approach establishes sustainable development as the ultimate goal of governance, although it does not make clear any criteria for defining objective goals. In this context, planetary boundaries would be a reference for the assessment of total human impact on the planetary systems, and the "safe operating space" for humanity would create an enabling environment for the intergovernmental negotiations to find effective responses and trajectories that foster socioeconomic development. In this sense, planetary boundaries "offer an important conceptual framework for a research and assessment program, rather than a clear guideline for political action" (BIERMANN, 2012, p. 6).

Likewise, Raworth (2017) proposed the "donut metaphor" to indicate not only a safe space for humanity, but also a fair one (Figure 6). This space allows meeting the needs of all people without jeopardizing the world in which we live (VEIGA, 2019). Below the social floor, those who lack the essentials of life (food, education, and housing, for example) suffer from deficiencies in human well-being. Above the ecological ceiling, which corresponds to the planetary boundaries (ROCKSTRÖM *et al.*, 2009a; 2009b), "lies an overshoot of pressure on Earth's life-giving systems, such as through climate change, ocean acidification and chemical pollution" (RAWORTH, 2017, p. 39). This framework is instrumental for research that seeks to investigate, for example, the existing inequalities of the international system, one of the research lenses of the Earth System Governance framework (ESG PROJECT, 2018).

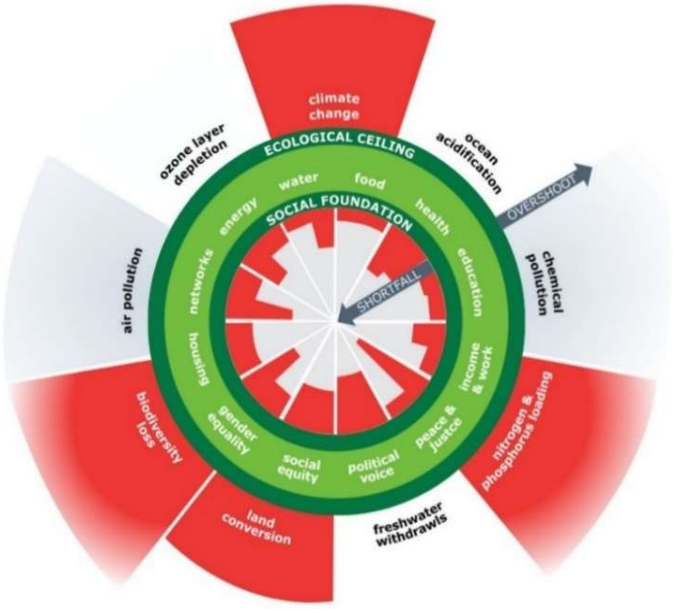

Figure 6. The donut of social and planetary boundaries (2017).[32]

[32] Source: <https://www.kateraworth.com/doughnut/> Accessed April 8, 2023 (the image indicates the planetary boundaries already crossed, as known in 2017).

Both figures above lead to the conclusion of scientific alerts and political inertia. In a context of uncertainty regarding the future, Taleb (2007) highlighted the possibility of the occurrence of what he calls "Black Swans." According to the author, Black Swans are events with three main attributes (TALEB, 2007):

- Low predictability: event outside the scope of common expectations since nothing in the past can convincingly point to its possibility.
- High impact: in non-linear systems, minor changes in the initial conditions can generate major differences in later stages, a phenomenon known as the Butterfly Effect.
- Retrospective explainability (not prospective predictability): although the event is an outlier, human nature makes us develop *a posteriori* explanation for its occurrence, making it explainable and purportedly predictable.

Taleb (2007) argued that reality is the result of a small number of noteworthy events, with low predictability and high impact, and not of linear and cumulative evolution of predictable factors under controllable circumstances. In this way, what is not known assumes a relevant position before what is known. Given the unpredictability of Black Swans, the best strategy would be to recognize that they will occur and try to prepare for different scenarios.

In the field of International Relations, the most eloquent example of a Black Swan is the fall of the Berlin Wall and the collapse of the Soviet Union. This unforeseen event brought about the end of the Cold War, ending a period of almost half a century of opposition between the two superpowers that emerged from the World War II. Since then, International Relations have undergone several processes related to the diffusion of power to Asia.

Another event that could qualify as a Black Swan would be the effect of global warming on the thermohaline circulation. The weakening (or, at the limit, the interruption) of this current would have a strong effect on the circulation of heat and salinity in the ocean, with even more intense consequences for the global climate (ANGELO, 2016). In addition, global warming may weaken deep ocean circulation currents,[33] also increasing the impact on the climate system (LIU *et al.*, 2023). Both phenomena would have serious, abrupt implications for the environmental conditions that sustain life on the Planet.

Therefore, human action has been causing changes in planetary dynamics, gathered in the concept of Anthropocene. These phenomena have the potential to promote increasing political transformations both in the domestic and international scenarios. Both the *Anthropocene* and *transformations* are *contextual conditions* in the ESG research framework, which I adopted as the

[33] The Atlantic Meridional Overturning Circulation and Southern Meridional Overturning Circulation (SMOC), and the Meridional Overturning Circulation (MOC).

analytical framework of this research. The scenario of political transformations that the world has been experiencing and its implications are the subject of Section 2.2.

2.1.2. Scientific and diplomatic uncertainties in a VUCA world

The process of change that the world is going through is not defined as a linear and gradual change in the properties that shape reality. This is not an extended continuity of the past, but a chaotic and disruptive transition to a new civilizing paradigm whose contours are still unknown (ABRANCHES, 2017). The new reality has been characterized as VUCA: *volatile*, *uncertain*, *complex*, and *ambiguous* (BENNETT and LEMOINE, 2014). According to them:

- Volatility: Relatively unstable change; information is available, and the situation is understandable, but change is frequent and sometimes unpredictable.
- Uncertainty: A lack of knowledge as to whether an event will have meaningful ramifications; cause and effect are understood, but it is unknown if an event will create notable change.
- Complexity: Many interconnected parts forming an elaborate network of information and procedures; often multiform and convoluted, but not necessarily involving change.
- Ambiguity: A lack of knowledge as to "the basic rules of the game;" cause and effect are not understood and there is no precedent for making predictions as to what to expect.

The concept of the VUCA world was coined in 1990 by Army War College and quickly incorporated into literature aimed at the business world. It has proved to be especially useful for the study of International Relations (BENNETT and LEMOINE, 2014). The advancement of technological interconnectivity, and the high mobility of goods and people resulting from the dissipation of borders and reconfigurations at the mental, technological, and physical levels are reflected in this acronym (CODREANU, 2016). It is not simply a "cute, trendy way of saying 'unpredictable change'," but it indicates fundamental characteristics of the new reality under construction: "VUCA conditions render useless any efforts to understand the future and to plan responses," creating "myriad traps" for world leaders (BENNETT and LEMOINE, 2014).

To face this new scenario, it is essential that institutions and organizations develop governance systems capable of enabling *agility*, which is key to coping with volatility, *information*, which is critical to reducing uncertainty, *restructuring* internal operations to match external complexity, which is the most effective way to address it, and *experimentation*, which is necessary for reducing ambiguity (BENNETT and LEMOINE, 2014).

The solutions to the challenges imposed by the VUCA environment indicate the need to create a framework sometimes also called VUCA[34]: *vision*, by which institutions need to create the future through action, rather than trying to forecast it; *understanding*, which demands a series of behavioral attributes from leaders, such as openness, and accountability; *clarity*, meaning the ability to recognize a lack of knowledge in a field and, based on that, the desire and patience to learn and gather information through dialogue and conversation; and *agility*, which is about sustaining hardship, changing quickly and flexibly (CODREANU, 2016).

In the current context of international politics, uncertainty has two main dimensions: *scientific* and *diplomatic*. From the point of view of *scientific uncertainty*, the intensification of technological advances leads to increasingly faster changes, driving the acceleration of history. The post-war has been a period of increasing demand on the Earth's natural resources, known as "Great Acceleration" (McNEILL and ENGELKE, 2016). "Blue Acceleration" indicates its ocean dimension, including deep-sea mining (BLASIAK, 2020).

Technological advances, associated with the increase in the world population, cause environmental degradation. On the other hand, they produce solutions to these same problems. However, these advances have been directed towards promoting environmental stability at a pace slower than necessary. A clear example is given by climate change. The dissemination of technological advances aimed at the production of clean energy has not been fast enough to prevent, or even slow down, the pace of the increase in the average global temperature, what increases the risk of disruption in climate stability.

From the point of view of *diplomatic uncertainty*, the absence of the US and the rise of China (setting up a new great power competition) has caused the shift of the power axis from the Atlantic Ocean to the Pacific Ocean. The US continues to be the sole global superpower, but it has given way to other powers in its historic multilateral leadership. This is evident, for example, from China's increasingly leading role in climate negotiations, after the announcement of the Donald Trump administration's decision to withdraw from the Paris Agreement in June 2017.

As technological development allows the intensification of the race for marine resources, the complexity of ocean governance increases exponentially. The interests of states intensify, regulation faces increasing challenges and the need for institutionalized collective action to face potential and actual disputes between relevant actors also grows (BARROS-PLATIAU *et al.*, 2015).

In a scenario marked by volatility, scientific and diplomatic uncertainty, complexity, and ambiguity, in which technological progress allows advances while creating new challenges, and

[34] Others use the acronym VACINE to describe de framework needed to face challenges in a VUCA world: "velocity, agility, creativity, innovation, network and experimentation" (CODREANU, 2016).

which demands governance institutions able of restructuring themselves with agility based on information and experimentation, the concept of complexity becomes central also in the field of International Relations. Facing the Covid-19 pandemic can help us to investigate the extent to which this perspective is incorporated into international structures and mechanisms for responding to global problems. This will be the object of Section 2.1.3.

2.1.3. The Covid-19 pandemic and its political consequences

Like the 9/11 terrorist attacks and the 2008 financial crisis, the Covid-19 pandemic is an "asymmetric shock." These three great crises of the twenty-first century (one political, one economic, and one natural) started small, took the world by surprise and provoked—in some cases still provoke—grave consequences on a global scale (ZAKARIA, 2020). The context in which the Covid-19 pandemic broke out is essential to assess its impact. The profound interconnection of the world, the unpreparedness in which the vast majority of countries found themselves, and the realization that, at least in the early days, many of them—including the most developed nations and which historically privileged multilateralism and international cooperation—closed their borders and economies in unprecedented ways have certainly exacerbated the effects of the pandemic (ZAKARIA, 2020).

While the 9/11 attacks produced failed American interventions in Afghanistan and Iraq, renewed Islamic radicalism, and the rise of Iran, the 2008 financial crash favored antiestablishment populist leaderships across the globe. The effects of the Covid-19 pandemic cannot yet be known, but they tend to be far-reaching, deep, and lasting (FUKUYAMA, 2020). What began as a public health issue in China soon became a global pandemic. Combating it required a simultaneous lockdown of all business across the globe, resulting in a "great paralysis" with economic damages that already rivaled those of the Great Depression. Its political, social, and psychological repercussions will be felt for many years to come (ZAKARIA, 2020).

Although the speed and intensity of the flow of people across borders has accelerated the spread of the new coronavirus, globalization is not the cause of the Covid-19 pandemic. In addition to a temporary quarantine, the permanent closure of borders would not prevent the emergence and spread of new diseases like this. On the contrary. In order to fight pandemics, it is essential to deepen international cooperation to allow, for example, the sharing of reliable scientific information, in order to facilitate the development of strategies and solutions to face the problem, and to foster global solidarity, in the sense of understanding that "the spread of the epidemic in *any* country endangers the *entire* human species." International cooperation can deepen trust and facilitate joint action in the fight against the pandemic (HARARI, 2020).

The greater or lesser success of countries in dealing with the crisis is not a matter of regime type. Democracies like the US (at least in the Trump administration) and autocracies like Russia performed badly, unlike democracies like New Zealand and South Korea and autocracies like China. The countries that have responded best to the pandemic and managed to limit its consequences have a combination of factors such as "a competent state apparatus, a government that citizens trust and listen to, and effective leaders." On the other hand, "countries with dysfunctional states, polarized societies, or poor leadership have done badly, leaving their citizens and economies exposed and vulnerable" (FUKUYAMA, 2020).

In the first moments of the spread of the pandemic, some governments used the fight against the pandemic as a pretext for new attacks on democracy, such as the populist governments in Hungary (MORRIS, 2020) and Philippines (McCARTHY, 2020). Elsewhere, a nationalist-biased response raised barriers to the movement of people, as in Europe—not only for non-Europeans, but also between countries on the continent—and in Russia (STEVIS-GRIDNEFF and PÉREZ-PEÑA, 2020). The advance of populism and nationalism can threaten democracy and introduce even more contradictions in the globalization process, increasing to some extent the possibility of international conflict (FUKUYAMA, 2020).

Globalization was expected to deepen even further by the growth of internationalized business and the greater integration of global supply chains. This process was supposed to prevent any protectionist backsliding. However, Covid-19 has highlighted a significant vulnerability of the global supply chains on which international businesses depend, as countries shut down to fight the pandemic. In developed countries, "international business has proven remarkably weak in the face of the populist and economic nationalist wave that is reshaping national and international politics" (LAKE, MARTIN and RISSE, 2021, p. 240). Even Sweden has seen a surge of right-wing populism, debunking the myth that states with robust welfare states would not suffer from resentment and discontent created by the deepening inequalities arising from the globalization process (LAKE, MARTIN and RISSE, 2021).

In addition to the economic and social effects of the pandemic, it is important to highlight its political effects. In the post-Cold War globalized and deeply interconnected world, no single nation can shape on its own the flows of goods, services, money, culture, ideas, and diseases: "everyone is connected, but no one is in control" (ZAKARIA, 2020, pos. 516). It is not clear yet whether the pandemic will forever alter the course of history (SUMMERS, 2020), whether everything will soon return to *business as usual* (ZENKO, 2020), or precipitate developments that would otherwise take longer (HAASS, 2020). What can be safely said today is that, together with other elements (such as climate change and the resurgence of geopolitics as a decisive factor in international dynamics), the pandemic has contributed to shaping the emerging world order.

As mentioned, the emergence of an unexpected global problem has triggered isolationist and authoritarian behavior in many countries. Instead of inducing a deepening of international cooperation, borders and societies were initially closed. Imagining whether multilateral action could have been different, had we not been in a context of questioning multilateralism itself and the resurgence of tensions inherent to great power competition, would be an interesting counterfactual exercise (LEBOW, 2010).

However, this is not the purpose of this thesis. I bring the discussion of the effects of the Covid-19 pandemic on international relations to illustrate, with the example of a recent acute crisis, the importance of the increasingly conflicting international context in the quest for multilateral solutions to shared problems. The growing animosity between different worldviews is caused by and manifests itself in the crisis of the Western liberal order and the new great power competition. This is the subject of Section 2.2.

2.2. CHANGES IN INTERNATIONAL SYSTEM: CRISIS OF THE WESTERN LIBERAL ORDER AND NEW GREAT POWER COMPETITION

The international political scenario has been increasingly conflicting. The Cold War ended with an alleged victory for the West. Three decades later, it is not possible to say that the world is experiencing a period of political stability. Particularly, the rise of China and Russia's attempts at geopolitical reaffirmation are both cause and consequence of a crisis in the US-led liberal international order. These circumstances have the potential to negatively affect the possibility of international cooperation, with repercussions on international negotiations, including on the conservation and sustainable use of marine BBNJ.

The purpose of this section is to discuss these aspects of international political reality, starting with the rise and fall of the US-led Western liberalism as a global order (Section 2.2.1). In Section 2.2.2, I present elements of the new great power competition, with the US and China at opposite poles.

2.2.1. The rise and fall of the US-led Western liberalism as a global order

Can the international reality we experience still be defined as a post-Cold War era? In general terms, the Cold War was characterized by the division of the world into spheres of influence of the two superpowers that coexisted for more than four decades in a state of tense stability. Concisely, the bipolar order synthetized this period. The simple characterization of a given period as a *post-* indicates that, having the attributes of the previous reality been overcome, the characteristics of a new situation of relatively lasting stability have not yet been consolidated. In other words, having been surpassed

the Cold War paradigm, the world is still experiencing a period of transition to a new paradigm, whose attributes are only now beginning to be clearly outlined (ROSENAU, 1990).

Although the US-led Western liberal order contained since the inception the seeds of its crisis, it has consolidated and expanded since World War I, and more intensely since World War II (Section 2.2.1.1). However, in recent decades it has faced strong internal (Section 2.2.1.2) and external (Section 2.2.2) questioning.

2.2.1.1. The expansion of postwar Western liberal order and the sources of its crisis: A glimpse into the debate between Ikenberry and Mearsheimer

2.2.1.1.1. A liberal international order, as liberal internationalists see it

Despite the slightly different implications of the expressions "liberal international order", "Western liberal order", and "US-led order" (BLAIR, 2021, p. 84), in this work I use them as synonyms, to indicate the international order that was consolidated in the Western world after World War II (PRANTL, 2014) and that sought to expand "outward across the globe" (IKENBERRY, 2020, p. 2) after the collapse of the Soviet Union and the end of the Cold War. For liberal internationalists, this order would be a constructed outcome "shaped by organizational structures and agreements," based on ideas and convictions about how to organize international space: openness, especially open international trade, reliability on institutions, democratic solidarity, cooperative security, and progressive social purposes (IKENBERRY, 2020, p. 16).

Liberal internationalism is seen as "an idealist appeal to spread democracy worldwide." Based on the words of Woodrow Wilson when defending the declaration of war against imperial Germany in 1917, that the objective of the US entry into World War I would be to make the world "safe for democracy," another interpretation becomes possible: that the liberal internationalism would be "a call to reform the postwar international order so as to allow Western liberal democracy to survive." With his statement before the US Congress, Wilson would be calling on Americans to "confront the dangers that imperil the survival of democracy, not to promote it on distant shores" (IKENBERRY, 2020, p. xi).

For liberal internationalists, "liberal democracies cannot be secure or prosperous alone; they must create a larger world so as to survive and advance" (IKENBERRY, 2020, p. 33). In this way, international liberalism seeks not only to explain the world *as it is*. It also intends to transform the world *towards what it should be*. The normative aspect of the theory, of shaping the future, seeks to create the necessary conditions for liberal democracies to thrive (IKENBERRY, 2020, p. xiv). The international order defended by liberal internationalism constitutes an open and rules-based system

that seeks to create, consolidate, and deepen a "cooperative international order organized around principles of restraint, reciprocity, and sovereign equality" (IKENBERRY, 2020, p. 33).

Ikenberry (2018) argued that the stability of the US-led Western international order in the post-World War II was based less on the US direct and instrumental exercise of hegemonic domination than on the exercise of a strategic restraint by the superpower (IKENBERRY, 2018). In this sense, international rules, and institutions, as both constructs and constrains built around shared beliefs and values, "reduce the long-term implications of asymmetries of power," preventing a "return to power" and hegemonic aspirations within the West, especially in Europe and Japan. Additionally, the rooting of international institutions in the political and economic structures of Western countries contributed to the stabilization of this order, making it difficult for a pattern of strategic rivalry to re-emerge in the Western context. The US accepts to operate within an institutionalized political process, while the other states that make up the Western postwar order agree to be willing participants (IKENBERRY, 2018).

The notion of openness and trade has its roots in the economic field and is based on the logic of specialization and comparative advantages. For liberal internationalists trade and exchange across borders generate not only mutual gains for the agents involved, but also more general political benefits for liberal democracies. It creates economic interdependence, which in turn tends to create political cooperation (or at least reduce the likelihood of armed conflict): "as countries become increasingly integrated into a complex worldwide economic system, they find it harder to pursue ideological goals that would disrupt the flow of benefits" (IKENBERRY, 2020, p. 33-35). The joint work of societies promotes their modernization and political development. In the interaction between countries, interests would replace passions. This contributes to explain, to a large extent, how Washington and Beijing could identify common interests related to economic and technological competition, which could lead to convergences as, for example, in the 2009 Copenhagen Accord on climate change.

Rules and institutions seek to manage complex interdependence and foster cooperation by making the trade-off between interdependence and sovereignty compatible on a contractual basis. By organizing rules of conduct, institutions contribute to reducing transaction costs, overcoming uncertainties, and establishing channels for ongoing cooperation. Beyond a simple affirmation of the interests of the most powerful nations, rules and institutions seek to establish a principled basis for states relations. While weaker and secondary states look to international institutions for guarantees against domination and abandonment by the great powers, the latter find in international institutions a useful instrument to gain acquiescence and cooperation from the former (IKENBERRY, 2020).

The 1795 Kantian Perpetual Peace proposition—democracies do not go to war with one another—is essential to liberal internationalism. This is due to the sensitivity of democratic

governments to the views of the electorate, normally less inclined to war, and the mutually reinforcing perception that democracies prefer to avoid war. This generates a democratic solidarity that makes the prospect of war between democratic countries virtually null. In 1994, the promotion of free markets and democracy abroad became one of the three pillars of the US National Security Strategy[35] in the Clinton administration (EVANS and NEWNHAM, 1998, p. 120-121). Aiming to retain global hegemony, the Clinton doctrine replaced the Cold War paradigm of *containment and deterrence* with a strategy of *engagement and enlargement* (the En-En Strategy). This doctrine privileged geoeconomics over geopolitics, while promoting the expansion of the NATO alliance eastward (EVANS and NEWNHAM, 1998, p. 68-69). The democratic world constitutes a zone of peace where common interests and shared values induce peaceful working relations between countries and, therefore, a "broad trend toward institutionalized cooperative security and economic relations" (IKENBERRY, 2020, p. 37-38). Although liberal internationalism does not advocate a crusade against non-democratic countries, it does not exclude the possibility of confrontation with them. The adherence of countries to a wide variety of groupings, alignments, and coalitions characterizes the international system at any given moment, but the most prominent and enduring divide remains that between democracies and non-democracies (IKENBERRY, 2020).

Instead of passively relying on the democratic peace postulate, liberal democracies actively build cooperative security strategies "to prevent war, deter threats, and build rules and institutions that advance peace and stability." Liberal democracies seek security cooperation to avoid war with countries outside the alliance, which would put liberal principles at risk, and to create the foundation for more expansive agendas and a stable international order. The creation of security cooperation co-binding institutions also serves as a pact of mutual restraint by creating "a setting and mechanisms for states to influence and restrain partners within the alliance" (IKENBERRY, 2020, p. 39).

Finally, liberal internationalism is organized around the belief that the global order can be reformed to promote certain social goals and values. The global order would be subject to constant evolution to ensure progressive social purposes, measured in terms of rising living standards, improved health, better security against violence, increased rights, and, more broadly, social justice (IKENBERRY, 2020).

According to the liberal internationalism paradigm, illiberal states seek to join liberal international organizations for reasons that "range from direct material benefits to more diffuse reputational and legitimacy concerns." Liberal states encourage illiberal states to join liberal international organizations. They do so in the belief that participation in the liberal international order

[35] The 1994 US National Security Strategy, entitled "A Strategy for Engagement and Enlargement," rests on three pillars: "the retention of global military predominance, the quest for continued economic prosperity and the promotion of free market democracy abroad" (EVANS and NEWNHAM, 1998, p. 68).

tends to alter the domestic political structures of illiberal states so as to make them adopt liberalism (LAKE, MARTIN and RISSE, 2021, p. 233), what can be characterized as a "liberal bet" (THE STOCKDALE CENTER, 2021).

Based on these ideas and convictions, liberal internationalism "seeks to create an ordered environment in which liberal democracies can cooperate for mutual gains, manage their shared vulnerabilities, and protect their way of life" (IKENBERRY, 2020, p. 7). Over two centuries, liberal ideals have been able to adapt to survive challenging circumstances, with 1918 (the end of World War I), 1945 (the end of World War II), and 1991 (the end of Cold War) being the most decisive. Refining and reinforcing core ideas and convictions, the West managed to redefine programs and agendas that constitute and carry forward liberal internationalism as a political project and to find a renewed intellectual and political foundation which would allow consolidating and expanding the reach of those same ideas and convictions, with the final objective of guaranteeing the necessary international conditions for democracies to safely exist. Today, the Western liberal order faces another of these decisive moments (IKENBERRY, 2020). Thus, liberal international order seems to be "not a singular thing but a dynamic order that applies more or less broadly, and has evolved over time, and will likely continue to evolve in the future" (LAKE, MARTIN and RISSE, 2021, p. 234).

2.2.1.1.2. The sources of crisis: The liberal order as a bounded order

For realists, however, "international order is an emergent property: a manifestation of anarchy and the distribution of power" (IKENBERRY, 2020, p. 16). John Mearsheimer, for example, understands that the liberal international order "is no more" (THE STOCKDALE CENTER, 2021). A liberal democracy could only embrace a liberal hegemony in a scenario that was favorable to it in terms of balance of power, that is, in a unipolar world in which the only great power need not worry about being attacked by another great power. The victory in the Cold War left the US in the position of the sole global power and allowed it to pursue a liberal hegemony, but with disastrous effects that are beginning to reveal themselves: "a liberal foreign policy is not a formula for cooperation and peace but for instability and conflict" (MEARSHEIMER, 2018).

In this sense, the US-led liberal international order contains, since the inception, "the seeds of its own destruction" (MEARSHEIMER, 2019, p. 7). First, the American policy of engagement enabled China's economic growth and its quest to transform economic power into military and political power, as predicted by realist theories. In other words, the strategy of trying to include China in the liberal international order in the hope of turning it into a responsible stakeholder that obeys the rules in force (the "liberal bet") has failed miserably. Second, the promotion of democracy abroad led the US to unnecessary wars (and defeats) and generated distrust and resistance in both China and

Russia, nondemocratic great powers. Third, although globalization has contributed to the increase in world wealth, it has also deepened domestic social inequalities and provoked nationalist responses, for example in the US (with the election of Donald Trump and America First policy) and in Europe (with the UK's departure from the European Union (EU), known as Brexit). Fourth, the open borders policy was another factor that contributed to the resurgence of nationalism, particularly as a rejection of receiving immigrants, particularly from poor and violent countries (MEARSHEIMER, 2019; THE STOCKDALE CENTER, 2021).

In this context, the world would be heading towards a scenario in which two bounded orders would coexist: a US-led one and a China-led one. Cooperation would be possible within each of these orders, but a dynamic of security competition would prevail between them. On the surface, there could be a "thin international order," not liberal, in which some degree of cooperation between the great powers (the US, China and Russia) would be possible, but only on specific issues (MEARSHEIMER, 2019; THE STOCKDALE CENTER, 2021).

Mearsheimer seems to make no distinction between the expressions "*international* order" and "*global* order." However, Ikenberry explicitly recognizes that while liberal internationalism seeks to expand liberal democracy, a set of countries find themselves outside the liberal international order. Countries in this position would be both potential members of this order and potential adversaries in an eventual confrontation (THE STOCKDALE CENTER, 2021). In this sense, Ikenberry does not claim the existence of a liberal *global* order. Using the expression proposed by Mearsheimer, it can be said that Ikenberry affirms the existence of a "bounded" Western liberal order that since the end of the Cold War has sought to expand and that now faces something like a "bounded" Eastern order, whose contours are not yet clearly defined but tending to be China-led (with Russia taking on the role of a revisionist great power).

Despite this debate, the Western liberal order, and its ability to maintain and expand does indeed seem to face challenges not only from outside (Section 2.2.2), such as those imposed by challenging powers, especially China, or revisionist ones, particularly Russia, but also from within and even from its core "in unprecedented ways" (Section 2.2.1.2) (LAKE, MARTIN and RISSE, 2021, p. 236).

2.2.1.2. Internal challenges to the international liberal order

Lake, Martin and Risse (2021) identified broad ways in which internal challenges to the liberal international order develop. First, the increase in inequality among and within countries given that, in the process of economic globalization, far more people lose, and fewer gain. Since the 1970s, trade, offshoring, and automation have led to a reduction in the number of available jobs and the wage

of industrial workers, deteriorating economic and social conditions in certain regions. The global financial crisis of 2008 extended the advantages of wealthier regions—able to recover more quickly from the crisis—and exceptionally talented and skilled workers. This is one of the causes of the protectionism and populism resurgence that prompted nationalist governments in many parts of the world (BROZ, FRIEDEN and WEYMOUTH, 2021; FLAHERTY and ROGOWSKI, 2021).

Second, the subversion of truth facilitated by the internet and instrumentalized by illiberal forces. Populist leaders use truth-subversion practices, including false speak[36], double speak[37], and flooding[38], for political domination. Truth-subversion strategies create emotional inflaming and societal polarization, threatening democracy, the market economy and multilateralism, fundamental elements of the liberal international order (ADLER and DRIESCHOVA, 2021). Illiberal states—and illiberals within liberal states—instrumentalize freedom of expression, especially on the internet and social networks, as an attack vector, trying to destabilize the political scenario in the liberal sphere, both international and domestic (FARRELL and NEWMAN, 2021).

Third, the internal contradictions of liberalism in applying illiberal practices in its own construction. The resurgence of protectionist forces with influence on US domestic policy undermined the support historically given by that country to free international trade, the global trade regime, and the World Trade Organization (WTO) (GOLDSTEIN and GULOTTY, 2021). The end of the Cold War favored the emergence of a post-national liberalism, with a growing intrusiveness of international institutions and an increase in the contestation of international security and international refugee law, deepening tensions between the liberal international order and the Westphalian values of sovereignty and noninterference (BÖRZEL and ZÜRN, 2021). Fluctuations in the domestic politics of countries have been aggravating the politicization of international policy towards cooperation with both stabilizing and destabilizing effects (DE VRIES, HOBOLT and WALTER, 2021).

And fourth, the threat posed by liberalism to national identities. By privileging universality to the detriment of restricted communities, the liberal international order clashes with the principle of national sovereignty, based on territoriality (SIMMONS and GOEMANS, 2021). Welcoming immigrants generally does not translate into their political inclusion in the destination country (GOODMAN and PEPINSKY, 2021). Racial nationalism and substantive racial inequality threaten the democratic and inclusive foundations of the liberal international order (BÚZÁS, 2021).

A combination of nationalism, populism and authoritarianism manifested itself in the Trump administration in the US, the main promoter and guarantor of the liberal international order since the

[36] "Flagrant lying to subvert the concept of facts" (ADLER and DRIESCHOVA, 2021).
[37] "Intentional internal contradictions in speech to erode reason" (ADLER and DRIESCHOVA, 2021).
[38] "The emission of many messages into the public domain to create confusion" (ADLER and DRIESCHOVA, 2021).

end of World War II. The former American president abandoned traditional US commitments to tackling climate change, defending democratic institutions, and promoting multilateralism as the foundation of an open and rules-based global system, all in the name of "America First" (IKENBERRY, 2020, p. 3). Trump's abandonment of the traditional US leadership style—building alignments to pursue strategic ends—meant in practice a drastic reduction of democratic solidarity, an essential element of liberal internationalism. The Biden Administration's attempt to regain US leadership in international affairs runs up against obstacles that are both domestic, arising from the deep internal political division that influences US foreign policy, and external.

As proximate causes of the emptying of US international leadership, Ikenberry identifies failures and disappointments due to the 2003 Iraq War, which discredited multilateralism, the 2008 crash, which discredited neoliberalism, and the failure of the liberal bet in relation to China (THE STOCKDALE CENTER, 2021). The period between the September 11, 2001, terrorist attacks and the Trump administration, through the 2003 Iraq War and the 2007–08 financial crisis, "will be remembered as a period of profound rupture with the previous decades of Western dominance" (KHANNA, 2019, p. 3).

In addition to the US, other countries at the core of the liberal international order are experiencing the resurgence of populist-nationalist governments. Brexit is the most emblematic example. However, authoritarian populist parties received the vote of more than a quarter of European voters in the respective national elections and currently form part of or provide decisive parliamentary support for many European governments. Other less central countries are also experiencing this same process across the globe, such as India, Brazil, Philippines (LAKE, MARTIN and RISSE, 2021), and Israel (ARBELL, 2023; FRIEDMAN, 2022).

2.2.2. New great power competition: A G2 world, or a new Cold War?

Since the end of the Cold War, the US hegemony has been increasingly contested. The "unipolar moment" (KRAUTHAMMER, 1990) has not become a "unipolar era" (KRAUTHAMMER, 2002). It is not my goal to foresee the configuration of the international order that will emerge from the transition we are experiencing. My objective is much more modest: to highlight the fact that the final stages of the BBNJ negotiations took place at a time of instability of international institutions and crisis of multilateralism and the liberal international order.

In 1989, shortly after the fall of the Berlin Wall, Francis Fukuyama argued that the "unabashed victory of economic and political liberalism" (FUKUYAMA, 1989, p. 3) at the end of the Cold War would have led to "the end of history", in the sense that humanity had reached the "end point of mankind's ideological evolution and the universalization of Western liberal democracy as

the final form of human government" (FUKUYAMA, 1989, p. 4). History could be "started once again," but only after "centuries of boredom" (FUKUYAMA, 1989, p. 18).

This prediction did not materialize. While the 1994 US National Security Strategy announced the engagement and enlargement strategy, just over two decades later the 2018 US National Defense Strategy, entitled "Sharpening the American Military's Competitive Edge," identified the "inter-state strategic competition" as the central challenge to US prosperity and security (US, 2018, p. 2). The US now classifies China and Russia as "revisionist powers" that seek to undermine the international order "from within the system by exploiting its benefits while simultaneously undercutting its principles and 'rules of the road'," and that "want to shape a world consistent with their authoritarian model" (US, 2018, p. 1-2). The sole superpower recognizes the decline in the "long-standing rules-based international order" (US, 2018, p. 1), thus admitting that the world has entered a new great power competition era.

This new great power competition goes beyond US-China relations. It also covers the relationships these two countries have with the rest of the world. In the 1990s and 2000s, some myths supported the US view towards China: "that China would liberalize, be constrained by international institutions, and be deterred by the US military might" (MASTRO, 2022, p. 596). These premises turned out to be wrong.

Considering Chinese—and even Russian—revisionism as bad and the US *status quo* posture as good for the international system stems from a value judgment that implies the adoption of Western beliefs and values as best for world stability and progress (MASTRO, 2022). It is not my aim to corroborate this value judgment, but only to recognize that China behaves as a challenging power and Russia as a revisionist one. In Sections 2.2.2.1 and 2.2.2.2, I address the challenges to the liberal international order posed by a revisionist Russia and a challenging China, respectively.

2.2.2.1. Russian revisionism: Regional expansionism and "the return of global Russia"

With the rise of Vladimir Putin to the Russian presidency a decade after the end of the Cold War, "US-Russia relations began fluctuating markedly between cooperation and discord, with each blaming the other for the latter," associated with the divergence of views regarding the circumstances in which the Cold War ended, with the US declaring itself victorious and remaining the sole superpower, and Russia refusing to accept the status of a defeated power and the position of lesser partner of the US. In 2007, in view of the increasing American activity in areas previously under the influence of the Union of Soviet Socialist Republics (USSR), Putin harshly criticized the US, "which 'mistakenly thinks it operates in a unipolar world,' disdains 'the basic principles of international law,' and engages in 'an almost uncontained hyper use of force'" (FINK, 2018).

Displeased with the emergence of alleged US-backed civil society movements in Georgia, Ukraine, and Kyrgyzstan, the 2007 announcement that the US would install missile defense systems in Poland and the Czech Republic (directed against Iran), and NATO's offer to admit Georgia and Ukraine, Russia invaded Western-leaning Georgia in 2008, annexing the dissident provinces of South Ossetia and Abkhazia. In 2013, unhappy with the overthrow of Muammar Gaddafi in Libya and the threats to Russia's Syrian ally Bashar al-Assad, Russia granted a temporary political refuge to Edward Snowden, contrary to the direct and expressed interest of the US (FINK, 2018).

In 2014, the veto of Ukraine's association with the EU provoked a strong wave of popular protests, which culminated in the overthrow of the pro-Russian Ukrainian president. In retaliation, Russia annexed the Ukrainian peninsula of Crimea and began to provide military, economic, and political support to pro-Russian forces in southeastern Ukraine to detach the Donbass region from the Kiev's control (FINK, 2018). In 2022, Russia invaded Ukraine once again. Although Moscow's objectives are not clear and after failing to capture Kiev, Russia appears to be aiming for geopolitical gains by annexing the provinces of Donetsk and Luhansk in the Donbass region, conquering the Zaporizhia and Kherson regions, and establishing a land connection with the Crimean Peninsula (under Russian control since 2014), among others (GIGOVA, HAQ and GUY, 2022). The Russian invasion of Ukraine still had no end in sight at the time of writing this work.

From a realist point of view, Russian military action in Georgia in 2008 (annexation of South Ossetia and Abkhazia) and in Ukraine in 2014 (annexation of the Crimean Peninsula) and 2022 (conflict in progress) appears not to be a result of "Putin's expansionist goals" but directly motivated by the expansion of the EU and mainly of NATO to countries that were part of the former USSR's sphere of influence. Although NATO declares itself a defensive alliance that poses "no threat to Russia," since NATO's Bucharest Summit in April 2008 Moscow sees "Ukraine joining NATO as an existential threat [to Russia] that must be prevented." In this view, the 2021 US-Ukraine Charter on Strategic Partnership, which reaffirms the 2008 Bucharest Summit Declaration as the basis for cooperation between the two countries, was a decisive step in the growing Western provocation that led Russia to invade Ukraine. In 2008, Putin had already warned that "if Ukraine joins NATO, it will do so without Crimea and the eastern regions" (MEARSHEIMER, 2022).

However, another reading is possible. Although the 2008 NATO Summit Declaration (NATO, 2008) was "a disaster," reducing "the causes of Russia's invasion to the Bucharest declaration is simplistic and wrong" (ROBERTS, 2022). Other crucial factors may have contributed decisively: the "Ukrainian defiance in response to Russia's huge military exercise on its border" in 2021, the threat that a successful and democratic Ukraine poses to Russian domestic authoritarianism, and simply poor intelligence. In addition to these proximate causes, other elements also played a role: the often messy and traumatic nature of the disintegration of empires such as the USSR, the violation

(with the annexation of Crimea by Russia in 2014) of the security guarantees given to Ukraine to renounce the former USSR's nuclear arsenal would have spurred Ukraine to join other defensive alliances, and the Russian perception that the popular revolutions in many countries in the former Soviet Union were supported by the West. The conjunction of these factors indicates that attributing responsibility for the Russian invasion of Ukraine to the West, as Mearsheimer does, "goes too far" (ROBERTS, 2022).

For the Biden administration "Russia remains determined to enhance its global influence and play a disruptive role on the world stage" (US, 2021a, p. 8). All these elements indicate that since the rise of Vladimir Putin, Russia does not see itself as a secondary power on the world stage. It seems extreme to say that Russia seeks to rebuild, especially in Eastern Europe, the sphere of influence of the former USSR. But it can be said that it does not tolerate what it considers existential threats, that is, the interference of the West in its immediate surroundings (especially in Georgia and Ukraine). At the same time, it actively seeks to maintain its influence over historic allies such as Syria and Iran.

2.2.2.2. Challenge: China's increasingly assertive rise as a superpower

Until roughly 2010, the US military in East Asia was so dominant that intervention seemed unnecessary and there was an expectation that the domestic regimes in the region would become liberal, especially in China. Today, most American strategists see China as "a strategic rival and probable future cold or hot enemy" (BLAIR, 2021, p. 88). Given the uniqueness—in recent history—of the Chinese ability to challenge US hegemony not only regionally, but potentially also globally, I consider China a *challenging* power.

The emergence of China as a global power after the "century of humiliation" poses serious challenges to the liberal international order (LAKE, MARTIN and RISSE, 2021, p. 241). Before the defeat by the UK in the Opium Wars, the Chinese Emperor was seen as the ruler of *Tianxia*, that is, of "all under heaven." The treaty system that followed the war forced China to accept the Westphalian concept of sovereignty and equality and therefore to recognize other states as equals. Initially aligned with the Soviet Union, Mao Zedong's communist China began to support the Non-Aligned Movement, "driven by a strong urge to be self-reliant and develop itself on the basis of its civilizational strength, without relying on foreign powers" (SAHA, 2020, p. 2). In the Deng Xiaoping era, China was focused on internal reform and opening up to the outside world. The quest for a peaceful and favorable international environment, and the success of economic reforms allowed the Chinese economy to grow an average of 9.5% per year in the period 1979-2018 (SAHA, 2020, p. 3). China's gross domestic product (GDP) doubled approximately every eight years and the country brought some 800 million individuals out of poverty (LAKE, MARTIN and RISSE, 2021, p. 241).

After the break with the Soviet Union and the rapprochement with the US, the People's Republic of China is recognized in 1972 as a permanent member of the UN Security Council in place of Taiwan (Republic of China). This significant diplomatic achievement favored China's growing engagement with international organizations. Moving away from previous national narratives which demanded an entirely new international system, the country started to defend the need to "reform existing institutions to reflect the strategic reality of increasing centers of power" (SAHA, 2020, p. 3).

To expand its participation in international trade and broaden its sphere of influence, China conceived the Belt and Road Initiative (or New Silk Road—NSR), comprising the Silk Road Economic Belt and the 21st-century Maritime Silk Road (BRONA, 2018; MARÓ and TÖRÖK, 2022). The initiative must be financed by other institutions promoted by China: the Asia Infrastructure Investment Bank (AIIB), the New Development Bank (NDB), and the Silk Road Fund (SRF), which is managed by the China Investment Corporation (CIC), the China Development Bank (CDB), and the Export-Import Bank of China (CHEXIM) (MARÓ and TÖRÖK, 2022, p. 11).

From a geopolitical point of view, several issues are the object of Chinese interest and Western concern: the Sino-Russian cooperation (SORENSEN and KLIMENKO, 2017), Taiwan, and the South China Sea, among others (US, 2020). In addition, China has been developing actions that place the country as one of the main actors in the global technological competition not only in the fifth generation (5G) wireless telecommunications physical and digital infrastructure, but also in other fields, such as artificial intelligence, quantum computing, and next-generation information technology; robotics and automation; aerospace and space; high-tech shipping and oceanic engineering; and new materials (US, 2020).

It seems extreme to say that China plans to develop a "parallel order" (STUENKEL, 2018). But China's rise indicates a legitimation of market authoritarianism, especially in developing countries. In this sense, the "Beijing Consensus" would consist of a combination of economic openness and political authoritarianism (HALPER, 2010). China's economic and geopolitical ambitions are made clear by the National Rejuvenation Plan, proposed by the president Xi Jinping during the opening session of the 19th Communist Party Congress on October 18, 2017, aiming to make China a global superpower by 2050 (KHAN, 2017; JINPING, 2017). While China "has not yet attempted to break out of the [liberal international order] we cannot predict what it will do in the future" (LAKE, MARTIN and RISSE, 2021, p. 242).

In a document published in the final days of the Trump administration, the US Department of State states:

> The [Chinese Communist Party (CCP)] aims not merely at preeminence within the established world order—an order that is grounded in free and sovereign nation-states, flows from the universal principles on which America was founded, and advances U.S. national

> interests—but to fundamentally revise world order, placing the People's Republic of China (PRC) at the center and serving Beijing's authoritarian goals and hegemonic ambitions.
>
> In the face of the China challenge, the United States must secure freedom.
>
> China is a challenge because of its conduct. Modeled on 20th-century Marxist-Leninist dictatorship, the CCP eventually spurred rapid modernization and produced prodigious economic growth—thanks in no small measure to the party's decision in the late 1970s to embrace free-market elements and to the decision by the United States and nations around the world to engage, and welcome commerce with, China. The party today wields its economic power to co-opt and coerce countries around the world; make the societies and politics of foreign nations more accommodating to CCP specifications; and reshape international organizations in line with China's brand of socialism. At the same time, the CCP is developing a world-class military to rival and eventually surpass the U.S. military. These actions enable the CCP to credibly pursue the quest—proceeding outward through the Indo-Pacific region and encompassing the globe—to achieve "national rejuvenation" culminating in the transformation of the international order (US, 2020, p. 1).

However, the current poor state of US-China relations did not start with Trump administration. The Obama administration had already promoted a "pivot to Asia" in its overall strategy towards the region (BLAIR, 2021, p. 93). This new "integrated diplomatic, military, and economic strategy that stretches from the Indian subcontinent through Northeast Asia" (LIEBERTHAL, 2011) sought to reverse the shift away from regional issues promoted by the Bush administration and, thus, assert a US leadership role in Asia. In China, this Asia-wide strategy fostered the perception that the US would be promoting "a conspiracy to hold down or actually disrupt China's rise" (LIEBERTHAL, 2011). For the Biden administration, China is becoming increasingly assertive and today is "the only competitor potentially capable of combining its economic, diplomatic, military, and technological power to mount a sustained challenge to a stable and open international system" (US, 2021a, p. 8).

Recent initiatives to manage and balance Chinese power and thereby prevent China's hegemony in the Indo-Pacific region include the US-British-Australian Security and Defense Pact (AUKUS), and the Quadrilateral Security Dialogue (QSD or QUAD), which integrates Australia, India, Japan and the US "with a less confronting agenda than AUKUS" and a focus on a "public goods agenda" (MEDCALF, 2022, p. 95).

The eventual ability of China to shape an order that replaces the liberal international order stems from two main reasons: (i) in the US, the domestic consensus around the preservation of this order is threatened by the perception of the potential benefits that China can obtain as part of the system; and (ii) although some characteristics of the CCP's rule go against fundamental principles of the liberal international order, they can also coexist with basic Westphalian principles (sovereignty and noninterference) and with domestic market control mechanisms (WEISS and WALLACE, 2021).

* * *

Internal and external challenges interact in a dynamic manner, creating feedback loops that make threats to the liberal international order even more complex (LAKE, MARTIN and RISSE, 2021). What is the nature and depth of this crisis? Is it a crisis *in* the order, demanding an internal reorganization that allows the exercise, albeit limited, of leadership by the US around a set of principles shared by the Western world: an order still open and rules-based, but less Western? Or is it deeper, a crisis *of* the order, in which China will replace the US as the central actor, "a postliberal order organized around some other set of principles and institutions"? (IKENBERRY, 2020, p. 5). In other words, does the crisis of the Western liberal order affect the *Western* or does it go deeper and affect the *liberal* as well? As stated earlier, it is not my objective to foresee the contours of the world order in the making, but to point out that the world is currently experiencing a turbulent period whose outcomes are not yet known.

All these recent geopolitical shifts are relevant for the understanding of current hurdles to multilateral negotiations in general and the BBNJ negotiations in particular. If there is no confidence among the great powers, and if they prefer competition rather than collaboration, the BBNJ process will hardly deliver the outcomes expected in the turn of the century.

2.3. OCEAN POWERS: HOW GLOBAL POWER DISTRIBUTION REFLECTS ITSELF IN THE OCEAN?

The goal of this section is, through exploratory research, to empirically identify key state actors in shaping global ocean governance. The idea is to point out a specific type of actor with the potential to influence this area of governance and shape the BBNJ negotiations: the *ocean powers*. To fulfill this objective, I selected indicators referring to the economic resources of each country (or region, in the case of the EU) and its ability to develop economic activities in the ocean.

The first criterion for classifying countries and regions as ocean powers is based on their economic and population dimensions. Table 3 presents data for the 31 countries with a GDP (purchasing power parity—ppp) greater than US dollars (USD) 1 trillion.

China and India stand out as population giants, with more than 1.4 billion inhabitants each. China, the US, and the EU have the largest GDPs (USD 30.1, 25, and 24 trillion, respectively), well ahead of India (in fourth, with USD11.6 trillion) and Japan (in fifth, with USD 6.1 trillion). In terms of GDP *per capita*, the US leads this ranking (USD 75.2 thousand), followed by the Netherlands (USD 69.7 thousand), Germany (USD 63.8 thousand), and Australia (USD 62.2 thousand).[39]

[39] In fact, of the 31 countries with GDP (ppp) greater than $1 trillion, the countries with the 15 highest GDP *per capita* (ppp) are: Singapore (USD 131,425.7), Ireland (USD 131,034.1), Switzerland (USD 84,468.9), Norway (USD 78,127.6), United Arab Emirates (USD 77,272.3), United States (USD 75,179.6), Denmark (USD 69,845.1), Netherlands (USD 69,714.5), Austria (USD 66,680.1), Iceland (USD 66,467.0), Sweden (USD 63,877.4), Germany (USD 63,834.9), Australia (USD 62,191.6), Belgium (USD 62,065.1), and Finland (USD 58,659.0). Source: World Economic Outlook – International Monetary Fund (IMF). Available at <https://bit.ly/3o67oyN> Accessed April 8, 2023.

Economic activity in the ocean can be measured by a set of data referring to maritime navigation, fishing, and patents of MGRs (Annex I). Among the 65 selected countries[40], Indonesia (10,762 ships), China (6,937), Japan (5,527), the US (3,637), Singapore (3,309), and Russia (2,875) are the ones with the highest number of ships under national flag (UNCTAD, 2023).

Table 3. GDP, GDP per capita and population of the 31 largest economies (ppp)

	Country/Region	GDP (ppp)[41] (USD million)	GDP *per capita* (ppp)[42] (USD)	Population[43] (thousand)
1	China	30.074,4	21.290,9	1.425.862
2	The United States	25.035,2	75.179,6	336.496
3	The European Union	24.048,9	53.959,9	445.191
4	India	11.665,5	8.293,2	1.402.808
5	Japan	6.110,0	48.812,8	124.947
6	Germany	5.316,9	63.834,9	83.390
7	Russia	4.649,7	31.967,0	145.473
8	Indonesia	4.023,5	14.638,4	272.890
9	Brazil	3.782,8	17.683,8	213.828
10	The United Kingdom	3.776,0	55.862,1	67.168
11	France	3.688,3	56.199,9	64.502
12	Türkiye	3.321,0	38.759,4	84.459
13	Italy	3.022,2	51.061,8	59.361
14	Mexico	2.919,9	22.440,1	126.386
15	Republic of Korea	2.765,8	53.574,2	51.831
16	Canada	2.240,4	57.827,5	38.019
17	Spain	2.216,0	46.551,2	47.398
18	Saudi Arabia	2.018,3	55.802,3	35.764
19	Egypt	1.662,0	15.958,5	108.392
20	Australia	1.615,3	62.191,6	25.796
21	Iran	1.599,2	18.663,2	87.590
22	Poland	1.599,0	42.465,9	38.379
23	Pakistan	1.512,5	6.662,1	229.281
24	Thailand	1.479,6	21.114,2	71.562
25	Bangladesh	1.345,6	7.985,1	168.415
26	Vietnam	1.299,7	13.075,0	97.094
27	Nigeria	1.275,3	5.883,8	210.874
28	Netherlands	1.226,7	69.714,5	17.467
29	Argentina	1.207,2	26.073,8	45.164
30	Philippines	1.154,9	10.343,6	113.094
31	Malaysia	1.096,5	33.112,7	33.396

In terms of carrying capacity measured in dead weight tons (DWT), Singapore (136,330 tons DWT), China (108,481), Greece (64,563), Japan (39,313), the UK (33,745), and Indonesia (29,015) top the ranking (UNCTAD, 2023).

[40] The countries were selected based on criteria related to the indicators raised for the preparation of this and Chapter 4.
[41] Source: World Economic Outlook – IMF. Available at <https://bit.ly/3o67oyN> Accessed April 8, 2023.
[42] Source: World Economic Outlook – IMF. Available at <https://bit.ly/3o67oyN> Accessed April 8, 2023.
[43] World Population Prospects 2022 – UN. Available at <https://bit.ly/3KRyLWb> Accessed April 8, 2023.

Philippines (252,393 seafarers), Russia (198,123), Indonesia (143,702), China (134,294), India (113,474), and Ukraine (76,442) are the countries with the highest number of seafarers (UNCTAD, 2023).

China (12 million tons – live weight), Indonesia (6), Peru (6), Russia (5), the US (4), India (4) are the main responsible (46.4% of the world total) for the global production of marine capture fisheries (FAO, 2022a).

Germany (6,278 patents), the US (1,450), Japan (1,431), Israel (848), the UK (669), and Norway (632) are the countries that filed the most patents on MGRs (BLASIAK *et al.*, 2018b).

For the classification of countries, it is also interesting to investigate which organizations and treaties each one of them is part of (Annex III). A country's accession to a treaty or organization indicates, to some extent, its political commitment to that particular regime. This does not mean, however, that a country that chooses not to ratify a given international agreement has not actively participated in its negotiations. An emblematic example is the non-ratification of important treaties (such as the UNCLOS, the CBD and the Nagoya Protocol) by the US, an important agent in the respective negotiations in particular, and in the support of multilateralism in general.

In terms of security policies, it is observed that no part of NATO, created during the Cold War, which placed the West (led by the US) and the Soviet bloc (gathered under the Warsaw Pact) at opposite poles, is also part of the Shanghai Cooperation Organization (SCO), which brings together China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan, and Uzbekistan. It seems premature to define the current East-West confrontation as a new Cold War, although QUAD and AUKUS appear as Western initiatives to counter China's growing military leadership in Southeast Asia.

Table 4. Participation in economic and commercial groups or organizations – Selected countries

Organization	Countries/Regions
G7, and G20	France, Germany, Italy, and the UK
G7, G20, and APEC	Canada, and the US
G7, G20, APEC, and RCEP	Japan
G20	EU, Argentina, Brazil, India, Saudi Arabia, South Africa, and Türkiye
G20, and APEC	Mexico, Republic of Korea, and Russia
G20, APEC, and RCEP	Australia, and China
G20, APEC, ASEAN, and RCEP	Indonesia
APEC	Chile, and Peru
APEC, and RECP	New Zealand
APEC, ASEAN, and RCEP	Malaysia, Philippines, Singapore, Thailand, and Vietnam
ASEAN, and RCEP	Myanmar

In the economic and commercial fields, the G20 (20 members) and the Asia-Pacific Economic Cooperation (APEC) (17) are the most numerous groups in relation to the countries selected in this research. Wealthy Western countries (Canada, France, Germany, Italy, the UK, and the US) are concentrated in the G7, while Southeast Asian countries cluster in the organizations of that region (Malaysia, Myanmar, New Zealand, Philippines, Singapore, Thailand, and Vietnam). The participation of selected countries in economic and trade organizations is shown in Table 4.

Figure 7 shows the participation of these countries in economic and commercial groups or organizations. No country participates in all five groups. Very close to the center are the US and Canada (participants in the G7, G20, and APEC), China and Australia (participants in the G20, APEC, and RCEP), Indonesia (which participates in the G20, APEC, the Association of Southeast Asian Nations (ASEAN, and RCEP), and Japan (which participates in the G7, G20, APEC, and RCEP).

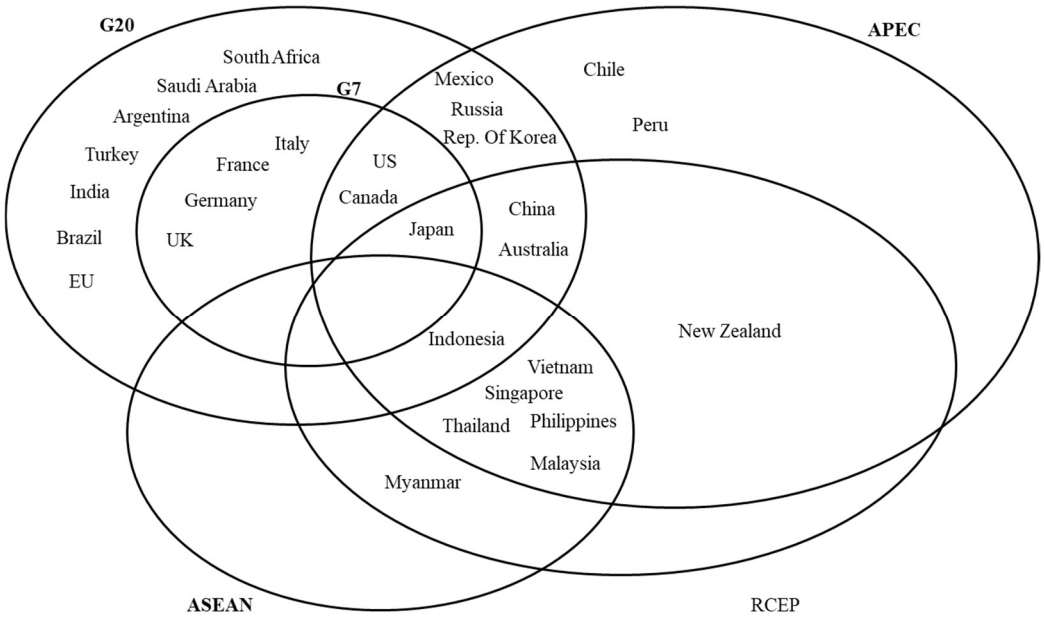

Figure 7. Participation in economic and commercial groups or organizations – Selected countries

Still based on the data presented in Annex III, the following elements are worth highlighting:

- Few countries are not signatories to UNCLOS: Colombia, Iran, Israel, Peru, Türkiye, United Arab Emirates, the US, and Venezuela.
- In addition to the countries that have not acceded to UNCLOS, Egypt has also not signed the implementation agreement relating to Part XI of the Convention.
- In addition to the countries that did not accede to UNCLOS, some others did not sign UNFSA (also an UNCLOS IA): Argentina, Belarus, China, Malaysia, Mexico, Myanmar, Pakistan, Saudi Arabia, Singapore, and Switzerland.
- While not signatories to UNCLOS, Iran, and the US have signed UNFSA.

- 34 countries presented submissions to the Commission on the Limits of the Continental Shelf (CLCS) as provided for in UNCLOS Article 76.8: Argentina, Australia, Bangladesh, Brazil, Canada, Chile, China, Cuba, Denmark, Ecuador, France, Iceland, India, Indonesia, Ireland, Japan, Malaysia, Mexico, Myanmar, Namibia, New Zealand, Nigeria, Norway, Oman, Pakistan, Philippines, Portugal, Republic of Korea, Russia, South Africa, Spain, the UK, Uruguay, and Vietnam.
- 14 countries have a contract with ISBA for the exploration of mineral resources in the Area: Belgium, Bulgaria, China, Cuba, Czechia, France, Germany, India, Japan, Poland, Republic of Korea, Russia, Singapore, and the UK. Brazil had a contract since 2014 for the Rio Grande Rise, but it decided to end it in 2022.
- All selected countries are CBD signatories except the US.
- In addition to the US, Australia, Canada, Chile, Colombia, Iceland, Iran, Ireland, Israel, Italy, Monaco, New Zealand, Poland, Russia, Singapore, Slovenia, Thailand, and Türkiye have not ratified the Nagoya Protocol.
- Among the Antarctic Treaty Consultative Parties (ATCP) and other members of the Antarctic Treaty, 17 countries have not signed the CAMLR Convention: Austria, Bulgaria, Colombia, Cuba, Czechia, Denmark, Finland, Iceland, Malaysia, Monaco, Peru, Portugal, Romania, Slovenia, Switzerland, Türkiye, and Venezuela.
- Even though they are not members of the Antarctic Treaty, the EU, and Namibia have signed the CAMLR Convention.
- Among the ATCP and other members of the Antarctic Treaty, Cuba, and Denmark have not signed the Environmental Protocol.
- Even though they are not members of the Antarctic Treaty, Ireland, and Slovenia have signed the Environmental Protocol.
- Belarus has a research station in Antarctica, but it is not ATCP yet.
- Among the Arctic countries that are members of the Arctic Council, Sweden, and Russia do not participate in NATO (Sweden has already applied for membership, which will probably be accepted soon, leaving Russia as the only Arctic country not participating in NATO).
- Even though they are not arctic countries, the following 13 countries are part of the Arctic Council with observer status: China, France, Germany, India, Italy, Japan, Netherlands, Poland, Republic of Korea, Singapore, Spain, Switzerland, and the UK.
- All selected countries are parties to both the UNFCCC and the Paris Agreement.

Viola, Franchini, and Ribeiro (2012) identify three climate *superpowers* (the US, China and the EU), five climate *great powers* (Brazil, South Korea, India, Japan and Russia), and 26 climate *middle powers* (South Africa, Saudi Arabia, Canada, Argentina, Colombia, Ukraine, Thailand, Venezuela, Malaysia, Philippines, Australia, Bangladesh, Egypt, United Arab Emirates, Iran, Nigeria, Pakistan, Vietnam, Singapore, Indonesia, Israel, Mexico, Norway, Switzerland, Taiwan and Türkiye).

Based on the data presented in this section, it seems possible to propose an analogous classification based on criteria referring to the economic resources of each country, its ability to develop economic activities in the ocean, and participation in organizations and international agreements related to this issue. In this attempt, I attribute greater weight to the indicators GDP (ppp), carrying capacity measured in DWT of the fleet operating under national flag, total marine capture of fisheries, and number of patents on MGRs. Therefore, I identify:

- 3 ocean *superpowers*: China, the US, and the EU.
- 5 ocean *great powers*: Germany, India, Indonesia, Japan, and Russia.
- 16 ocean *middle powers*: Canada, Chile, Denmark, France, Greece, Israel, Malaysia, Morocco, Norway, Peru, Philippines, Republic of Korea, Singapore, Thailand, the UK, and Vietnam.

* * *

Internal and external aspects of the liberal international order raise questions about the ability of the US to lead the liberal international order, as well as the viability of liberalism itself as the basis of a global order. The inadequacy of the international response to the Covid-19 pandemic should serve as a wake-up call to the growing inability of nations to build effective multilateral solutions to global problems. The Anthropocene aggravates this scenario, given that changes in planetary dynamics are increasingly comprehensive, intense, and lasting. Another aggravating factor stems from the scientific and diplomatic uncertainties that weigh on the future, including the near future.

This process is reflected in a crisis of the world order, which has its most disturbing face in the new great power competition. It seems an exaggeration to characterize, at least for now, the opposition between the US and China as a new Cold War. But neither is it possible to speak of a cooperative posture by a G2 concerned fundamentally with providing solutions to global problems with a view to the common good. This increasingly conflictual scenario has the potential to prevent international negotiations from leading to comprehensive and ambitious agreements, with clear and precise language, which face the great issues of the Planet and humanity.

In Chapter 4, I seek to investigate how the BBNJ negotiations have been affected by this dynamic of crises. But first, in Chapter 3, I present the institutional architecture that shaped the text

of the new treaty. Naturally, this architecture consists of existing treaties that serve as a starting point for several of the issues negotiated within the scope of conservation and sustainable use of the marine BBNJ resources.

3. ARCHITECTURE: MANY TREATIES, LOW EFFECTIVENESS, AND THE BBNJ GAP

This chapter seeks to investigate BBNJ negotiations under the second research lens of the ESG research framework: Architecture (Figure 1). The primary objective here is to identify the international regimes that form the institutional architecture in which the BBNJ treaty will be embedded. This architecture shapes the legal gap and, at the same time, establishes the borders that confine the possible solutions for filling it.

The results of international negotiations stem from a multitude of factors and are not necessarily consistent with the established legal-institutional framework. New arrangements can reduce or deepen the fragmentation of existing regimes. Emergent properties of nonlinear systems (like the international system) are dependent on its initial conditions. The outcomes of BBNJ negotiations are deeply dependent on the existing architecture of the institutional framework for the protection of biodiversity, with diverse themes, principles, spatial scope, and organizational arrangements.

In general, international law is shaped by international relations through diplomatic choices (TOMÉ *et al.*, 2020). The initial configuration strongly influences the subsequent states of complex systems. Associated with power- and agency-related issues, the dependence on initial conditions influences the outcomes, which can be completely different from those intended by the agents. In this sense, it is worth trying to identify the conditions that form the initial set up for the BBNJ negotiations.

As already mentioned, the object of the BBNJ negotiations is the conservation and sustainable use of marine BBNJ. There are several international conventions that aim to protect biodiversity and regulate the exploration and exploitation of the ocean. For the purposes of this research, I selected as relevant elements of the institutional architecture the CBD (Section 3.3), the ATS (Section 3.4), and the regime for the Arctic (Section 3.5). Not only can they be considered international regimes directly connected to the ocean agenda and ocean powers, but also, they constitute key entry points for the Anthropocene challenges, including the planetary boundaries. In this sense, they are more relevant to this research than the navigation and the fisheries regimes.

But first, it seems essential to consider the UNCLOS (Section 3.1) and the UNFCCC (Section 3.2). UNCLOS regulates sovereignty issues and the legal regime applicable to the oceans, including the high seas. It is the normative framework within which the BBNJ treaty will be niched. The UNFCCC, although not directly dealing with the protection of biological diversity, seeks solutions to tackle global warming, one of the main causes of biodiversity loss, both terrestrial and marine.

The purpose of this chapter is to investigate the extent to which current multilateral environmental agreements have the potential to interfere or even shape BBNJ negotiations. As mentioned, the hypothesis I intend to test is that due to the subordination position in relation to UNCLOS and the "not undermine" requirement in relation to other treaties, the innovative and harmonizing potential of the BBNJ treaty tends to be limited.

In other words, the BBNJ negotiations and, therefore, the final text of the BBNJ treaty are conditioned by the existing institutional architecture (Chapter 3) and by the general context of geopolitical competition and the crisis of the international liberal order (Chapter 2). These elements shaped the participation of state agents in the multilateral negotiations (Chapter 4), who tended not to seek a BBNJ treaty that is innovative and ambitious, with clear language and precise commitments.

3.1. UNCLOS: A COMPREHENSIVE OCEAN GOVERNANCE FRAMEWORK WITHOUT FOCUS ON CONSERVATION AND THE SUSTAINABLE USE OF MARINE BBNJ

As mentioned in Section 1.2.1, the legal framework on the protection of marine BBNJ will be established by a multilateral treaty *under* the UNCLOS (UN, 2011b). Concluded during the Cold War, UNCLOS dealt primarily with geopolitical issues, and only marginally with protection of the marine environment. The BBNJ treaty fills an important gap left by the Convention, aiming to regulate the conservation and sustainable use of living marine resources in ABNJ. Between UNCLOS and the BBNJ treaty there will be a relationship of subordination. The BBNJ treaty will be an UNCLOS IA. It comes in addition to two other implementation agreements: the 1994 Part XI Agreement, on mining activities in the Area, and the 1995 UNFSA, on straddling and highly migratory fish stocks.

Since the end of the World War II, states have sought to expand their control over the seas through a gradual process of extending their sovereignty (MORAES, 2019). Before the war, the sovereignty of a state was limited to the territorial sea of three nautical miles. Today, the EEZ covers two hundred nautical miles and the continental shelf. According to the UNCLOS legal definition, the area under national jurisdiction can be extended up to 350 nautical miles, except for special circumstances (SOUZA, 1999; MORAES, 2019).

The various zones provided for in UNCLOS—territorial sea, contiguous zone, EEZ, and continental shelf—are subject to different degrees of sovereign rights, and different legal regimes (TREVES, 2015; VIERROS *et al.*, 2016) (Figure 8). However, although the control of states over these areas follows rules different from those applicable to their territory, in practice states have extended their sovereignty over the seas with only minor adaptations (MORAES, 2019).

In this vein, the potential application of two opposing principles of international law has always been at the center of discussions on the access and use of existing natural resources in ABNJ: FoS and CHM (GANASHREE, 2021; VADROT, LANGLET AND TESSNOW-VON WYSOCKI, 2022). The first "dominates governance of the sea surface and water column, and where all users have a right to access and extract renewable resources" and the latter states that these resources are "owned collectively by the international community" and that "each state is entitled to share in the benefits of exploitation by private or national actors in these areas" (TILLER *et al.*, 2020).

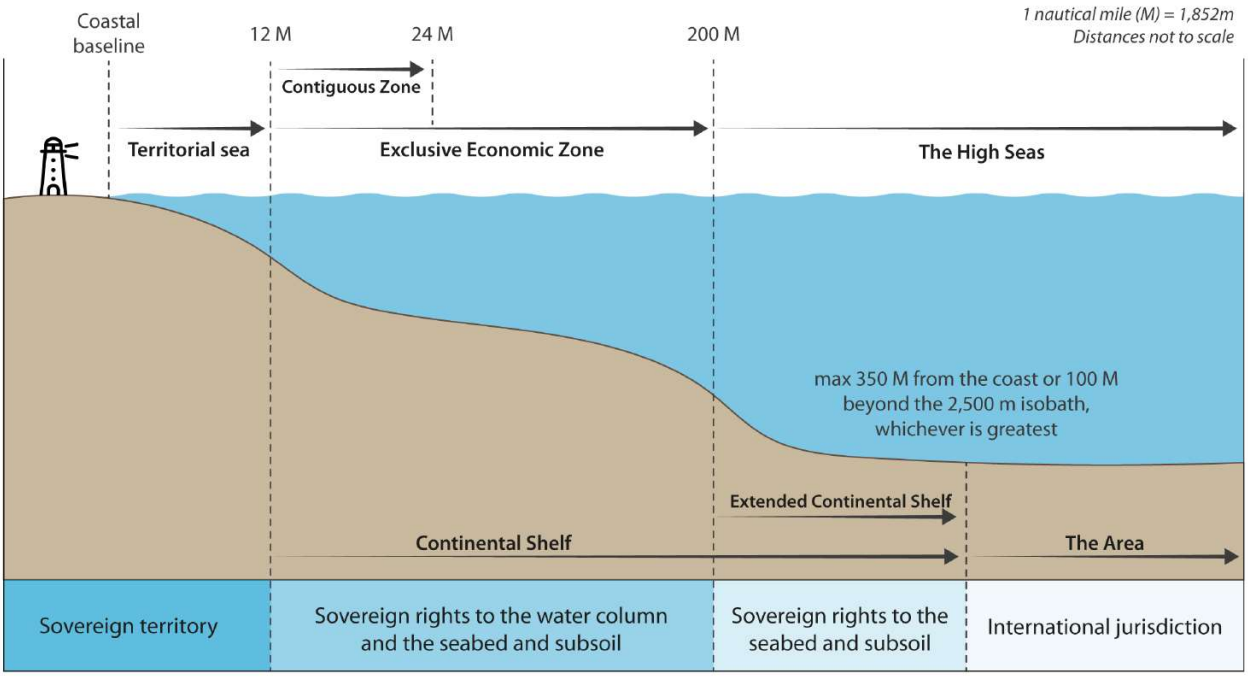

Figure 8. Maritime zones according to UNCLOS (JOUFFRAY *et al.*, 2021)

The reconciliation of different views on the legal status of natural resources existing in ABNJ—the Area and the high seas—is hard to achieve. Throughout the UNCLOS negotiation, the protection of the marine commons did not rise the concern of the states, which were resigned to the application of the FoS principle, with the notable exception of the deep seabed (TILLER *et al.*, 2020).

In this vein, the 1970s were marked by the growing interest in seabed mining. This interest was driven by the threat of depletion of mineral resources on land, notably oil and the oil crisis fed by oil-producing countries, as well as by the promise of abundance on the seabed. Although this was the main reason for negotiations, the available scientific knowledge did not allow to plot the location and stock of these minerals, nor to estimate the value they would have. Developing states considered deep seabed resources, especially nonrenewable resources, as common goods belonging to all states

equally, while developed states understood that these resources would be freely accessible, i.e., belonging to whichever state or entity harvested them (TILLER *et al*., 2020).

These two antithetical positions generated an impasse: "it was difficult to see how one side could persuade the other" (TILLER *et al*., 2019). In a scenario of uncertainty, the international community defined that the minerals that may exist in the Area would be considered CHM, according to the UN Resolution 2749 of 1970. However, UNCLOS did not establish the meaning and scope of this principle. The dilemma was only partially resolved with the proposal to create the ISBA by UNCLOS, an international body mandated to regulate mining in the Area. Still, the uncertainties associated with the mineral exploration regime in ABNJ were one of the main reasons why the US did not ratify UNCLOS (TILLER *et al*., 2020).[44]

The Convention gives states the freedom to fish, travel, and lay cables in the high seas, defines the responsibilities of nations regarding the use of the ocean, and establishes guidelines for businesses, environmental protection, and the natural resources management (CHUN, 2018). Moreover, technological innovations are opening the seabed to the extraction of mineral resources. Currently, there are twenty-two contractors prospecting for marine mineral resources, including countries and companies, such as China, Republic of Korea, Japan, Germany, Nauru, and Tonga (Annex III).[45]

Technologies are making it easier to conduct exploration and exploitation activities in ABNJ, with ISBA revenues estimated between USD 2.8 billion and USD 7.7 billion, depending on tax rates, and market prices (KIRCHAIN *et al.*, 2020). However, there are significant international governance gaps since countries do not have sovereign rights that underlie the exploitation of natural resources existing in these areas (HUMPHRIES *et al.*, 2020). While institutional evolution is slow and conflicting, and exploitation is not yet authorized, the "ISBA mining code" has a quite complete draft that is expected to be signed in 2023. Nowadays, the legal regime for the high seas is incomplete and inadequate to achieve the objective of managing and protecting resources in a sustainable manner. The current gaps concerning governance, regulation, and implementation limit its effectiveness (BARROS-PLATIAU *et al.*, 2015).

Therefore, the existent legal framework for ocean governance in ABNJ is fragmented and uncoordinated. It consists of a patchwork of arrangements that cover subjects as varied as protection of migratory birds, deep sea mining, dumping of illegal waste from ships, and pollution from land-

[44] "The [US] has maintained this position since 1983, though it is a signatory to the 1994 Part XI agreement and signed UNCLOS under the Clinton administration. But the seabed mining issue was important enough to prevent the ratification of the document as a whole—and to this day, UNCLOS remains unratified in the [US], the last major holdout. This situation is especially remarkable given the 1994 Part XI agreement, which modified the [ISBA] in ways meant to attract US and developed state ratification" (TILLER *et al*., 2020).

[45] Source: <https://bit.ly/3BhFJO5> Accessed August 30, 2022.

based sources, among others. It is estimated that at least 190 multi-and bi-lateral agreements address issues related to the ocean, not including customary international law, working practice, informal rules, and other forms of global governance. Consequently, the conservation and sustainable use of marine biodiversity has "slipped through the cracks of ocean governance, especially for the ABNJ, and there are also concerns about effective and equitable conservation on the high seas" (DE SANTO *et al.*, 2020).

Furthermore, there is intense fragmentation in the governance of the oceans, both from the sectoral (fishing, navigation, pollution, mining, among others) and geographic viewpoints. This is not a technical issue whose solution would come from smart institutional design. This fragmentation clearly stems from the predominance of commercial interests (BARROS-PLATIAU and MALJEAN-DUBOIS, 2017; KOTZE and KIM, 2019) over what Otani (1998) described as the "vital interest of humankind". The challenge, therefore, is not simply to create a new treaty on BBNJ to close the existing gaps in the regime complex applicable to the oceans, but to reform current institutions, usually unable to achieve the objectives for which they were created (BARROS-PLATIAU *et al.*, 2015). However, this does not seem to be the pathway adopted for the BBNJ and future negotiations.

UNCLOS and its own negotiation process provides the umbrella—both in terms of the legal framework, but also the international context—for the BBNJ negotiations (TILLER *et al.*, 2020). The debate on the CHM principle is still "particularly animated in the context of the fast-rising sectors of deep-sea mining, and even more so, bioprospecting," especially if we consider that "organisms and minerals are sometimes so intrinsically linked that the attempt of UNCLOS to separate them can be considered vain" (LALLIER, 2014). The BBNJ negotiations in UN will decide, among other things, which principle and set of rules will govern the exploitation of newly valued MGRs (TILLER *et al.*, 2020).

Although UNCLOS is considered the reference for ocean governance, the treaty has shortcomings. The gaps left behind at the Convention negotiations were either (i) "because provisions and definitions were not specific enough for states to be certain of the treaty's meaning at the time of UNCLOS, such as the application of the [CHM]," or (ii) "did not address problems that have either arisen since its ratification, such as exploitation of [MGRs]," or even (iii) "worsened since the treaty's completion in 1982, such as marine pollution" (TILLER *et al.*, 2019).

The UNCLOS gaps regarding the protection of BBNJ stem from two main causes: the historic moment of the formalization of the Convention and the political will of the states to create an instrument that is legally binding and effective. The importance and value of marine biodiversity is still poorly understood, but in the late 1970s and early 1980s this lack of knowledge was a key limiting factor. In addition, international regulation on the conservation and sustainable use of global commons tends to establish minimum standards of protection, given the low inclination of states to

adhere to rules that limit their freedom to exploit them. The relationship between scientific development, collective awareness and proper regulation is complex and non-linear. The advance of scientific knowledge does not necessarily lead to improvements in multilateral regulation, as will be discussed in the following sections concerning climate change and both glacial oceans regimes. It is hard to update treaties, as the interests and preferences of international actors in general and states in particular change. Updating the regime complex applicable to the ocean to fill the huge gap regarding marine BBNJ is not a simple task.

An IA to the UNCLOS would "be instrumental in helping to bring coherence and consistency into the existing fragmented governance system" (DRUEL, BILLÉ and ROCHETTE, 2013). The BBNJ negotiations represent an attempt at "finalizing a successful and comprehensive ocean governance regime" (TILLER *et al*., 2019). However, this objective was born committed, in view of the rule to "not undermine" pre-existing regimes requirement provided by UNGA Resolutions (UN, 2015a; UN, 2017b; SHI, 2019; LANGLET and VADROT, 2023). States decided that no new instrument should undermine existing relevant legal instruments and relevant global, regional, and sectoral bodies (ROCHETTE *et al*., 2015a), starting with fisheries.

According to Blasiak *et al*. (2016),

> although such "savings clauses" [referring to the not undermine requirement] are common in international law to preserve existing institutions, this presents a particular challenge within the context of BBNJ, as a patchwork of relevant sectoral regulations and guidelines on conservation and sustainable use is spread across more than a dozen international bodies. Ideally, however, the development of a BBNJ agreement provides an opportunity to harmonize and enhance existing governance mechanisms.

Governance of high seas fishing, for example, relies on RFMOs/As "that vary greatly in terms of the species they manage, their ability to incorporate broader ecosystems considerations into their management measures, and their effectiveness" (CLARK, 2020, p. 1). Although there were debates about the possibility of including fisheries resources in the BBNJ treaty (WRIGHT *et al.*, 2016b), the BBNJ treaty text expressly excluded these resources from its scope. Pursuant to Article 8.2 of Part II – MGRs, including the fair and equitable sharing of benefits:

> 2. The provisions of this Part shall not apply to:
> (a) Fishing regulated under relevant international law and fishing-related activities; or
> (b) Fish or other living marine resources known to have been taken in fishing and fishing-related activities from areas beyond national jurisdiction, except where such fish or other living marine resources are regulated as utilization under this Part. (UN, 2023)

In other words, because of the not undermine requirement, fisheries as well as other agreements should remain as they are. In addition, the not undermine requisite—according to which the BBNJ treaty should not interfere with the mandate of existing organizations—restricts the negotiating parties' room for maneuver and may harm the establishment and level of ambition of time-bound commitments to promote sustainable development, especially in its dimensions of

environmental responsibility and social justice (BLASIAK *et al*., 2016; LANGLET and VADROT, 2023).

Under an Earth System Governance perspective, De Santo *et al*. (2019) had already highlighted three areas of concern:

i) the politicization of science and coping with scientific uncertainty: "the nature of relevant scientific information, its linkages to political processes, and the influence of power dynamics suggest the value of developing an independent scientific advisory body;"
ii) institutional fragmentation: "the dangers of politically entrenched institutional fragmentation make it important to craft an agreement that maximizes prospects for synergistic interactions with other agreements (rather than 'filling the gaps') while fostering increasing inclusiveness and effectiveness over time;" and
iii) the need for a new agreement to respond to the complex set of multiple, multilevel, and systemic threats to marine BBNJ: "systemic factors and complex dynamics make it essential to create an agreement that is resilient, strengthens UNCLOS, and responds promptly and effectively to new and unexpected developments."

* * *

The BBNJ treaty will be a UNCLOS IA, being legally and politically subordinate to it, nested within it. The following sections deal with other treaties that make up the institutional architecture in which the new treaty will be embedded. In relation to these treaties, the BBNJ treaty will be subject to the "not undermine" requirement (LANGLET and VADROT, 2023).

3.2. UNFCCC: A CHANGING CLIMATE IN A TURBULENT WORLD

The greenhouse effect is a natural phenomenon by which a portion of the solar energy that reaches the Planet is retained by the atmosphere, enabling the conditions for life. In 2007, the IPCC already warned that human activities cause changes in the composition of the atmosphere, dangerously intensifying this process. The changes come from the accumulation of GHGs since the beginning of the industrial age, resulting from the burning of fossil fuels, the removal of vegetation cover, the decomposition of waste and inappropriate practices in agriculture and industry (IPCC, 2007a, p. 3). The IPCC 6th Synthesis Report corroborated the same message, with more scientific evidence and more calls for urgent action (IPCC, 2023).

Although environmentalists have been pioneers in raising awareness about climate change and its consequences, this is not a purely environmental problem. Its solution requires transforming a substantial part of the economy, by replacing fossil fuels with renewable energies and changing

production and consumption patterns (McKIBBEN, 2009, p. 36). Climate change must be understood as a challenge to development, evaluated according to not only economic but also environmental and social criteria, and faced on the basis of political action oriented towards international cooperation (TOMÉ, 2011, p. 12).

The phenomenon of climate change has deep connections with the political and economic fields. It amplifies constraints by introducing higher levels of instability in various regions of the world and brutally harming fragile states. Although science claims that it will bring about significant environmental and social transformations, decision-makers have not been able to build effective and timely solutions. (MATTHEW and HAMMILL, 2009, p. 1125; TOMÉ, 2011, p. 11). One of the reasons for the delay in the implementation of international strategies for climate change concerns the complexity of the issue, which derives from: economic factors, such as the existence of multiple sources of GHGs in the different industrial activities, and the central importance of fossil fuels to nearly every nation's economy; scientific factors, referring to uncertainties regarding the scope and timing of future impacts; and political factors, such as the development priorities of developing countries.

Climate change does not impact all the regions of the Planet equally (IPCC, 2023). In general, the countries that historically are least responsible for the accumulation of GHGs in the atmosphere are the most vulnerable to the effects of global warming, raising issues of climate justice and resulting in an increase in global economic inequality (LAFFOLEY *et al.*, 2022, p. 220). Thus, climate change raises equity issues both intra and intergenerationally (IPCC, 2023): who should bear the short-term costs generated by tackling the problem and how to allocate the long-term benefits arising from its eventual overcoming? (CHASEK, DOWNIE and BROWN, 2018, p. 162).

From a political standpoint, climate change is a complex problem for three fundamental reasons. First, it is global in scope, which cannot be solved by the isolated efforts of a single country or a small group of countries. Second, the worst effects of climate change are not perceived now, but will occur in the future, which puts the issue from the perspective of intergenerational responsibility. Third, the changes in attitude necessary to face climate change demand a gradual, although urgent, modification of the habits of billions of people, as well as institutions and companies, which requires the formulation of policies by governments that are not always able or motivated to do that (KEOHANE and VICTOR, 2010, p. 9).

Climate change is the prototype of a global commons issue (CHASEK, DOWNIE and BROWN, 2018, p. 162), as described by Garrett Hardin more than 50 years ago:

> Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all (HARDIN, 1968, p. 1244).

In this sense, reducing emissions constitutes a global public good that, on the one hand, benefits all countries but, on the other hand, produces powerful free-riding incentives (FALKNER, 2016, p. 1.110). Addressing the causes of this problem will bring about significant changes in economic, social, and political structure and dynamics, creating new winners and losers at local, national, regional, and global scales. Changes in the climate system affects all nations, and broad international cooperation is "the best option for the global community" to mitigate and adapt to climate change (LEE, 2009, p. 1102).

Section 3.2.3 discusses some of the challenges facing the climate regime today. But it is important to first understand how the community of states has responded to them. The international multilateral initiatives aimed at tackling climate change includes the 1992 UNFCCC (Section 3.2.1), the 1997 Kyoto Protocol, and the 2015 Paris Agreement (Section 3.2.2).

3.2.1. The 1992 United Nations Framework Convention on Climate Change (UNFCCC): Guiding principles and main governance mechanisms

As mentioned, the UNGA launched international negotiations on climate in 1990 (UN, 1990). These negotiations have always been marked by intense debates between and within the industrialized and developing world on issues related to equity and climate justice, such as "who should take responsibility, in what measure, and under what conditions, to avert climate change" (RAJAMANI, 2000, p. 120). In the UNFCCC negotiations, three groups of states were formed. First, states with few national fossil-fuel resources and relatively dependent on imported energy (including Japan and many European states). Second, states with large supplies of cheap energy resources and a culture of highly inefficient energy use (including Brazil, Canada, China, India, Mexico, Russia, and the US). Third, states highly dependent on fossil-fuel exports for income (including the Arab oil states, Australia, Norway, and, initially, the UK) (CHASEK, DOWNIE and BROWN, 2018).

The main principle adopted by the UNFCCC is that of common but differentiated responsibilities (CBDR). Although it may find inspiration in previously adopted principles (RAJAMANI, 2000, p. 120), the CBDR Principle was first formally stated in the Rio Declaration on Environment and Development (UN, 1992c, Principle 7).[46] The UNFCCC reproduces it as the principle of equity and the common but differentiated responsibilities and respective capabilities (UN,

[46] "States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, states have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command." (UN, 1992c, Principle 7).

1992b, Article 3.1).[47] More specifically, all parties should consider their common but differentiated responsibilities in fulfilling their commitments under the Convention (UN, 1992b, Article 4).

Given the fact that nature and ecological processes disregard political barriers, and due to the growing economic interdependence between countries, in which each country suffers the consequences of the production and consumption patterns adopted by others, no country or small group of countries[48] has the capacity to protect the global environment. This can only be done by recognizing the *common responsibility* of states. On the other hand, in addition to considerations related to the varying capacities of states to adopt environmental protection measures, the Rio-92 Summit consolidated the understanding around the *differentiated responsibilities* of states depending on the historical contribution to environmental degradation (RAJAMANI, 2000, p. 121).

In this sense, the CBDR principle indicates that all states share the responsibility of protecting the global environment, but it recognizes the greatest contribution of industrialized countries in creating the climate change threat. The principle obliges them to assume leadership to face the problem, not only because of their responsiveness—current and future—but also their historical responsibility at the source of emissions (RAJAMANI, 2000, p. 121).

The institutional structure around the UNFCCC maintains close parallelism with the CBD and other multilateral environmental agreements. At annual COPs, member states assess the implementation of the Convention and associated legal instruments. They also take decisions to improve implementation of the provisions contained in these documents, including institutional and administrative arrangements. The decisions of this governing body drive the implementation of the regime. [49]

The Secretariat conducts the daily life of the Convention, providing technical and organizational support to the negotiations and institutions, as well as facilitating the flow of available information to improve the implementation of the Convention and other associated legal instruments, such as the Kyoto Protocol and the Paris Agreement. The UNFCCC also has two permanent subsidiary bodies: The Subsidiary Body for Scientific and Technological Advice (SBSTA), which provides information and advice on scientific and technological matters to governing bodies and cooperates with other international organizations on such matters; and the Subsidiary Body for

[47] "The Parties should protect the climate system for the benefit of present and future generations of humankind, based on equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof." (UN, 1992b, Article 3.1).

[48] Despite the important contributions made by *climate clubs*, especially on dialogue and implementation, they are not focused on significantly increased ambition: "a different kind of club would be needed to drive ambition" (WEISCHER, MORGAN and PATEL, 2012, p. 191-192).

[49] Source: <https://bit.ly/359R5Yo> Accessed March 25, 2022.

Implementation (SBI), which promotes assessment and review of the implementation of the Convention and associated protocols and agreements.[50]

However, the lack of scientific consensus was considered a major hurdle, so the IPCC was organized in 1988. Comprised of scientists from various specialties and nationalities, the Panel seeks to consolidate the "most recent scientific, technical and socioeconomic information produced worldwide, relevant to the understanding of climate change,"[51] that is, to identify, on a global scale, the state of the art of research about the phenomenon. The Panel's objective is to provide a minimum scientific consensus on the nature of the problem, its causes, and consequences, in order to create secure bases for the political process (TOMÉ, 2011, p. 19).

The key feature of this regime is that it was considered too complex and thus limited to a scientific elite which took years to mobilize main decision-makers from developed countries. Even after the first IPCC Report in 1990, the key players were unwilling to effectively contribute to cooperate. Consequently, after 27 COPs, there is still a long way to go to stabilize the temperature and our "safe operating space". Because the solutions are expensive and totally depended on market-led interest, such as the decarbonization of the economy, the climate regime is far from having the same results as the Montreal regime (concerning the ozone layer).

The UNFCCC also has several decisions and two legally binding protocols negotiated by the COP: the 1997 Kyoto Protocol, and the 2015 Paris Agreement, presented in the following section.

3.2.2. The 1997 Kyoto Protocol and the 2015 Paris Agreement: Different approaches for different worlds

Little after the 1992 Earth Summit in Rio and the adoption of the UNFCCC, the 1995 IPCC Second Assessment Report (SAR) highlighted "the human influence on climate change." Then, the COP-3 adopted the Kyoto Protocol in 1997,[52] which demanded an average reduction of 5.2% of GHG emissions by Annex I countries of the Convention, mostly industrialized countries, between 2008 and 2012 (UN, 1997). During the negotiations of the Protocol, a new veto coalition (the JUSCANZ group: Japan, the US, Canada, Australia, and New Zealand) opposed negotiations for reduced emissions. Playing a lead role, AOSIS—group composed of forty-two island and low-lying states, which, due to their high vulnerability to sea-level rise, actively defends deep cuts in GHG emissions—submitted the first draft of the protocol (MALJEAN-DUBOIS and WEMAËRE, 2015; CHASEK, DOWNIE and BROWN, 2018). Although the process of negotiating protocol was rather quick, compared to

[50] Source: <https://bit.ly/359R5Yo> Accessed March 25, 2022.
[51] Source: <https://bit.ly/359R5Yo> Accessed March 25, 2022.
[52] The Kyoto Protocol entered into force in 2005, when ratification by Russia ensured that the necessary requirements were met. In exchange for ratification, Russia received support from the international community to access the WTO. The US has never ratified the Protocol.

other environmental regimes, the road ahead was plenty of stops. The following years of negotiations were so difficult that the IPCC Reports seemed to have limited impact on the commitment and compliance mechanisms.

At the same time, the scientific community worked hard to apprehend and explain the phenomena related to climate change, including ocean acidification, carbon capture, biodiversity loss and ice melting. All of them are directly related to the ocean. In 2001, the IPCC Third Assessment Report (TAR) concluded that temperature increases over the twenty-first century could be significantly higher than previously projected in IPCC SAR and that the evidence for human influence on climate change was stronger than ever (IPCC, 2001). The 2007 IPCC Fourth Assessment Report (AR4) stated that there is strong certainty that most of the observed global warming in the previous fifty years resulted from human influences (IPCC, 2007b).

In view of the non-ratification of the Kyoto Protocol by the US, negotiations continued from COP-13 onwards according to two negotiating tracks established in the 2007 Bali Action Plan for the Post-2012 period. First, under the *Ad Hoc* Working Group on Long-Term Cooperative Action (AWG-LCA), or Convention track (which included the US). Second, under the *Ad Hoc* Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol (AWG-KP), or Protocol track (which did not include the US).[53]

Unsurprisingly, the COP-15, held in Copenhagen in 2009, was a turning point in the international strategy on climate change. There was no agreement reached according to the UN official procedures. Instead, there was an *accord* crafted by a small group of states, under the US and Chinese leadership. This accord was rejected by the plenary (MALJEAN-DUBOIS and WEMAËRE, 2015), but it set the pathway for future negotiations. AOSIS countries, the EU members, and many developing countries, notably from South America, rejected the accord because it was not inclusive, transparent, fair, nor ambitious. This event was key for understanding the failure of the Danish authorities to impose the "new climate regime," that would assure the continuity of the Kyoto Protocol rules, that is, a new period of compromise after 2012, as discussed below. In fact, this new period of compromise never entered into force.

The COP-15 unofficial accord had the ambition to replace the traditional top-down approach (with emission reduction targets set in an international legally-binding agreement that provided for an emission ceiling and allowed the trading of surpluses, known as cap-and-trade) with a bottom-up approach (in which the states would be responsible for submitting nationally determined contributions (NDCs) to be periodically reviewed and which, together, would allow achieving the objectives of the Convention, known as pledge-and-review).

[53] Source: UNFCCC History of the Convention—Climate Change in context. Available at <https://bit.ly/2wrIAWx> Accessed June 13, 2022.

The novel approach was needed due to the failure of the Kyoto Protocol to provide a viable path to mitigating climate change. This failure stemmed from several reasons. First, the static emissions reduction targets established by the protocol prevented the creation of dynamic incentives for states to decarbonize their economies. Second, the focus on mandatory targets translated into distributive conflicts over respective shares of the mitigation burden, making it difficult to set new targets for the post-2012 period. Third, based on the rigid opposition between Annex I and non-Annex I countries created by the Protocol, emerging economies resisted assuming targets to reduce their rapidly rising emissions, claiming that these targets could delay their economic development (FALKNER, 2016). In fact, China was the biggest problem, since its economy and GHG emissions were growing steadily while developed countries were negotiating their own obligations. Likewise, India and Brazil were under pressure to adopt policies to curb their emissions, despite the fact that their human development index were much lower than those of developed countries.

In this context, the 2009 Copenhagen Accord was negotiated by a small group of countries—notably the US, China, and other BASIC[54] members—and did not reach consensus to be formally adopted by the parties (COP-15 only "took note" of the accord) (UNFCCC, 2009, p. 4). Another important group at this stage of the negotiations was the Umbrella Group, formed shortly after the adoption of the Kyoto Protocol and integrating non-EU developed countries in a loose coalition, which "has sometimes served as a veto coalition to EU proposals" (CHASEK, DOWNIE and BROWN, 2018, p. 174). Although the group was not formalized, the list of members included Australia, Canada, Japan, New Zealand, Kazakhstan, Norway, Russia, Ukraine, and the US. The complexity of the already intricate negotiations on climate change was deepened by the growing number of coalitions, "as more and more countries seek substantive participation in the small contact groups that often hammer out the final deals, closed off from NGOs and the media" (CHASEK, DOWNIE and BROWN, 2018, p. 174).

In 2014, the IPCC Fifth Assessment Report (AR5) concluded that (i) warming of the climate system is unequivocal, (ii) human influence on the climate system is clear, and (iii) increasing GHG emissions and consequential global warming will likely produce severe, pervasive, and irreversible climate change impacts (IPCC, 2014).

Despite the suspicions caused by the way in which the Copenhagen Accord was negotiated (behind closed doors, by a restricted club of countries at night) and presented by the COP-15

[54] BASIC is a coalition between Brazil, South Africa, India, and China. The group "plays a central role in climate negotiations (including those that resulted in the 2009 Copenhagen Accord) due to their fast-growing economies, increasing geopolitical status, and attempts to forge common positions on several key issues" (CHASEK, DOWNIE and BROWN, 2018, p. 173). The BASIC is dormant since Dilma Rousseff's term in Brazil.

presidency[55], negotiations resumed.[56] After this political accord, it took years for the UN delegates to go back to the usual multilateral tracks. It was only in 2014 that the Lima Call for Climate Action started the "Track to Paris 2015".[57] In 2015, COP-21 adopted the Paris Agreement, which formally incorporated the bottom-up (pledge-and-review) approach and placed NDCs at the core of the international strategy on climate change (UNFCCC, 2015). The Paris Agreement enabled states to offer internationally comparable and reviewable voluntary pledges. This new bottom-up approach gives primacy to domestic strategies and allows states to define their respective ambition levels for climate mitigation. The expectation was that the level of global ambition would gradually increase, through a process of naming and shaming (FALKNER, 2016).

The Paris Agreement was "the first-ever universal, legally binding climate agreement" (JUNSHIK, 2016, p. 62), demanding the commitment of both developed and developing countries. On the other hand, the sum of national contributions already presented is clearly insufficient to achieve the main objective of the agreement, which is to restrict the rise in global average temperature to 2ºC—preferably 1.5ºC—in relation to pre-industrial levels (OBERTHÜR and GROEN, 2018, p. 7; MALJEAN-DUBOIS and WEMAËRE, 2017).

In sum, looking at the 1992 UNFCCC, the 1997 Kyoto Protocol, and the 2015 Paris Agreement in comparison to the GHG emissions' curb, it is undeniable that the three initiatives had limited impact on the mitigation of global GHG emissions. Despite the strongest scientific consensus on the climate emergency agenda, the history of multilateral climate action is far from being a success story, since there were little transformative changes from global players such as the US, China, and India.

3.2.3. Contemporary challenges

In the last 30 years, since Rio-92, climate change has moved "from a fringe issue into an urgent global priority" (LAFFOLEY *et al.*, 2022, p. 218). While the UNFCCC's insufficiency to contain climate change by itself is increasingly recognized, the Convention is the central pillar of the regime complex for the climate, comprising several formal and informal international policy processes, as well as other international agreements (MALJEAN-DUBOIS and WEMAËRE, 2017).

[55] "In retrospect, the Copenhagen Accord represented a creative compromise that avoided a breakdown of the climate regime. The nonbinding agreement set forth a long-term, aspirational global goal of limiting temperature rise to no more than 2°C, established a process for recording voluntary mitigation targets and actions of both developed and developing countries, and agreed to increase funding for mitigation and adaptation by developing countries, including fast-start money for the 2010–2012 period approaching $30 billion and a goal of mobilizing $100 billion per year by 2020. By 2010, more than one hundred forty countries had endorsed the accord, and more than eighty countries had submitted emissions targets and mitigation actions as called for by the accord" (CHASEK, DOWNIE and BROWN, 2018, p. 176).
[56] In 2012, COP-18 adopted the Doha Amendment, which extended the Kyoto Protocol until 2020 (UNFCCC, 2012).
[57] Source: https://bit.ly/3Hq5RKG Accessed April 24, 2023.

The Paris Agreement represents “a remarkable reversal of fortune for the UN-sponsored climate negotiations” (FALKNER, 2016, p. 1.107), having brought new impetus to the international climate regime and the environmental multilateralism (CHASEK, DOWNIE and BROWN, 2018). Even so, many challenges remain, including increasing the level of ambition of NDCs (Section 3.2.3.1), promoting coherence in the means and ways of confronting climate change with the Sustainable Development Goals (SDG) (Section 3.2.3.2), and deepening the interaction of the climate regime with other international regimes, notably concerning the ocean (Section 3.2.3.3).

3.2.3.1.Increasing the level of ambition of Nationally Determined Contributions (NDCs)

Despite the efforts of the international community to identify the problem and its causes, establish an international regime to solve it, and implement the necessary solutions, global warming does not seem to be slowing down. The process of increasing CO_2 concentration in the atmosphere (indicator that is directly related to the increase in global average temperature), aggravated in the second half of the 20th century, continues to grow, even after 27 UNFCCC COPs (Figure 9).

According to the UNEP Emissions Gap Report 2021 (UNEP, 2021), the “new or updated NDCs and announced pledges for 2030 have only limited impact on global emissions and the emissions gap in 2030, reducing projected 2030 emissions by only 7.5 per cent, compared with previous unconditional NDCs” (UNEP, 2021, p. xvi). To achieve the Paris Agreement goal of limiting the global average temperature increase to 2°C, a 30% reduction would be needed. Meeting the 1.5% average heating threshold would require a 50% reduction (UNEP, 2021). According to IPCC (2023, p. 11), if the NDCs already presented do not have their level of ambition increased, the warming would be 3.2ºC at the end of this century, in relation to pre-industrial levels.

The decade “2011-2020 was around 1.1ºC warmer than 1850-1900”. NDCs announced by October 2021 “make it likely that warming will exceed 1.5°C during the 21st century and make it harder to limit warming below 2°C” (IPCC, 2023, p. 10). It is possible to state that there are climate-driven changes in ocean ecosystems, “including changes in ecosystems structure, species ranges and seasonal timing.” However, there is no global assessment on whether these impacts are adverse and/or positive. On the other hand, there are adverse impacts on “fisheries yields and aquaculture production" (IPCC, 2023, p. 7). According to IPCC (2023, p. 5-6), “ocean warming, and ocean acidification have adversely affected food production from fisheries and shellfish aquaculture in some oceanic regions (*high confidence*)” (Figure 10).

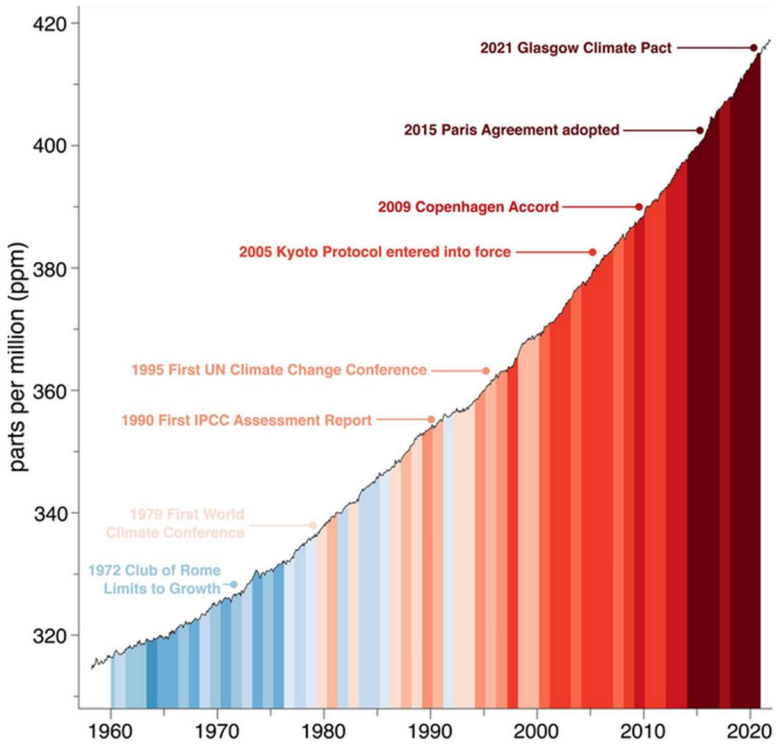

Figure 9. Concentration of CO_2 in the atmosphere since 1960 (KALMUS, 2022)

To increase the level of ambition of the NDCs, the Paris Agreement seeks to articulate the bottom-up strategy with top-down elements. Associated with the domestic policy dimension represented by the NDCs, the agreement established the need for a periodic review of the national pledges presented by the states. With this international review mechanism, "the gap between the required level of action and the total sum of national measures becomes the subject of international policy deliberation and coordination" (FALKNER, 2016, p. 1.120). To give credibility to national pledges and increase the level of trust between states, it is essential to improve the regime transparency, in order to guarantee the international comparability of national policies. Clear rules on monitoring, reporting and verification (MRV) mechanisms for emissions and national measures for implementing NDCs need to be continually improved.

Only in this way can the dynamics of *naming and shaming* that sustain the potential effectiveness of the international review mechanism work, under international pressure from other states, civil society, and the market (FALKNER, 2016). Unfortunately, Falkner's idea did not work well. While some countries, mostly Europeans, struggled to reduce their emissions, others increased their emission rates or postponed their decarbonization processes after the Covid-19 crisis.

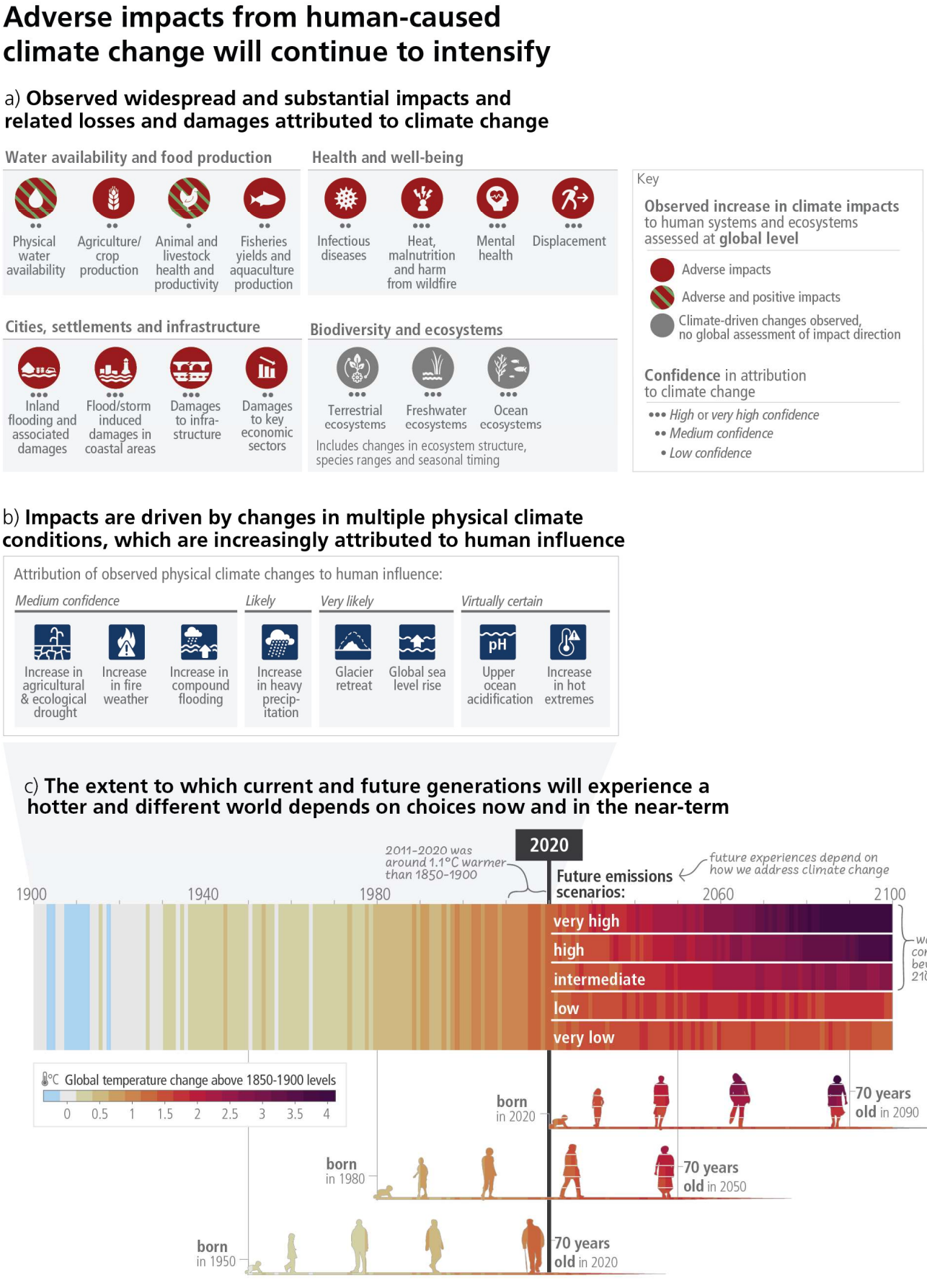

Figure 10. Adverse impacts from human-caused climate change will continue to intensify (IPCC, 2023, p. 7)

3.2.3.2.Promoting coherence with the Sustainable Development Goals (SDGs)

Strategic planning consists of examining the current status, defining an intended future status, and establishing a path to take between one and the other. The establishment of objectives, goals, and targets[58] is a key element in this process, allowing the deliberate pursuit of certain outcomes and impact through rational decisions taken by the organization. The evaluation of the process towards the achievement of measurable targets is made using indicators (TUNNICLIFFE *et al.*, 2020). In the international arena, strategic planning takes the form of "meta-norms" (MALJEAN-DUBOIS and WEMAËRE, 2017, p. 25), instruments that establish goals and targets of special political relevance in coordinating efforts between countries and other stakeholders (NTONA and MORGERA, 2018).

In 2015, building on the experience of the Millennium Development Goals (MDGs), the international community adopted the 2030 Agenda for Sustainable Development, which includes 17 SDGs broken down into 169 targets to be achieved by 2030. The 2030 Agenda seeks to create a "globally shared normative framework," simplify the narrative and therefore facilitate the public understanding of complex issues, mobilize, and engage relevant actors by inspiring common long-term action, and foster accountability by empowering civil society (SDSN, 2015, p. 6-9).

The SDGs set out quantitative objectives across the three dimensions of sustainable development. In this sense, they have improved the sustainability policy integration, i.e., the integration of the environmental, social, and economic dimensions of development (AZIZI, BIERMANN and KIM, 2019). They represent a significant broadening of the MDGs, which focus on tackling the many dimensions of extreme poverty in developing countries.

Although the SDGs are presented as an "integrated and indivisible" package (UN, 2015b, preamble, para. 5, 18, and 55), the desired overall level of integration was not achieved throughout the goal-framing process (SACHS *et al.*, 2022). This failure can be attributed to the way the SDGs were negotiated (with little attention to the inherent intersectorality of overarching, aspirational objectives), or even to the "fragmented political and institutional realities that underpin national, regional and international systems" (NTONA and MORGERA, 2018, p. 214-215).

The fragmentation of this strategic planning instrument, which would have as one of its functions to reduce the fragmentation of international regimes, "risks undermining the internal consistency of the 2030 Agenda and, by extension, its transformational potential" (NTONA and

[58] The Intergovernmental Oceanographic Commission (IOC/UNESCO) defines *target* as "an interim point on the way to an outcome and eventually to a long-term management goal;" *goal* as "a statement of general direction or intent. Goals are high-level statements of the desired outcomes to be achieved;" *objective* as "a specific statement of desired outcomes that represent the achievement of a goal. Objectives should be SMART—specific, measurable, achievable, relevant or realistic, and time-bound;" and *indicator* as "a measure, either quantitative or qualitative, of how close you are to achieving what you set out to achieve, *i.e.*, your objectives or outcomes" (EHLER, 2014, p. ix-x).

MORGERA, 2018, p. 215). In this context, it is essential to promote a greater integration of the SDG-13: Climate Action with other SDGs, in particular the SDG-14: Life Below Water and the SDG-15: Life on Land, as well as to deepen the integration between the actions of the UNFCCC and the Paris Agreement, and the 2030 Agenda.

3.2.3.3. Enhancing synergies within the climate change regime complex, with other multilateral environmental agreements, and beyond

The climate change regime is fragmented for three main reasons. First, international law is structurally fragmented due to the principle of autonomy of treaties, a fragmentation that has been deepening because of the expansion and diversification of international law. Second, climate change is, as said, an extraordinarily complex problem whose solution requires policies, actions and behavioral changes in various economic sectors and levels of action (individual, local, national, regional, and global). Third, defining the most appropriate processes to deal with the problem has proven difficult over time, particularly in the debate between multilateral and minilateral approaches to international coordination (MALJEAN-DUBOIS and WEMAËRE, 2017).

The UNFCCC, the Kyoto Protocol, and the Paris Agreement form the core of the climate change regime complex. Despite the shift promoted by the Paris Agreement, from a top-down to a bottom-up approach, it can be said that this core "represents a relatively cohesive whole." However, the same cannot be said considering the other interconnected regimes, particularly those centered on the WTO, the IMO, the International Civil Aviation Organization, and the CBD, for example (MALJEAN-DUBOIS and WEMAËRE, 2017). Although the regime fragmentation is not necessarily bad (KEOHANE and VICTOR, 2010), it is essential to seek ways to enhance synergies between all these international regimes in order to effectively address the hard problems that emerge in an increasingly complex reality.

Over the past decades, climate change has overshadowed important environmental issues, relating to the protection of biodiversity, forests, and the ocean, for example (MALJEAN-DUBOIS and WEMAËRE, 2017). According to Azizi, Biermann and Kim (2019, p. 446), these "multilateral environmental agreements often operate in silos." Poor coordination and the absence of a clear hierarchical relation hinder *environmental policy integration*, i.e., the integration of environmental policies:

> Numerous treaty bodies and other institutions operate with little formal linkages with each other and create norms and standards often independently and hardly in an integrated manner. Many multilateral environmental agreements thus conflict with each other, with some that are unable to adjust to and cooperate with the work of other international institutions. Such treaty conflicts may manifest in negative spillovers, problem shifting, or legal inconsistencies, and, hence, a system of agreements that operates at a suboptimal level. Therefore, researchers and policymakers alike are concerned about institutional

> fragmentation in earth system governance. And yet, despite this general understanding of the adverse consequences of the lack of sufficient institutional interlinkages or cooperative interaction, institutional silos and policy disintegration seem to persist (AZIZI, BIERMANN and KIM, 2019, p. 447).

Additionally, the perception, now partially surpassed, that climate change is a "mere" environmental issue (and therefore a *low politics* issue) has relegated the topic to secondary importance compared to *high politics* issues, basically related to the economic and security agendas. Maljean-Dubois and Wemaëre (2017, p. 26) consider that synergies between regimes could be enhanced through the adoption of the "mutual supportiveness principle," which imposes the solution of legal anomies and antinomies "in a way that is mutually compatible."

Based on the analysis of decisions taken under forty-seven multilateral environmental agreements from 2007 to 2016, Azizi, Biermann and Kim (2019, p. 453) concluded that, "overall, [MEAs] are still poorly integrated with concerns from social policy or economic policy, and that the integration is still a major challenge ahead." Thus, MEAs, "have not effectively enhanced the level of *sustainability policy integration* across the environmental, economic, and social pillars of sustainable development" (AZIZI, BIERMANN and KIM, 2019, p. 455) (emphasis added). On the other hand, nothing indicates that treaties related to other topics on the international agenda (such as economic and security issues) significantly contribute to improving sustainability policy integration in the broader scope of international law, i.e., the integration of environmental, social, and economic issues.

In any case, the climate regime has proven to be "naturally closed and loosely interacting" with other regimes or policy spaces, both in terms of the consequences of its action or inaction on other regimes and initiatives, and in terms of the consequences of the action or inaction of other regimes and initiatives to face climate change (MALJEAN-DUBOIS and WEMAËRE, 2017, p. 23). This isolation prevents the promotion of synergies and restricts the effectiveness of these regimes to the search for partial solutions to sectoral problems, which can be contradictory and therefore counterproductive when considering the complex big picture. It is true that climate change talks took years to include forest and ocean issues into the negotiating agendas, but today, this regime is the most relevant at the UN meetings, although rather limited from an effectiveness standpoint.

The international regime for climate change has clearly shown itself to be insufficient to combat the causes and consequences of anthropogenic global warming. This failure exposes the limitations the international community faces in regulating the global commons. In this condition, the atmosphere—and therefore human survival—is threatened by the tragedy of commons (HARDIN, 1968), while multilateral solutions unsuccessfully try to establish the division of responsibilities for the mitigation of GHG emissions. In this matter, reinforcing national jurisdiction over portions of the environmental good is unfeasible and even meaningless. Finally, the quest for technological solutions

led to an option that threatens the ocean directly. It is the use of batteries for transportation, which encourage deep seabed mining in the short term.

* * *

Science has increasingly emphasized the need to urgently address climate change. The search for political solutions also demonstrates this sense of urgency, albeit to a lesser extent, given the nature of the activity. The international community is increasingly aware of the problem, its causes and consequences, and what needs to be done to solve it. However, political (and economic) concerns delay the implementation of these solutions, which go far beyond adopting measures for the preservation, conservation, and sustainable use of natural resources.

Notwithstanding the threats to life on Earth, the climate regime does not address the protection of biodiversity. But it is connected to different agendas that converge towards the conservation and sustainable use of biological diversity, given that terrestrial, marine, atmospheric, and even social systems are deeply interconnected. In fact, the Earth System is a single system.

In this sense, marine BBNJ and atmospheric system stability are global commons. Therefore, tackling climate change requires approaches and strategies that demand increasing international cooperation. However, the solutions adopted so far for the protection of the climate stability and ocean health are based on the application of the principle of sovereignty rather than on the duty to cooperate.

Since the end of World War II, states have sought—and succeeded—to expand their jurisdiction over vast areas of the ocean. However, deepening this process to encompass the high seas has a limit. Because the environmental resources of these areas are increasingly accessible to different actors. Thus, the traditional FoS principle is no longer universally accepted without contestation from those seeking to protect marine life. Furthermore, important international actors started defending the character of CHM of the genetic resources in ABNJ (SCOVAZZI, 2007). The debate about which of these two principles applied to the marine BBNJ intensified. Regarding the atmosphere, developed countries seek to prevent developing countries from benefiting as free riders. In the case of the ocean, developed countries resist considering the marine BBNJ as CHM. In practice, this contributes to maintaining a first-arrived-first-served logic that benefits the ocean powers enormously.

3.3. Biological Diversity: Users vs. providers as a new face of the North-South divide

As mentioned in Section 1.2.2, the CBD was signed during Rio-92, in the immediate aftermath of the Cold War. On the one hand, there was an environment of optimism, of renewed

confidence in the capacity of multilateralism to deliver effective solutions to major global problems. The international agenda was now less restricted to security issues. On the other hand, the end of East *vs.* West rivalry allowed another cleavage to emerge between the global South and the global North, previously kept dormant. The CBD managed to overcome the previous North-South divide, based on regional approaches, or aimed at protecting specific threatened species or habitats.

The Convention adopted a broad definition of biodiversity, with an assumed scientific foundation. According to the CBD, *biodiversity*, or *biological diversity* "means the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems" (UN, 1992a, Article 2). Marine and terrestrial biodiversity are "biophysical features of Earth that contribute to the underlying resilience of its self-regulatory capacity" (ROCKSTRÖM *et al.*, 2009a, p. 6).

Although species' extinction is a natural process that occurs without human interference, biodiversity loss has been accelerating rapidly because of human activities (ROCKSTRÖM *et al.*, 2009b, p. 473-474). The current extinction rates are exceptionally high and increasing, vastly exceeding natural average background rates (CEBALLOS *et al.*, 2015, p. 3). The gravity of loss of biodiversity and the serious effects on human well-being worldwide are topics that do not raise scientific dispute (ROSENDAL and TVEDT, 2015, p. 323). The anthropogenic losses and declines of mammal and vertebrate populations,[59] for example, virtually constitutes a "biological annihilation" that support the thesis that the world experiences a "sixth mass extinction" (CEBALLOS, EHRLICH, and DIRZO, 2017). Although defaunation is less severe in oceans compared to land, human activities profoundly harm marine animal populations, especially "those that directly interact with land (and land-based humans) during some portion of their life history" (McCAULEY *et al.*, 2015, p. 2).

The *rate* at which biological diversity is lost is one of the planetary boundaries that Rockström *et al.* (2009a) estimated to have already been transgressed by humanity.[60] In this context, "local and regional biodiversity changes can have pervasive effects on Earth System functioning and interact with several other planetary boundaries" (ROCKSTRÖM *et al.*, 2009a, p. 14), and "Earth cannot sustain the current rate of loss without significant erosion of ecosystem resilience" (ROCKSTRÖM *et al.*, 2009b, p. 474).

[59] Population extinctions are "a prelude to species extinctions" and the current massive loss of populations may harm food webs and is already damaging the provision of ecosystem services (CEBALLOS, EHRLICH, and DIRZO, 2017, p. 7), such as crop pollination and water purification, and "destroying humanity's beautiful, fascinating, and culturally important living companions" (CEBALLOS *et al.*, 2015, p. 3).

[60] "For example, conservatively almost 200 species of vertebrates have gone extinct in the last 100 years. These represent the loss of about 2 species per year. Few realize, however, that if subjected to the estimated "background" or "normal" extinction rate prevailing in the last 2 million years, the 200 vertebrate species losses would have taken not a century, but up to 10,000 years to disappear, depending on the animal group analyzed." (CEBALLOS, EHRLICH, and DIRZO, 2017, p. 1).

The alarming rate of loss of biological diversity threatens development, as well as human well-being and survival (CBD, 2020a, p. 2). Biodiversity is valuable "not only for the sake of variety itself but also as an output of a four-billion-year-old process of evolution," and, in addition to being an ecological tragedy, the extinction of species and their habitats and the degradation of ecosystems have important economic and social consequences, given the goods and services they provide (KURUKULASURIYA and ROBINSON, 2006, p. 183). According to the Global Environmental Outlook 5, the conservation and sustainable use of biodiversity and the achievement of the SDGs are objectives that co-constitute each other, providing feedback to each other[61, 62] (CBD, 2020a, p. 3).

Under international relations and international law, the protection of biodiversity is built around the 1992 CBD and the 2010 Nagoya Protocol (Section 3.3.1). The challenges facing the implementation of the regime (Section 3.3.2) have the potential to be reproduced within the scope of the construction and implementation of the BBNJ treaty.

3.3.1. The 1992 Convention on Biological Diversity (CBD) and the 2010 Nagoya Protocol

Until the early 1980s, several international treaties sought to protect biodiversity, but with a focus on specific threatened species or habitats,[63] or with a regional focus.[64] In the late 1980s and early 1990s, it became increasingly evident that all these conventions did not guarantee the global conservation of biodiversity. They left important gaps. Thus, it was necessary to adopt a comprehensive and global approach, given that the objective became to combat the continuing loss of biological diversity (KURUKULASURIYA and ROBINSON, 2006). The CBD was adopted in 1992 to fill these gaps and protect global biodiversity by reducing regime fragmentation. The Convention has three explicit objectives: "the conservation of biological diversity, the sustainable use

[61] "Biodiversity is explicitly highlighted in SDGs 14 (Life Below Water) and 15 (Life on Land), but also underpins a much wider set of Goals. For example, it is a key factor for the achievement of food security and improved nutrition (SDG 2) and the provision of clean water (SDG 6). All food systems depend on biodiversity and a broad range of ecosystem services that support agricultural productivity, for example through pollination, pest control and soil fertility. Healthy ecosystems also underpin delivery of water supplies and water quality, and guard against water-related hazards and disasters." (CBD, 2020a, p. 3).

[62] "For example, some Goals address the drivers of biodiversity loss, such as climate change (SDG 13), pollution (SDGs 6, 12 and 14) and overexploitation (SDGs 6, 12, 14 and 15). Others address unsustainable production and consumption, the efficient use of natural resources and reducing food waste (SDG 12). The Goals also support the underlying conditions for addressing biodiversity loss, by helping to build the necessary institutions and human capital (SDGs 3, 4. 16), enhancing gender equity (Goal 5) and reducing inequalities (SDG 10)" (CBD, 2020a, p. 3).

[63] Including the 1972 Convention concerning the Protection of the World Cultural and Natural Heritage (WHC), the 1973 CITES, the 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention), and the 1979 Convention on the Conservation of Migratory Species of Wild Animals (KURUKULASURIYA and ROBINSON, 2006, p. 184; ROSENDAL and TVEDT, 2015, p. 323)

[64] Including the 1979 Convention on the Conservation of European Wildlife and Natural Habitats, the 1976 Convention on the Conservation of Nature in the South Pacific, the 1968 African Convention on the Conservation of Nature and Natural Resources (revised in 2003); the 1982 Protocol concerning Mediterranean Specially Protected Areas; the 1985 ASEAN Agreement on the Conservation of Nature and Natural Resources; and the 1986 Convention on the Protection of the Natural Resources and Environment of the South Pacific (KURUKULASURIYA and ROBINSON, 2006, p. 184).

of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources" (UN, 1992a, Article 1).

The ultimate drivers of the accelerated process of defaunation and comparable losses in diversity of plants—even putting food security at risk (ROSENDAL and TVEDT, 2015)—are the same ones that cause growing pressure on natural resources and environmental degradation in general: human overpopulation and population growth and increasing *per capita* consumption. In the case of biodiversity loss, these major drivers are manifested in the form of climate disruption, habitat destruction, overexploitation, pollution, and proliferation of invasive species (CEBALLOS, EHRLICH, and DIRZO, 2017).

In 1988, considering the growing awareness of the value of biodiversity for present and future generations, the UNEP convened the *Ad Hoc* Working Group of Experts on Biological Diversity (CHASEK, DOWNIE and BROWN, 2018, p. 190). In unmistakable evidence of the sense of urgency that the issue had at the time, a few months later, the UNEP established the *Ad Hoc* Working Group of Technical and Legal Experts, known as the Intergovernmental Negotiating Committee, "to prepare an international legal instrument for the conservation and sustainable use of biological diversity." The resulting Convention (CBD) was opened for signature during Rio-92 (on June 5, 1992) and entered into force on December 29, 1993.[65]

At the Rio-92 summit, more than 150 countries signed the CBD.[66] It remained open for signature until June 4, 1993, when it had already 168 signatories.[67] Nowadays, the Convention has 196 parties.[68] Given the considerable number of ratifications, the CBD can be considered one of the most successful environmental treaties. However, this fact can also be seen as a direct result of the way in which the Convention was formulated, "leaving much up to the discretion of its ratifying parties" (MAUERHOFER and NYACURU, 2014, p. 483). An important fact, which affects even the effectiveness of the regime, is that the US is not part of the CBD, although the Clinton administration signed it.

To implement and strengthen the international regime for the conservation and sustainable use of biodiversity, several decisions and two legally binding protocols were negotiated by the COP: the 2000 Cartagena Protocol on Biosafety[69] and the 2010 Nagoya Protocol on Access to Genetic

[65] Source: <https://www.cbd.int/history/> Accessed October 29, 2021.
[66] Source: <https://www.cbd.int/convention/> Accessed January 6, 2022.
[67] Source: <https://www.cbd.int/history/> Accessed January 6, 2022
[68] Source: <https://www.cbd.int/information/parties.shtml> Accessed January 6, 2022.
[69] The Cartagena Protocol was adopted on January 29, 2000, and entered into force on September 11, 2003 (Source: <https://bch.cbd.int/protocol/background/> Accessed January 20, 2022).

Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization[70] (CHASEK, DOWNIE and BROWN, 2018).

The Cartagena Protocol deals with living modified organisms (LMO) that cross national borders, establishing mechanisms that guarantee the safe transfer, handling, use, and disposal of LMOs derived from modern biotechnology, through a series of precautionary practices (CHASEK, DOWNIE and BROWN, 2018, p. 194). The objective is to prevent adverse effects on biological diversity and minimize the risks to human health potentially arising from genetic modification techniques.[71] The Cartagena Protocol will not be analyzed in this work, as I understand that its object is far from the theme of the thesis.

The Nagoya Protocol seeks to create "greater legal certainty and transparency for both providers and users of genetic resources." To this end, it establishes "more predictable conditions for access to genetic resources," and helps to "ensure benefit-sharing"—monetary and non-monetary—to the providing country. The Protocol applies to genetic resources covered by the CBD, to the benefits arising from their utilization, as well as to TK associated with those genetic resources and the benefits arising from its utilization.[72]

The CBD, and the Nagoya Protocol, as well as other international regimes on natural resources, face an additional challenge, as they seek to protect habitats and species that, despite their international importance, are located within the boundaries of sovereign states (in the case of CBD, for example) or beyond the boundaries and sovereignty of any state (in the case of the BBNJ treaty, for example) (CHASEK, DOWNIE and BROWN, 2018, p. 187-190).

3.3.1.1.Access and Benefit-sharing (ABS): Complementary or opposing interests of users and providers?

The main challenges of the CBD negotiations were the regulation of access to genetic resources, and the sharing of benefits arising from their use, including TK when necessary. ABS concerns how companies, researchers, and others can access valuable genetic resources and share the benefits of this access with countries of origin and local, indigenous, and traditional communities (CHASEK, DOWNIE and BROWN, 2018).

From the outset, the debates in the UNEP *Ad Hoc Working Groups* were polarized between countries that had the means and technology to explore biodiversity (developed countries) and megadiverse developing countries, which would later create the Group of Like-Minded Megadiverse

[70] The Nagoya Protocol was adopted on October 29, 2010, and entered into force on October 12, 2014 (Source: <https://www.cbd.int/abs/about/default.shtml/> Accessed January 20, 2022).
[71] Source: <https://bch.cbd.int/protocol/> Accessed January 20, 2022.
[72] Source: <https://www.cbd.int/abs/about/default.shtml/> Accessed January 20, 2022.

Countries (LMMC)[73] (CHASEK, DOWNIE and BROWN, 2018; TOMÉ *et al.*, 2020). It was in this way—users *vs.* providers—that the North-South cleavage manifested itself—and still manifests itself today—in the negotiations regarding the regime for the conservation of biodiversity.

The South defended that "genetic resources belong to the states in which they are located, and that access should be based on a 'mutual agreement between countries'" while the North uncharacteristically argued "the view (…) that these resources form part of the '[CHM]'." For developing countries, one of the central elements of the new regime should be related to the noncommercial access to biotechnologies based on plant genetic resources found in the South while most industrialized countries initially argued that the regime should regulate only the conservation of biodiversity in the wild and mechanisms to finance these efforts, not including biotechnology (CHASEK, DOWNIE and BROWN, 2018, p. 190).

In general terms, provider countries focused on the sharing of benefits arising from the use of genetic resources, seeking strict regulations on access, and defending measures such as declarations of origin and the strengthening of intellectual property rights (IPR) referring to TK. User countries—and companies—focused on the access to genetic resources (bioprospecting) and sought to avoid strict regulations on this issue, as well as clear obligations on benefit-sharing. Developing countries defended their right to development and proposed financial aid and technology transfer measures "to tackle challenges related to their infrastructure and urban agendas," while developed countries were concerned with higher environmental standards for specific issues, "including in trade negotiations and in the protection of rainforests" (TOMÉ *et al.*, 2020, p. 30-33).

Other challenges faced by the parties consisted of defining whether countries would exercise sovereignty over biological diversity under national jurisdiction or whether it would be a CHM, in addition to dealing with topics such the access to and transfer of technology, including biotechnology (UN, 1992a, Article 16); the protection of indigenous and traditional knowledge associated with genetic resources (UN, 1992a, Articles 8, and 10); the protection of forests (especially rainforests), and historical responsibilities (TOMÉ *et al.*, 2020, p. 29-33).

[73] In 1998, *Conservation International* identified 17 megadiverse countries, the most biodiversity-rich countries of the world with a particular focus on endemic biodiversity: the US, Mexico, Colombia, Ecuador, Peru, Venezuela, Brazil, Democratic Republic of Congo, South Africa, Madagascar, India, Malaysia, Indonesia, Philippines, Papua New Guinea, China, and Australia (Source: <https://bit.ly/3jV6jos> Accessed November 1, 2021). The Group of LMMC, which brings together countries with great biological and cultural diversity (in terms of TK), was created in 2002 and is made up of Bolivia, Brazil, China, Colombia, Costa Rica, Democratic Republic of Congo, Ecuador, Ethiopia, Guatemala, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Mexico, Peru, Philippines, South Africa, and Venezuela (BACON *et al.*, 2019, p. 2).

3.3.1.2.Guiding principles and main governance mechanisms

CBD recognizes the sovereign rights of states over their natural resources (UN, 1992a, Article 3) and establishes that access to genetic resources must be based on mutually agreed terms (MAT) (UN, 1992a, Article 15.4), and be subject to prior informed consent (PIC) (UN, 1992a, Article 15.5). Although it determines international cooperation "in respect of [ABNJ] and on other matters of mutual interest, for the conservation and sustainable use of biological diversity" (UN, 1992a, Article 5), the Convention's geographical scope is restricted to areas *under* the national jurisdiction of each party (UN, 1992a, Article 4).

As a corollary of the principle of sovereignty over natural resources, the implementation of the CBD depends primarily on national legislation (UN, 1992a, Article 15), and national strategies (UN, 1992a, Article 6) for the conservation and sustainable use of biodiversity. The CBD recommends that the parties identify and monitor the components of their biodiversity (UN, 1992a, Article 7), implement *in situ* and *ex situ* conservation measures (UN, 1992a, Articles 8 and 9), promote the sustainable use of its biological diversity components, and protect traditional cultural practices that are compatible with it (UN, 1992a, Article 10), among other initiatives. However, in any case, the Convention requires parties to develop national biodiversity conservation strategies, without obliging them to adopt measurable conservation objectives (CHASEK, DOWNIE and BROWN, 2018).

The position of the developing countries prevailed in their demand for compensation for the costly biodiversity conservation responsibilities imposed on them by the Convention, as well as in function of the economic gains of the North resulting from free of charge access to—and subsequent patenting of—genetic material in the South (ROSENDAL and TVEDT, 2015). The CBD and the Nagoya Protocol do not establish a multilateral system for ABS regulation, but a bilateral system of negotiation according to MAT between provider and user parties (KHARB, 2021).

The most important organism in the decision-making structure of the CBD is the COP, which govern the Convention. Its decisions, taken at periodic meetings Conferences, drive the implementation of the regime (MAUERHOFER and NYACURU, 2014). The daily life of the Convention is managed by a Secretariat embedded in a broader organizational structure (MAUERHOFER and NYACURU, 2014). The CBD Secretariat is in charge of gathering scientific information on relevant issues as well as on other related topics, such as administrative, social, legal, and economic aspects (CHASEK, DOWNIE and BROWN, 2018).

The CBD also has a Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), an "open-ended intergovernmental scientific advisory body"[74] established in 1992 (UN,

[74] Source: <https://www.cbd.int/sbstta/> Accessed January 19, 2022.

1992a, Article 25) to provide "timely advice relating to the implementation of the Convention,"[75] and a SBI, established by COP-12 (CBD, 2014) to improve compliance with the Convention (CHASEK, DOWNIE and BROWN, 2018, p. 201).

In 2012, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) was established to consolidate relevant information and knowledge produced by governments, academia, scientific organizations, NGOs, and Indigenous Peoples. The objective was to allow a more qualified debate with, as well as among, politicians, based on information that has scientific credibility and is produced independently, and that considers the complex relationships among people, ecosystem services, and biodiversity (CHASEK, DOWNIE and BROWN, 2018). In this sense, IPBES is hoped to advance the issue of biodiversity loss on international political agendas, being able to play a role similar to that of the IPCC (ROSENDAL and TVEDT, 2015).

3.3.1.3.The Post-2020 Kunming-Montreal Global Biodiversity Framework

In 1995, COP-2 followed the recommendation of the SBSTTA (SBSTTA, 1995) and determined the elaboration of a periodic report on biological diversity (CBD, 1995). The report should "review progress made by the Convention toward its three objectives, identify barriers to implementation, help set priorities for implementation, and communicate progress and advocate needs to decision-makers."[76] In 2002, based on the conclusions of the first Global Biodiversity Outlook (GBO 1) (CBD, 2001), COP-6 adopted the first Strategic Plan for the CBD. This Plan established the target of achieving by 2010 "a significant reduction on the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth" (CBD, 2002, B). This target was endorsed by the World Summit on Sustainable Development (UN, 2002, para. 44) and incorporated into the MDGs (Target 7.B).[77]

The GBO 3 concluded that, although the 2002 Strategic Plan "helped to stimulate important action to safeguard biodiversity," the 2010 biodiversity target was not met (CBD, 2010b). In addition to concluding the Nagoya Protocol negotiations, COP-10 established the Strategic Plan for Biodiversity 2011-2020, aiming "to promote effective implementation of the Convention through a strategic approach, comprising a shared vision, a mission, and strategic goals and targets ('the Aichi Biodiversity Targets')" (CBD, 2010a). The shared vision for the new plan was "a world of 'Living in harmony with nature' where 'By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy Planet and delivering benefits essential for all people'" (CBD, 2010a, para. 11). The 2010 Strategic Plan aimed to guide the implementation, review

[75] Source: <https://www.cbd.int/sbstta/> Accessed January 19, 2022.
[76] Source: <https://www.cbd.int/gbo1/> Accessed January 24, 2022.
[77] Source: <https://www.un.org/millenniumgoals/environ.shtml> Accessed January 28, 2022.

and updating of key national-level implementation plans (national biodiversity strategies, and action plans) (CHASEK, DOWNIE and BROWN, 2018, p. 201). Additionally, the UNGA declared the period 2011-2020 to be the UN Decade on Biodiversity, "with a view to contributing to the implementation of the Strategic Plan for Biodiversity for the period 2011-2020" (UN, 2010).

In this context, the COP 15 took place in Kunming, chaired by China but was finalized in Canada. In 2022, the second part of COP-15, held in Montreal, from 7 to 19 December, adopted the Post-2020 GBF,[78] prepared through a "comprehensive and participatory process." According to the framework, to implement 2050 Vision—Living in harmony with nature, the mission for the period up to 2030 is

> To take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and planet by conserving and sustainably using biodiversity and by ensuring the fair and equitable sharing of benefits from the use of genetic resources, while providing the necessary means of implementation (CBD, 2022a, Section F, para. 11).

The theory of change that underpins the Post-2020 GBF (Figure 11) recognizes that the changes needed to transform prevailing socioeconomic and financial models demand urgent action at the national, regional, and global levels. In addition, governments and society must "determine priorities and allocate financial and other resources, internalize the value of nature and recognize the cost of inaction" (CBD, 2021). However, biodiversity protection strategies have so far produced limited advances, although they have been discussed since 1992.

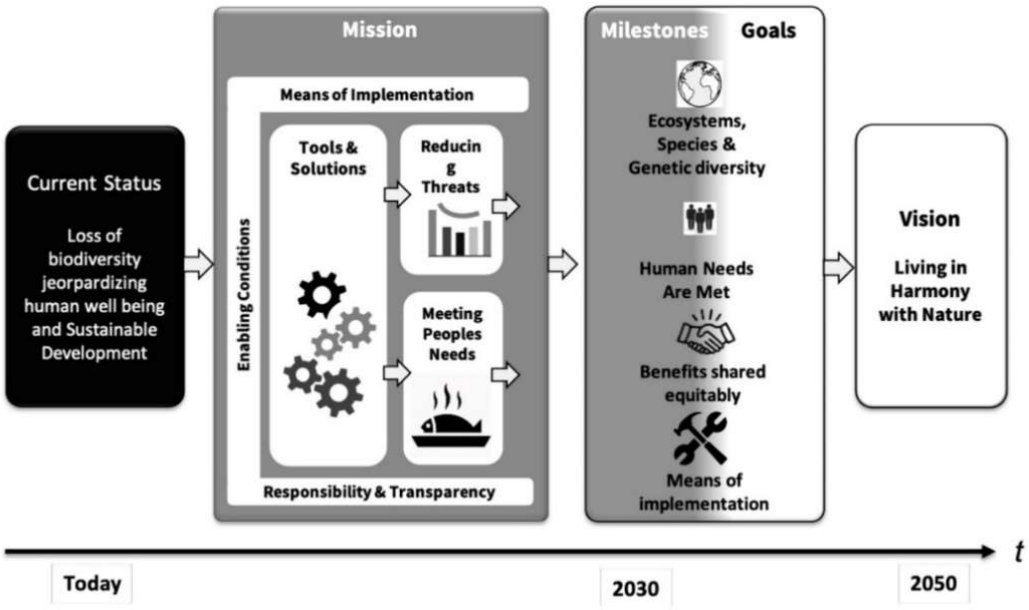

Figure 11. The theory of change adopted by the Post-2020 GBF (CBD, 2021)

[78] The original goal was to adopt the Post-2020 GBF in May 2022 in Kunming, China (CBD, 2018b). However, due to the restrictions imposed by the Covid-19 pandemic, the COP-15 was divided into two parts. Part 1 was held from 11 to 15 October 2021, virtually (Source: <https://bit.ly/2zsd3m5> Accessed August 30, 2022).

3.3.2. Contemporary challenges

The effectiveness of the biodiversity regime faces several challenges. Among the old ones are persistent implementation challenges (Section 3.3.2.1) and the need to make the ABS mechanism compatible with IPR (Section 3.3.2.2). Among the new challenges, the regulation of DSI stands out (Section 3.3.2.3).

3.3.2.1.Implementation challenges

Although the CBD has contributed to increasing the relevance of biodiversity in the global environmental debate and policy-making—both internationally and domestically—, as well as to a moderate reduction in the rate of biodiversity loss, many of its aims, especially the more ambitious ones, "failed spectacularly due to insufficient political efforts and too many countervailing interests" (MAUERHOFER and NYACURU, 2014, p. 483):

> At the global level none of the 20 targets have been fully achieved, though six targets have been partially achieved (Targets 9, 11, 16, 17, 19 and 20). Examining the 60 specific elements of the Aichi Biodiversity Targets, seven have been achieved and 38 show progress. Thirteen elements show no progress or indicate a move away from the target, and for two elements the level of progress is unknown. (CBD, 2020a, p. 4)

The causes of these failures include the insufficient scale of action to implement the convention, insufficient integration of biodiversity issues into broader policies, insufficient attention to the underlying drivers of biodiversity loss, insufficient inclusion of the real benefits of biodiversity (and the costs of its loss) within economic systems and markets (CHASEK, DOWNIE and BROWN, 2018), lack of adequate enforcement mechanisms (ROSENDAL and TVEDT, 2015), and shortcomings in the implementation of biodiversity-related multilateral environmental agreements in a coordinated way (MAUERHOFER and NYACURU, 2014).

Recognition of the importance and value of biological diversity has not translated into an effective global regime to contain the accelerating loss of biodiversity. Some factors made this process difficult: (i) "differences concerning the definition of the problem," (ii) differences related to "the application of the principle of national sovereignty versus that of the [CHM]," (iii) "resistance to strong legal obligations by a veto coalition of developing states whose territories hold most of the world's biodiversity," and (iv) "inconsistent support from the US[79] and several other key industrialized states" (CHASEK, DOWNIE and BROWN, 2018, p. 190).

[79] As aforementioned, the US is not part of the CBD, although the Clinton Administration signed the Convention in June 1993.

3.3.2.2.Benefit-sharing and intellectual property rights

The debate on ABS, the third objective of the CBD, was resumed after the entry into force of the CBD in 1993. In the early 2000s, it gained momentum and formal negotiations began in 2008. Once again, the negotiations were marked by disagreements between providers (led by the Group of LMMC) and a veto coalition of users, mostly industrialized countries. Provider countries claimed that the distribution of benefits was unfair and needed to be changed, while user countries were satisfied with arguably free access to genetic resources, i.e., with the *status quo* (CHASEK, DOWNIE and BROWN, 2018). As forementioned, COP-10 adopted the Nagoya Protocol to better regulate the issue.

The challenge to make the ABS mechanism and IPR compatible remains. The Nagoya Protocol creates specific instruments for accessing genetic resources and reaffirms the objective of fair and equitable sharing of the benefits arising out of their utilization. On the other hand, the effective implementation of the ABS mechanism depends on changes in the domestic legislation of user countries to encourage private enterprises to promote a fairer distribution of benefits with provider countries.

In this sense, the success of ABS as a tool to fund biodiversity conservation depends on the transformation of user countries' patent systems for making benefit-sharing workable. However, the lack of political willingness to promote this transformation reduces its potential to promote benefit-sharing (ROSENDAL and TVEDT, 2015). Even with the advancement of the international debate on this issue, it is still unclear whether it will result in greater synergy between the CBD and the WTO, or if it will lead to a deepening of tensions between ABS and IPRs (ROSENDAL and TVEDT, 2015).[80] This set of divergent interests among users and providers remains as poorly regulated as it was in the turn of the century. In other words, although the Nagoya Protocol entered into force, its effectiveness is limited, and the ABS regime has a growing reliance on market rules.

3.3.2.3.Digital Sequence Information (DSI)

DSI is "a placeholder term for genetic information about biological materials while a more precise definition is settled" (LAWSON and ROURKE, 2020, p. 2). The CBD COP-14 Decision 20 noted that "the term [DSI] may not be the most appropriate term and that it is used as a placeholder until an alternative term is agreed" (CBD, 2018a, p. 1). In COP-15, parties agreed "on the continuing use of the term [DSI] for further discussions" (CBD, 2022b, p. 2).

[80] "The problem of making users comply with ABS is enhanced by the increasing dominance of multinational corporations in the live sciences sectors, including agriculture, aquaculture, and pharmacy, which operate under different and varying jurisdictions. The imbalance is reinforced by the WTO having stronger compliance mechanisms (…). Calls for disclosure of the origin of genetic material used in patent applications remain unsuccessful and this tool is hardly sufficient to resolve the benefit sharing" (ROSENDAL and TVEDT, 2015, p. 325).

DSI has provoked debates in several forums besides the CBD and the Nagoya Protocol, such as the International Treaty for Plant Genetic Resources for Food and Agriculture (ITPGRFA), the Pandemic Influenza Preparedness Framework (PIP Framework), and the BBNJ negotiations. Also in this topic, the debates reveal divergences between *users*—developed, technologically advanced countries—, and *providers*—developing countries, holders of biodiversity and/or lacking in technology (LAWSON and ROURKE, 2020).

Data is fundamentally a way of facilitating communication about the material world, while *information* concerns "research outputs or other value-adding steps that generate knowledge" (HOUSSEN, SARA AND JASPARS, 2020, p. 2). In other words, DSI "on genetic resources may result, *directly or indirectly*, from utilization of genetic resources" (emphasis added) (CBD, 2020b, p. 13).

The challenge involving the conceptualization of DSI consists of distinguishing what is just a piece of data and the situation in which that data is embedded with value and transformed into information (HOUSSEN, SARA AND JASPARS, 2020, p. 2). There are also essential differences between *materials* and *information*:

> Whereas physical materials are limited in quantity, using information does not stop anyone else from using the same information, and multiple users can access the same information at the same time. Often obtaining additional material may be expensive or impossible, whereas once the first copy of the information is made, the cost of making additional copies is marginal. It is easy to deny others access to materials, whereas once information is known, it is hard to exclude others from using it (HOUSSEN, SARA AND JASPARS, 2020, p. 2).

The CBD and the Nagoya Protocol regulate ABS relating to genetic resources, defined as physical biological materials containing "functional units of heredity." Even the genetic resources derivatives definition, included by Article 2(e) of the Nagoya Protocol (UN, 2010), consist of "naturally occurring biochemical compound (...), even if it does not contain functional unit of heredity." These treaties establish that the ABS mechanism constitutes a contractual transaction that reflects the consent and terms and conditions of exchange between a country holding the physical biological materials and a bioprospector wanting those materials (LAWSON and ROURKE, 2020). Therefore, the CBD and the Nagoya Protocol definitions of genetic resources, as well as the nature of the ABS contract, are centered on the material biological aspect. They make no mention of DSI.

To overcome this gap, some countries extended the legal protection given to genetic resources in their domestic laws to the DSI. Scientists argued that DSI should be public and freely accessible, for the benefit of science and the protection of biodiversity. Developing countries argued that DSI should be included in the Nagoya Protocol, claiming that it could replace biological material, which would cause loss of control over national patrimony, benefit-sharing difficulties, and inability to access databases. Developed countries, in turn, advocate that DSI remains outside the Nagoya Protocol (WATANABE, 2019; OLDHAM, 2020).

Within the CBD, the debate around this issue was formalized by COP-13 in 2016, which commissioned a fact-finding and scoping study to clarify terminology and concepts and to assess the extent and the terms and conditions of the use of DSI, and established an *Ad Hoc* Technical Expert Group (AHTEG) to, among other objectives, "examine any potential implications of the use of [DSI] for the three objectives of the Convention and the objective of the Nagoya Protocol and implementation to achieve these objectives" (CBD, 2016). COP-14 showed deep divergences on this topic. There were disagreements over terminology, and about uploading digital sequences to public databases, for example (WATANABE, 2019).

Faced with the impasse, COP-14 established "a science- and policy-based process on [DSI];" established an extended AHTEG with the participation of IPLC; and commissioned four peer-reviewed studies on (i) the concept and scope of DSI and how it is currently used, (ii) traceability of digital information, (iii) public and private databases of DSI, and (iv) how domestic measures address benefit-sharing arising from commercial and non-commercial use of DSI (CBD, 2018a). The commissioned studies (HOUSSEN, SARA and JASPARS, 2020; ROHDEN *et al.*, 2020; BAGLEY *et al.*, 2020) were considered in the AHTEG final report (CBD, 2020b).

COP-15 Decision 15/9 on "[DSI] on genetic resources" and other decisions[81] are "of equal standing" to the Post-2020 Kunming-Montreal GBF and will support its implementation (CBD, 2022a, para. 2.e). The Post-2020 GBF defined as a goal for 2050 that

> **The monetary and non-monetary benefits from the utilization of** genetic resources and **digital sequence information on genetic resources**, and of [TK] associated with genetic resources, as applicable, **are shared fairly and equitably, including, as appropriate with [IPLC], and substantially increased by 2050**, while ensuring [TK] associated with genetic resources is appropriately protected, **thereby contributing to the conservation and sustainable use of biodiversity, in accordance with internationally agreed access and benefit-sharing instruments** (CBD, 2022a, Section G, para. 12, Goal C).

Additionally, in Section H, para. 13.2 (Meeting people's needs through sustainable use and benefit-sharing), the Post-2020 GBF defined the global target for 2030

> Take effective legal, policy, administrative and capacity-building measures at all levels, as appropriate, **to ensure the fair and equitable sharing of benefits that arise from the utilization of genetic resources and from digital sequence information on genetic resources**, as well as [TK] associated with genetic resources, and facilitating appropriate access to genetic resources, **and by 2030, facilitating a significant increase of the benefits shared, in accordance with applicable international access and benefit-sharing instruments** (CBD, 2022a, Section H, para. 13.2, Target 13).

The COP-15 Decision 15/4 (DSI on genetic resources) recognized that there were divergent views on the scope of DSI under the CBD. It also recognized "the different understandings of the concept and scope" of DSI, as well as the existence of different views even on "the need to define

[81] Decision 15/6 on planning, monitoring, reporting and review; Decision 15/7 on resource mobilization; Decision 15/8 on capacity-building and development and technical and scientific cooperation; and Decision 15/13 on cooperation with other Conventions and international organizations.

such concept and scope" (CBD, 2022b, Preamble). The parties to the CBD agreed that the benefits arising from the use of DSI "should be shared fairly and equitably" and that "the distribution of [DSI] and distinctive practices in its use require a distinctive solution for benefit-sharing" (CBD, 2022b, paras. 2 and 3). To develop a solution, COP-15 established an "*ad hoc* open-ended working group on benefit-sharing from the use of [DSI]" (CBD, 2022b, para. 18), aiming to undertake further development of the multilateral mechanism established by Decision 15/4, para. 16, including through a "global instrument for biodiversity finance" (CBD, 2022b, para. 16; CBD, 2022c, Annex II, Section A, para. 2).

The wording used in COP-15 Decisions 15/4, 15/7, and 15/9 indicated that there was still no consensus on a precise definition of DSI, and that the regulation of the DSI was to be built. Until a conclusion was reached, DSI remained outside the Nagoya Protocol (WATANABE, 2019).

ABS related to genetic resources in the form of DSI was indeed extremely hard to regulate. The lack of will in regulating this topic produced a time window for the constitution of vast digital gene banks[82]. Access to these databases generates a new kind of biopiracy, hard to regulate, and harmful to countries with rich biodiversity but lacking sufficient technological means to benefit from its sustainable use, like Brazil. As a result, most countries, which lack technological resources and scientific capabilities, are already being left behind. This process deepens global inequalities and harms developing countries (given that, as a rule, they hold a rich biodiversity), which find themselves deprived of their wealth without due retribution.

* * *

Several factors converged to the conclusion of the CBD in 1992: an environment of hope, optimism, and belief in multilateralism after the peaceful end of the Cold War, the expansion of the international agenda beyond international security issues, the recognition of the sovereignty of states over genetic resources existing in their territories (including the territorial sea), the consequent provision of mechanisms for access to genetic resources and sharing of benefits arising from their utilization, among others. The Convention consolidated a new paradigm for protecting biodiversity

[82] There are three large public "nucleotide sequence data" (NSD) databases: the DNA Data Bank of Japan (DDBJ) in Japan, the European Nucleotide Archive (ENA) in the UK, and the Genbank of the National Center for Biotechnology Information (NCBI) in the US. NSD is the name used by the authors of the combined study on databases and traceability (ROHDEN *et al*., 2020) to replace DSI, a placeholder term for genetic information about biological materials. The three NSD databases—DDBJ, ENA, and Genbank—are part of the International Nucleotide Sequence Database Collaboration (INSDC), a long-standing cooperation for the permanent storage of NSD. These institutions follow principles, rules, and procedures both for uploading NSD and subsidiary information, and for access and use. These databases are publicly available (ROHDEN *et al*., 2020, p. 24). Private databases, on the other hand, are not clearly defined, are not publicly accessible and are used according to the guidelines and interests of their holders (ROHDEN *et al*., 2020, p. 36).

aimed at the broadest protection of life on the Planet and combating the intense rate of loss of biological diversity.

However, the scope of application of the CBD and the Nagoya Protocol is areas *under* national jurisdiction, even though the Convention deals marginally with cooperation in international waters, for example. To protect the marine BBNJ, this approach is necessary (given the ecological interconnection between the territorial sea and the high seas) but clearly insufficient.

Given the large number of CBD members, the regime can be considered successful. However, the greatest success to date has been in the political and diplomatic fields. Even in the areas *under* national jurisdiction (that is, the national territory and the territorial sea), a matter of domestic legislation and strategies, the regime has been showing results that fall short of what is necessary, as mentioned. The CBD has contributed to increasing the relevance of biodiversity in the global environmental debate and policymaking, but its effectiveness in reducing the rate of biodiversity loss is only moderate.

Contemporary issues, such as implementation challenges, the need for better regulation of ABS mechanisms, and DSI treatment continue to delay the necessary results for the protection of biodiversity, pointed out by science. These challenges have the potential to be reproduced in the next phases of signature, ratification, and implementation of the BBNJ treaty, especially if we consider that the international environment is increasingly conflicting.

3.4. ANTARCTICA: A SPACE OF GEOPOLITICAL AFFIRMATION IN THE COLD WAR

Antarctica remained protected from an irreversible territorial acquisition and submitted to a restricted internationalization by a combination of factors: geographical remoteness[83], inhospitability and lack of readily exploitable land-based resources, and political marginality (the continent lies a long way from the centers of naval power in the Northern hemisphere) (BULKELEY, 2009, p. 9).

There is no consensus on who were the first seafarers that arrived in Antarctica. Recent studies tend to defend that Polynesians discovered the continent. However, some famous captains from Russia, Norway, and Britain are mentioned by their respective countries as pioneers, notably related to the hunting of whales and seals (WEHI *et al.*, 2021). The Antarctic fauna is still largely unknown. It is composed of "a range of seal, penguin and flighted bird species, most of which occur on the coastal margins, on the sea ice and in the ocean, and most of which migrate South in the (Austral) summer months and North again for winter", while the flora "is comprised primarily of lichens, mosses, liverworts, algae and fungi" (McIVOR, 2009, p. 141). However, in the middle of the

[83] "The distances across the Southern Ocean from Antarctica to the other southern hemisphere continents are vast—around 1.200 km to South America, 2.500 km to Australia and 4.000 km to Africa—and the ocean is notorious for having some of the strongest winds and largest waves on the Planet" (McIVOR, 2009, p. 140).

nineteenth century, the exploitation of polar living resources was not economically viable, apart from the seals for their fur and whales for their oil for outdoor and safe indoor lighting in the developed countries, as discussed in Section 3.4.1.1.

As mentioned in Section 1.2.3, the Antarctic Treaty was signed in the context of the Cold War. Territorial claims were suspended, military activities and nuclear tests were banned, and the continent was devoted to scientific research as an instrument for building and maintaining peace. Informal negotiations began in 1947, first between the US and the UK, but soon integrating the other six territorial claimants. The conclusion of the treaty in 1959 became possible when the USSR joined the process. In this context, the 1957-1958 IGY is often indicated as a close cause of the Antarctic Treaty, although factors of a geopolitical nature were more decisive for the outcome of the negotiations.

Through a set of regional agreements, independent of the UN system, some states developed an institutional framework aiming to protect and manage the continent and the Southern Ocean (McIVOR, 2009, p. 139). The ATS comprises the 1959 Antarctic Treaty and other related international agreements established for the governance of the Antarctic region: the 1972 Convention for the Conservation of Antarctic Seals (CCAS), the 1980 CAMLR Convention, and the 1991 Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol) (McIVOR, 2009, p. 144).

In the following sections, I present each of the treaties that make up the ATS (Section 3.3.1), and the challenges and perspectives for governance in the region (Section 3.3.2).

3.4.1. The 1959 Antarctic Treaty and the Antarctic Treaty System (ATS)

The 1959 Antarctic Treaty, the basic agreement of the ATS and conditioning of the other agreements that make up the system, entered into force in 1961. The ATS can be considered a success case in achieving its objectives over the last six decades, but its longevity "has also tended to mythologize its achievements and mummify foundational norms as it addressed the modalities of collective governance and the problem of territorial sovereignty" (HEMMINGS, 2014, p. 1).

The 1959 Antarctic Treaty reflects the concerns of the time and the context in which the negotiations took place. Created in a period of peaceful coexistence between the two superpowers, it sought to ensure that the area south of 60°S latitude (Figure 12) was "used exclusively for peaceful purposes" and to prevent it from becoming a "scene or object of international discord," as defines its Preamble (McIVOR, 2009, p. 143).

The "agreement to disagree" translated into Article IV of the Antarctic Treaty was the central element that allowed its negotiation and conclusion. In practice, this provision implies that "the

position of each contracting party with regard to the legal status of Antarctica is respected and the contracting parties agree to manage Antarctica collectively" (BASTMEIJER and ROURA, 2004, p. 768). The wording of Article IV enabled a "bi-focal approach," in which claimants and non-claimants can "interpret the same language differently" (BECK, 1991, p. 245).

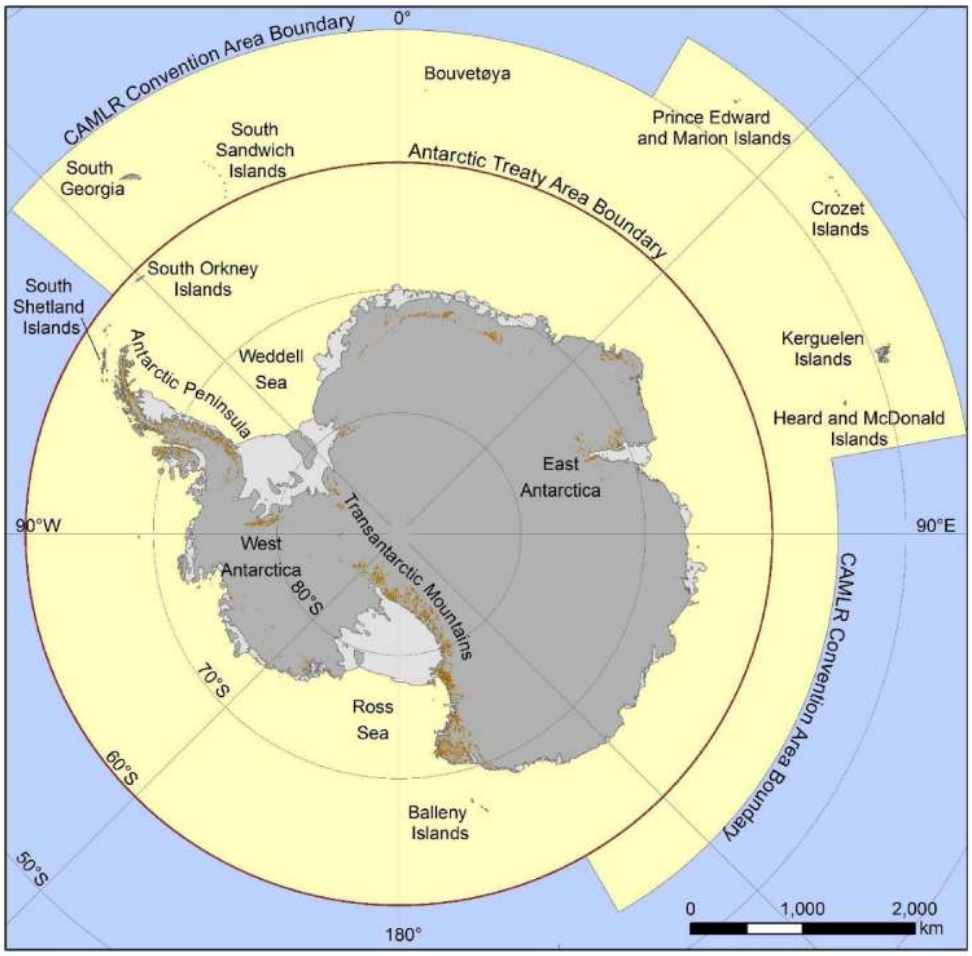

Figure 12. Antarctic Treaty and CAMLR Convention areas (HUGHES *et al.*, 2018, p. 87).

To achieve its fundamentally geopolitical objectives, the Treaty suspends the territorial claims (Article IV), prohibits measures of military nature (except scientific research and other activities with peaceful purposes) (Article I), guarantees freedom of scientific investigation and encourages scientific cooperation existing during the IGY (Article II), promotes international cooperation on scientific investigation, by providing for free exchange of information, personnel and scientific results (Article III), prohibits nuclear explosions and the disposal of radioactive waste material (Article V), establishes rights of inspection, freedom of access to all areas of Antarctica, and open skies for aerial observation (Article VII), seeks consistency with the UN Charter (Article X), and advocates the peaceful resolution of conflicts between the Parties (Article XI) (ANTARCTIC TREATY, 1959).

However, due to the available scientific knowledge and the historical context in which it was created, the purposes of the Antarctic Treaty are limited. Back in 1959, the negotiating states knew that it would not be possible to cover all aspects of human activity in the region (BEEBY, 1991, p. 10). The only institutional arrangements created were the regular (currently annual) Antarctic Treaty Consultative Meetings (ATCMs), aiming for "exchanging information, consulting together on matters of common interest pertaining to Antarctica and making recommendations to their governments in furtherance of the principles and objectives of the Treaty" (ANTARCTIC TREATY, 1959, Article IX; BEEBY, 1991, p. 10).

The marine living resources of the Southern Ocean "are of global significance" (CROXALL and NICOL, 2004, p. 569). Harvesting marine living resources is the longest continuous human activity in Antarctica. It is also the one that has produced the most devastating effects on natural systems on both long and short timescales (CROXALL and NICOL, 2004, p. 581). To fill identified gaps, the Antarctic Treaty has been complemented with new agreements relating to the protection of the Antarctic environment and conservation, and management of its living and non-living resources (BEEBY, 1991, p. 11). These agreements included the protection and conservation of the Antarctic environment, thus expanding the international objectives for the region (HUGHES *et al.*, 2018, p. 88).

In the 1960s and 1970s, the 1972 CCAS,[84] and the 1980 CAMLR Convention[85] were negotiated. In the 1980s, attention turned to the negotiation of the 1988 Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA). However, disagreements between the parties made the entry into force of CRAMRA unfeasible, in a process that culminated with the signature of the 1991 Protocol on Environmental Protection to the Antarctic Treaty (Environmental Protocol or Madrid Protocol)[86].

3.4.1.1.The 1972 Convention for the Conservation of Antarctic Seals (CCAS)

Throughout history, the exploitation of Antarctic seals was a commercial activity of great importance (FERRADA, 2018, p. 101). They have been hunted in the Southern Ocean since 1790. Within three decades, the activity threatened some populations of fur seals with extinction. Then, the sealers turned to hunting elephant seals and penguins (THOMPSON *et al.*, 2016, p. 160). Since then, most commercial harvesting was in decline, although seal harvesting continued on a small scale into the 20th century[87].

[84] The CCAS was signed in 1972 and entered into force in 1978.
[85] The CAMLR Convention was signed in 1980 and entered into force in 1982.
[86] The Environmental Protocol was signed in 1991 and entered into force in 1998. This Protocol replaced the 1964 Agreed Measures for the Conservation of Antarctic Fauna and Flora, signed in 1964 and in force between 1982 and 2011. The 1964 agreement will not be addressed in this work.
[87] Source: <https://www.ccamlr.org/en/organisation/fishing-ccamlr> Accessed July 22, 2021.

Nowadays, no seal harvesting occurs in the Antarctic region, but in the 1960s several nations feared that it would restart (FERRADA, 2018, p. 101). The prospect of re-introduction of commercial sealing encouraged negotiations for a convention that guaranteed that "an important living resource in the marine environment (...) should not be depleted by over-exploitation, and hence that any harvesting should be regulated only not to exceed the levels of the optimum sustainable yield" (CCAS, 1964, Preamble).

The 1972 CCAS was the first convention applicable to Southern Ocean marine life, for the protection, scientific study, and rational use of Antarctic seals, as well as maintaining a sustainable balance within the ecological system (THOMPSON *et al.*, 2016, p. 160). When the CCAS was opened for signature in 1972, the Antarctic Treaty had only four new members, all non-consultative, in addition to the twelve original signatories[88].

The negotiation of this Convention "forced the ATCPs to consider the problems related to jurisdiction towards not only maritime spaces but also non-signatories of the Antarctic Treaty." Dealing with the topic through an international convention negotiated at a special conference agreed outside the ATCM mechanism facilitated the participation of non-signatories (e.g., Canada) interested in Antarctic sealing (BECK, 1991, p. 243).

CCAS does not prohibit seal hunting but regulates it. Nowadays, it sets catch limits to zero, i.e., there is currently no seal harvesting in the Antarctic region (FERRADA, 2018, p. 101). In fact, the Convention has been of little use so far, as no country has shown interest in restarting sealing (McIVOR, 2009, p. 144). Given that the Convention requires little active engagement from parties (HUGHES *et al.*, 2018, p. 88) and the absence of commercial sealing, the CCAS has yet to be really tested, and some NGOs press for a complete ban on sealing as well as the incorporation of CCAS within CAMLR Convention (BECK, 1991, p. 244).

3.4.1.2.The 1980 Convention for the Conservation of Antarctica Marine Living Resources (CAMLR Convention)

In contrast with CCAS, "significant international activity" is undertaken under auspices of the CAMLR Convention[89] (HUGHES *et al.*, 2018, p. 88). This Convention created the CCAMLR, which is one of the eight RFMOs/As that "are competent in the area of conservation and management of deep-sea fisheries" (OANTA, 2018, p. 55).

[88] Denmark, The Netherlands, Poland, and Romania (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[89] The acronym CCAMLR is often used to indicate the CAMLR Convention. In this thesis I reserve the acronym CCMALR to indicate the Commission for the Conservation of Antarctic Marine Living Resources, which "is an international commission with 26 Members, and a further 10 countries have acceded to the Convention," dedicated to agreeing "a set of conservation measures that determine the use of marine living resources in the Antarctic." The CAMLR Convention is one of the components of the CCAMLR (Source: <https://bit.ly/3cUCO5e> Accessed July 29, 2022).

According to CAMLR Convention, any harvesting and activities in the Convention area shall be conducted in accordance with some principles: (i) "prevention of decrease in the size of any harvested population to levels below those which ensure its stable recruitment;" (ii) "maintenance of the ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and the restoration of depleted populations;" and (iii) "prevention of changes or minimization of the risk of changes in the marine ecosystem which are not potentially reversible over two or three decades," including by harvesting, introduction of alien species, associated activities on the marine ecosystem and environmental changes (CAMLR CONVENTION, 1980, Article II).

Although the slow pace of the application of these principles, the CAMLR Convention is considered a world-leading agreement in the adoption of precautionary and ecosystem approaches in the management of harvesting. The CAMLR Convention is, to some extent, successful in applying conservative yield models for toothfish and krill stocks, and in defining strict rules for undertaking new and exploratory fisheries (CROXALL and NICOL, 2004, p. 569-570).

An important topic in the Convention negotiations referred to the coastal state jurisdiction over living marine resources, which drew attention to underlying sovereignty considerations. Again, this issue was not addressed, but circumvented through the formulation of a "constructive ambiguity." Strongly inspired by Article IV of the Antarctic Treaty, Article 4 of the CAMLR Convention includes a phrase referring to the right "to exercise coastal state under international law within the area to which the convention applies" (BECK, 1991, p. 245).

In an argument that can be extended to the range of marine biodiversity in Antarctica, CROXALL and NICOL (2004) identify four sets of factors ("global forces") that will influence Southern Ocean fisheries. First, the ones related to the physical environment, such as changes in winter ice conditions[90], global atmospheric and oceanographic phenomena (especially El Niño Southern Oscillation), and climate change. Second, scientific, and technological developments, which can provide new subsidies for regulation, new fishing and aquaculture techniques, and new uses for fish. Third, global economic forces often with immediate effect can create incentives to overfishing, and IUU fishing[91]. Fourth, change in the pattern of international demand for fish, especially krill. Southern Ocean "management systems remain very vulnerable to rapid shifts in worldwide fishery

[90] Changing winter ice conditions may influence Southern Ocean fisheries directly through "mechanisms such as changes in sea ice extent or through the abundance of icebergs in fishing grounds," or indirectly, "through the effect of physical changes on biological systems" that include "adverse effects of increased UV-B on primary production as a result of the 'ozone hole', changing ocean circulation patterns or variations in the wind field" (CROXALL and NICOL, 2004, p. 577).
[91] Currently, the CCAMLR face "a major ongoing challenge in combating illegal, unreported and unregulated (IUU) fishing," which can involve catches significantly higher than those authorized by the CCAMLR (McIVOR, 2009, p. 144). During the 1990s and early 2000s IUU fishing "took large unreported quantities of toothfish that may have exceeded the reported catch by five to six times," for example (Source: <https://www.ccamlr.org/en/organisation/fishing-ccamlr> Accessed July 22, 2021).

economics, and to inadequate management in adjacent areas, particularly high seas" (CROXALL and NICOL, 2004, p. 569).

In 1977, Poland became the first state to obtain consultative member status by acceding to the Antarctic Treaty[92]. On August 1, 1980, when the CAMLR Convention opened for signature, the Antarctic Treaty also had four new non-consultative members[93]. When the CAMLR Convention came into effect (April 7, 1982), Germany had already achieved consultative member[94] status and there were four new non-consultative members[95].

3.4.1.3.The ill-fated 1988 Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA) and the 1991 Protocol on Environmental Protection to the Antarctic Treaty

At the third ATCM, held in 1964, the ATCP adopted the Agreed Measures for the Conservation of Antarctic Fauna and Flora. Seeking "to regulate the extent of human activities regarding native birds, mammals and plants," this set of environmental protection measures represented an effort towards the consolidation of Antarctica's status as a "Special Conservation Area," as established in the preamble of the 1964 Agreed Measures, with implications for Antarctica's living resources (BECK, 1991, p. 242).

In the 1980s, attention turned to a mining regime negotiations. The regulation of these activities in Antarctica was drawn up with the conclusion of the 1988 CRAMRA. During the CRAMRA negotiations, the need to accommodate the interests of actors outside the ATS in accessing Antarctica's mining resources "obscured the multiplicity of internal difficulties to be overcome within the ATS itself." Given that mining is closely related to sovereign rights and that the claimant states engaged in secret articulations, the main source of difficulties and delays in negotiations were the disagreements between claimant and non-claimant states. Furthermore, there was a need to circumvent divergences between Eastern and Western bloc perceptions, developed and developing states, and mining and conservationist interests (BECK, 1991, p. 246).

At CRAMRA opening for signature (June 1, 1988), five other countries had obtained consultative status[96]. Eleven other countries had acceded to the Antarctic Treaty with non-consultative status[97].

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[92] Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021.
[93] Brazil, Bulgaria, Germany, and Uruguay (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[94] Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021.
[95] Italy, Papua New Guinea, Peru, and Spain (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[96] Brazil, China, India, Italy, and Uruguay. Two other countries (Spain and Sweden) would obtain consultative status on September 21, 1988 (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[97] Austria, Canada, Cuba, Ecuador, Finland, Greece, Hungary, North Korea, South Korea, Spain, and Sweden (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).

Disagreements between the parties, especially the controversy surrounding the opposition of Australia and France, made the entry into force of CRAMRA unfeasible (BECK, 1991). This process produced a change in the international political desire towards a comprehensive protection of the Antarctic environment and culminated with the 1991 Protocol on Environmental Protection to the Antarctic Treaty (Environmental Protocol or Madrid Protocol) (McIVOR, 2009, p. 144). The Environmental Protocol establishes principles and standards for environmental protection in the Antarctic, aiming to address the peculiar environmental concerns and management challenges of the region (HUGHES *et al.*, 2018, p. 88).

Although the Antarctic Treaty does not identify environmental protection as a specific objective, its provisions—such as the prohibitions on military and nuclear activities, the emphasis on cooperation between nations, and the importance given to maximizing the scientific potential of Antarctica—limited the environmental effects of human activities in the region. Furthermore, environmental concerns have been the focus of specific measures subsequently developed in accordance with Article IX (McIVOR, 2009, p. 143-144).

The Madrid Protocol seeks to ensure "the comprehensive protection of the Antarctic environment and dependent and associated ecosystems" and designates Antarctica "as a natural reserve, devoted to peace and science" (ENVIRONMENTAL PROTOCOL, 1991, Article 2). When considering impacts of the activities conducted in the Antarctic Treaty area on "dependent and associated ecosystems," the Protocol clearly recognizes the interconnection between Antarctic and global environments. In this sense, it adopts as principles the prevention of adverse consequences on "the atmospheric, terrestrial (including aquatic), glacial or marine environments;" "the distribution, abundance or productivity of species or populations of species of fauna and flora;" or "endangered or threatened species or populations of such species," for example (ENVIRONMENTAL PROTOCOL, 1991, Article 3).

Article 7 of the Environmental Protocol prohibits mining and any other activity relating to mineral resources, other than scientific research. Article 8 defines that "any activities undertaken in the Antarctic Treaty area pursuant to scientific research programmes, tourism and all other governmental and non-governmental activities in the Antarctic Treaty area" are subject to a "prior assessment of the impacts of those activities on the Antarctic environment or on dependent or associated ecosystems." Article 11 Establishes the Committee for Environmental Protection (CEP), which shall "provide advice and formulate recommendations to the Parties in connection with the implementation of [the Environmental] Protocol" (Article 12) (ENVIRONMENTAL PROTOCOL, 1991).

> The CEP is the principal environmental advisory body to the ATCM and to the Antarctic Treaty Parties. The Committee's agenda covers many of the environmental issues faced in other parts of the world, such as protection of threatened species; waste management; marine

> pollution; introduced species; biodiversity loss; protection of special areas; and so on. While the Protocol's—and therefore the Committee's—scope extends to protection of the Antarctic marine environment, the conservation (including rational use) of marine living resources in the Southern Ocean is largely handled separately by [CAMLR Convention] (McIVOR, 2009, p. 147).

The Protocol still has six annexes relating to environmental impact assessment (Annex I), conservation of Antarctic fauna and flora (Annex II), waste disposal and waste management (Annex III), prevention of marine pollution (Annex IV), protected areas and their management (Annex V), and liability arising from environmental emergencies (Annex VI).[98]

In this sense,

> Safeguarding international peace and ensuring the freedom of scientific research are the two pillars of the Antarctic Treaty. (…) With the adoption of the Protocol on Environmental Protection to the Antarctic Treaty (Protocol) in 1991, protection of the Antarctic environment became the third pillar of the ATS (BASTMEIJER and ROURA, 2004, p. 768).

At the Environmental Protocol opening for signature (October 4, 1991) seven other states had obtained consultative status[99] and three had joined the Antarctic Treaty as non-consultative parties[100]. At the time of the entry into force of the Environmental Protocol (January 14, 1998), no other state had obtained consultative status[101] and there were only four new non-consultative parties[102]. There are currently 41 Parties to the Protocol[103], which are entitled to be CEP members (HUGHES *et al.*, 2018, p. 88).

3.4.2. Antarctic Treaty System (ATS): Challenges and perspectives

The ATS is considered a case of success. Since its inception, member states have been able to keep the continent free from military weapons and unlawful or unregulated appropriation (TOMÉ *et al.*, 2020). However, three decades ago Jorgensen-Dahl and Ostreng (1991, p. 1) already stated that the ATS "is under attack and even facing a crisis." The authors identified three main groups of critics: (i) "those inside the system itself who point to deficiencies of different kinds which make the regime perform short of its potential" (usually defenders of the regime and seeking to improve it); (ii) international environmental NGOs (from outside the system), which intend not only to reform, but to

[98] Annex VI was adopted in 2005 but has not yet entered into force (HUGHES *et al.*, 2018, p. 88).
[99] Ecuador, Finland, South Korea, The Netherlands, Peru, Spain, and Sweden (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[100] Colombia, Guatemala, and Switzerland (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[101] Bulgaria would obtain consultative status on June 5, 1998 (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[102] Czechia, Slovakia, Türkiye, and Ukraine (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).
[103] The 29 ATCPs (Argentina, Australia, Belgium, Brazil, Bulgaria, Chile, China, Czechia, Ecuador, Finland, France, Germany, India, Italy, Japan, South Korea, Netherlands, New Zealand, Norway, Peru, Poland, Russian Federation, South Africa, Spain, Sweden, Ukraine, United Kingdom, United States, and Uruguay) and 12 other states (Belarus, Canada, Colombia, Greece, Malaysia, Monaco, Pakistan, Portugal, Romania, Switzerland, Türkiye, and Venezuela) (Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021).

transform the system, including the transfer of the managerial responsibility for the continent to the UN; and (iii) states from outside the system, which accuse ATS members of "wanting to appropriate for themselves what was purported to be the vast mineral and other riches of Antarctica" (these also seek to transfer responsibility for the governance of the continent to the UN) (JORGENSEN-DAHL and OSTRENG, 1991, p. 2).

Ferrada (2018, p. 86) lists five factors that tend to shape the future of Antarctica, as well as the governance regime established by the ATS: membership heterogeneity (Section 3.3.2.1), governance internationalization (Section 3.3.2.2), sovereignty claims (Section 3.3.2.3), politicization of techno-science discussions (Section 3.3.2.4), and resources exploitation (Section 3.3.2.5). Additionally, increasing tourism (Section 3.3.2.6), and unregulated bioprospecting (Section 3.3.2.7) emerge as new challenges.

3.4.2.1.Membership heterogeneity

The Antarctic Treaty has a complex membership system, composed of consultative members (ATCP), and non-consultative members, and within which there is an evident hierarchy (HEMMINGS, 2014). The twelve original signatories are ATCP with permanent status. Other states may obtain consultative status, provided they (i) demonstrate their "interest in Antarctica by conducting substantial scientific research activity there, such as the establishment of a scientific station or the dispatch of a scientific expedition" (ANTARCTIC TREATY, 1959, Article IX.2); (ii) have "first ratified, accepted, approved or acceded" to the Environmental Protocol (ENVIRONMENTAL PROTOCOL, 1991, Article 22.4); (iii) apply for Consultative State status at an ATCM; and (iv) be accepted by consensus of all ATCPs (ROGAN-FINNEMORE, 2005, p. 216).

The twelve original signatories include seven sovereignty claimants[104],[105] and five other states that actively participated in the 1957-1958 IGY but made no territorial claims on the continent. The US and the USSR did not make territorial claims and recognized none but have reserved the right to make territorial claims in the future, based on their activities on the continent (BEEBY, 1991).

In addition to the twelve original signatories (seven territorial claimants, and five non-claimants), the Antarctic Treaty currently has another seventeen consultative parties and twenty-five

[104] "Discovery of territory only provides an inchoate title to the territory at best; effective occupation of the territory is then required to perfect that title. There has been much debate surrounding the concept of effective occupation and what that phrase actually means. The debate has implications especially in the context of the vast, remote, and harsh environment such as Antarctica" (ROGAN-FINNEMORE, 2005, p. 203).

[105] In 1908, the UK was the first to announce its claim to the entire Antarctic peninsula, and, beginning in 1923, other four claims were declared by New Zealand, Australia, France, and Norway (ROGAN-FINNEMORE, 2005, p. 203). In the 1940s Argentina and Chile claimed areas in the peninsula region, overlapping with the British claim (the three claims are mutually contested). However, Argentina and Chile argue that the Spanish Empire already had territorial rights over the continent and that its territorial claims are valid since its independence from Spain (Argentina in 1816, Chile in 1818) (LARRAIN, 2004).

non-consultative parties (Table 5). Since the Antarctic Treaty came into force in 1961, the number of members has gradually increased, as shown in Figure 13.

Table 5. ATS Membership (June 6, 2021).[106]

Status			Members
Consultative parties (29)	Original signatories (12)	Territorial Claimants (7)	Argentina, Australia, Chile, France, New Zealand, Norway, and United Kingdom
		Other (5)	Belgium, Japan, South Africa, USSR (today, Russian Federation), and US
	Other (17)		Brazil, Bulgaria, China, Czechia, Ecuador, Finland, Germany, India, Italy, South Korea, Netherlands, Peru, Poland, Spain, Sweden, Ukraine, and Uruguay
Non-consultative parties (25)			Austria, Belarus, Canada, Colombia, Cuba, Denmark, Estonia, Greece, Guatemala, Hungary, Iceland, Kazakhstan, North Korea, Malaysia, Monaco, Mongolia, Pakistan, Papua New Guinea, Portugal, Romania, Slovakia, Slovenia, Switzerland, Türkiye, and Venezuela.

The growing number of parties to the Antarctic Treaty has introduced additional challenges to its operating and decision-making processes due to a set of factors that include heterogeneity and asymmetry of interests, differences in political and economic stature, variety of cultural traditions, and differences between their political, economic, social, and legal systems among participating states (FERRADA, 2018).

Added to the fact that decisions must be taken by consensus (ANTARCTIC TREATY, 1959, Article IX.4), the increase in the number of parties and the growing heterogeneity of interests has led to a "relative paralysis of the regulatory capacities of the ATCMs" (FERRADA, 2018, p. 88). Since the adoption of the 1991 Environmental Protocol, no substantive legal instruments have been developed, in contrast to the intensification of human activity in the region, such as tourism and commercial bioprospecting (FERRADA, 2018).

Only states in the strict sense can be members of the ATS and participate in the decision-making process. NGOs, IGOs, and trade organizations can intervene and present documents, as well as exert influence in the political process as observers or experts (FERRADA, 2018, p. 90).

[106] Source: <https://bit.ly/3izimYN> Accessed June 6, 2021.

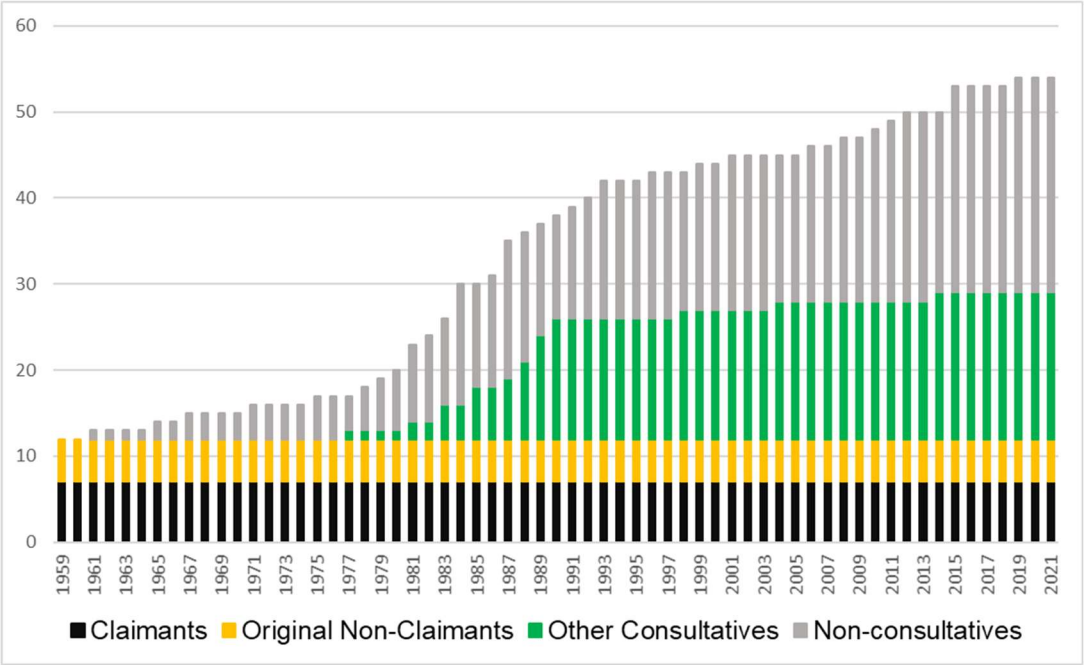

Figure 13. Antarctic Treaty Parties.[107]

Besides heterogeneity among members and the participation of private (like NGOs and advocacy groups) and interstate actors, global geopolitical changes also contribute to increase the complexity of the processes in the ATS. In recent decades, some states—such as Brazil, China, South Korea, India, and Malaysia—have become more relevant to Antarctic matters. In sum, "the increase in relevant players and their effect on rule-making procedures have complicated the ATS, and this is likely to continue" (FERRADA, 2018, p. 90).

3.4.2.2.Governance internationalization

The current twenty-nine ATCPs correspond to 15% of UN members[108]. In other words, only 15% of the countries in the world decide the destinations of the vast area under the jurisdiction of the Antarctic Treaty, which includes the continent, the ocean and ice shelves (ANTARCTIC TREATY, 1959, Article VI)[109]. Throughout the 1980s, there was strong international pressure to shift governance of Antarctic and the Southern Ocean from the current restricted club to the UN. The idea of internationalizing the region's governance is based on the argument that the Antarctic and its

[107] Source: <https://bit.ly/2SlXolh> Accessed June 6, 2021.
[108] The UN currently has 193 members (Source: <https://bit.ly/3ohV9PH> Accessed June 16, 2021.
[109] Ferrada (2018, p. 91) argues that the "idea of a restricted club should, however, be qualified due to the population, GDP and political stature and influence in global affairs of states with Antarctic interests." According to the author, considering those criteria, the Antarctic Treaty parties (and even the ATCPs) would be representative of the rest of the world and, therefore, would have legitimacy. The author also argues that the five permanent members of the United Nations Security Council are ATCPs, even though they are not all members of the UNCLOS.

resources are a CHM. Defenders of the treaty's legitimacy argue that this principle is "totally incompatible with Article IV of the Antarctic Treaty" (FERRADA, 2018, p. 91).

This process largely resulted from discussions held within the ATS regarding the exploration and exploitation of natural resources in the region, which culminated in the signature of CAMLR Convention (on living marine resources) and CRAMRA (on mineral resources). A group of countries identified with the G77+China and led by Malaysia saw the governance of Antarctica as a restricted club (HEMMINGS, 2014). For the contesting countries, the parties to the Antarctic Treaty wanted to reserve only for themselves the use of natural resources that should, in fact, be CHM (HEMMINGS, 2014). After the abandonment of CRAMRA, this perception has been dormant, but may return if the debate on resource exploitation—especially minerals—is resumed (FERRADA, 2018).

In 2014, the IMO adopted the International Code for Ships Operating in Polar Waters[110], valid in the Arctic and Antarctica. The Polar Code "provides a mandatory framework for ships operating in polar waters" and aims at "safe ship operation and environmental protection in the polar regions"[111]. The Polar Code fills a gap created by the paralysis of the ATS and implies that "the Antarctic Treaty parties have lost their position as the highest authority governing what happens with navigation south of the 60th parallel" (FERRADA, 2018, p. 92-93). This kind of regulatory internationalization can be repeated in other areas, such as co-management and environmental preservation of Antarctica.

Besides the geopolitical relevance of Antarctica during the bipolar order based on the Washington-Moscow rivalry, this polar regime has two unique features discussed below: i) the attempt of appropriation through territorial claims against the CHM principle; ii) the growing importance of private stakeholders through activities like bioprospecting, scientific research for future mining, and tourism.

3.4.2.3.Sovereignty claims

Territorial claims in Antarctica are only suspended. The Antarctic Treaty (Article IV) did not resolve this issue. This was the solution found to allow the negotiation of the treaty. In this context, the sovereignty claims of Argentina, Australia, Chile, France, New Zealand, Norway, and the UK (Figure 14) have been reaffirmed in several official ATS documents.

Although the twelve original signatories, especially the seven claimants, retain a good portion of Antarctica's governance (in terms of scientific production, participation in ATCMs, working group leadership, and presence in the region), the growing number of parties produces a new

[110] The Polar Code became fully effective in 2018 (Source: <https://bit.ly/3UCM9AC> Accessed June 17, 2021)
[111] Source: <https://bit.ly/3KDJKB1> Accessed June 17, 2021.

political balance. In 1959 there were seven claimants out of twelve. The Antarctic Treaty has today 54 members and 29 consultative parties for the same seven claimant states.

As a result, the relative political power of claimant states has gradually diminished over time. However, the claimant states, maybe with the exception of Argentina and Chile, "are still relevant actors in political, scientific and operational aspects of Antarctic governance and activities," and "have maintaining their profile, demonstrating their interest in Antarctica to the rest of the world and raising public awareness among their citizens" (FERRADA, 2018, p. 94-96). As a result, thinking about future scenarios for Antarctica must consider the interests of the claimant states in relation to what they claim to be their territorial rights (FERRADA, 2018, p. 98). However, it is not clear whether the non-claimant states would accept this perception without resistance.

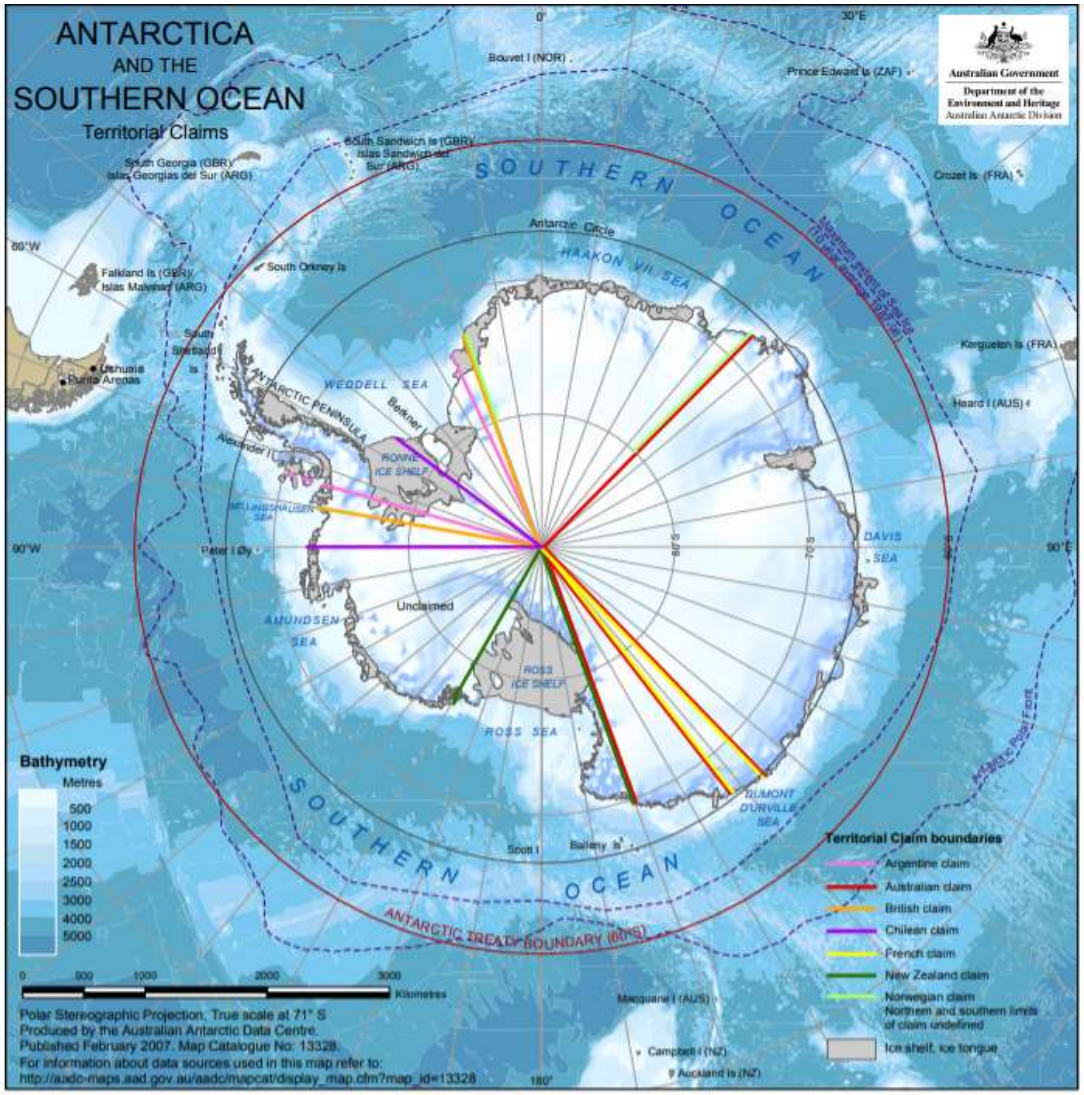

Figure 14. Territorial Claims (AUSTRALIAN ANTARCTIC DATA CENTRE, 2007).[112]

[112] Source: <https://bit.ly/3x8lBdv> Accessed June 6, 2021.

3.4.2.4.Politicization of technical-scientific discussions

Since the ATS inception, it is assumed that political issues are dealt with in ATCMs, while technical discussions are made in other, non-political forums[113]. Nevertheless, technical meetings have recently addressed political issues. This process is related to the active participation of environmental NGOs[114] and trade organizations[115] and seems to aim to attract a non-political public to strategies and measures that will later be proposed and defended in relevant political forums. It is worth remembering that these organizations are not necessarily neutral political actors. Their positions may converge with the interests of states that expressly or tacitly support these non-state actors (FERRADA, 2018).

Although Antarctica and the ABNJ are only loosely connected by environmental obligations, this process of creating MPAs in Antarctica was truly relevant for the debates on ABMT and MPAs during the BBNJ talks. The Antarctica model can be considered the starting point of the negotiations under the UN auspices, because it is supposed to correspond to the peaceful use of the resources for the sake of science and the general interest of humankind.

Measures and regulations to protect the environment or conserve marine living resources can also undergo a process of politicization since they can be adopted with sovereignty purposes. Designating Antarctic Specially Protected Areas (ASPAs), Antarctic Specially Managed Areas (ASMAs) or MPAs can have political effects, as they allow "the 'isolation' of certain areas which may coincide with states' geostrategic interests" (FERRADA, 2018, p. 99). In this sense,

> The Madrid Protocol inaugurated a new stage in Antarctic history, but it should be borne in mind that environmental protection is not the only priority for Antarctica. The projection of future scenarios should also consider legal, economic, and political aspects, and consciously work with the understanding that an environmentalist approach is in itself decidedly political. States can and do use environmental protection as a tool to achieve their political and legal objectives (FERRADA, 2018, p. 99).

3.4.2.5.Resources exploration and exploitation

The Antarctic natural resources are already explored and exploited. Fishing is regulated by CMALR Convention. Although limited by the International Convention for the Regulating of Whaling, whaling is still common in the Southern Ocean, where Japan hunts whales allegedly for scientific purposes, although NGOs and scientists have alerted about their commercial end. The exploration of seals—regulated, but not prohibited, by the CCAS—is now reduced to zero, but was intense in the 1960s, as forementioned. The exploitation of minerals and hydrocarbons was suspended

[113] Like Council of Managers of National Antarctic Programs (COMNAP), Reunión de Administradores de Programas Antárticos Latinoamericanos (RAPAL), Committee for Environmental Protection (CEP), Scientific Committee on Antarctic Research (SCAR), or CCAMLR.
[114] Like Antarctica and Southern Ocean Coalition (ASOC), Sea Shepherd Conservation Society, and Greenpeace.
[115] Like International Association of Antarctica Tour Operators (IAATO).

by the 1991 Environmental Protocol until at least 2048[116], but the ban does not prevent scientific research of these resources. The use of the water reserved in the form of ice in Antarctica has already been proposed. Commercial bioprospecting and tourism are booming economic activities in the region.

According to Ferrada (2018, p. 100), there is "an implicit but widespread awareness that, sooner rather than later, there will be a need to exploit Antarctic resources more intensely." Global processes outside Antarctica would be the drivers of this need: world population growth and changes in its distribution, as well as demands for improving the quality of life. Thus, the exploration and exploitation of Antarctic resources, including mineral resources, "will be more or less unavoidable, with the subsequent risks to ecosystems" (FERRADA, 2018, p. 100; QUEIROZ, CUNHA and BARROS-PLATIAU, 2023).

For all these factors, Antarctica is attracting increasing global attention and the region is an unavoidable topic in future debates on climate change, resource exploitation and environmental protection. Although current problems provoke a genuine concern, states operating in the region do not seem eager to take on new obligations in the longer term. Instead, "international players are alert to change and how, in such circumstances, to take advantage" (FERRADA, 2018, p. 102-103; QUEIROZ, CUNHA and BARROS-PLATIAU, 2023).

The difficulty of regulating the use and occupation of the territorial and maritime environment of Antarctica as an ABNJ indicates the challenge for the international community to create mechanisms for the governance of global commons. Exactly the same challenge emerged in BBNJ negotiations, during the IGC-5.2 in New York.

3.4.2.6.Increasing tourism

Although ATCMs have discussed in detail the proper management of Antarctic tourism, they have never discussed the total prohibition of tourism in the Antarctic (McIVOR, 2009). The inclusion of an annex to the Environmental Protocol to address tourism in the region was proposed in 1991, but there was no consensus on this need. In 1994, the ATCPs agreed to adopt a non-legally binding approach, which includes guidelines for both visitors to the Antarctic and organizers of nongovernmental expeditions (BASTMEIJER and ROURA, 2004).

In 1991, after the signature of the Environmental Protocol, seven companies that had already been operating expeditions to Antarctica for several years came together to form the International

[116] According to the 1991 Environmental Protocol, "if, after the expiration of 50 years from the date of entry into force of this Protocol, any of the [ATCP] so requests by a communication addressed to the Depositary, a conference shall be held as soon as practicable to review the operation of this Protocol" (ENVIRONMENTAL PROTOCOL, 1991, Article 25.2). Since the Protocol entered into force in 1998, the 50-year term ends in 2048.

Association of Antarctica Tour Operators (IAATO)[117]. The association represents the interests of the Antarctic tourism sector (BASTMEIJER and ROURA, 2004), and is dedicated "to advocate and promote the practice of safe and environmentally responsible private-sector travel to the Antarctic"[118].

Currently, the association has 105 members. There are *operators and provisional operators*, companies that organize their own travel programs operating directly in Antarctica, and *associate members*, including agents that book their customers into Operator members travel programs, and other organizations with an interest in supporting IAATO's objectives[119]. These two categories include "ship operators, ship agents, tourist bureaus, governmental bodies, travel bureaus chartering ships and planes from operators, environmental protection organizations and expedition management companies" (PALMOWSKI, 2020, p. 1522).

The tourism industry in Antarctica is growing rapidly. The first tourists arrived in Antarctica in the 1920s. The late 1960s saw the beginning of "'exploration voyages' linked with an educational profile." In the 1990s, when companies organizing Antarctic cruises started using ice-strengthened ships and icebreakers of the former Soviet navy, tourism in the region gained new momentum (PALMOWSKI, 2020, p. 1521). In 1993-1994, the number of tourists exceeded that of scientists in Antarctica for the first time (BASTMEIJER and ROURA, 2004). The total number of seaborne tourists visiting Antarctica from IAATO operators, both passenger making landings and cruise only passengers, increased from 6,704 in the 1992-1993 season[120] to 45,652 in 2007-2008. After the 2008 financial crisis, Antarctic tourism suffered a downturn until the years 2011-2012, when it started to grow again, reaching an estimated 77,787 in the 2019-2020 season (IAATO, 2019b). The total number of tourists in each of these modalities can be compared in Figure 15.

It is estimated that the number of tourists exceeds one hundred thousand in the 2024/25 season, although the pandemic tends to slow down the advance of Antarctic tourism (PALMOWSKI, 2020). These numbers must be considered in light of the temporal and spatial constraints on Antarctic tourism. Activities are limited to the five-month austral summer season (from November to March) (IAATO, 2019b), and "coincides with the peak of the breeding season for many Antarctic species" (BASTMEIJER and ROURA, 2004, p. 766). There are also significant spatial restrictions, since navigation closer to shore and landings are limited to ice-free areas, especially on the Antarctic Peninsula (PALMOWSKI, 2020). Although these areas cover less than 0.5% of the continent's total surface, they are susceptible to cumulative impacts both on their biodiversity and on their aesthetic, wilderness, historic, or scientific value (BASTMEIJER and ROURA, 2004).

[117] Source: <https://iaato.org/about-iaato/our-mission/history-of-iaato/> Accessed August 6, 2021.
[118] Source: <https://iaato.org/about-iaato/our-mission/> Accessed August 6, 2021.
[119] Source: <https://iaato.org/who-we-are/member-directory/> Accessed August 6, 2021.
[120] Cruise only tourism started in the 1999-2000 season, with 936 passengers (IAATO, 2019b, p. 4).

Antarctic tourism has intensified, and the diversity of commercial tourism activities has increased (BASTMEIJER and ROURA, 2004). They include shore landings, visits to penguin colonies, skydiving, mountain climbing, kayaking, diving, stand-up paddle boarding, skiing, snowboarding, camping (including short overnight stays), running events etc. (IAATO, 2019a; IAATO, 2019b). Given that inland tourism depends on access to airstrips, aviation infrastructure in Antarctica is likely to develop (PALMOWSKI, 2020).

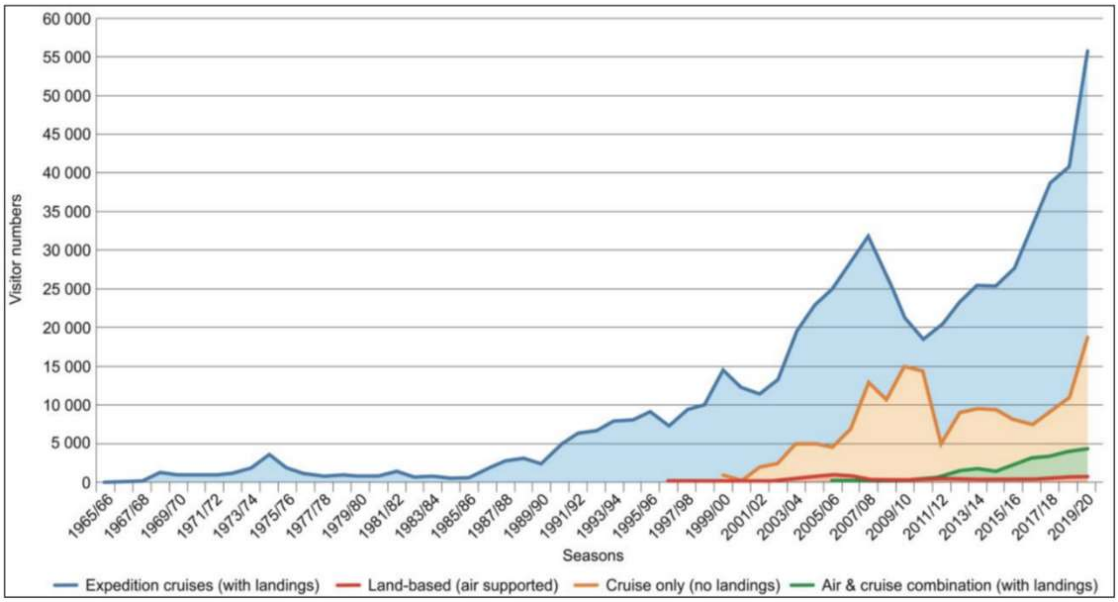

Figure 15. Tourists visiting Antarctica 1965-2020 (PALMOWSKI, 2020, p. 1524).

The growing Antarctic tourism reflects "a worldwide trend of increasing nature-based tourism, and it is very likely to continue" (BASTMEIJER and ROURA, 2004, p. 765-766). Given that this process may increase the risks of cumulative impacts on the region, the tourist activity and behavior on the continent indicates the need for environmental monitoring and control (PALMOWSKI, 2020).

In addition to environmental concerns, the intensification of Antarctic tourism raises other issues. It involves multiple practical dimensions (search and rescue, for example) and can have implications for complex political matters, such as "the use of Antarctic territory subject to unresolved sovereignty claims and the intrusion of influential economic interests into the [ATS]" (BASTMEIJER and ROURA, 2004, p. 778).

3.4.2.7.Unregulated bioprospecting

The extreme conditions in the Antarctic and the Southern Ocean required the organisms that live there to develop "unique biological coping strategies" (SAMPLE, 2004). It is the result of these

strategies, in addition to the biodiversity itself, that make the Antarctic living resources—marine and terrestrial—attractive to the biotechnology industry. The ATCMs have been discussing the legal definition for bioprospecting for years, but an official definition does not exist yet (BARROS-PLATIAU *et al.*, 2019). The activity can be understood as "commercially oriented scientific research" (LOHAN and JOHNSTON, 2005, p. 6), the search for novel biodiversity that can be used for commercial purposes (ROGAN-FINNEMORE, 2005). According to Barros-Platiau *et al.* (2019, p. 178), "in the context of the global knowledge economy and the fourth industrial revolution, bioprospecting is directly connected to the most advanced scientific research and commercial innovations."

Commercial gains are potentially high, and bioprospecting activities in Antarctica are "the single most urgent issue" to be addressed by the ATS (ROGAN-FINNEMORE, 2005, p. 201). The ATS governance shall face the challenges posed by the intense and profitable bioprospecting activity in Antarctica (BARROS-PLATIAU *et al.*, 2019):

> To assure a fairer access to marine living resources and their sustainable use, three components are lacking: a precise definition for bioprospecting; a comprehensive list of activities involved in the successive phases of bioprospecting (from exploration to commercial operation); and a detailed specification of states' obligations to report on their activities and findings regarding bioprospecting (BARROS-PLATIAU *et al.*, 2019, p. 181).

The background of the discussion on the exploration and exploitation of natural resources in Antarctica—living and non-living—lies on the unresolved issue of sovereignty over the continent and, by extension, over the Southern Ocean. Thus, bioprospecting activities could reignite discussions on Antarctic territorial claims and sovereignty disputes[121] (ROGAN-FINNEMORE, 2005, p. 206).

Although veiled, the unresolved territorial disputes persist today (ROGAN-FINNEMORE, 2005). In this context, "freedom of scientific investigation in Antarctica" and "cooperation toward that end" (ANTARCTIC TREATY, 1959, Article II), as well as the provision that "scientific observations and results from Antarctica shall be exchanged and made freely available" (ANTARCTIC TREATY, 1959, Article III.1.c) seem incompatible with property rights arising from the exploration of natural resources and the consequent incentive to innovation they create, "specifically regarding patenting of an Antarctic derived product or process and confidentiality agreements" (ROGAN-FINNEMORE, 2005, p. 217). In fact, some believe that the exchange and free availability of observations and results from bioprospecting affronts the activity's commercial nature (ROGAN-FINNEMORE, 2005, p. 212).

[121] Even fishing in the Southern Ocean is affected. If there are no territorial rights on the continent, the high seas extend to the coast of Antarctica and the applicable legal regime would be the same as for the rest of the Areas Beyond National Jurisdiction. Otherwise, countries holding sovereignty over portions of the continent could claim ownership of fisheries (as well as mineral resources) existing in the territorial sea, in the contiguous area, in the EEZ and on the continental shelf, as defined by UNCLOS (ROGAN-FINNEMORE, 2005, p. 206).

Another topic that remains unresolved concerns issues surrounding jurisdiction, the problem being the allocation of jurisdictional powers among the Antarctic Treaty states. In this respect, the Antarctic Treaty (1959, Article VIII.1) does not apply to individuals who are not part of a national Antarctic program or who are part of private expeditions to Antarctica (ROGAN -FINNEMORE, 2005). This could make sense in the mid-twentieth century, when all expeditions to Antarctica were state-led. However, it is no longer adequate nor effective today. Commercial research activities—including bioprospecting—are increasingly privately funded. It is worth noting that almost half of the patents on MGRs belong to the German-based company BASF (BLASIAK *et al.*, 2018a).

The attempt to apply the general principle of jurisdiction—"that is, giving claimant states jurisdiction over all persons in their Antarctic claimed territory"—could lead to territorial disputes (ROGAN-FINNEMORE, 2005, p. 215). The picture is even more complex if we consider that

> bioprospecting activities can be carried out *in situ* (collection phases), *ex situ* or *in silico* (culture, production, marketing) in whichever country the bioprospecting company is located. Therefore, states, by their national regulation, can claim to regulate the Antarctic bioprospecting activities carried out by their nationals (BARROS-PLATIAU *et al.*, 2019, p. 186).

Finally, it is necessary to evaluate the economic exploitation of Antarctic natural resources in the light of the Antarctic Treaty, according to which "Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord," "in the interest of all mankind" (ANTARCTIC TREATY, 1959, Preamble). Many believe that Antarctic natural resources, as well as natural resources in ABNJ, "should either be utilized for the benefit of all [hu]mankind or alternatively, should not be utilized at all" (ROGAN-FINNEMORE, 2005, p. 223). The debate must consider the conservation and sustainable use of global commons and the application of the CHM principle and therefore involves complex discussions regarding access to genetic resources and benefit-sharing (BARROS-PLATIAU *et al.*, 2019).

Expectedly, this was one of the hardest negotiation topics for the BBNJ Treaty. While the part on access to MGRs could be promoted with the argument that scientific research benefits humankind, the part concerning benefit-sharing was much harder to build consensus on. In this vein, the Antarctic model is limited when it comes to ABS, so there are fair expectations that the BBNJ regime will have some significance for future Antarctica regulation on this matter.

* * *

The superiority of power of the US and the Soviet Union during the Cold War seems to have been the decisive factor for the creation of the Antarctic Treaty, based on the suspension of territorial claims and the exclusive destination of the region for peaceful and scientific purposes. The relatively

small number of countries involved in the governance of Antarctica appears to be another important factor for the ATS success. The concentration of power over a relatively large region of the Planet is at the core of the ATS members resistance against the internationalization of regional governance and its inclusion in the UN system. Paradoxically, Antarctica is considered a CHM, but it is governed by a few countries. International law alone cannot explain why and how this happened. In my view, this can be better understood through the lens of power, architecture, and agency, as discussed in this thesis.

Decades after the end of the Cold War, the ATS seems to be less integrated into the international system as a whole and to have lost its innovative capacity that would allow it to promote further institutional development (HEMMINGS, 2014). Focusing on the Antarctic region, the ATS legal and political arrangements "differ from the rest of the environmental regimes, despite their biological interconnectedness" (BARROS-PLATIAU *et al.*, 2019, p. 179).

These elements mark fundamental differences from the BBNJ negotiations. In this case, the difficulty of regulating the conservation and sustainable use of another global common (the marine BBNJ) is compounded by the lack of an unquestioned international leadership and the large number of countries involved in the negotiation. These circumstances do not favor the same success, claimed for the ATS, for the BBNJ treaty. Furthermore, the eminently geopolitical focus of the Antarctic Treaty tends to make it difficult to apply the rules of the BBNJ treaty in the region, although the BBNJ model may be used in the future for discussions.

3.5. THE ARCTIC: A SPACE FOR CONTEMPORARY GEOPOLITICAL (RE)AFFIRMATION?

Unlike Antarctica, most of the Arctic area is under the jurisdiction of eight countries, whose territory, territorial sea, EEZ or extended continental shelf lie within the Arctic Circle (north of latitude 66°33'N): Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the US. Only a small portion of the ocean near the North Pole is in international waters and therefore beyond national jurisdictions. If the five coastal states' claims to extend their continental shelves prevail, the share of the Arctic Ocean in international waters would be significantly reduced (Figure 16). This is because the legal basis that applies to the region is provided by UNCLOS (Section 3.1), even though the US is not a signatory.

The Arctic governance is marked by jurisdictional and sectoral fragmentation, given the existence of several international agreements whose areas of application (geographic or issue-specific) cover the whole or part of the Arctic Ocean (YOUNG, 2016). In this context, the Arctic Council and UNCLOS emerge as the most relevant international arrangements for the purposes of this research.

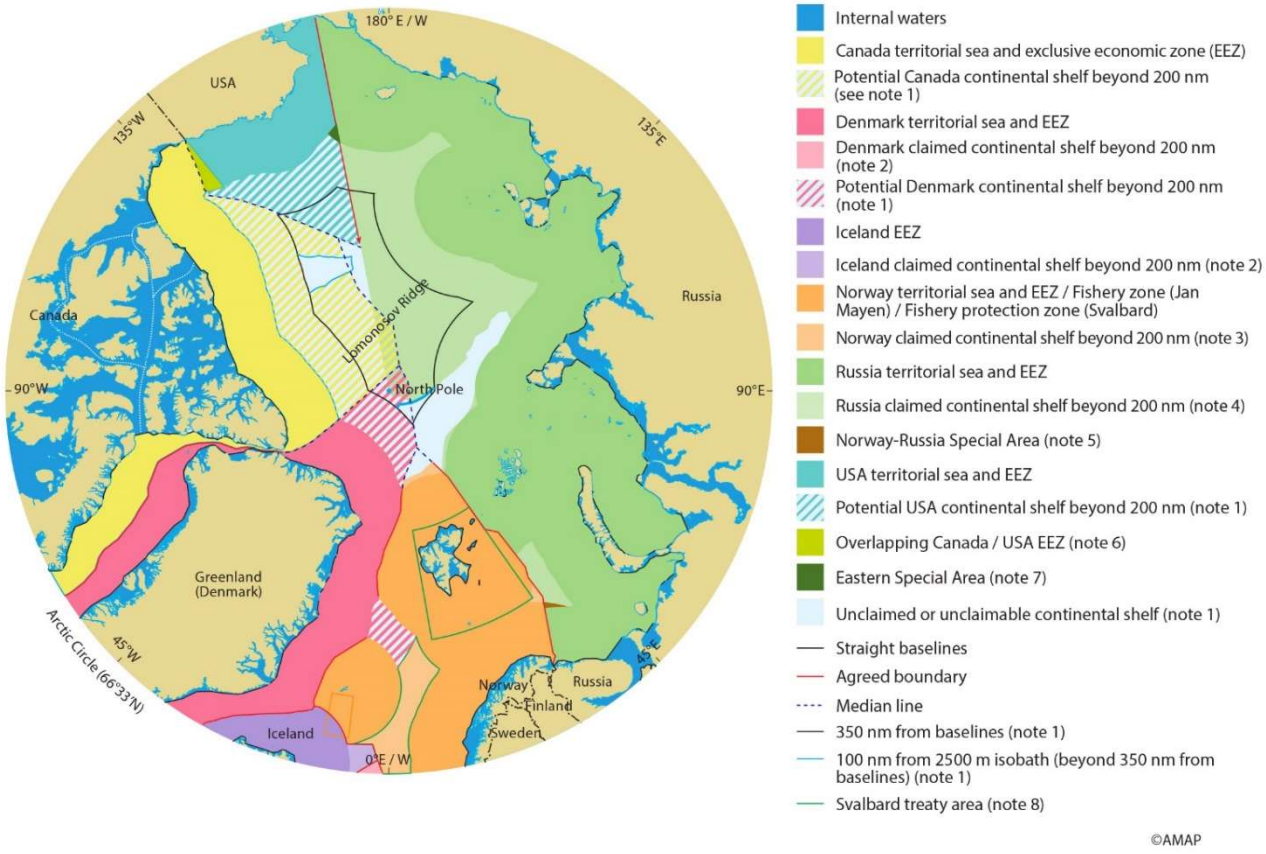

Figure 16. Marine jurisdiction in the Arctic (AMAP, 2012, p. 93).

Section 3.5.1 discusses the structure and functioning of the Arctic Council, as well as indicates its role in formulating international agreements. Section 3.5.2 investigates the challenges, old and new, to Arctic governance, and the potential expansion of the Council's focus from environmental concerns to geopolitical and international security issues.

3.5.1. The Arctic Council: Between environmental cooperation and growing geopolitical confrontation in the post-Cold War

As mentioned in Section 1.2.4, the Arctic Council is the main intergovernmental forum for the region. It was created in an environment of post-Cold War optimism, but already influenced by international instability in the early 1990s. With the melting of polar ice, natural resources (living and non-living) and new maritime routes become more accessible in the Arctic. The race for resources and routes, associated with the international scenario of growing conflict, can increase geopolitical tensions in the region. With Finland's entry into NATO and Sweden's same request, Russia will become the only coastal country not belonging to the organization. Added to this is the growing interest of non-Arctic countries in the region, especially China, which declared itself a "near-Arctic

state" in 2018. These factors point to a potential expansion of the Arctic Council's focus, initially on environmental protection, towards geopolitical and international security issues.

There are three categories of states with current or potential interests and activities in the region: the coastal states, the other Arctic states, and non-Arctic states. The Arctic Council has eight members: the five coastal states (often referred as the Artic Five, or the A5: Canada, Denmark, Norway[122], Russia, and the US) and the three other Arctic countries, which have no coastline in the Arctic Ocean, but whose territories or EEZ lie in the Arctic Circle (Finland, Iceland, and Sweden).

On the one hand, the Arctic states agree with the basic rules applicable to the region. On the other hand, there are significant differences regarding the approaches adopted and the political importance that each of them attributes to the Arctic (ROTTEM, 2020). Furthermore, given that part of the Arctic Ocean is located on the high seas, non-Arctic states also have interests and activities in the region, whether they are UNCLOS signatories or not (YOUNG, 2016). For its unique status, the Arctic regime may be considered a case of power play that is evolving quickly and blends international law, diplomacy, geopolitics, and trade interests, including from China. It is precisely the most recent evolution of the regime that informs future scenarios for the BBNJ treaty interpretation and implementation.

Section 3.5.2 points to an expansion of the Arctic Council's concerns to encompass international security issues. But first, it is worth discussing the structure and functioning of the Council (Section 3.5.1.1), and its role in formulating international agreements aimed at improving governance in the region (Section 3.5.1.2).

3.5.1.1.Structure and functioning of the Arctic Council

Although the Arctic Council constitutes an intergovernmental high-level forum for the Arctic, and not an international organism *per se*, it is part of a regime complex that aims to bring governance to the region. The structure of the Arctic Council reflects the fact that the region is a space fundamentally subject to national jurisdictions. The Council has permanent members, permanent participants, and observers.

As mentioned, the Arctic Council has eight *permanent members*: [123] Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the US. The five coastal states have territory, territorial sea and EEZ within the Arctic Circle. Finland and Norway have territory inside the Arctic Circle, while Iceland only exercises jurisdiction over waters in the Arctic Ocean. The Arctic Council's chairmanship rotates every two years among the permanent members. Only they have voting rights and all decisions must be taken unanimously (ROTTEM, 2020).

[122] Norway is therefore the only country with territory or territorial claims in both the Antarctic and the Arctic.
[123] Source: <https://bit.ly/3NDMrT1> Accessed May 27, 2022.

Since the inception, the composition of the Arctic Council presents an innovative aspect. Indigenous Peoples are recognized as *permanent participants*.[124] They "have full consultation rights in connection with the Council's negotiations and decisions, but not voting rights" (ROTTEM, 2020, p. 5). While in Antarctica there is no permanent population, in the Arctic there are approximately four million inhabitants. About 500,000 of these belong to Indigenous origins. So far, six organizations representing these peoples have been granted permanent participant status in the Arctic Council: the Aleut International Association (AIA), the Arctic Athabaskan Council (AAC), the Gwich'in Council International (GCI), the Inuit Circumpolar Council (ICC), the Russian Association of Indigenous Peoples of the North (RAIPON), and the Saami Council[125].

There are three types of *observers*:[126] non-Arctic states (13), intergovernmental and interparliamentary organizations (13), and NGOs (12) (Table 6). Observers do not have voting rights but can participate as guests in Arctic Council meetings[127]. As the name suggests, these actors "are meant to observe the work of the Council" and its main role is to interact with working groups and, to a lesser extent, with senior Arctic officials (see below) (ARCTIC COUNCIL, 2013, p. 7; ROTTEM, 2020, p. 5).

The interest of China and the EU in obtaining observer status before the Council[128] confirms that actors located far from the geographically delimited Arctic also consider it as an important region (ROTTEM, 2020). Given the "very central, practical, and symbolic importance of the [Indigenous] groups in the alliance," one of the formal requirements that must be fulfilled to obtain observer status is support the work of Indigenous Peoples in the Council (ARCTIC COUNCIL, 2013, p. 3; ROTTEM, 2020, p. 29).

There is a crucial difference between the Arctic Council and the ATS here. In Antarctica, any country that fulfills the formal requirements, particularly that of conducting substantial scientific research activity on the continent, can be a candidate to become an Antarctic Treaty member, in theory. The Republic of Belarus sent its first scientist to Antarctica in 1955 and has a polar facility there, having eight Belarusian Antarctic Expeditions with more than 100 specialists, but it is not yet a member.[129] Colombia, Malaysia, Portugal, Switzerland, and Venezuela already have National Antarctic Programs; they are non-Consultative State Parties but signed the Antarctic Treaty and the Environmental Protocol.[130] Differently, in the Arctic Council there is no possibility for countries other than the eight Arctic states to obtain the permanent member status. Others can only become observers,

[124] Source: <https://bit.ly/3z3fbkm> Accessed May 27, 2022.
[125] Source: <https://bit.ly/3z3fbkm> Accessed May 27, 2022.
[126] Source: <https://bit.ly/3LN7Doo> Accessed May 27, 2022.
[127] Source: <https://bit.ly/3LN7Doo> Accessed May 27, 2022.
[128] China's observer status was granted at the Kiruna Ministerial Meeting in 2013. At the same meeting, "the Arctic Council 'receive[d] the application of the EU for Observer status affirmatively,' but deferred a final decision. Until such time as Ministers of the Arctic States may reach a final decision, the EU may observe Council proceedings" (Source: <https://bit.ly/3KFefGW> Accessed April 15, 2023).
[129] Source: <https://bit.ly/3NmTkLy> Accessed April 20, 2023.
[130] Source: <https://bit.ly/3nh6MWY> Accessed April 20, 2023.

alongside intergovernmental and interparliamentary organizations, and NGOs. As a result, the Arctic Council tends to be the preferred playing field for permanent members, because by legitimizing the Council they reaffirm their power in the region.

Table 6. Arctic Council Observers[131]

Year	Non-Arctic States	Intergovernmental and Interparliamentary Organizations	NGOs
1998	Germany Poland The Netherlands United Kingdom	Standing Committee of the Parliamentarians of the Arctic Region (SCPAR) UN Environment Programme (UNEP)	International Arctic Science Committee (IASC) International Union for Circumpolar Health (IUCH) Northern Forum (NF) WWF Arctic Programme
2000	France.	International Federation of Red Cross & Red Crescent Societies (IFRC) International Union for the Conservation of Nature (IUCN) Nordic Council of Ministers (NCM) North Atlantic Marine Mammal Commission (NAMMCO)	Advisory Committee on Protection of the Sea (ACOPS) Association of World Reindeer Herders (AWRH) Circumpolar Conservation Union (CCU) International Arctic Social Sciences Association (IASSA)
2002		United Nations Development Programme (UNDP)	International Work Group for Indigenous Affairs (IWGIA) University of the Arctic (UArctic)
2004		Nordic Environment Finance Corporation (NEFCO)	Arctic Institute of North America (AINA) – as Arctic Circumpolar Route
2006	Spain		
2013	China India Italy Japan Singapore South Korea		
2017	Switzerland	International Council for the Exploration of the Sea (ICES) Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) Commission World Meteorological Organization (WMO) West Nordic Council (WNC)	Oceana
2019		International Maritime Organization (IMO)	

The work of the Arctic Council takes place at three levels: the ministerial level, the senior Arctic official (SAO) level, and the working group level. *Ministerial meetings* are the Arctic

[131] Source: <https://bit.ly/3LN7Doo> Accessed May 27, 2022.

Council's highest decision-making body. These politically oriented meetings indicate how the member states would like the Council to develop, including through instructions to the operational levels of the Council. Although these meetings play "more of a symbolic role," they are the opportunity for "the state holding the chairmanship to make its own ambitions known, and (…) member states (…) to put their own personal stamp on proceedings" (ROTTEM, 2020, p. 20).

Working groups are the heart of the Arctic Council and the privileged locus for permanent participants and observers to act. Most of them were created under the aegis of the AEPS and later incorporated into the Arctic Council (ROTTEM, 2020). Unlike the ministerial and SAO levels, representatives of member states remain longer in working groups, which gives continuity to work at the technical level (ROTTEM, 2020). The Council currently has six working groups with specific operating mandates obtained from the ministerial and SAO levels (Table 7). Some constitute large groups (AMAP, CAFF, and PAME), others are smaller groups (EPPR, ACAP, and SDWG), but all have representatives from the member state's administrations and the scientific community (ROTTEM, 2020). Each working group has a mandate, a chair, a management board or steering committee, and a secretariat.[132] Working group decisions must be taken by consensus among their members, but they are not binding at the ministerial and SAO levels.

Table 7. Arctic Council Working Groups

Working Group	Primary focus
Arctic Monitoring and Assessment Programme – AMAP (1991)	"Measuring and monitoring pollutants and climate change effects on ecosystems and human health in the Arctic."[133]
Conservation of Arctic Flora and Fauna – CAFF (1991)	"To address the conservation of Arctic biodiversity, (…) helping to promote practices which ensure the sustainability of the Arctic's living resources."[134]
Emergency Prevention, Preparedness and Response – EPPR (1991)	"To contribute to the prevention, preparedness and response to environmental and other emergencies, accidents, and Search and Rescue (SAR)" (EPPR, 2016, p. 1).
Protection of the Arctic Marine Environment – PAME (1993)	"To address marine policy measures and other measures related to the conservation and sustainable use of the Arctic marine and coastal environment in response to environmental change and from both land and sea-based activities."[135]
Sustainable Development Working Group – SDWG (1998)	"Advancing sustainable development and improving environmental, economic and social conditions of Indigenous peoples and Arctic communities."[136]
Arctic Contaminants Action Programme – ACAP (2006)	"To prevent and reduce pollution and environmental risks in the Arctic."[137]

[132] Source: <https://www.arctic-council.org/about/working-groups/> Accessed June 1, 2022.
[133] Source: <https://www.arctic-council.org/about/working-groups/amap/> Accessed June 1, 2022.
[134] Source: <https://www.caff.is/about-caff> Accessed June 1, 2022.
[135] Source: <https://pame.is/index.php/shortcode/about-us> Accessed June 1, 2022.
[136] Source: <https://www.arctic-council.org/about/working-groups/sdwg/> Accessed June 1, 2022.
[137] Source: <https://www.arctic-council.org/about/working-groups/acap/> Accessed June 1, 2022.

However, "the knowledge generated, and the recommendations formulated will nevertheless set the agenda and, at best, put pressure on those able to take political action" (ROTTEM, 2020, p. 22). In this context, some relevant reports have been produced by the working groups. AMAP, together with CAFF and the IASC, published the 2004 Arctic Climate Impact Assessment (ACIA), a comprehensive, multi-disciplinary assessment of climate change impacts in the Arctic, with recommendations on how to tackle climate change in the region. SDWG published the 2004 Arctic Human Development Report (AHDR), updated in 2015 (AHDR-II). PAME, in collaboration with EPPR, published the 2009 Arctic Maritime Shipping Assessment (AMSA), which contributed to the later formulation of the 2014 IMO Polar Code. CAFF published the 2013 Arctic Biodiversity Assessment (ABA), with recommendations aiming to conserve Arctic biodiversity and ecosystems (ROTTEM, 2020).

Meeting at least twice a year and acting as a link between the ministerial level and working groups, the *SAO level* aims to guide and oversee the day-to-day activities of the Arctic Council. Part of the political sphere along with the ministerial meetings, the SAO level is composed of government officials usually nominated from among the state's foreign ministry officials to advance member states' interests in the Arctic Council (ROTTEM, 2020, p. 20).

In addition to working groups, the Arctic Council has other *subsidiary bodies*: task forces and expert groups (ARCTIC COUNCIL, 2013, p. 6). *Task forces* "are appointed at the Ministerial meetings to work on specific issues for a limited amount of time, remaining active until they have produced the desired results." [138] Although there is currently no active task force, they have already played important roles, notably: the Task Force on Search and Rescue; the Task Force on Arctic Marine Oil Pollution Preparedness and Response; and the Task Force for Enhancing Scientific Cooperation in the Arctic (SCTF). These task forces resulted in three international binding agreements signed under the auspices of the Arctic Council.

Expert groups with limited mandates can be created by working groups. In fact, all Arctic Council working groups are supported by expert groups: AMAP (7 expert groups), CAFF (7), EPPR (3), PAME (5), SDWG (2), and ACAP (4) [139]. Within the broader scope of the Arctic Council, two expert groups, also with limited mandates, have been appointed: (i) the Expert Group in Support of the Implementation of the Framework for Action on Black Carbon and Methane, and (ii) the Ecosystem-Based Management Expert Group (which completed its work in 2013) (ROTTEM, 2020, p. 43).

[138] Source: <https://www.arctic-council.org/about/task-expert/> Accessed June 1, 2022.
[139] Source: <https://www.arctic-council.org/about/working-groups/> Accessed June 1, 2022.

3.5.1.2.The role of the Arctic Council in the formulation of hard- and soft-law instruments

As mentioned, the Arctic Council was established as a high-level intergovernmental forum by the 1996 Ottawa Declaration. Therefore "it does not have the legal personality of an international organization under the international law" (LOUKACHEVA, 2020, p. 110). In this condition, and despite its gradual institutionalization evidenced by the creation of a permanent Secretariat, it does not have the ability to produce ILBIs, to conclude treaties with other subjects of international law or to adopt mandatory regulations, nor to enforce or implement them (LOUKACHEVA, 2020).

However, the lack of these legal competences does not prevent the Arctic Council from playing a vital role as a political forum for debate and coordination of efforts in the development of international agreements. Despite its structural and organizational limitations, the Arctic Council promoted three legally binding agreements. As the Arctic Council does not have the legal status of an international organization, these documents constitute treaties signed directly by the eight Arctic states. But its elaboration and negotiation took place under the auspices of the Arctic Council (LOUKACHEVA, 2020):

- The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (2011);
- The Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (2013); and
- The Agreement on Enhancing International Arctic Scientific Cooperation (2017).

The eight members negotiated these agreements. Although the Arctic Council was not responsible for the drafts, it "has served as a venue for the drafting." This could signal the emergence of a "new age" in which more binding Arctic cooperation would be possible (ROTTEM, 2020, p. 7).

Additionally, since the inception the Arctic Council develops soft-law instruments, such as ministerial declarations and Chair's statements. These political documents have: (i) outlined the strategic vision and recommendations for further initiatives and actions; (ii) established additional working bodies for particular projects, when appropriate; and (iii) contributed to the expansion of soft-law practices in the Arctic (LOUKACHEVA, 2020).

The Arctic Council's subsidiary bodies produce scientific knowledge and issue recommendations. These documents, although non-legally binding, constitute *de facto* normative instruments that contribute to the harmonization and implementation of member states' domestic legislations and to the work of international organizations: the 2004 ACIA for the UNFCCC, the 2009 AMSA for the IMO, and the 2013 ABA for the CBD, for example (ROTTEM, 2020).

In 2018, the Arctic Five, Iceland, China, the EU, Japan, and South Korea (the Arctic 5+5) signed an Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean (the

CAO Fisheries Agreement). Although not directly involved in the negotiations, the Arctic Council tends to be instrumental to its members in the implementation of this treaty (LOUKACHEVA, 2020).

3.5.2. Challenges and perspectives for the Arctic Council

Sfraga (2021, p. 4-5) proposes a framework that seeks to systematize the pressing issues and key drivers for "a new, interconnected, increasingly consequential, and globalized Arctic." Making a pun on the *seven seas*, the author's framework includes "7Cs": climate, commodities, commerce, connectivity, communities, cooperation, and competition.

Global warming has "profound implications for Arctic people, ecosystems, and resources" (GERMAN ARCTIC OFFICE, 2020a, p. 1). The increase in temperature and the melting of the ice cover[140] change the conditions of possibility for actors with interests in the region to act. Associated with technological development, these changes create economic opportunities by making possible new or intensified activities, related to the exploration and exploitation of natural resource commodities (oil and gas[141], and fishing), and navigation (for tourism and commerce), for example. These factors renew the importance of the Arctic in International Relations, as the region, despite the "political stability" and the existence of "well-functioning governance regimes," arouses the interest of Arctic and non-Arctic actors and becomes a space of potential geopolitical and resource dispute (ROTTEM, 2020, p. 1).

Climate change is a key factor causing deep changes in the economic, environmental, and social dynamics of the Arctic, with important repercussions in the political domain, both domestically

[140] "A.1.4. Between 1979 and 2018, Arctic Sea ice extent has *very likely* decreased for all months of the year. September sea ice reductions are *very likely* 12.8 ± 2.3% per decade. These sea ice changes in September are *likely* unprecedented for at least 1000 years. Arctic sea ice has thinned, concurrent with a transition to younger ice: between 1979 and 2018, the areal proportion of multi-year ice at least five years old has declined by approximately 90% (*very high confidence*). Feedbacks from the loss of summer sea ice and spring snow cover on land have contributed to amplified warming in the Arctic (*high confidence*) where **surface air temperature likely increased by more than double the global average over the last two decades**" (IPCC, 2019, p. 6). "B.1.7. Arctic sea ice loss is projected to continue through mid-century, with differences thereafter depending on the magnitude of global warming: **for stabilized global warming of 1.5ºC the annual probability of a sea ice-free September by the end of century is approximately 1%, which rises to 10–35% for stabilized global warming of 2ºC** (*high confidence*)" (IPCC, 2019, p. 18) (emphasis added).

[141] "The resource potential of the Arctic remains highly uncertain because, outside of a few intensively explored areas, the offshore Arctic remains essentially unexplored for petroleum, and geological evidence still suggests that significant volumes of undiscovered petroleum remain to be found outside the developed areas" (GAUTIER and MOORE, 2017, p. 4). According to Bird *et al.* (2008, p. 4), "the total mean undiscovered conventional oil and gas resources of the Arctic are estimated to be approximately 90 [BBO] [(from 44 to 157 BBO)], 1,669 trillion cubic feet (TCF) of natural gas [(from 770 to 2,990 TCF)], and 44 billion barrels of natural gas liquids." Additionally, "large quantities of unconventional petroleum such as shale oil, shale gas, heavy oil, coal-bed gas, and gas hydrates might also be developable in the Arctic" (GAUTIER and MOORE, 2017, p. 4). "On an energy-equivalent basis, natural gas is much more abundant than oil in the Arctic. Yet-to-find recoverable conventional oil reported by the CARA, amounting to between 1.5 and 5 years of supply at current world oil consumption rates, is not large compared to the known resources at lower latitudes. The amount of gas resources estimated for the Arctic, on the other hand, represents about 30 percent of global undiscovered conventional gas, which is about 27 years of supply at current rates of consumption. However, large-scale production of natural gas in the Arctic is now generally unfeasible as a result of low gas prices, largely because of the development of unconventional gas resources in North America. As a result, most undiscovered Arctic gas would probably not be developed in the near future" (GAUTIER and MOORE, 2017, p. 4).

and internationally. In the Arctic, surface air temperature likely increased by more than double the global average over the last two decades due to "feedbacks from the loss of summer sea ice and spring snow cover on land" (IPCC, 2019, p. 6). While the intensification of human activities in the region tends to contribute to global warming, it seems even more relevant to consider the ongoing impacts of climate change in the region.

With varying degrees of confidence, the IPCC indicates, for example, that:

a) the "Arctic June snow cover on land declined by 13.4 ± 5.4% per decade from 1967 to 2018 (...), predominantly due to surface air temperature increase" (IPCC, 2019, p. 6);
b) "ice associated marine mammals and seabirds have experienced habitat contraction linked to sea ice changes" and "impacts on foraging success due to climate impacts on prey distributions" (IPCC, 2019, p. 12);
c) "the shrinking cryosphere in the Arctic (…) has led to predominantly negative impacts on food security, water resources, water quality, livelihoods, health and well-being, infrastructure, transportation, tourism and recreation, as well as culture of human societies, particularly for Indigenous peoples" (IPCC, 2019, p. 15);
d) "costs and benefits have been unequally distributed across populations and regions" (IPCC, 2019, p. 15);
e) ocean "warming, ocean acidification, reduced seasonal sea ice extent and continued loss of multi-year sea ice are projected to impact polar marine ecosystems through direct and indirect effects on habitats, populations and their viability" (IPCC, 2019, p. 22); and
f) "the geographical range of Arctic marine species, including marine mammals, birds and fish is projected to contract, while the range of some sub-Arctic fish communities is projected to expand, further increasing pressure on high-Arctic species" (IPCC, 2019, p. 22).

As temperatures rise and ice cover melts, the region becomes increasingly accessible, reducing exploration and exploitation costs and making the development of natural resources and shipping routes economically viable. From a political point of view, states' interests can change when geographic conditions and economic incentives change.

Since its inception (and even before, in the context of AEPS), the Arctic Council's focus has been on environmental protection and sustainable development. New challenges relate to the potential deepening of geopolitical tensions, owing in part to a race for the development of living (fisheries) and non-living (oil and gas) resources and for access to maritime routes (the Northwest and the Northeast passages) in the region. The participation of non-Arctic states in this race for the Arctic ABNJ deepens the complexity of this scenario.

According to US Geological Survey (USGS) estimates, the Arctic contains 90 billion barrels of oil (BBO) (about 13% of world reserves) and 44 billion barrels of natural gas (nearly 25% of world reserves) (BIRD *et al.*, 2008; GAUTIER and MOORE, 2017). This sole investigation is an example of the growing US interest in the Arctic, along with geopolitical concerns (SMITH, 2022).

Since 2018 China considers itself "an important stakeholder in Arctic affairs" and declares itself a "near-Arctic state" (CHINA, 2018). According to its Arctic Policy, the main goals of China in the region are "to understand, protect, develop and participate in the governance of the Arctic, so as to safeguard the common interests of all countries and the international community in the Arctic, and promote sustainable development of the [region]." Among other points, the Arctic Policy indicates China's interest in the development of Arctic shipping routes, in the exploration and exploitation of oil, gas, mineral and other non-living resources, in the conservation and utilization of fisheries and other living resources, and in the development of tourism resources. To this end, China intends to actively participate in Arctic governance and international cooperation (CHINA, 2018).

The Basic Principles of Russian Federation State Policy in the Arctic to 2035 includes "to develop the Russian Arctic as a strategic resource base and [its] use to speed up national economic growth" (KLIMENKO, 2020). Russia was supposed to hold the two-year rotating chair of the Council, but it was rejected by the other seven members of the Council. China is also increasing Arctic cooperation with Russia for energy and shipping, in the context of the Russian war on Ukraine (CHEN, 2023). The Sino-Russian cooperation in the region (including the creation of a Cold Silk Road through the Northern Sea Route) (SORENSEN and KLIMENKO, 2017) reveal these countries' increased attention to the region.

Geopolitical tensions can also arise from disagreements regarding some still-disputed limits of the territorial sea and the EEZs of coastal countries, normally resolved through bilateral negotiations, and the extended continental shelves, whose delimitation and solution of overlapping claims is up to the CLCS (UN, 1982, art. 76.6 and Annex II).

Another factor that can trigger geopolitical tensions concerns international power disputes, that is, direct or indirect conflicts that may involve Arctic countries, as in the opposition between Russia and the West. Until recently, most members sought to preserve the Arctic Council's functioning from geopolitical tensions, even during Russia's annexation of the Crimean Peninsula in 2014 (ROTTEM, 2020). However, the unprovoked invasion of Ukraine by Russia again in 2022 made the other permanent members issue a *joint statement*[142] in which, even recognizing the "enduring value of the Arctic Council for circumpolar cooperation" and reaffirming its "support for this institution and its work," denounce "the serious impediments to international cooperation, including

[142] Available at <https://bit.ly/3rysd4b> Accessed June 6, 2022.

in the Arctic, that Russia's actions have caused" and announce the suspension of their participation in "all meetings of the Council and its subsidiary bodies."

At the same time, Finland's entry into NATO and the prospect of Sweden being accepted soon would leave Russia in the uncomfortable position of being the only permanent member of the Arctic Council not belonging to that military alliance.

Arctic connectivity concerns the need to recognize, promote and improve "a connected landscape, an integrated ocean system, a shared need for infrastructure from ports to roads to rail, social and cultural ties that bind, and equitable access to basic community services" (SFRAGA, 2021, p. 9). Sfraga emphasizes the need to incorporate a multiplicity of communities that, although not forming a monolithic group, share "the triumphs and challenges of living in the Arctic" and have common experiences related to health and well-being, for example, which need to be valued (SFRAGA, 2021, p. 10). All these factors contribute to strengthening the links between the Arctic and the rest of the world in the economic and geopolitical fields (GERMAN ARCTIC OFFICE, 2020a).

Given these factors, it must be recognized that actions taken today within the scope of Arctic governance will shape the geopolitical landscape and sustainable development in the region, as well as global supply chains and energy markets for years to come. In this sense, the promotion of international cooperation in the Arctic would imply the further institutionalization of the Arctic Council. Signs that this process is already taking place are the conclusion of three binding agreements, signed under the auspices of the Arctic Council and the creation of a permanent Secretariat (established in 2011 and made operational in 2013), based in Tromsø, Norway. Together with the ministerial meetings and the SAO meetings, the Secretariat is part of the Arctic Council's coordinating level. Organized to basically perform administration and communication functions, the Secretariat is "more of a facilitator than an active contributor, for example, to setting a political agenda" (ROTTEM, 2020, p. 20).

Another fundamental debate for the future of the Arctic Council concerns the inclusion of new observers and the delimitation of their precise role in the various instances of the Council. In addition, there are demands from other Indigenous Peoples that intend to join the Arctic Council. The growth in the number of observers and permanent participants tends to increase the pressure on permanent members and, therefore, can contribute to dilute their power. Developments of this nature can change the dynamics of the Council. On the one hand, they can increase its international legitimacy. On the other hand, they can reduce its prestige *vis-à-vis* the Arctic states, as far as they see their power been gradually reduced in the Council.

* * *

The major recent geopolitics shifts that challenges international balance in the Arctic are Finland's NATO membership and the prospect of Sweden following suit soon, what would make Russia the only member of the Arctic Council not belonging to that military alliance. Recently, China declared itself a near-Arctic state, clearly indicating its interest in the region. Despite international cooperation initiatives, including for environmental protection, these elements indicate that the Arctic continues to be seen by the great powers as a space for geopolitical affirmation and possible future confrontation.

The composition of the Arctic Council reflects the fact that the region is largely subject to the national jurisdiction of its members. Even so, UNCLOS remains the most important treaty for the regional governance, with the recognition of the Arctic countries (exactly because it recognizes them sovereignty or exclusivity over extensive areas of the Northern Ocean). Given that the BBNJ treaty will be an UNCLOS IA, it is reasonable to assume that it will also be applicable to the Arctic, which could lead to interference (unwanted by Arctic countries) with the interests of Arctic Council members.

The resurgence of geopolitical antagonisms and the war in Ukraine jeopardize the scenario of "political stability" throughout the world and, in particular, in the Arctic. Additionally, given the suspension of Russia from the Arctic Council in March 2022, it can no longer be said that the functioning of the governance structures is taking place under normal conditions. However, the interest of Arctic and non-Arctic countries in the region seems to be, in fact, increasing, with potential repercussions on the Arctic marine biodiversity and, therefore, on life throughout the Planet.

4. AGENCY: HOW DID THE COUNTRIES GROUP AND POSITION THEMSELVES IN THE BBNJ NEGOTIATIONS?

This chapter seeks to investigate BBNJ negotiations under the third research lens of the ESG research framework: Agency (Figure 1). The general objective here is to investigate how countries organize themselves to participate in BBNJ negotiations (whether individually or in coalitions) and how these countries and/or coalitions position themselves on selected topics under debate.

Ocean governance implies the participation of actors as diverse as companies, ranging from multinationals to local communities, and the most diverse actors in civil society. However, states continue to be the main actors in the multilateral system, in view of their exclusive normative regulation prerogatives. Each actor occupies a specific space in the structure and controls a part (more or less important) of the instruments that guide decision making, as well as the definition of the nature and content of the measures implemented (public policies, legal, economic regulation, or cooperation agreements, for example). In other words, the nature of the actors' relationships depends deeply on the status, role, and interests of each of them (BARROS-PLATIAU *et al*., 2015).

The system formed by these actors and the interactions between them has several complexities: a) it is open, immersed in a wider system and without defined limits (interferences with spheres of commerce, security, finance, etc.); b) it dynamically self-organizes itself through actions performed and its evolutionary structure; c) the effects it induces are not quite predictable, even less in the medium and long terms; d) it is difficult to produce a precise knowledge at a given moment, and if it is possible, such knowledge would already be born partially obsolete (BARROS-PLATIAU *et al*., 2015).

The BBNJ formal negotiations have allowed states to address shared problems and concerns. However, the debate about the elements of the package deal showed imbalances in the exploration and exploitation of resources in ABNJ (BLASIAK *et al*., 2016). Diplomats "justify their preferred positions with reference to UNCLOS precedent," but "many of the most polarized and strongly held positions are based on assumptions about the current and potential economic value of [MGRs]" in a scenario of profound uncertainty, in view of the wealth blindness that characterizes marine living and non-living resources mentioned above (TILLER *et al*., 2020).

This chapter seeks to investigate how each country or coalition of countries positioned itself regarding selected topics on the negotiating agenda (Section 4.3). Such an investigation is possible to be done in more detail only for IGC-1 to IGC-3. The database that I used is made up of the final reports of these Conferences, as made available by the IISD in the ENB. Unfortunately, the details of country positions are only available for these three Conferences. For IGC-4, IGC-5.1 and IGC 5.2, the report makes only generic references to countries and coalitions. To analyze these later

Conferences, I rely on the accounts of Mendenhall *et al.* (2022), Oliveira *et al.* (2022), and Tiller *et al.* (2023). But first, it is important to identify who owns marine BBNJ (VADROT, LANGLET and TESSNOW-VON WYSOCKI, 2022) (Section 4.1) and how states have come together (or not) in coalitions of countries to better defend their interests (Section 4.2).

The question that guides this chapter refers to how countries and coalitions of countries position themselves in BBNJ negotiations? As mentioned, the hypothesis I intend to assess is that countries and coalitions of countries position themselves according to their geopolitical and geoeconomic interests, leaving concerns with environmental protection in second plan.

4.1. BLUE ACCELERATION: WHO WILL OWN MARINE BIODIVERSITY?

Marine biodiversity is still poorly studied, especially in the twilight zone and more remote areas. However, with the fast-growing interest in marine resources, the big question is who will be the first arrived and first served in the process of patenting genetic sequences of marine species?

Economic activities in the ocean have intensified in recent decades, as its commercial use accelerates. Jouffray *et al.* (2020) call this process "the blue acceleration" and classify ocean uses into four broad categories: claiming the ocean for food (seafood, feeds, and nutraceuticals), energy (hydrocarbons, and renewable energies), material (minerals, desalinated water, ornamental resources, genetic resources, and intangible material as scientific information), and space (shipping, pipelines and cables, tourism and recreation, land reclamation, geoengineering, waste disposal, conservation, territorial boundaries, and military activities) (Figure 17).

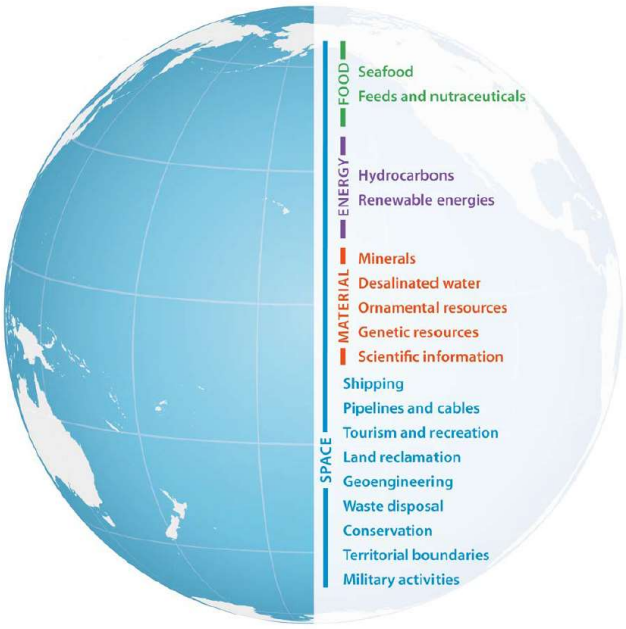

Figure 17. Claiming the ocean for food, energy, material, and space (JOUFFRAY *et al.*, 2021)

Ocean economy[143] is highly concentrated in a few sectors and companies. Virdin *et al.* (2021a) analyze eight segments that form the core of the ocean economy, including offshore oil and gas, and seafood. In 2018, the revenues of the 100 biggest companies in the world in these segments (the "Ocean 100") amounted to USD 1.1 trillion, that is, 60% of the total annual revenues of the group of eight industries (USD 1.9 trillion). Although the operation of these companies is transnational, the location of their headquarters "can provide some indication of the geographic distribution of the ocean economy revenues and benefits" (VIRDIN *et al.*, 2021a, p. 3). They are concentrated in only 38 countries. High entry costs in industries such as deep-sea mining, marine biotechnology, and offshore renewable energy tend to reinforce the concentration of the ocean economy and pose "risks for achieving internationally agreed targets for conservation and sustainable use" of natural resources (VIRDIN *et al.*, 2021a, p. 7). Table 8 and Figure 18 show the number of companies and the location of their headquarters, by industry. Table 9 shows the geographic distribution of the main companies, by revenue.

Table 8. Number of companies and location of their headquarters – by industry (VIRDIN *et al.*, 2021a)

Industry	Companies	Headquarters location (number of countries)
Offshore oil and gas	47	30
Shipbuilding and repair	14	9
Container shipping	11	9
Marine equipment and construction	9	8
Seafood	9	5
Port activities	5	4
Cruise tourism	4	2
Offshore wind	1	1

[143] Despite some disagreements (VIRDIN *et al.*, 2021a), *ocean economy* and *blue economy* are different concepts. *Ocean economy* refers to the performance of economic activities in the ocean. Drawing a parallel with the concept of *green economy*, consolidated at Rio+20 (UN, 2012, para. 56), *blue economy* incorporates social and environmental concerns, in addition to merely economic ones (JOUFFRAY *et al.*, 2021, p. 6). *Blue economy* would be, in this sense, a *sustainable ocean economy* (UN, 2014a; SMITH-GODFREY, 2016). Although it does not use the expression *blue economy*, the final Rio+20 report stresses "the importance of the conservation and sustainable use of the oceans and seas and of their resources for sustainable development" (UN, 2012, para. 158).

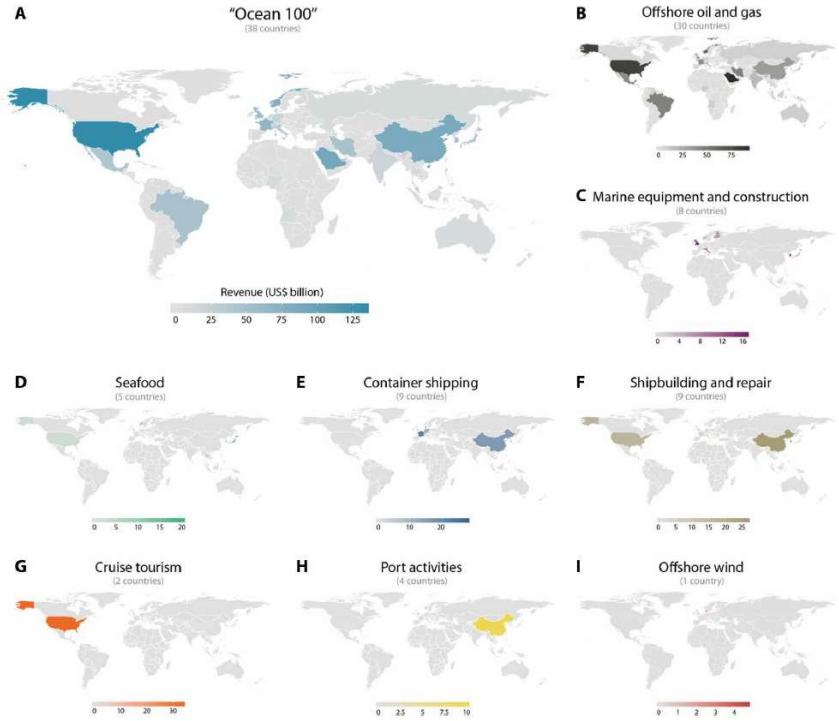

Figure 18. Distribution of transnational corporations in the ocean economy (by revenue, 2018, USD) – by location of the companies' main headquarters. (A – All industries combined. B to I – Within each industry) (VIRDIN *et al.*, 2021b)

Table 9. Geographic distribution of the main companies – by revenue (VIRDIN *et al.*, 2021b)

Country	Sum of total revenue (USD billion)	Percentage of Ocean 100 revenue	Country	Sum of total revenue (USD billion)	Percentage of Ocean 100 revenue
USA	132.9	12%	Malaysia	17.2	2%
Saudi Arabia	91.3	8%	India	16.9	2%
China	85.1	8%	Thailand	10.4	1%
Norway	77.6	7%	Taiwan	10.1	1%
France	64.5	6%	Nigeria	8.6	1%
The UK	57.6	5%	Australia	8.2	1%
South Korea	48.5	4%	Azerbaijan	8.1	1%
Brazil	45.7	4%	Angola	8.0	1%
Iran	44.9	4%	Russia	7.4	1%
Netherlands	43.9	4%	Indonesia	6.2	1%
Mexico	39.3	4%	Finland	6.0	1%
UAE	38.7	3%	Spain	5.0	<1%
Japan	37.2	3%	Venezuela	4.9	<1%
Italy	36.6	3%	Vietnam	4.0	<1%
Denmark	33.1	3%	Bahrain	3.7	<1%
Switzerland	28.2	3%	Israel	3.3	<1%
Qatar	26.9	2%	Belgium	3.1	<1%
Singapore	22.0	2%	Austria	2.8	<1%
Germany	18.8	2%	Canada	2.6	<1%
			Total	**1,109.4**	**100%**

The scenario of the international distribution of patent registration on MGR is equally concentrated. Between 1988 and 2017, 221 companies had registered 84% of all patents of genetic sequences extracted from marine species. BASF, the transnational corporation headquartered in Germany, registered 47% of all sequence patents. Public and private universities accounted for 12%; governmental bodies, individuals, hospitals, and nonprofit research institutes registered the remaining 4% (Figure 19). Of all university patents, 56% were registered by the commercial arm of the Weizmann Institute of Science (Israel)—the Yeda Research and Development Co. Ltd. This percentage exceeds the combined claims of the 77 other universities (BLASIAK *et al*., 2018a).

Actors located or headquartered in only ten countries registered 98% of all sequence patents, and more than 74% of all patents associated with MGR sequences were registered by entities located or headquartered in only three countries: Germany (49%), the US (13%), and Japan (12%). Additionally, all international patent claims have been made by entities in 30 countries and the EU, while 165 countries were unrepresented (BLASIAK *et al*., 2018a).

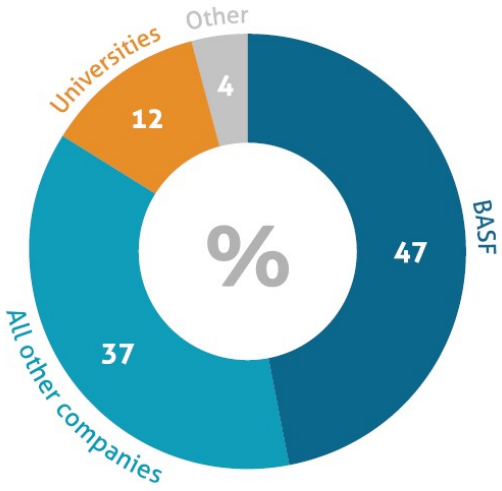

Figure 19. International patents associated with MGRs (1988-2017) – BASF, all 220 other companies, 78 universities, and 26 other players (including governmental bodies, individuals, hospitals, and nonprofit research institutes) (BLASIAK *et al.*, 2018a).

These figures reveal the indisputable role of private companies in patenting genetic sequences for marine resources and the high geographical concentration of international patent applications. In the past, investments in science and technology were driven by states. Today it is private companies that control and drive the process of technological innovation, with the main exceptions of China and Russia.

The prevalence of private actors holds true in the seafood industry as well. In that industry, "thirteen corporations control 11-16% of the global marine catch (9-13 million tons) and 19-40% of the largest and most valuable stocks, including species that play important roles in their respective

ecosystem." These companies can be considered "keystone actors[144] of the Anthropocene," with a disproportionate influence on the structure and function of the fisheries and aquaculture decision-making system. Such actors "are critical in shaping the future direction of seafood production and as a consequence, the future of marine ecosystems."

* * *

Jouffray *et al.* (2021) summarize the scenario of concentration of gains arising from the exploration and exploitation of the ocean, which disproportionately benefit the economically powerful states and corporations, and the incidence of harms, which are predominantly felt by developing nations and local communities.

> With a tendency to prioritize economic growth and an unequal distribution of technical and financial capacity to engage in ocean sectors, benefits from ocean use disproportionately flow to economically powerful states and corporations, while harms are largely felt by developing nations and local communities. A small number of corporations, headquartered in an even smaller number of countries, generate most of the revenues from ocean-based industries. Virtually none of the 100 largest corporate beneficiaries of ocean use are headquartered in [SIDS] or coastal least developed countries (LDCs), except for a handful of companies based in Singapore, and more than half of all their revenues end up in just seven countries: the US, Saudi Arabia, China, Norway, France, the UK and South Korea (JOUFFRAY *et al.*, 2021, p. 3).

As sectoral regulations and guidelines proliferate across multiple international bodies, the conservation and use of biological diversity and resources in marine ABNJ becomes uneven. Equity issues stem from the finding that a relatively small group of states is disproportionately active in these areas (BLASIAK *et al*., 2016). However, the private sector and civil society influence only indirectly in multilateral negotiations. States continue to be the main players in this arena.

It can be concluded that, although the ABNJ is currently subject to the FoS principle, a large majority of countries are, in practice, excluded from exploring and exploiting the ocean genome. Only a few countries manage to obtain direct economic benefits from it (BLASIAK *et al.*, 2020a; BLASIAK *et al.*, 2020b). The same concentrating and excluding logic prevails in the domestic sphere (BENNETT *et al.*, 2021).

As a result, there are stark imbalances in the capacity of distinct groups of states to shape the negotiations over the BBNJ treaty. Given that "different states and groups have different priorities" and that "the priorities of states that are under-represented and have limited advisory capacity are also substantially different from other groups," then this is a fundamental limitation in BBNJ negotiations

[144] For Österblom *et al.* (2015, p. 11), "keystone actors are defined by the following characteristics: a) they dominate global production revenues and volumes within a particular sector, b) control globally relevant segments of production, c) connect ecosystems globally through subsidiaries and d) influence global governance processes and institutions. We propose that the phenomenon of keystone actors represents a critical feature of the Anthropocene, with high relevance for sustainable management of natural resources and the environment."

(BLASIAK *et al*., 2016). The BBNJ treaty could formalize an inequitable *status quo*, with associated risks of unequal buy-in and compliance with any new regulations. These features show the complexity of challenges that regulators from the UN system have been facing in BBNJ negotiations.

4.2. COALITION OF COUNTRIES PARTICIPATING IN THE NEGOTIATIONS

The goal of this section is to present the composition of the different coalitions that participate in the BBNJ negotiations (Section 4.2.1), as well as the general lines of the positioning of the countries and coalitions of countries in the previous phases of this process (Section 4.2.2). Moreover, the positioning of these actors on specific topics will be investigated in Section 4.3.

4.2.1. Coalitions of countries participating in the BBNJ negotiations

The dynamics of the BBNJ negotiations are marked by the active participation of country coalitions. The largest coalition is the G77/China (134 members). There are the African Group and the High Ambition Coalition (53 members each), the latter including the EU and its 27 members. Also participating there are the Alliance of Small Island States (AOSIS) (40 members), the Pacific Islands Forum (PIF) (18 members),[145] the Caribbean Community (CARICOM) (15 members), the Core Latin American Countries (CLAM),[146] and the Pacific Small Island Developing States (PSIDS) (14 members each). Annex II lists the members of each of these coalitions. Figure 20 shows a graphical representation of the BBNJ coalitions. Ocean superpowers are shown in blue, ocean great powers in green, and ocean middle powers in yellow.

The ocean powers' participation in these coalitions is summarized in Table 10. Two *ocean great powers* (Japan, and Russia) and one *ocean middle power* (Israel) did not participate in any of these coalitions. Two *ocean superpowers* (the US, and the EU), two *ocean great powers* (Germany, and India) and eleven *ocean middle powers* (Canada, Chile, Denmark, France, Greece, Morocco, Norway, Peru, Republic of Korea, Singapore, and the UK) are part of the High Ambition Coalition. One *ocean superpower* (China), two *ocean great powers* (India, and Indonesia) and eight ocean *middle powers* (Chile, Malaysia, Morocco, Peru, Philippines, Singapore, Thailand, and Vietnam) participate in the G77/China. One *ocean great power* (India) and four *ocean middle powers* (Chile, Morocco, Peru, and Singapore) are part of both the High Ambition Coalition and the G77/China.

[145] AOSIS, and PIF are less active in BBNJ negotiations, as a group, than other coalitions.
[146] Until IGC-2, this group was known as Like-Minded Latin American Countries. At IGC-3, it was renamed CLAM. "The like-minded Latin American states, newly rebranded as Core Latin American countries (CLAM) at this IGC [IGC-3], emerged as a more forceful and focused group compared to previous IGCs" (DE SANTO *et al.*, 2020, p. 3).

As we will see in Section 4.3, the positions of countries and coalitions vary greatly depending on the specific topic under negotiation. But, in general terms, there is a relative opposition between developed countries (roughly identified as Global North), gathered in the EU and part of the High Ambition Coalition, and developing countries (roughly identified as Global South), gathered in the G77/China, but also taking part in the same High Ambition Coalition. None of the PSIDS, CARICOM, or PIF members are ocean powers. In AOSIS and African Group, only Singapore and Morocco, respectively. In CLAM, only Chile and Peru.

Table 10. Participation of ocean powers in BBNJ coalitions

Ocean Powers	Country/Region	EU	High Ambition Coalition	CLAM	CARICOM	PSIDS	AOSIS	PIF	African Group	G77/China
Superpowers	China									x
	EU		x							
	The US		x							
Great Powers	Germany	x	x							
	India		x							x
	Indonesia									x
	Japan									
	Russia									
Middle Powers	Canada		x							
	Chile		x	x						x
	Denmark	x	x							
	France	x	x							
	Greece	x	x							
	Israel									
	Malaysia									x
	Morocco		x						x	x
	Norway		x							
	Peru		x	x						x
	Philippines									x
	Republic of Korea		x							
	Singapore		x				x			x
	Thailand									x
	The UK		x							
	Vietnam									x

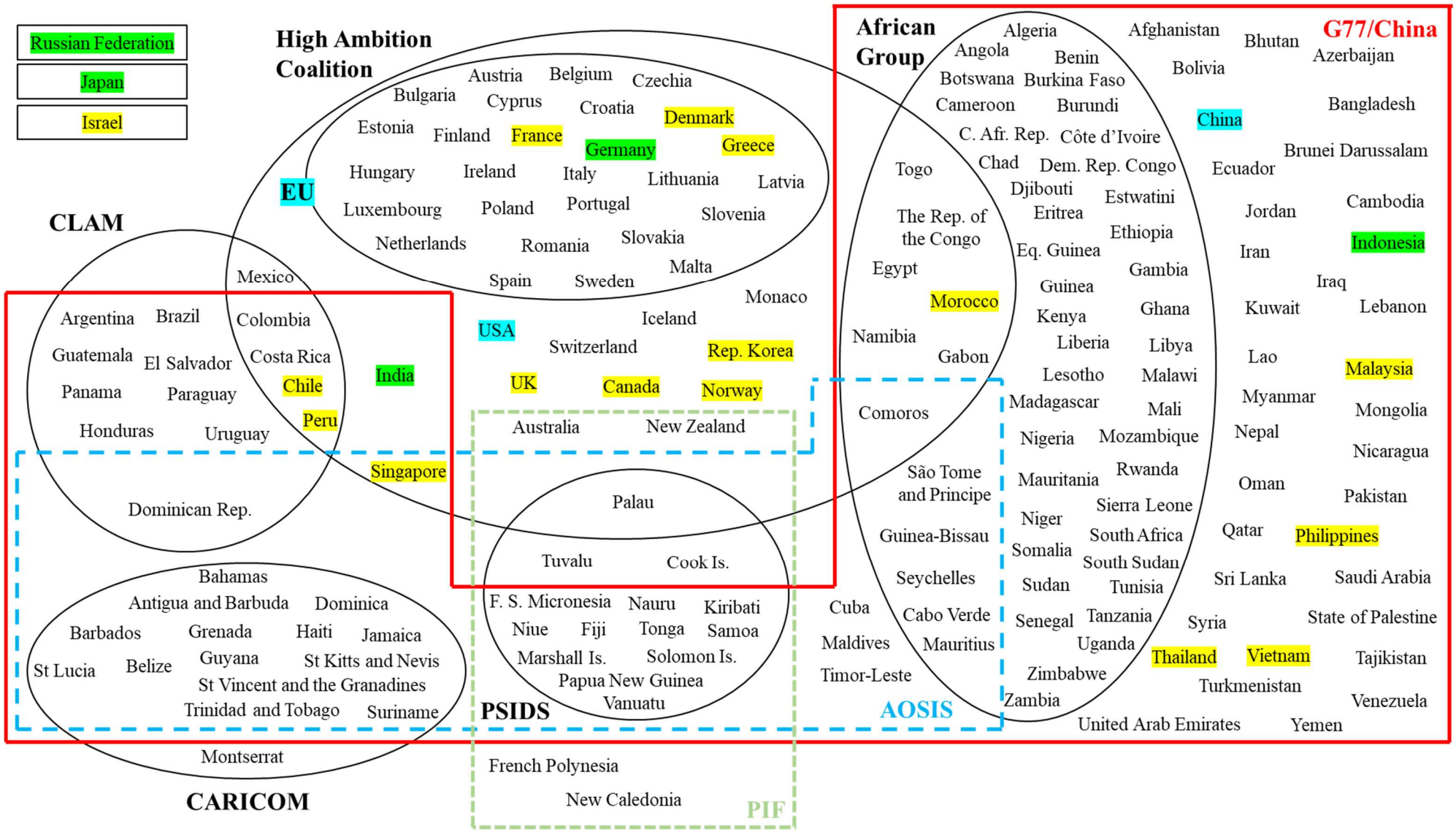

Figure 20. Graphic representation of coalitions in the BBNJ negotiations (Ocean superpowers are shown in blue, ocean great powers in green, and ocean middle powers in yellow. Two great powers (Japan, and Russia) and one middle power (Israel) do not participate in any of these coalitions)

4.2.2. Broad lines of the positioning of countries and coalitions of countries in the previous stages of the BBNJ negotiations

In earlier stages of BBNJ negotiations, countries' positions could be classified into three broad categories: advocates, who promote negotiations for a new agreement; facilitators, who sought a middle ground and tried to mediate commitments; and reluctant countries, who were hesitant to negotiate a new agreement (WRIGHT, GJERDE and ROCHETTE, 2018). As mentioned, Section 4.3 will present the positions of the countries from IGC-1 to IGC-3, regarding specific negotiating topics.

Advocate countries and groups include the EU, the G77/China and Mexico, and, more heterogeneously, the African Group, CARICOM, CLAM and PSIDS. The EU adopted a pragmatic approach in the discussion of ABS, seeking a compromise between the competing principles of freedom of the high seas and CHM, in addition to demonstrating a focus on biodiversity protection and MPAs since the beginning of negotiations (WRIGHT, GJERDE and ROCHETTE, 2018).

G77/China and Mexico were important in the creation of a balanced package deal, although the group members did not necessarily maintain unified positions on all issues. Nevertheless, the group shared the view that the *status quo* needs to be changed through a new agreement that promotes the equitable and sustainable use of marine resources, and that MGRs found in the high seas are CHM (WRIGHT, GJERDE and ROCHETTE, 2018). The other groups—the African Group, CARICOM, CLAM, and PSIDS—took on important roles in defending a new agreement, the importance of capacity building and technology transfer, TK and cultures linked to the oceans, as well as the need to link EIA and ABMT to climate change.

Facilitators include Australia, New Zealand, Canada, and Norway. Australia and New Zealand have played a leading role in advocating a new agreement and facilitating the process. These states advocated the hybrid model of governance. Global standards would be established by the BBNJ treaty, while at the same time existing regional and sectoral organizations would be strengthened (not undermined) (WRIGHT, GJERDE and ROCHETTE, 2018). Canada "suggested that an ILBI could play a valuable role in facilitating consultation, coordination and communication between relevant organizations and bodies" (WRIGHT, GJERDE and ROCHETTE, 2018). During the negotiations, Norway changed its position. At the beginning, it had expressed doubts about the need for a new instrument, given the existence of regional initiatives. Then Oslo supported the development of a new agreement, seeing in ILBI an opportunity to strengthen and develop existing regional cooperative mechanisms (WRIGHT, GJERDE and ROCHETTE, 2018).

For distinct reasons, the US, Japan, Iceland, South Korea, and Russia were *reluctant* to negotiate a new agreement. Arguing that access to and exploitation of MGRs are activities subject to

the principle of freedom of the high seas, these states had strongly opposed their regulation. A common element of the argument used by these countries was that a new body or a new management process would duplicate efforts or undermine the mandates of existing institutions, given that the regulatory frameworks in operation were sufficient to ensure the conservation and sustainable use of MGRs in ABNJ (WRIGHT, GJERDE and ROCHETTE, 2018).

4.3. POSITIONING OF COUNTRIES AND COALITIONS OF COUNTRIES ON SPECIFIC TOPICS IN THE BBNJ NEGOTIATIONS: NORTH-SOUTH CLEAVAGE SAYS A LOT, BUT NOT EVERYTHING

After postponements due to the COVID-19 pandemic, the IGC-5.1 was held from August 15-26, 2022. As this conference did not obtain a text that could be adopted by the group of countries, it was held from February 20 to March 3, 2023, its second part, IGC-5.2. Although formal adoption of the BBNJ treaty was not possible, delegates reached a consensus text on March 4, one day after the original meeting deadline. The text of the agreement was then sent to a technical review carried out by an "open-ended informal working group" (IISD, 2023), and then it was translated into the UN official languages. IGC-5.3 is expected to be held on 19 and 20 June 2023[147] to complete work and formally adopt the BBNJ treaty.

Early on in IGC-5.1, the EU, the UK, the US, Japan, New Zealand, Australia, Canada, Norway, Iceland, and Switzerland condemned the Russian invasion into Ukraine, "stressing that it breached international law and the UN Charter." Russia lamented the Russo-phobic stance of Western countries and warned about the inconvenience of the politicization of the meeting. Iran highlighted the importance of a constructive environment for the smooth running of the negotiation (IISD, 2022, p. 1). Despite the general "optimism and positivity" at the beginning of the meeting (IISD, 2022, p. 2), this debate, right on the first day of the Conference, indicated that the geopolitical factor and the growing conflict of the international environment to some extent directly interfered in the negotiation environment.

The purpose of this section is to investigate how countries and coalitions of countries positioned themselves during the BBNJ negotiations, regarding specific topics under discussion. The topics for analysis are addressed in the following sections and were selected from the aspects indicated in Sections 1.3.2, and 1.3.3. For each of the selected topics, I will seek an exploratory classification of countries into two categories: "sovereign-oriented/conservatives," and "conservationists/progressives."

I consider "sovereign-oriented/conservatives" to be positions that put interests aimed at promoting or protecting state sovereignty at the forefront, as well as those seeking a *status quo*

[147] Source: <https://bit.ly/2oKzMnW> Accessed April 22, 2023.

solution, often represented by the preponderance of UNCLOS. "Conservationists/progressives" are positions that seek innovative solutions, predominantly aimed at protecting the environment and natural resources for the sake of humankind. The objective of the sample of topics under negotiation selected in this analysis is to investigate whether there is consistency in the actors' posture, or whether it varies between "sovereign-oriented/conservative" and "conservationist/progressive" depending on the theme.

As mentioned, to investigate the position of each of the countries and coalitions of countries regarding the selected topics, I consulted the ENB daily reports and summary documents produced by IISD (IISD, 2019a; IISD, 2019b; IISD, 2019c; IISD, 2019d; IISD, 2019e; IISD, 2019f; IISD, 2019g; IISD, 2019h; IISD, 2019i; IISD, 2019j; IISD, 2019k; IISD, 2019l; IISD, 2019m; IISD, 2019n; IISD, 2019o; IISD, 2019p; IISD, 2019q; IISD, 2019r; IISD, 2019s; IISD, 2019t; IISD, 2022; IISD, 2023), available at the institute's website.[148]

4.3.1. Marine genetic resources (MGRs), including questions on the sharing of benefits[149]

4.3.1.1. Which principle applies to the exploration and exploitation of MGR in ABNJ: CHM or FoS?

Sovereign-oriented/Conservatives Application of the FoS principle to existing MGRs in ABNJ	**Conservationists/Progressives** MGRs in ABNJ are CHM
Australia	African Group
The European Union	CARICOM
Iceland	CLAM
Japan	G77/China
Russia	India
South Korea	PSIDS
The US	Thailand
	Philippines
	Vietnam

[148] IISD website: <https://www.iisd.org/> Accessed April 22, 2023.
[149] The tables that make up this section were created by the author, based on information contained in the Earth Negotiations Bulletins, prepared by IISD.

4.3.1.2. Should the MGR concept include DSI or not?

Sovereign-oriented/Conservatives Non-inclusion of DSI in the scope of the BBNJ treaty	**Conservationists/Progressives** Inclusion of DSI in the scope of the BBNJ treaty
Canada	African Group
China	CARICOM
The European Union	CLAM
Iceland	G77
Japan	India
South Korea	Indonesia
Switzerland	PSIDS
The US	

4.3.1.3. Should the BBNJ treaty apply to fisheries?

Sovereign-oriented/Conservatives Non-inclusion of fisheries in the BBNJ treaty	**Conservationists/Progressives** Inclusion of fisheries in the BBNJ treaty
Argentina	CARICOM
Canada	Indonesia
Chile	PSIDS
China	Switzerland
Colombia	
The European Union	
Honduras	
Iceland	
Japan	
Morocco	
Russia	
Singapore	
South Korea	
The US	
Türkiye	

4.3.1.4. Should the ABS mechanism include monetary or only non-monetary counterparts?

Sovereign-oriented/Conservatives Only non-monetary benefits	**Conservationists/Progressives** Monetary and non-monetary benefits
Australia	African Group
The European Union	AOSIS
Iceland	CARICOM
Japan	China (only for large-scale commercialization)
New Zealand	CLAM
Russia	G77/China
South Korea	Indonesia
Switzerland	Philippines
The US	PSIDS
	Singapore
	Thailand
	Vietnam

4.3.2. Measures such as area-based management tools (ABMTs), including marine protected areas (MPAs)

4.3.2.1. What are the criteria for identifying areas likely to be protected?

Sovereign-oriented/Conservatives Strict list of standards and criteria	**Conservationists/Progressives** Non-exhaustive list of standards and criteria
China	African Group
The European Union	CARICOM
Federated States of Micronesia	CLAM
Russia	G77/China
	Singapore

4.3.2.2. Who will be responsible for creating MPAs: Will the approach adopted be regional, global, or hybrid?

Sovereign-oriented/Conservatives Regional approach	**Hybrid** Combining the two other approaches	**Conservationists/Progressives** Global approach
Russia	Canada	African Group
Iceland	The US	CARICOM
Japan	**Global overarching framework**	The European Union
	CLAM	PSIDS
	New Zealand	**Identification of areas**
	Canada	China
	Singapore	New Zealand
	Philippines.	**Decision making**
	National proposal + global approval	Canada
	African Group	CLAM (all ABMT)
	CARICOM	Switzerland
	China	The US (only MPAs)
	PSIDS	
	CARICOM	
	Philippines	
	The European Union	
	South Korea	

4.3.2.3. Will there be a systematic monitoring and review of MPAs?

Sovereign-oriented/Conservatives Non-inclusion of a systematic monitoring and review of MPAs	**Conservationists/Progressives** Inclusion of a systematic monitoring and review of MPAs
Iceland	CARICOM
Japan	China
Russia	CLAM
South Korea	Singapore
The US	Türkiye
	Vanuatu

4.3.3. Environmental impact assessments (EIAs)

4.3.3.1. What approach will be adopted to indicate the need for an EIA: activity- or impact-based?

Sovereign-oriented/Conservatives EIA required when the activity takes place in ABNJ	**Conservationists/Progressives** EIA required when the activity causes impacts on ABNJ
African Group	CARICOM
Canada	PSIDS
Iceland	Philippines
Indonesia	
New Zealand	
Singapore	
Switzerland	
The European Union	

4.3.3.2. Who decides when it will be necessary to carry out an EIA: the State or some international instance of the regime governance?

Sovereign-oriented/Conservatives The state is responsible for defining which activities require EIA	**Conservationists/Progressives** An international body is responsible for defining which activities require EIA
Australia	African Group
New Zealand	CLAM
The US	G77/China
	PSIDS

4.3.3.3. Should EIA consider socioeconomic factors?

Sovereign-oriented/Conservatives Non-inclusion of socioeconomic factors in the EIA	**Conservationists/Progressives** Inclusion of socioeconomic factors in the EIA
Australia	African Group
The US	CARICOM
	China
	CLAM
	Indonesia
	Norway
	Philippines
	PSIDS

4.3.4. Capacity-building and the transfer of marine technology (CBTMT)

4.3.4.1. Should BBNJ treaty adopt binding language on CBTMT?

Sovereign-oriented/Conservatives Reject binding language	**Conservationists/Progressives** BBNJ treaty must use binding language
Canada	CARICOM
Russia	CLAM
South Korea	G77/China
	PSIDS

4.3.4.2. Should CBTMT be mandatory or voluntary?

Sovereign-oriented/Conservatives CBTMT voluntary only	**Conservationists/Progressives** Mandatory CBTMT
Russia	G77/China
The US	

4.3.4.3. Should the BBNJ treaty provide for a systematic monitoring and review on CBTMT?

Sovereign-oriented/Conservatives Non-inclusion of a systematic monitoring and review on CBTMT	**Conservationists/Progressives** Inclusion of a systematic monitoring and review on CBTMT
Russia	African Group
The US	AOSIS
	CARICOM
	The European Union
	G77/China
	Norway

4.3.5. Cross-cutting issues

4.3.5.1. Should the BBNJ treaty establish Conferences of the Parties (COPs)?

Sovereign-oriented/Conservatives No	**Conservationists/Progressives** Yes
Russia	African Group
	AOSIS
	Canada
	The European Union
	G77/China
	Iceland

4.3.5.2. *Who should play the role of the BBNJ treaty secretariat: DOALOS or a new body created by the treaty itself?*

Sovereign-oriented/Conservatives	**Conservationists/Progressives**
DOALOS shall act as Secretariat of the BBNJ treaty	A new body created by the treaty itself
Iceland	CARICOM
Russia	CLAM
	G77/China
	PSIDS

4.3.5.3. *Should a Scientific and Technical Body be created or not?*

Sovereign-oriented/Conservatives	**Conservationists/Progressives**
No	Yes
	African Group
	AOSIS
	CARICOM
	CLAM
	The European Union
	G77/China
	PSIDS

4.3.5.4. *Should a Clearing House Mechanism be created or not?*

Sovereign-oriented/Conservatives	**Conservationists/Progressives**
No	Yes
Russia	African Group
South Korea	AOSIS
	Australia
	CARICOM
	CLAM
	The European Union
	G77/China
	India
	Norway
	PSIDS
	The US

4.3.5.5. What should be the dispute settlement system: the general system, created by UNCLOS, or a specific one?

Sovereign-oriented/Conservatives	**Conservationists/Progressives**
Application of the UNCLOS dispute settlement system to disputes within the scope of the BBNJ treaty	Creation of a specific dispute settlement system within the scope of the BBNJ treaty
CLAM	China
Most countries	Colombia (and other UNCLOS non-parties)
	Egypt

4.3.5.6. Should financial contributions towards the achievement of the objectives of the BBNJ treaty be mandatory or voluntary?

Sovereign-oriented/Conservatives	**Conservationists/Progressives**
Only voluntary financial contributions	Voluntary and mandatory financial contributions
Australia	African Group
Norway	CARICOM
South Korea	CLAM
Switzerland	The European Union
The US	G77/China
	Morocco
	PSIDS

* * *

The tables above show that ocean powers had a strong impact in crafting the final version of the BBNJ treaty because they had a position on each topic. Israel is probably the only exception to this finding since it was impossible to find its positions for 2023. Brazil is also an interesting case study because it was not considered an ocean power, but it played a key role in IGC-5.2. Future research is necessary to explore the definition of ocean powers, maybe also including where the big business are operating and the nationality of the chairs and facilitators in specific negotiation arenas.

The blue acceleration tends to deepen the international scenario of strong economic concentration in terms of the ability to take advantage of marine resources, living and non-living. This concentration disproportionately benefits rich countries and giant companies, holding the necessary means for the exploration and exploitation of marine resources, and also disproportionately impacts poor countries.

At the beginning of BBNJ negotiations, there was hope that the treaty could increase the coherence and cohesion of ocean governance. It would also be an important element in the

consolidation of the blue economy, i.e., a sustainable and equitable ocean economy. However, no new agreement is negotiated in a vacuum. Power- and architecture-related issues directly or indirectly affect agency. The international divide based on geopolitical and geoeconomic issues is also felt in the BBNJ negotiations. The polarization between two large groups is noticeable. On the one hand, the developed Western countries, gathered around the High Ambition Coalition, and on the other, the developing countries, gathered around the G77/China.

Each of these groups does not always act in a cohesive manner. There are internal divergences that become evident when comparing the data presented in Section 4.3. Nor is there a perfect opposition between the two groups. Also visible are the points at which countries from the "opposing" groups adopt convergent positions. Countries can act as sovereign-oriented/conservatives, or conservationists/progressives, depending on whichever is more in line with their interests regarding a specific topic under negotiation. However, it cannot be said that environmental concerns are the main determinant of countries' positioning. Geopolitical and, mainly, geoeconomic considerations seem to prevail in BBNJ negotiations.

The next chapters will enrich this argument, based on the Earth System Governance framework presented in the beginning of this thesis.

5. CONNECTING THE DOTS: HOW POWER, ARCHITECTURE AND AGENCY RELATE IN BBNJ NEGOTIATIONS

This chapter seeks to articulate the three ESG research lenses (power, architecture, and agency) in the analysis of BBNJ negotiations. The primary objective here is to look for patterns in the behavior of ocean powers and to identify points of contact between the existing institutional structure and the future BBNJ treaty.

"Global life" (KAVALSKI, 2015a) is subject to a growing complexity that manifests itself in three dimensions that overlap and complement each other: the *complexity of reality*, due to the deep interconnection between terrestrial, oceanic and atmospheric systems whose balance is even more threatened in the Anthropocene; the *complexity of international law*, arising from the expansion and diversification of relevant issues and which further deepens the fragmentation and allows the formation of gaps, overlaps and antinomies in the international response to contemporary challenges; and the *complexity of international politics*, experienced as a post-Cold War period (ROSENAU, 1990) and resulting from the transition from the bipolar international order to a new order still in formation (Table 11).

Table 11. Dimensions of Complexity in Global Life

Reality	International Law	International Politics
Anthropocene.	Fragmentation.	End of bipolarity.
Deep interconnection of land, ocean, and atmospheric systems.	Gaps, overlaps and antinomies.	Insufficiency of the *post-Cold War* label.
Population growth and technological advancement increase pressure on natural resources.	Low effectiveness.	Internal challenges and external threats to the liberal international order.
Covid-19 pandemics.		New international order in the making.
		Recrudescence of Geopolitics.

Life exists in the complex balance of systems that make up the Planet. In the broader sphere, the existence of species, including humans, depends on the dynamic interaction between terrestrial, oceanic, and atmospheric systems. In this research, the central issue is the conservation and sustainable use of marine BBNJ. I start from the premise that, when seeking to guarantee the conditions of possibility for life, it is necessary to consider not only marine ABNJ (including the Southern Ocean and the Arctic), but also terrestrial ABNJ (Antarctica), terrestrial and aquatic (including marine) areas *under* national jurisdiction and the atmospheric system in its most relevant dimension for my purposes, the climate dimension.

The deep interconnectedness of life in these three spheres—land, sea, and air—is studied by many scientific disciplines. In the field of global affairs, it is interesting to investigate, for instance, how and to what extent the available knowledge is incorporated into international law through international politics, how different actors—with their interests, values, and power resources—interact to form multilateral environmental regimes, and the extent to which the interconnection of these systems is addressed.

Another premise of this research is that the world is going through a long and turbulent political transition period. The conditions that made possible the state of tense stability during the Cold War no longer exist. The label *post-Cold War* is insufficient to define the future international order. The characteristics of this new order are still being formed.

The expansion and diversification of relevant issues in the aftermath of the Cold War promotes a proliferation of international agreements and regimes. These agreements and regimes are kept insulated from one another to a greater or lesser extent, due to a narrow application of the principle of autonomy of treaties. The fragmentation of international environmental regimes contradicts the deep interconnection of the ecological reality. The insufficiency of these regimes is manifested in their low effectiveness, even when we analyze isolated issue areas. The success of the Vienna Convention and the Montreal Protocol for the protection of the ozone layer is a rare exception. Most multilateral environmental agreements show restricted and limited results. Perhaps the most eloquent example is the climate regime: three decades after the signature of the UNFCCC and after different approaches, and mechanisms adopted, the world economy is still not on the way to fulfilling the goals recommended by science[150], configuring a "disorderly climate transition" (WEF, 2022).

This situation tends to get worse. The pressure on environmental resources—living and non-living—tends to increase as the world population grows. Technological advances have made the exploration and exploitation of these resources economically viable in previously unreachable places. The accumulation of waste from human activities harms the ecological equilibrium in terrestrial (urban waste, mining, etc.), oceanic (plastics and microplastics, noise pollution, ocean acidification, coral bleaching, etc.) and atmospheric (air pollution and GHG emissions) environments. The myth of the economy as an isolated system gives way to the obvious: human activities collect inputs and energy from nature and dump their waste into it. The direct and indirect effects of human action spread across the Planet in a much higher speed than that of the international multilateral response. When this response is provided, it is often characterized by institutional silos and policy disintegration.

[150] That is, to keep warming global temperature within 2ºC (or preferably 1.5ºC) above average temperatures prior to the industrial revolution.

The changing dynamics of interaction between states, and the growing conflict on the international scenario are brought together in the idea of new great power competition. Treating BBNJ negotiations apart from the reality of power struggle would imply neglecting one of the main factors that shape agency in the international field. Additionally, considering the BBNJ treaty as an independent framework, isolated from the existing institutional architecture, would imply ignoring its evident connections with other international regimes. These regimes create an institutional framework that form the threshold of gaps and the contention for filling them. It allows the identification of gaps and at the same time shapes the horizons in which the agents can try to fill them.

Complex power relations and a multitude of international regimes affect the conservation and sustainable use of the marine BBNJ. As Orsini, Morin and Young (2013) put it:

> In earlier times, most [IGOs] and multilateral treaties were relatively independent from one another. But as the number of new treaties has grown at an exponential rate and existing [IGOs] have crept into neighboring issue areas, global governance has become denser. It is no longer possible to negotiate new arrangements on a clear institutional table (ORSINI, MORIN and YOUNG, 2013, p. 27).

Ambitioning to consider all these aspects, I seek to apply the ESG research framework to the BBNJ negotiations. Inspired by complex thinking, ESG framework aims to provide an approach capable of incorporating complex thinking into the study of global environmental governance, also offering instruments for the craft of adapted governance arrangements across sectors (ESG PROJECT, 2018). As mentioned in the introduction to this thesis, my research is situated at the intersections between two contextual conditions—transformations and Anthropocene—and three research lenses—architecture, agency, and power.

This chapter aims to bring together all the ESG research lenses applied in this research: power, architecture, and agency. The goal is to identify elements that clarify how they relate to each other in BBNJ negotiations (Section 5.2). But first, I present a brief discussion on complex regime complexes (Section 5.1). Finally, I present some elements regarding the next steps in the adoption, ratification, entry into force, and implementation of the new treaty, as well as its governance perspectives (Section 5.3)

5.1. DEPENDENCE: THE COMPLEXITY OF REGIME COMPLEXES

In a traditional definition, regimes are “sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors’ expectation converge in a given area of International Relations” (KRASNER, 1982, p. 186). Since the end of World War II, the international institutional landscape has gradually become more complex. Three processes contribute to this phenomenon: the growing density of international regimes and institutions, resulting from the promotion of new themes and problems on the international agenda, the growing intrusiveness of

international regimes, which are increasingly influencing national policies, and the irruption of new actors—domestic and transnational—in the negotiation, decision-making and implementation of international agreements, in addition to the states (RAUSTIALA and VICTOR, 2004, p. 277-278).

The proliferation of institutions with memberships or mandates—either geographically or thematically—partially or totally overlapping discourages the analysis of a single, isolated regime, usually centered on a specific treaty, and administered by a specific organization. An analysis that considers "institutional interplay" (YOUNG, 2002), the systemic investigation that takes a close look at what occurs in the boundaries and interactions among regimes and institutions, appears to be more stimulating and potentially more fruitful (RAUSTIALA and VICTOR, 2004, p. 278).

Investigating the evolution of international regimes on Plant Genetic Resources, Raustiala and Victor (2004) coined the expression "regime complex," to name "an array of partially overlapping and nonhierarchical institutions governing a particular issue-area" (RAUSTIALA and VICTOR, 2004, p. 279). According to the authors,

> Regime complexes are marked by the existence of several legal agreements that are created and maintained in distinct fora with participation of different sets of actors. The rules in these elemental regimes functionally overlap, yet there is no agreed upon hierarchy for resolving conflicts between rules. Disaggregated decision making in the international legal system means that agreements reached in one forum do not automatically extend to, or clearly trump, agreements developed in other forums. We contend that regime complexes evolve in ways that are distinct from decomposable single regimes (RAUSTIALA and VICTOR, 2004, p. 279).

Keohane and Victor (2010) suggest the existence of a continuum between "fully integrated institutions that impose regulation through comprehensive, hierarchical rules" at one end of the spectrum, and "highly fragmented collections of institutions with no identifiable core and weak or nonexistent linkages between regime elements" at the other. Nested regimes, which is "(semi-hierarchical) regimes with identifiable cores," and regime complexes, which is "loosely coupled sets of specific regimes," are in between those two extremes. In regime complexes, "there are connections between the specific and relatively narrow regimes, but no overall architecture that structures the whole set" (KEOHANE and VICTOR, 2010, p. 2-4).

Analyzing the regime complex for climate change, Keohane and Victor (2010) argue that, in the political impossibility of establishing a comprehensive regime that is coherent, effective, legitimate, and flexible enough to accommodate the necessary changes in the face of new situations and information, a regime complex would have advantages in combining "political feasibility with potential for effectiveness." Compared with the politically feasible comprehensive regime, a regime complex would have "particularly important in an environment of high uncertainty" attributes: adaptability and feasibility (KEOHANE and VICTOR, 2010, p. 1, 23-25).

The existence of nonhierarchical elemental regimes brought together in a regime complex has four important developments. First, path dependency: the rules contained in extant arrangements channel and constrain the process of creating and the content of new elemental regimes. Second, the existence of several fora enables forum-shopping (or forum-shifting), which allows agents to seek to act in the forum most favorable to their interests. Third, the proliferation of international regimes can lead to legal inconsistencies, the prevention of which can lead to the adoption of "saving clauses" that help demarcate borders and avoid or resolve disputes between regimes. Fourth, the use of implementation and interpretation strategies to overcome the remaining legal inconsistencies, in the impossibility of predicting *ex ante* rules that cover all possibilities of conflict and to avoid the high transaction costs of renegotiating the conflicting laws (RAUSTIALA and VICTOR, 2004, p. 279-280).

Taking as a premise the impossibility of negotiating new arrangements on a clear institutional table, considering the Raustiala and Victor's (2004) definition for regime complexes as a point of departure but recognizing that it has "several ambiguous features that prevent further analysis," Orsini, Morin and Young. (2013, p. 27-29) propose an alternative definition. Regime complex should be understood "as a network of three or more international regimes that report to a common subject matter; exhibit overlapping membership; and generate substantive, normative, or operative interactions recognized as potentially problematic whether or not they are managed effectively" (ORSINI, MORIN and YOUNG, 2013, p. 29).

These authors advance in relation to Raustiala and Victor (2004) and Keohane and Victor (2010) by proposing that, in the identification of regime complexes, the conflictual or synergetic nature of the links between its elements matters more than their size or the relations among its elements (ORSINI, MORIN and YOUNG, 2013, p. 32). In this sense, regime complexes can produce both opportunities and obstacles for cooperation, depending on the characteristics of the problem to be solved as well as the regime complex itself (ORSINI, MORIN and YOUNG, 2013, p. 34). It is noteworthy that regime complexes do not evolve naturally, and their development is not a random or a natural process. Political games played by "interest-based actors with their own norms and belief systems" constitute "a fundamental force in the formation and reorganization of regime complexes" (ORSINI, MORIN and YOUNG, 2013, p. 36).

Although the expression coined by Raustiala and Victor (2004) refers to complexity, it is used as a noun, not as an adjective. The existence of partially overlapping elemental regimes whose isolated analysis does not capture the outcomes emerging from the interactions between them suggests not only a regime complex but a complex regime complex.

Hollway (2020) argues that although institutional proliferation (multiplicity and diversity) and linkages (overlap and interaction) are necessary conditions, they are not sufficient to attribute

complexity to a regime complex. For the author, *dependence* is what makes regime complexes complex (HOLLWAY, 2020, p. 68-70). In other words, "what makes a system more complex is that the units interact *such that they depend on one another*" (emphasis on the original) (HOLLWAY, 2020, p. 71). It is noteworthy that "formal linkages can incur no real dependencies" as well as "dependencies can appear even without observable linkages" (HOLLWAY, 2020, p. 71). The main advantage of characterizing the complexity of regime complexes based on dependency seems to be the possibility of thinking in terms of degrees of dependence (broader or deeper) and distinct kinds of dependence (synchronic/spatial and diachronic/temporal) (HOLLWAY, 2020, p. 69). In this sense, "dependence is a concept as sensitive to time as (social) space" (HOLLWAY, 2020, p. 71).

Unlike the traditional argument that institutional proliferation undermines the problem-solving capacity and the normative legitimacy of global governance, Faude (2020) argues that the increase in institutional complexity resulting from the growth in the number of international institutions is a functional response to the proliferation of social problems that can be better addressed at the international level (FAUDE, 2020, p. 49-50). As a corollary, faced with the growing complexity of the global social environment, the resilience of global governance has been improved by the process of institutional proliferation that has taken place over the past decades (FAUDE, 2020, p. 52).

Institutional differentiation increases systemic resilience[151] of global governance—and thus increases the capacity to deal with an increasingly complex social environment because it allows states to choose "between institutions offering different tools for crisis prevention and response," and "it makes different institutions performing the same or similar tasks available to state actors." The institutional proliferation would, in this context, be beneficial to global governance in providing states with a diversity of tools, as well as backup tools to prepare for and respond to exogenous and surprising shocks (FAUDE, 2020, p. 50-51). Within this logic, a useful option for my research, to apprehend complexity on a planetary scale, was provided by the Earth System Governance scientific network.

5.2. Power, architecture and Agency: How does the international distribution of power, and the existing institutional architecture influence agency in BBNJ negotiations?

The BBNJ treaty intends to fill an institutional gap identified by the international community. The ocean regime (UNCLOS) does not protect marine biodiversity. It only does so in

[151] Faude (2020, p. 47) defines resilience "as the ability of international institutions to preserve the (partial) behavioral adjustment of states toward the preferences of other states despite heightened incentives to withdraw from such behavioral adjustment." In this sense, "international institutions are resilient, if they are able to preserve the adjustment of states' behavior towards the preferences of others during exogenous shocks which incentivize states to determine their behavior (more) in accordance with their own preferences" (FAUDE, 2020, p. 48)

limited portions of the ocean (ATS, and the Arctic Council), or it protects part of the biodiversity in certain portions of the ocean under a primarily commercial approach (regional fisheries regimes). On the other hand, the biodiversity protection regime does not apply to marine biodiversity in ABNJ. This may seem like an oversimplification, but it illustrates the fact that international law lacks a regime that protects marine BBNJ.

Over the two decades in which the conservation and sustainable use of marine BBNJ has been negotiated at the UN, some key turning points can be identified: the creation of the BBNJ Working Group in 2004, the definition of the package deal in 2011, the consolidation of the theme at Rio+20 in 2012, the choice of ILBI as the appropriate instrument to stipulate the new regime and the creation of PrepCom in 2015, and the six IGCs held to date (IISD, 2023).

To a large extent, the impasse faced during the BBNJ negotiations is related to the difficulty of states in regulating the use of global commons (OSTROM, 2002; HARDIN, 1968) through international processes with broad participation. These difficulties translate into low effectiveness (UNFCCC) or produce a concentrating and excluding logic of first-arrived-first-served (UNCLOS for specific issues in ABNJ). In the BBNJ negotiations, these difficulties manifested themselves, for example, in the deep divergence between the global North and the global South regarding the legal nature of MGRs: CHM or free and open access resources (Table 12).

Table 12. Classification of the institutional architecture relevant to this research: Broad participation/Restricted club vs. Areas under national jurisdiction/Global commons

	Areas *under* national jurisdiction	**Global commons (Areas *beyond* national jurisdiction)**
Broad participation	CBD UNCLOS (sovereignty over portions of the ocean)	UNFCCC UNCLOS (for specific issues in ABNJ) **BBNJ treaty**
Restricted club	Arctic Council	ATS

An inclusive process of building institutional architecture has the potential to challenge inequalities. The participation of different countries and groups in international negotiations can prevent the institutional architecture under construction from locking in existing inequalities. On the other hand, remaining attentive to power inequalities among the various actors and coalitions is crucial to prevent them from translating into substantive inequalities within the built institutional architecture. Institutional architectures and different forms of agency "may foster or combat existing inequalities" (ESG PROJECT, 2018, p. 30). This is a relevant factor in all international negotiations, including on environmental issues and in BBNJ negotiations. There are important inequalities between countries' abilities to use marine BBNJ, which should not be normalized by the BBNJ treaty.

This research identified countries with the greatest interest and capacity to shape international negotiations on ocean use. A joint analysis of various data allowed the classification of these countries into *ocean superpowers* (China, the US, and the EU), *ocean great powers* (Germany, India, Indonesia, Japan, and Russia), and *ocean middle powers* (Canada, Chile, Denmark, France, Greece, Israel, Malaysia, Morocco, Norway, Peru, Philippines, Republic of Korea, Singapore, Thailand, the UK, and Vietnam). Analyzing the reports produced by IISD, it was possible to perceive that these countries were active in the BBNJ negotiations. The debate about the possibility of the benefit-sharing mechanism including monetary benefits, for example, placed the EU, the US, Japan, Republic of Korea, and Russia in a sovereign-oriented/conservative camp, opposed to the conservationist/progressive camp, with the participation of China, Indonesia, Philippines, Singapore, Thailand, and Vietnam (Section 4.3.1.4).

From this analysis, it is clear that, although they are on opposite sides of the new great power competition, the US and Russia have adopted convergent positions on many issues (Sections 4.3.1.1, 4.3.1.3, 4.3.1.4, 4.3.2.3, 4.3.4.2, and 4.3.4.3, for example). The same applies to the US and China (Sections 4.3.1.2, and 4.3.1.3, for example). The convergence took place, in the vast majority of cases, at the sovereign-oriented/conservative pole of the debate. This shows that, although geopolitical rivals, these countries behaved like ocean powers seeking to maximize their power resources.

Another finding of this research indicates, as shown in Section 4.3, that the division of the world into developed and developing states does not fully explain the behavior of countries. As a general rule, developed countries clustered at the sovereign-oriented/conservative pole of the debate, while developing countries remained at the conservationist/progressive pole. But there were important topics in which developing countries adopted a sovereign-oriented/conservative stance alongside developed countries (such as, for example, Argentina, Chile, Colombia, Honduras, Morocco, and Türkiye defending the exclusion of fishing from the material scope of the BBNJ treaty – Section 4.3.1.3). Likewise, there were situations in which developed countries adopted a conservationist/progressive position alongside developing countries (such as, for example, Norway defending the inclusion of socioeconomic factors in the scope of the EIA – Section 4.3.3.3).

Regarding architecture, I chose to consider in this research the connections of the BBNJ treaty with regimes on biodiversity in areas *under* national jurisdiction (CBD-centric), climate change (UNFCCC and associated agreements), and those dedicated to regulating activities in Antarctica (ATS) and in the Arctic (the Arctic Council), in addition to UNCLOS. As mentioned, this choice was based on the interconnection between the environmental systems of these areas, with the aim of confronting their deep ecological connection with the fragmentation of international regimes aimed at their governance.

In the following sections, I rely on the law of the sea (Section 5.1.1), climate change (Section 5.1.2), biological diversity (Section 5.1.3) and Antarctic and Arctic governance regimes (Sections 5.2.4 and 5.2.5, respectively) to outline connections between these regimes and the BBNJ treaty.

5.2.1. UNCLOS: From a straitjacket to a nest for the BBNJ treaty

Faced with the intensification of exploration and exploitation of living marine resources, we are experiencing a new wave of interest in the regulation of ocean governance, focused on the conservation and sustainable use of the marine BBNJ, as aforementioned (BARROS-PLATIAU *et al.*, 2015; CHUN, 2018). The legal framework to deal with the issue will be established by an ILBI under the UNCLOS (UN, 2011b). The Convention would be a beacon of the "scope, parameters and feasibility" (UN, 2014a) for the BBNJ treaty.

Governance, regulatory, substantive, and implementation gaps limit the effectiveness of the legal framework for the high seas, as shown in Section 3.1. On the one hand, this framework is incomplete and inadequate to achieve the objective of managing and protecting resources in a sustainable manner. On the other hand, institutional evolution is slow and conflicting. In the initial phases of the BBNJ negotiation, it was thought that the treaty could promote a transformative change by giving greater cohesion and coherence to the ocean regime complex, producing a more effective and equitable conservation on the high seas (BARROS-PLATIAU and MALJEAN-DUBOIS, 2017). In previous phases it was intended not just to create a new treaty on marine BBNJ to close the existing gaps in the ocean regime but also to reform institutions so that they could achieve the objectives for which they were created. However, it was not the pathway adopted for the BBNJ negotiations.

Treating the BBNJ treaty as an IA *under* the UNCLOS has the potential to undermine the protection of marine biodiversity. The most important challenge refers to the FoS principle related to MGR in ABNJ. Based on this principle, water column resources in the high seas are collected on a first-come-first-served basis, with rare exceptions. Considering that, in general, developing countries do not have the necessary capacities to explore and exploit these resources, the original design of UNCLOS raises serious equity issues as it tends to lock in inequalities between developed and developing countries. None of these topics were evident when the Convention was signed in 1982. Since then, technological advances have made it economically viable to explore and exploit resources in previously inaccessible regions. The increase in demand for natural resources and the growing ability to obtain them have raised concerns about their protection (JOUFFRAY *et al.*, 2020).

In addition to being under the UNCLOS, the BBNJ treaty should *not undermine* other existing relevant legal instruments and frameworks and relevant global, regional, and sectoral bodies. This saving clause excludes the possibility that the new treaty will discipline the conservation and

sustainable use of fisheries, for example. Put bluntly, this exclusion is in direct opposition to the fact that fish are an essential element of marine biodiversity.

Governance of high seas fishing relies on RFMOs/As. Although they include environmental protection measures, they are designed to deal with the sustainability of the economic exploitation of fisheries resources. In other words, high seas fishing regimes consider fish stocks fundamentally as an economic resource, although this utilitarian paradigm was superseded by the principle of sustainable development three decades ago (UN, 1992c). Furthermore, the virtual territorialization promoted by RFMOs/As does not seem to be the most consistent solution for dealing with resources that, strictly speaking, do not belong to any country.

On this topic, the sovereign-oriented/conservative position of developed countries prevailed (supported by developing countries in which fishing is an important economic activity) that defended the non-inclusion of fishing resources in the material scope of the BBNJ treaty. CARICOM and PSIDS, among others, adopted a conservationist/progressive position, advocating for the inclusion of fish stocks in the BBNJ treaty (see Section 4.3.1.3) (UN, 2023, Article 8.2).

Since the end of World War II, ocean governance has been implemented based on the extension of coastal states' sovereignty over waters previously considered international. The territorial sea corresponds today to a strip twelve nautical miles wide. Another twelve nautical miles wide strip forms the contiguous zone, and a two hundred nautical miles wide strip constitutes the EEZ. In specific cases, the relative sovereignty of coastal states can be extended up to 350 nautical miles depending on the width of the continental shelf (MORAES, 2019). Beyond these zones are the ABNJ: the Area and the high seas. According to UNCLOS, the resources existing in each of these zones are subject to different legal regimes (Table 13).

Table 13. Rights of coastal states over the ocean.

	The seabed and ocean floor, and subsoil thereof	**Water column**
Territorial sea (UN, 1982, Article 2)	Sovereign rights	Sovereign rights
EEZ[152] **(UN, 1982, Article 56)**	Right of exploration and exploitation of resources	Right of exploration and exploitation of resources
Extended continental shelf (UN, 1982, Articles 76.1 and 77)	Right of exploration and exploitation of resources	FoS
	The Area	**High Seas**
ABNJ	CHM (UN, 1982, Article 136)	FoS (UN, 1982, Article 87)

[152] The 12-mile strip that constitutes the contiguous zone overlaps the EEZ. In the contiguous zone, the coastal state may exercise the activities provided for in UNCLOS: "In a zone contiguous to its territorial sea, described as the contiguous zone, the coastal state may exercise the control necessary to: (a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea; (b) punish infringement of the above laws and regulations committed within its territory or territorial sea" (UN, 1982, Article 33).

One of the main dilemmas of the BBNJ negotiations refers to the incidence of the FoS principle on the high seas. Why are Area resources considered CHM and water column resources are made available on a first-come-first-served basis? Blanchard, Spijkers and Duan (2020, p. 355; 358-359) present an argument in favor of *status quo*, that is, in favor of the application of the FoS principle to the MGR in ABNJ. This argument can be outlined as follows:

- The BBNJ treaty will be constituted under the UNCLOS. There is a clear hierarchical relationship between the two agreements (and, thus, the *not undermine* requirement does not apply). In this sense, the BBNJ treaty would be a mere UNCLOS IA;
- The UNCLOS establishes that while the Area and its resources are considered CHM, the high seas and its resources are subject to the traditional FoS principle;
- As a corollary, a BBNJ treaty "based on an application of the [CHM] principle (also) to the high sea risks to modify—as opposed to implement—the UNCLOS framework" (BLANCHARD, SPIJKERS and DUAN, 2020, p. 359).

Having prevailed this argument, the BBNJ treaty would reinforce and crystallize the unobstructed and gratuitous pattern of exploration and exploitation of MGR, highly concentrated in public and private institutions based in developed countries. On the other hand, recognition of these resources as CHM would provide for equitable benefit-sharing mechanisms.

This deadlock marked the negotiations from the beginning and remained unsolved until the last moments of IGC-5.2. The solution found was to include the "principle of the [CHM] *which is set out in the Convention*" among the "general principles and approaches" (UN, 2023, Article 5, *emphasis added*).

Two considerations are necessary on this topic. First, the wording of the provision can be interpreted as qualifying the CHM principle. It is possible that some insist on arguing that the principle applies only as provided for in UNCLOS, that is, only to resources in the Area, not in the water column. This interpretation is unlikely to succeed, but there is a risk of jeopardizing the ratification process and the agreement's entry into force. There is a precedent. 1982 UNCLOS itself took more than a decade to come into force due to an impasse over its Part XI. The entry into force of the Convention was made possible only after the signature of the 1994 Part XI Agreement, an UNCLOS IA that regulated mining in the Area. Second, despite the lack of reference to the CHM principle in the rest of the text of the BBNJ treaty, an entire system of benefit-sharing was provided for in the agreement. This would be inconsistent with the application of the FoS principle to living marine resources in ABNJ.

Unlike UNCLOS, the text obtained from IGC-5.2 considers MGRs as CHM. This is a welcome addition to the international regime for ocean governance. UNCLOS ceases to be a potential straitjacket and becomes a nest for the BBNJ treaty. The relationship between UNCLOS and the

BBNJ treaty is no longer part of "fully integrated institutions that impose regulation through comprehensive, hierarchical rules." The position of the BBNJ treaty becomes that of a nested regime, in which UNCLOS and the BBNJ treaty become "(semi-hierarchical) regimes with identifiable colors" (KEOHANE and VICTOR, 2010).

The BBNJ treaty reduces the risk of legalizing existing international inequalities, created by unequal capacities form exploration and exploitation of goods and services that belong to humanity as a whole. It also opens up the possibility of implementing mechanisms to regulate access to MGRs and to share the benefits arising from their use. On this topic, the conservationist/progressive position of developing countries prevailed. The African Group, CARICOM, CLAM, G77/China and PSIDS defended the CHM principle, in opposition to developed countries, which in a sovereign-oriented/conservative posture defended the FoS principle (see Section 4.3.1.1) (UN, 2023, Article 5.b).

5.2.2. UNFCCC: Deepening the complexity of the climate regime complex

Although it does not deal directly with the protection of biodiversity, the UNFCCC establishes an important regulatory framework for environmental issues and deals with an important vector of loss of biological diversity, both terrestrial and marine.

Negotiations on the international regime for climate change took place in a specific historical context. With the alleged victory of the liberal West in the Cold War and the end of the bipolar order, the international agenda expanded far beyond security issues and there was a renewed confidence in the ability of multilateralism to solve the common problems of humanity. These conditions, unprecedented since the end of World War II, allowed the states to open UNFCCC for signature during Rio-92.

The text of the BBNJ treaty makes several references to climate change. Already in the preamble, it recognizes the connection between climate change and the loss of marine biodiversity. Climate change is also included in the definition of "cumulative impacts" (Article 1.8) and appears as an element of the "approach that builds ecosystems resilience" (Article 5.g), and the objectives of the ABMTs (article 14.c). In Annex I, it is among the "indicative criteria for identification of areas [for the implementation of ABMTs, including MPAs]" (Annex I, f). Finally, it appears in Annex II as a topic that can be the subject of CBTMT initiatives (Annex II, b.iv) (UN, 2023).

As mentioned in Section 3.2.3.3, the climate regime has proven to be "naturally closed and loosely interacting" with other regimes or policy spaces (MALJEAN-DUBOIS and WEMAËRE, 2017, p. 23). However, in recent years, it has sought deeper interactions with other issues, for example promoting studies on its relationships with the ocean and polar regions (IPCC, 2019).

This process therefore indicates an attempt at an institutional connection between the climate and the marine BBNJ regimes. It seems to point to an attempt to overcome the challenge of enhancing synergies between these regimes (Section 5.1.2.3). As a result, a dependency is created between them, deepening the complexity of both regime complexes, on climate and on ocean governance.

5.2.3. CBD: Protection of biodiversity within the sovereign nation state

Negotiations on the international regime for the conservation and sustainable use of biodiversity in areas *under* national jurisdiction took place in the same optimist conditions than UNFCCC, in the aftermath of the Cold War. These conditions allowed the states to open CBD for signature during Rio-92.

The success of the negotiations can be partly credited to the way in which the Convention was drafted, granting members (i) sovereignty over existing biodiversity in their territory and (ii) the right to exploit it in accordance with their national legislation. The CBD therefore reaffirms the Westphalian principles of sovereignty and nonintervention, mitigated by provisions on (i) international cooperation (e.g., UN, 1992a, Article 5), (ii) guidelines for the conservation of national biodiversity (e.g. UN, 1992a, Article 6), and (iii) responsibility to prevent activities carried out in the national territory from causing damage to the environment of another state or ABNJ (e.g. UN, 1992a, Article 2).

Nowadays, the context is not the same. BBNJ negotiations take place in a different world, witnessing the September 11, 2001, terrorist attacks in the US, the 2003 Iraq War, and the 2008 financial crash. In September 2018, IGC-1 took place in circumstances of crisis of the liberal international order, retraction of American leadership by Trump administration, rise of China, geopolitical reassertion of Russia, and worsening of Anthropocene and climate change effects.

Additionally, the BBNJ treaty was negotiated in parallel with the ISBA Mining Code. However, there was little connection between both decision-making processes (DOMINGOS and BARROS-PLATIAU, 2021). The IGC-4 was scheduled to take place between March 23 and April 3, 2020, but it was successively postponed due to the Covid-19 pandemics. Finally held in March 2022 (after Russia's invasion of Ukraine in February 2022), it did not reach a final text. Only at IGC-5.2, held in the first quarter of 2023, a consensus text was obtained, but it is still pending finalization so that it can be officially adopted.

Another factor that distances the BBNJ negotiations from the CBD-centric regime concerns the scope of application. Although the CBD has provisions on international cooperation in ABNJ (e.g., UN, 1992a, Article 5), its jurisdictional scope is national territories. This was one of the most

robust arguments employed by reluctant countries whenever it was the case of using CBD's provisions to the BBNJ draft text.

Planetary systems are deeply interconnected and do not recognize artificial, political boundaries. Given that, is it reasonable to impose different legal regimes for genetic resources *under* and *beyond* national jurisdiction? Would it be possible to extend the scope of application of the CBD to ABNJ, as suggested in Article 5 of that Convention? Would that also imply extending the sovereignty of countries over today's international waters, thus promoting an even more comprehensive sharing of the ocean? What rights would land-locked countries be guaranteed? If the high seas remain as ABNJ, how could any mechanism for regulating ABS be reconciled with the FoS principle? Faced with the growing concreteness of exploration and exploitation of resources in international waters, states demonstrate difficulty in transposing the Westphalian principles of sovereignty and nonintervention to ABNJ. Questions like these remain unanswered.

Another common challenge between the CBD and the BBNJ treaty concerns DSI. On this topic, the conservationist/progressive position defended by developing countries (African Group, CARICOM, CLAM, G77, and PSIDS, among others) prevailed, against the sovereign-oriented/conservative position defended by developed countries and China (see Section 4.3.1.2). However, although the BBNJ treaty makes several references to DSI, the matter is still pending conclusion under the CBD. CBD COP-15 decided "to develop a solution for the sharing of benefits arising from the use of [DSI] on genetic resources" (CBD, 2022b) and predicted specific goals and targets for 2050 and 2030, respectively, in the Post-2020 GBF (CBD, 2022a).

Finally, there is no way to guarantee, at the current stage of negotiations, that the BBNJ treaty will be able to face implementation challenges of the same nature as those that limit the effectiveness of the CBD (CBD, 2020a, p. 4), especially if we consider that the conservation and sustainable use of MGR in ABNJ lacks the state authority that characterizes the protection of biodiversity at the national level. Additionally, it is necessary to consider that, even in the sphere of national jurisdiction under the CBD, biodiversity protection strategies have so far produced limited advances, although they have been discussed since 1992.

5.2.4. ATS: A small club regulating a vast and rich portion of the Planet

Like the high seas, the South polar region is an ABNJ. The international regime for Antarctica, centered on the ATS, operates outside the UN system. Following the Korean Armistice Agreement (1953), the signature of the Warsaw Pact (1955), the Bandung Conference (1955), the uprising in Hungary (1956), the Suez Crisis (1956), and the First UN Conference on the Law of the Sea—UNCLOS I (1958), the Antarctic Treaty was concluded in 1959 in a period of peaceful

coexistence between the two world superpowers. Under the pretext of the 1957-1958 IGY, the agreement instrumentalized science to promote peace and avoid the militarization on the continent through the suspension of territorial claims and the ban on nuclear tests. In 1959 there were seven claimants out of twelve Antarctic Treaty parties. Today, there are forty-four members and 29 consultative parties for the same seven claimant states.

Due to its predominantly geopolitical focus, the Antarctic Treaty did not address the conservation and sustainable use of continental and Southern Ocean biodiversity. Subsequent treaties, added to the Antarctic Treaty and forming the ATS, began to treat environmental resources according to the paradigm of the time. Thus, the 1964 CCAS established measures to regulate commercial sealing (CCAS, 1964), the 1980 CAMLR Convention regulated the conservation and the rational use of Antarctic marine living resources (CAMLR CONVENTION, 1980, Article II), and the 1991 Environmental Protocol seeks to ensure "the comprehensive protection of the Antarctic environment and dependent and associated ecosystems" and designates Antarctica "as a natural reserve, devoted to peace and science" (ENVIRONMENTAL PROTOCOL, 1991, Article 2).

In this context, two aspects deserve to be highlighted. First, given that the ATS coverage area is not subject to the jurisdiction of any state, the CBD's ABS rules do not apply. Only activities for the exploration of natural resources (i.e., scientific research), not exploitation activities (with commercial purposes), are foreseen but it is difficult to identify when the exclusively scientific interest ends and the commercial interest begins in a particular activity (LIU, BROOKS and QIN, 2019). Neither the 1959 Antarctic Treaty nor the 1991 Environmental Protocol qualify Antarctica's natural resources as a CHM. Given the restricted nature of membership in these treaties, this would not even make sense. There is freedom of access, but only for scientific purposes. Another weakness of Antarctica's governance is that the regime focuses on regulating the operation of states, leaving private actors virtually free of any regulation.

Second, given the "global significance" (CROXALL and NICOL, 2004, p. 569) of Antarctic resources and the deep interconnection between the Southern Ocean and the rest of the ocean, it would be entirely appropriate that the rules of the BBNJ treaty also apply there. However, the not undermine requirement applies to the relationship between the BBNJ treaty, the CAMLR Convention, and the Environmental Protocol. The CCAMLR and the ATCP strongly defend that the ATS "is the competent framework within which to address the conservation and sustainable use of biodiversity in the Antarctic region" (HAWARD, 2021). In practice, this means that in Antarctica the rules established under the ATS will prevail over the rules established by the BBNJ treaty. Despite the common objectives between the two regimes in the field of biodiversity protection, the coordination of initiatives will depend on cooperation between the two organisms. This challenge is especially relevant in relation to increasing tourism and unregulated bioprospecting in Antarctica.

From the geopolitical perspective, the Antarctic Treaty reflects the Cold War distribution of power, as well as containment and deterrence priorities. Unlike the other three non-claimant original signatories of the Antarctic Treaty (Belgium, Japan, and South Africa), the US and Soviet Union (now Russia) have reserved the right to make territorial claims in the future (BEEBY, 1991). Given the geopolitical focus of the ATS, it is natural that the polar powers intend to keep the UN away from Antarctic governance. These powers also show little willingness to adopt additional regulations for the exploitation of living and non-living resources in the region, which can be exemplified by the failure of CRAMRA. Added to the not undermine requirement (a saving clause for BBNJ negotiations), these two points seems to indicate that there will be no significant progress in the protection of marine biodiversity in the region. The same reasoning applies to the Arctic.

China has been a consultative member of the treaty since 1985[153] and has intensified its scientific activities on the continent in recent decades (FERRADA, 2018; LIU, 2019; SILVEIRA and BECARD, 2020). However, the country does not have the same permanent status as the twelve original signatories and, according to current rules, would not be entitled to make territorial claims. If it seems impossible to predict whether or not China will try to break with the current international order in the future (LAKE, MARTIN and RISSE, 2021), it is not difficult to imagine that, if that happens, one of the points that could be questioned is precisely the country's position in the hierarchy among members created by the Antarctic Treaty, especially in the event of a re-discussion of mining activities in the region after 2048 (ENVIRONMENTAL PROTOCOL, 1991, Article 25.2).

5.2.5. UNCLOS and the Arctic Council: Growing economic interests and geopolitical concerns

As already stated, most of the Arctic area is *under* the jurisdiction of eight countries, whose territory, territorial sea, EEZ or extended continental shelf lie within the Arctic Circle (north of latitude 66°33'N). Unlike Antarctica, the Arctic is not regulated by a specific treaty separate from the UN system. UNCLOS is the main legal framework for the region. Even so, the eight Arctic countries formed the Arctic Council, an intergovernmental forum originally created to address environmental issues, but which is beginning to find itself faced with delicate geopolitical tensions. Most of these tensions are currently mounting and are driven by economic interests arising from easier access to environmental resources and maritime routes resulting from global warming, and the melting of the Northern glacial ocean.

[153] Source: <https://bit.ly/3zifENY> Accessed July 29, 2022.

While commercial navigation seems well regulated and therefore guaranteed,[154] disagreements may arise over the exploitation of living and non-living resources in international waters and in the Area,[155] especially if coastal states have recognized their claims to extend their continental shelves. To regulate commercial fishing in the Arctic, the legally binding CAO Fisheries Agreement was signed in 2018. The membership of this treaty includes Arctic countries (Canada, Denmark, Iceland, Norway, Russia, and the US), countries with distant-water fishing capacity (China, Japan, and South Korea), and the EU[156] (ARCTIC COUNCIL, 2020). Effective on June 25, 2021 (US, 2021c), the agreement imposes a sixteen-year (renewable in increments of five-year) moratorium on commercial fishing in international waters in the region. The agreement provides

> a framework for the parties to cooperate to better understand the ecosystems in and adjacent to the central Arctic Ocean. It prevents commercial fishing from occurring until adequate scientific information is available to inform decision making in relation to the viability and sustainability of any potential future fishing activities in the agreement area (ARCTIC COUNCIL, 2020).

Nevertheless, the CAO Fisheries Agreement does not address three of the four elements of the BBNJ treaty's package deal: MGR, EIA, and CBTMT. However, the agreement is "in a very real sense, (…) an *area-based management tool* in as much as it imposes obligations on its Parties not to authorize a specific activity—commercial fishing—in a particular area beyond national jurisdiction" (BALTON, 2019, p. 3).

The signatories of the CAO Fisheries Agreement believe "that commercial fishing is unlikely to become viable in the high seas portion of the central Arctic Ocean in the near future." As a result, they consider "premature (…) to establish any additional [RFMO/A]" for the region (CAO FISHERIES AGREEMENT, 2018, Consideranda). Even so, the BBNJ treaty is supposed to not undermine this agreement. Some argue that the interplay between the BBNJ treaty and CAO Fisheries Agreement may prove to be "both relatively limited and relatively easy to manage," given its "general congruence of interests" (BALTON, 2019, p. 7).

The vast production by the Arctic Council of reports related to climate change, human development, marine shipping, and biodiversity, can become a solid basis for the application of the BBNJ treaty in conjunction with existing regional governance structures and institutions. However,

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[154] On the high seas (UN, 1982, Article 90) and on the EEZs (UN, 1982, Article 58.1), commercial navigation is guaranteed by the FoS principle. It is also guaranteed in archipelagic states (UN, 1982, Article 52), straits used for international navigation (UN, 1982, Article 45) and even in territorial seas (UN, 1982, Article 17) by the right of innocent passage.

[155] The exploration and exploitation of resources in the Arctic follows the same logic established by UNCLOS: in the EEZ, it is private to the coastal state; beyond EEZs, the Area's resources are CHM and those of the water column are subject to the FoS principle (UN, 1982).

[156] The CAO Fisheries Agreement indicates that a smaller group of countries with comparable technological and military capabilities face fewer difficulties in reaching comprehensive and ambitious agreements. The gathering of many voices and interests, as in the case of the BBNJ negotiations, seems to make it difficult to build consensus, even around issues of recognized relevance and urgency.

some tough questions remain unanswered and should raise international cooperation, so that they can be explore potential synergies between agreements and, at the same time, avoid violations of the not undermine requirement (BALTON, 2019).

The rise of China and "the return of global Russia" (CARNEGIE, s/d) raise geopolitical questions in the Arctic as well. While Russia has the longest coastline on the Arctic Ocean, the country will be the only non-NATO member among the coastal states, should the accession of Sweden materialize as planned.[157] Based on the expansion of that military alliance and the potential accession of Ukraine as the alleged reasons for the Russian invasion in 2022, it is reasonable to assume that the sharing of the Northern Ocean could generate tensions between Russia and the other Arctic countries. This situation could lead to the region being considered again as "a place for security policy and strategic assessments" (ROTTEM, 2020), potentially undermining cooperation—fundamentally in environmental matters—within the Arctic Council.

In recent decades, Russia's interest in the Arctic stems from several factors:

> preparations for the unlikely, but potentially catastrophic contingency of war in Europe, the need to secure its second-strike nuclear capabilities (the bulk of which is based around the Kola Peninsula), and the quest for resources to pay for the proverbial guns and butter as the competition with the West shows no sign of abating. Great-power ambitions and the interests of powerful bureaucratic elites and business interests also play a role (RUMER, SOKOLSKY and STRONSKI, 2021).

Aware of the opportunities arising from global warming in the Arctic, China obtained observer status at the Arctic Council in 2013 and in 2018 published its Arctic Strategy. The country declares itself a "near-Arctic" state and plans a Cold Silk Road. Designing and building hardened-hull cargo ships capable of navigating the Northern Sea Route, recently opened due to the melting of Arctic ice cover, would represent a significant economic gain for China, as it would reduce the distance to European ports in Germany by almost 5,000 kilometers. China's Arctic activity raises concerns "over the strategic implications of its economic activities and whether they might take on a military dimension in the longer term" (LINO, 2020).

Currently, Russia and China are looking to further develop a partnership for the Arctic. According to Sorensen and Klimenko (2017, p. vii),

> Russia is increasingly focused on developing the Russian Arctic as a way to strengthen its economic base. However, long-term trends in energy markets and the recent conflict in Ukraine—with the United States and European Union (EU) sanctions that followed—have placed restrictions on the involvement of Western companies in energy projects in the Russian Arctic. This has motivated Russia to look even more to Asia for potential investors and technology partners, and as a key consumer market; engaging China in Arctic development has become increasingly appealing.
>
> China is keen on further strengthening its engagement and role in the Arctic. Specifically, China is seeking to consolidate its position as a legitimate Arctic stakeholder by diversifying

[157] "Since 5 July 2022, Sweden has been an official NATO Invitee, attending meetings and coordinating activities with the Allies. It will become a NATO Ally once all Allies have ratified its Accession Protocol". Source: <https://bit.ly/3LJmnI1> Accessed April 24, 2023.

> and strengthening its bilateral relations with all the Arctic states through economic deals, scientific cooperation and stronger diplomatic ties. Thus, at first glance, Chinese–Russian cooperation on developing energy resources and sea routes in the Russian Arctic looks like an objective where Russia and China could work closely together and have complementary interests. Russia is one of the world's largest energy exporters and China is one of the largest energy importers. The Russian Arctic is rich in energy resources yet lacks infrastructure, capital and technology—where China can contribute.

However, several factors delay the deepening of the Sino-Russian partnership: a high degree of strategic mistrust hinders engagement in long-term cooperation; differing priorities in relation to the Arctic (Russia prioritizes sovereignty and economic development while China seeks to secure and diversify its energy supply); and Russia's reluctance to allow non-Arctic states (especially a world power like China that sees the region as an international—not strictly regional—space) to play a strong role in Arctic governance (SORENSEN and KLIMENKO, 2017, p. vii-viii). However, restrictions imposed by the West on Russia as the six rounds of sanctions for the invasion of Ukraine could promote a faster rapprochement between Russia and China.

5.3. WHAT TO EXPECT FROM THE BBNJ TREATY?

5.3.1. Ratification, entry into force, and implementation: A process of unpredictable duration

With the achievement of a consensus text in the IGC-5.2, a third part of the Conference (IGC-5.3) is scheduled for June 19 and 20, 2023. It is expected that at this meeting the text of the BBNJ treaty will be formally adopted and opened for signature. According to Article 61, the BBNJ treaty "shall enter into force 120 days after the date of deposit of the sixtieth instrument of ratification, approval, acceptance or accession" (UN, 2023).

According to Gjerde *et al.* (2023),

> The process to bring an Agreement into force can be summarized as follows:
>
> 1. Adoption: During the [IGC], negotiators agree on the text of the BBNJ Agreement translated in all UN languages.
>
> 2. Signature: The State signs the Agreement to signal its intention to participate. The depository[158] often organizes a special treaty event to promote participation in treaties, which could include this Agreement.
>
> 3. National ratification: The State goes through its own legislative and executive processes to ratify the Agreement nationally.
>
> 4. Consent to be bound: The State submits its instrument of ratification to the designated depository or expresses its consent to be legally bound by the Agreement by depositing an instrument of approval or acceptance or accession.
>
> 5. Provisional application: an Agreement can provide for provisional application pending entry into force. Upon signing, State parties are obliged not to defeat the object and purpose of the Agreement prior to its entry into force.[159]

[158] UN, 2023, Article 69.
[159] UN, 2023, Article 62.

6. Entry into force: the Agreement is ratified by the specified number of States.5

In the context of ocean governance, "UNCLOS set the threshold at 60 and took 12 years to enter into force, while the 30 ratifications required by the [UNFSA] took 6 years" (GJERDE *et al.*, 2023). Prior to IGC-5.2, the European Commission stated that the adoption of the BBNJ treaty is a "key priority" for the EU. Furthermore, when the EU celebrated that the US joined the High Ambition Coalition (which was launched in Brest in 2022, during the One Ocean Summit), it was clear how Brussels was interested in the rapid entry into force of the treaty.[160]

However, it is not possible to predict how long this process will take in the specific case of the BBNJ treaty. It is important to monitor how ocean powers will exert pressure on the others to ratify the BBNJ treaty in the coming years.

Recognizing that the "growing impacts of climate change and human activities on the global ocean" demand urgent action, Gjerde *et al.* (2022) propose measures for "fast-tracking implementation" of the BBNJ treaty. These measures cover three priority areas: "bringing the Agreement into force," "building up the institutional mechanisms" for implementation, including financial mechanisms, and "developing capacity, science, and technology for effective and equitable conservation and sustainable use [of marine biodiversity] in ABNJ" (Figure 21).

Figure 21. Recommendations for fast-tracking implementation of the BBNJ treaty (GJERDE *et al.*, 2023, p. 4)

[160] Source: <https://bit.ly/3AHLcOf> Accessed April 25, 2023.

5.3.2. Governance perspectives

In the IR field, governance "refers to activities that are not necessarily backed by any sovereign power" (EVANS and NEWNHAM, 1998, p. 209). It relates to the notions of anarchy and "governance without government" (ROSENAU and CZEMPIEL, 1992)[161] and "generally implies some degree of self-regulation by societal actors, private-public cooperation in solving societal problems, and new forms of multilevel policy" (BIERMANN and PATTBERG, 2008, p. 278). According to Finkelstein (1995, p. 367), "since the international system notoriously lacks hierarchy and government, the fuzzier word governance is used instead." Jones (2014, p. 63), defines governance as "steering human behavior through combinations of state, market and civil society approaches to achieve strategic objectives". Global governance would be "governing, without sovereign authority, relationships that transcend national frontiers" (FINKELSTEIN, 1995, p. 369).

In the Anthropocene, human action reached magnitude, variety, and durability capable of altering the characteristics and dynamics of planetary systems. The accumulation of GHGs in the atmosphere causes global warming and disturbs the climate system. Rising global average temperatures, changing rainfall patterns, species migration, ocean acidification, melting polar ice caps and rising sea levels are among the consequences of climate change. Human unsustainable activities "are moving several of Earth's sub-systems outside the range of natural variability typical for the previous 500,000 years" (BIERMANN *et al.*, 2012, p. 1306).

Associated with the political turmoil experienced in the long transition period that began with the end of the Cold War, the Anthropocene contributes to what is conventionally called the VUCA scenario, characterized by volatility, uncertainty, complexity, and ambiguity. In these circumstances, to promote the conservation and sustainable use of the marine BBNJ, the new treaty will need to develop governance systems that are agile in order to deal with volatility, capable of processing information to reduce uncertainties, inclined to promote internal restructuring to match external complexity, and experiment with new strategies to control ambiguity.

Beyond a system focused on environmental governance, it is essential to develop instruments and mechanisms aimed at sustainability governance, capable of combining all dimensions of sustainable development: economic viability, environmental responsibility, and social justice (SACHS, 2002). This seems to be the meaning implicit in the formula *conservation and sustainable use* of marine BBNJ. The aim is—or should be—to ensure that marine biodiversity is protected for

[161] Similarly, Delmas-Marty states that: "Gouverner la mondialisation par le droit implique de construire un état de droit sans État mondial, donc de repenser l'outil que représente le droit, traditionnellement identifié à l'État, face aux interdépendances nées de la mondialisation et aux défis qu'elles engendrent. Crises économiques et financières; crises sociales; terrorisme global; désastre humanitaire des migrations; crise climatique et, pour couronner le tout, si l'on ose dire, la crise sanitaire du 'coronavirus'. Il serait temps de les prendre au sérieux, à mesure que s'accélère la cacophonie née de cette polycrise." Available at <https://bit.ly/424LB9g> Accessed April 25, 2023.

its economic, environmental, and social value. In this context, given that existing fisheries agreements see fish stocks as fundamentally economic assets even when they provide for conservation and sustainable use measures, it would be an advance to include fish in the BBNJ treaty, as CARICOM, PSIDS, and Indonesia wanted (see Section 4.3.1.3).

Bennett and Satterfield (2018) propose a framework to guide design, evaluation, and analysis of environmental governance (Figure 22). For the authors, governance has four general objectives: "to be effective, to be equitable, to be responsive, and to be robust." These four aims need "to be considered simultaneously across the institutional, structural, and procedural elements of environmental governance."

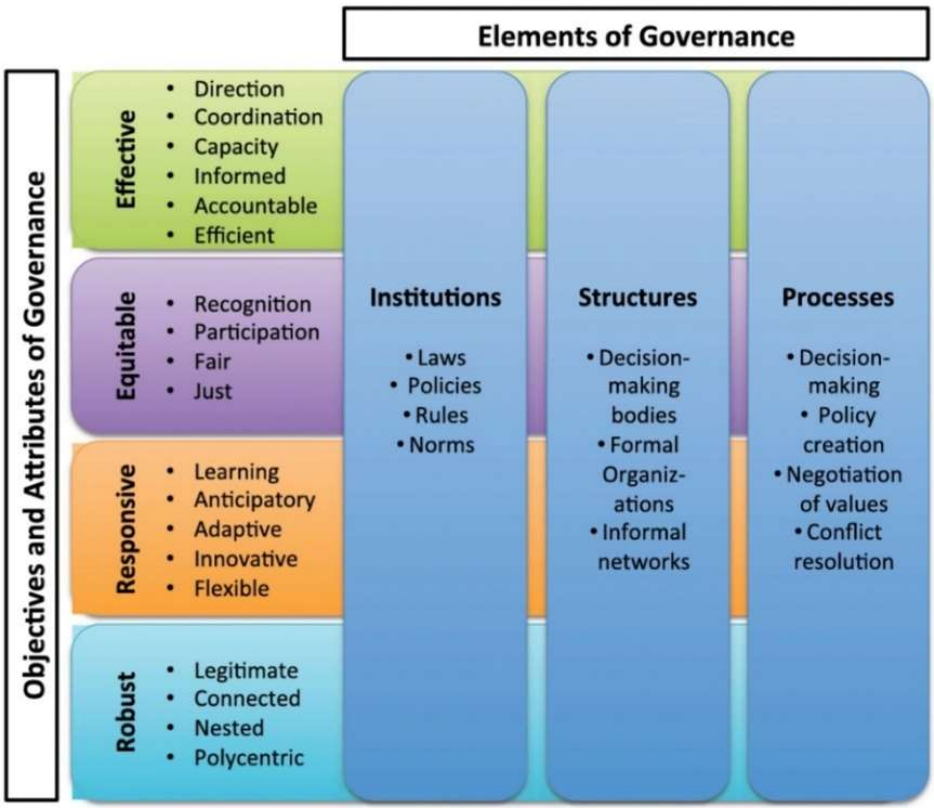

Figure 22. Objectives, attributes, and elements of environmental governance (BENNETT and SATTERFIELD, 2018).

Each of the governance objectives has a set of attributes. To be effective,[162] governance must have direction,[163] coordination,[164] capacity,[165] and to be informed,[166] accountable,[167] and efficient.[168] To be equitable,[169] governance must have recognition,[170] ensure participation,[171] and be fair[172] and just.[173] To be responsive,[174] governance must ensure learning,[175] and to be anticipatory,[176] adaptive,[177]

[162] "Supports maintenance of system integrity and functioning." (BENNETT and SATTERFIELD, 2018)
[163] "Scope, goals and aims are comprehensive, clearly articulated and communicated to stakeholders. Clear boundaries on action and scope exist." (BENNETT and SATTERFIELD, 2018)
[164] "The roles, functions, and mandates of different governments, agencies and organizations are coordinated. A coordinating body or unit is present." (BENNETT and SATTERFIELD, 2018)
[165] "Capacity, skills and resources are sufficient and are being actively developed. Capable and visionary leadership is present. Mechanisms are present to resolve conflicts between groups." (BENNETT and SATTERFIELD, 2018)
[166] 'Planning and management decisions and actions are informed by best available information and integration of a diversity of knowledge types and systems." (BENNETT and SATTERFIELD, 2018)
[167] "Procedures are present to hold governors accountable for performance of system. Mechanisms are in place to ensure that means and rationales for making decisions are transparent." (BENNETT and SATTERFIELD, 2018)
[168] "Efficacy guides decisions regarding management actions and deployment of resources. Time requirements of actors are reasonable. Economic costs and actions taken are commensurate with productivity of system." (BENNETT and SATTERFIELD, 2018)
[169] "Employs inclusive processes and produces fair outcomes." (BENNETT and SATTERFIELD, 2018)
[170] "Policies and processes ensure acknowledgement of, respect for and incorporation of diverse perspectives, values, cultures and rights. Views of marginalized and vulnerable groups are considered." (BENNETT and SATTERFIELD, 2018)
[171] "Spaces and processes to enable participation and collective choice are present. Structures that ensure the representation and engagement of different stakeholder groups are in place." (BENNETT and SATTERFIELD, 2018)
[172] "Mechanisms are in place to ensure socio-economic costs and benefits are just and fairly distributed. Rights and responsibilities are shared and assigned fairly. Unequal circumstances are considered." (BENNETT and SATTERFIELD, 2018)
[173] "Laws and policies are present to protect local rights and mechanisms ensure that groups have access to justice." (BENNETT and SATTERFIELD, 2018)
[174] "Enables adaptation to diverse contexts and changing conditions." (BENNETT and SATTERFIELD, 2018)
[175] "Monitoring, evaluation, reflections and communication of performance is institutionalized. Processes and platforms are in place to co-produce knowledge and enhance social and institutional memory." (BENNETT and SATTERFIELD, 2018)
[176] "Long-term planning and foresight thinking are institutionalized. Known and unknown risks and opportunities are considered, analyzed and planned for." (BENNETT and SATTERFIELD, 2018)
[177] "Spaces for reflection and deliberation are institutionalized. Processes exist to revisit and evolve policies, institutions and adapt actions." (BENNETT and SATTERFIELD, 2018)

innovative,[178] and flexible.[179] To be robust,[180] governance must be legitimate,[181] connected,[182] nested,[183] and polycentric.[184]

In the same vein, Bigagli (2016) proposed a framework for the assessment and management of ocean complex systems, articulated into three components: unit, objective, and structure of management. According to the author, (i) the unit of management must be the Social-Ecological System (SES), "defined as a bio-geophysical unit and its associated social actors and institutions", (ii) the objective of management must be the "SES ecological resilience", and (iii) the structure of management (or management process) must be articulated in four phases: scoping ("definition of the system to manage, and its initial assessment"), envisioning ("setting of targets and objectives of management; development of indicators and evaluation and selection of management strategies"), implementing ("implementation of the management strategy"), and evaluating ("monitoring of the effects of the management strategy on the system and in relation to the achievement of the objectives"). To give iterative character to the management process, "the results of monitoring will be the basis for a new initial assessment for the next cycle of policy" (BIGAGLI, 2016, p. 156).

However, the institutional arrangements foreseen in the BBNJ treaty do not innovate in relation to the structures traditionally implemented for the governance of environmental issues. The following are planned: periodic meetings of a COPs (see Section 4.3.5.1); decision-making based on consensus as a general rule; the establishment of a Scientific and Technical Body (see Section 4.3.5.3); provision for the creation of other subsidiary bodies to support the implementation of the treaty; a Secretariat (see Section 4.3.5.2); and rules for funding, but without the assumption of financial commitments by developed countries (see Section 4.3.5.6), among others. Some instruments and mechanisms that are not very common in environmental agreements are established in general terms: (i) a clearing house mechanism, consisting "primarily of an open-access platform" containing

[178] "Innovation and experimentation is encouraged and success and failures are monitored. A higher risk tolerance is embodied." (BENNETT and SATTERFIELD, 2018)
[179] "Policies exist that recognize the need to downscale environmental management and conservation models to fit local realities. Efforts are taken to understand and document about the diverse contexts where policies are applied and to deliberate on necessary adjustments." (BENNETT and SATTERFIELD, 2018)
[180] "Ensures functioning institutions persist, maintain performance and cope with perturbations and crises." (BENNETT and SATTERFIELD, 2018)
[181] "A collective vision shapes policies and guides actions at all scales. Institutional legitimacy is conferred (e.g., in policy) and perceived (e.g., by constituents). Governors act with integrity and consistency. Institutions are transparent." (BENNETT and SATTERFIELD, 2018)
[182] "Networks of organizations and actors are strongly linked vertically and horizontally. Bridging organizations are present. Processes are in place to support network development, to develop social relations and to support mutual learning." (BENNETT and SATTERFIELD, 2018)
[183] "Tasks are assigned to appropriate levels. Decision-making authority and responsibility are conferred to the lowest level possible. Self-organization is encouraged and supported. Authority and responsibility is supported by adequate state or other outside support (legal recognition, political will, time commitment) and oversight." (BENNETT and SATTERFIELD, 2018)
[184] "Decision-making and action taking centers in multiple places, across jurisdictions and at multiple scales interact and cohere towards a common goal. Institutions are present that are diverse and redundant—that serve similar purposes and have overlapping jurisdictions and functions." (BENNETT and SATTERFIELD, 2018)

information on the topics regulated by the agreement (see Section 4.3.5.4); (ii) an expert-based "implementation and compliance committee" to facilitate and review the implementation of and promote compliance with the agreement; and (iii) procedures for the peaceful settlement of disputes (see Section 4.3.5.5).

At the current stage of negotiations, there is no way to predict whether the governance structures and mechanisms of the BBNJ treaty will bring the necessary effectiveness to the regime. It will be necessary to wait for the implementation and maturation of these instruments. However, regimes with similar governance structures and mechanisms have not been shown to be adequate and sufficient to address the issues for which they were created (GUTERRES, 2019; YOUNG and STOKKE, 2020; WEF, 2020).

CONCLUSIONS

The ultimate goal of this research was to investigate how the global distribution of power, the existing institutional architecture, and the agency of state (and international, in the case of the EU) actors are articulated to shape the outcomes of negotiations on the international regime for the conservation and sustainable use of marine BBNJ. In this context, the Earth System Governance research framework proved to be a powerful tool for the analysis of international issues in general, and BBNJ negotiations in particular.

All of ESG *contextual conditions* act in the field of governance of the BBNJ marine. I dealt more directly with two of them—transformations, and the Anthropocene. Transformations are manifested, for example, in the new great power competition, which is both the cause and the consequence of the ongoing change in the distribution of world power. The blue acceleration, which produces increasing pressure on the ocean and its living and non-living resources, is at the heart of the Anthropocene. Furthermore, one of its most visible faces, climate change, is one of the main factors causing the acceleration of the pace of biodiversity loss, both terrestrial and marine.

The other two—diversity, and inequalities—also affect ocean governance in general and marine BBNJ in particular. Diversity is also present, for example, in the need to include IPLC, with their knowledge and practices, to allow the formation of a more representative, diverse, inclusive, and effective regime. Finally, inequalities manifest themselves, for example, in the different capacities of states to explore and exploit natural resources in the ocean. This thesis dealt in a more diffuse way with these two contextual conditions.

In this research, I sought to apply three of the *research lenses* proposed by the 2018 ESG research framework: Power, architecture, and agency. Despite the framework grouping them in pairs, with potential positive effects for research, I chose to use them in isolation and, at the end of the research, seek to articulate them, as three dimensions of the same international reality.

In Chapter 1, the unity and importance of the global ocean was demonstrated. It became clear that the ocean is under increasing pressure, due to the growing demand for the goods and services it provides to humanity, required by the increasing world population, and made possible by technological development. On the other hand, the international regime on ocean governance is fragmented, generating gaps, overlaps, and even antinomies. I investigated the material and geographic scope of the most relevant treaties that deal in one way or another with the ocean and the protection of its biodiversity: UNCLOS, UNFCCC, CBD, ATS, and the Arctic Council. With this brief analysis, the lack of a comprehensive treaty that would protect marine biodiversity in ABNJ was identified. This is the gap that the BBNJ treaty intends to fill with time. Finally, I presented the

negotiation process of the BBNJ treaty at the UN, which has lasted for two decades, and which seems to have reached its final stage in March 2023, when a consensus text was reached at IGC-5.2.

In Chapter 2, I discussed power-related issues of the BBNJ treaty. A classification of international actors was sought according to their general interest and ability to influence the outcomes of BBNJ negotiations. The ability of these states to shape debates was assessed based on economic and demographic indicators. The general interest was measured from specific indicators that consider the economic activity of states in the ocean. But before reaching a classification, I characterized the growing and decisive influence of human activities on planetary dynamics and the scientific and diplomatic uncertainties that qualify the current scenario as VUCA. Then, the international response to the Covid-19 pandemic was discussed as an acute example of the low capacity of states to solve critical, urgent global problems. Finally, changes in the international political system were discussed, through two of its most striking aspects: the crisis of the international liberal order and the new great power competition, which places the US and China at opposite poles. Based on all these elements, it was possible to classify countries into ocean superpowers, ocean great powers, and ocean middle powers.

In Chapter 3, I discussed architecture-related issues of the BBNJ treaty. It was noticed that many treaties add up to the protection of biodiversity. I analyzed in more depth the institutional architecture that forms the gap related to the protection of marine BBNJ and, at the same time, conforms the limits that cannot be exceeded in filling it. For each of the regimes, the historical context in which it was negotiated, the main governance principles and structures adopted, and the challenges it faces today were investigated. I found that many of the dilemmas experienced in each of these regimes can be reflected in the BBNJ regime.

In the relationship with UNCLOS, the point of tension refers to the paradigm shift promoted by the BBNJ treaty by characterizing the MGRs as a CHM. In this condition, both access and benefit-sharing are subject to specific procedures, with the potential to reduce international inequalities.

The procedural connection to CBD was clear. IGC-5, suspended in August 2022, was resumed in an environment of optimism after the adoption of Post-2020 GBF by CBD COP-15, in December 2022. The material connection is also clear by the search for coherent solutions to common problems, such as, for example, the regime applicable to DSI and sustainable development obligations for all.

ATS, in turn, presents a double challenge to the BBNJ treaty. On the one hand, the profound ecological interconnection between the Southern Ocean and the rest of the global ocean imposes the need for coordinated action between the two regimes. On the other hand, administration of the ATS by a restricted club of states outside the UN system differs from the inclusive governance structure intended for marine BBNJ.

Originally focused on environmental protection, the Arctic Council tends to face increasing geopolitical tensions promoted by the melting of the Northern glacial ocean ice cover, and a scenario of confrontation between Russia and the other Arctic states, most of them NATO members. Likewise, tensions may also arise due to China's quest for a more prominent role in the region, allied to Russia. All of this could jeopardize the joint work of the Council and the marine BBNJ governance structures.

In Chapter 4, I discussed agency-related issues of the BBNJ negotiations. Initially, the acceleration of ocean use and a high degree of economic concentration of its exploration and exploitation were identified. Then, the way in which the states organized themselves into coalitions to participate in the BBNJ negotiations was discussed. I identified the most active coalitions (African Group, CARICOM, CLAM, G77/China, High Ambition Coalition, PSIDS, and the EU) and the ocean powers that acted individually (basically Russia, Japan, and Israel).

The position of ocean powers in these coalitions was also analyzed. Finally, the positioning of countries and coalitions on representative issues under debate was investigated. Based on this analysis, it was highlighted that developed countries positioned themselves, as a rule, at the sovereign-oriented/conservative pole of the debate, while developing countries gathered at the conservationist/progressive pole. We also saw that the North vs. South cleavage has strong explanatory potential, but it does not retain its validity in all issues under negotiation. In addition, it was noticed that the US, Russia, and China often adopted convergent positions, despite being in opposite fields of the new great power competition.

In Chapter 5, I tried to connect the dots, i.e., I sought to establish relationships between the three ESG research lenses—power, architecture, and agency—in the context of the BBNJ negotiations.

I found that, if the FoS principle prevailed, UNCLOS could become a straitjacket for the BBNJ treaty, consolidating and legalizing international inequalities. However, with the change in the treatment of MGRs—which are now classified as CHM—the Convention became a nest for the BBNJ treaty. Regarding high-seas fisheries, the strict application of the not undermine requisite disregards the deep interconnection between fish stocks and other elements of marine biodiversity and undermines the synergies between the BBNJ treaty and the fisheries regimes, built around RFMOs/As.

The various references made to climate change in the BBNJ treaty contribute to a closer, synergic relationship between the two regimes, making the climate and ocean governance regime complexes even more complex.

Regarding the CBD, we have seen that the two regimes share similar challenges, to which must now be added the need to seek synergies between biodiversity protection strategies *under* and *beyond* national jurisdiction. Two main touchpoints were identified. First, the BBNJ treaty can learn

lessons on the implementation challenges faced by the biodiversity protection regime, although, in the absence of a central authority, it must deal with the additional challenge of regulating access to resources not subject to any state's jurisdiction. Second, the CBD can learn from the BBNJ treaty if it comes to establish effective ABS mechanisms for genetic resources stored in the form of DSI. However, at the current stage of negotiations, there is no guarantee that this result will be achieved, especially if we consider that the current context seems less favorable to international cooperation in environmental matters.

Given the reactive stance of the CCAMLR and the ATCPs, it seems unlikely that the BBNJ treaty will incorporate the Southern Ocean into its jurisdictional scope. Due to the "not undermine" requirement, the ATS rules will continue to apply to the Antarctic Circle. Exploitation of synergies between the two regimes thus depends on international cooperation. In this context, it is important to remember that the ATS operates outside the UN system. In view of the evident interconnection of the Southern Ocean biodiversity with the rest of the ocean, it would be highly recommended that cooperation between regimes be comprehensive and deep.

In the Arctic, the ice melting generates economic opportunities related to easier access to sea routes and environmental resources. The UNCLOS is the legal framework applicable to the region, but it is complemented by diplomatic decisions within the Arctic Council, which was created to promote environmental protection in the Arctic Circle. However, the Arctic states tend to favor the Arctic Council, as this helps to consolidate its power in the region. As a result, it is possible that the forum will be a locus to address geopolitical tensions that arise between Russia and other coastal states. The complexity of this agenda increased due to the growing Chinese presence and the deepening of the Sino-Russian partnership for the exploration of resources and maritime routes.

China's growing interest in Antarctica and the Arctic and Russia's interest in the Arctic has the potential to spark geopolitical disputes that could harm the hitherto successful regional governance regimes.

Finally, the governance mechanisms established by the BBNJ treaty do not introduce substantial innovations in reference to what is normally practiced by other international environmental regimes. Given the low effectiveness of these regimes, there is no evidence that the BBNJ treaty will guarantee more auspicious results. As anticipated in the introduction to this thesis, although the conditions of possibility of negotiations point to outputs, nothing can be foreseen in certain terms of outcomes, let alone impacts. Moreover, the BBNJ treaty tends not to break the silos in which international environmental regimes find themselves.

The mere introduction of the BBNJ treaty into the environmental international architecture will not reverse the trend of MEAs not to interact, which would be highly desirable given the profound interconnection of the issues they deal with. It will be necessary to mobilize an appreciable amount

of political will, which depends on awakening a keen sense of urgency for the issue. This seems not yet to be a reality. An approach that allows global environmental governance to operate as a "complex regime complex" (HOLLWAY, 2020) remains to be built.

The main objective of this research was to investigate how three of the ESG research lenses (power, architecture, and agency) are articulated in the BBNJ negotiations, in a context of growing importance of human actions on planetary dynamics (Anthropocene), and transformations in international politics.

I believe that I have worked my hypothesis and demonstrated that the BBNJ regime tends not to fulfill the expectations that the new agreement would promote a transformative change and become an effective instrument for improving the coherence and cohesion of ocean governance. This is because BBNJ negotiations are limited by the existing institutional architecture and the agency of the most powerful players, allied to others. Strong economic and geopolitical interests, mainly from the ocean superpowers, condition their participation in the negotiations and restrict the BBNJ treaty, relegating environmental concerns to the background. The result of this process was a treaty that could be more innovative and ambitious, with more precise language and clearer prescriptions. In any case, the BBNJ treaty fills an important gap in public international law. Its effectiveness will depend on how the international community implements it. The COPs will continue to build the BBNJ regime.

Finally, this research intended to show that notwithstanding the BBNJ negotiations did not come unexpectedly, they did not develop in a context as favorable as that during the Rio-92 Summit, which benefited from a very inspiring period for multilateral talks and the development of international environmental law. Although ocean governance has an undisputable environmental dimension, it was not treated with the same priorities as the CBD and the UNFCCC. In a context of growing concern related to planetary boundaries and global risks, the international community seems to have been unaware of the environmental dimension of ocean governance, neglected by UNCLOS just ten years earlier.

In other words, two key findings must be stressed. First, multilateral negotiations concerning areas *under* national jurisdiction (CBD and the Artic) are more consensual and sophisticated than those concerning areas *beyond* national jurisdiction (Antarctica and BBNJ), and the climate change regime. Paradoxically as it may seem, countries tend to agree more on international obligations that apply to their own territory than to those that should be considered CHM. If this is true, then the BBNJ could never be expected to fill the gaps of the UNCLOS and to be a turning point in ocean governance. Therefore, it is no surprise that the BBNJ negotiations led to a limited, although relevant, ILBI.

Second, great power competition and the complexity thinking framework contributed to the apprehension of the role of global players and the persistent cleavage between developed and developing countries under the auspices of the UN and in other negotiating arenas. Consequently, the BBNJ negotiations were shaped by the diverging interests of countries represented by two main legal principles: FoS and CHM. Since it is extremely hard to conciliate them, the BBNJ negotiators had to create common grounds to accommodate their demands. So, the BBNJ treaty is a legally binding instrument, very ample in scope, but very imprecise in terms of obligations, thus limited in terms of expected impacts for ocean governance.

Aware of Joseph Nye's warning (Nye, 2007), this research adopted theoretical, and analytical frameworks capable of building on the past without being trapped by it, of understanding both continuities and changes, to seek explanations for the complex reality of global life. There are many avenues opened by ESG research framework in the study of International Relations. It opens countless possibilities for future work. It is possible, for example, to assess the coherence of states, especially ocean powers, in negotiations regarding the regimes dealt with in this thesis. Another possibility is to assess the effectiveness of the new regime and the extent to which cooperation mechanisms within the institutional architecture have been established. For this, we will have to wait, until sufficient time has elapsed for the installation and maturation of the governance structures and mechanisms of the BBNJ treaty.

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Annex I. Indicators of economic activity in the ocean – Selected countries

Country/Region	Maritime navigation[185]			Fisheries (FAO, 2022)	IPR
	Fleet - National Flag (number of ships)	Fleet national flag (thousand DWT)	Number of seafarers	Marine Capture – 25 major producers (million tonnes - live weight)	Patents on Marine Genetic Resources (BLASIAK *et al.*, 2018b)
Argentina	204	886	2.222	1	0
Australia	583	2.423	7.704	0	1
Austria	1	0	0	0	2
Bangladesh	477	3.595	5.147	1	0
Belarus	4	1	0	0	0
Belgium	201	9.640	4.980	0	49
Brazil	868	5.227	26.631	0	0
Bulgaria	79	137	22.762	0	0
Canada	691	3.325	11.652	1	103
Chile	240	1.015	7.017	2	0
China	6.937	108.481	134.294	12	1
Colombia	146	96	3.061	0	0
Cuba	61	450	5.356	0	2
Czechia	no data	no data	38	0	1
Denmark	717	24.754	26.159	1	105
Ecuador	145	307	8.942	0	0
Egypt	423	1.746	7.021	0	0
European Union	no data	no data	no data	0	10
Finland	278	1.137	10.011	0	0
France	544	7.858	15.914	0	366
Germany	602	7.871	12.234	0	6.278
Greece	1.264	64.563	30.507	0	0
Iceland	41	16	237	1	17
India	1.811	17.123	113.474	4	33
Indonesia	10.762	29.015	143.702	6	0
Iran	934	20.737	17.654	1	0
Ireland	99	390	1.242	0	2
Israel	42	446	546	0	848
Italy	1.295	11.253	3.601	0	14
Japan	5.527	39.313	25.458	3	1.431
Malaysia	1.811	10.252	35.000	1	0
Mexico	673	2.142	5.971	1	0
Monaco	no data	no data	no data	0	2
Morocco	93	154	8.081	1	0
Myanmar	106	200	33.290	1	0
Namibia	14	42	89	0	0
Netherlands	1.192	6.811	9.667	0	66
New Zealand	115	205	1.889	0	0
Nigeria	811	4.930	25.610	0	0

[185] Source: UNCTAD Maritime Transport Online Data. Available at <https://bit.ly/2EXuVaW> Accessed April 10, 2023.

Country/Region	Maritime navigation[185]			Fisheries (FAO, 2022)	IPR
	Fleet - National Flag (number of ships)	Fleet national flag (thousand DWT)	Number of seafarers	Marine Capture – 25 major producers (million tonnes - live weight)	Patents on Marine Genetic Resources (BLASIAK *et al.*, 2018b)
Norway	1.665	24.300	22.887	2	632
Oman	57	19	470	1	0
Pakistan	58	868	12.168	0	0
Peru	99	446	2.824	6	0
Philippines	1.855	6.282	252.393	2	0
Poland	146	102	31.222	0	0
Portugal	724	22.859	1.238	0	0
Republic of Korea	2.038	15.725	27.919	1	0
Romania	121	79	17.708	0	0
Russia	2.875	10.922	198.123	5	13
Saudi Arabia	395	13.666	6.456	0	0
Singapore	3.309	136.330	6.000	0	2
Slovenia	9	2	374	0	12
South Africa	106	334	3.030	0	6
Spain	490	1.915	24.487	1	19
Sweden	367	1.153	12.527	0	8
Switzerland	20	930	1	0	26
Thailand	846	6.059	15.682	2	0
Türkiye	1.234	6.408	28.587	0	1
Ukraine	410	394	76.442	0	0
United Arab Emirates	626	746	7.987	0	0
United Kingdom	1.242	33.745	33.743	0	669
United States	3.637	12.537	59.586	4	1.450
Uruguay	60	60	1.042	0	0
Venezuela	282	1.402	4.735	0	0
Vietnam	1.940	10.323	34.590	3	0

Annex II. Member countries of coalitions in the BBNJ negotiations

Coalition	Members[186]
African Group	Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, and Zimbabwe.
AOSIS	Antigua and Barbuda, Bahamas, Barbados, Belize, Cabo Verde, Comoros, Cook Islands, Cuba, Dominica, Dominican Republic, Federated States of Micronesia, Fiji, Grenada, Guinea Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Mauritius, Nauru, Niue, Palau, Papua New Guinea, Republic of the Marshall Islands, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Singapore, Solomon Islands, Suriname, Timor Leste, Tonga, Trinidad and Tobago, Tuvalu, and Vanuatu.
CARICOM	Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname, and Trinidad and Tobago.
CLAM	Argentina, Brazil, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, México, Panamá, Paraguay, Peru, Dominican Republic, and Uruguay
EU	Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.
G77/China	Afghanistan, Algeria, Angola, Antigua and Barbuda, Argentina, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belize, Benin, Bhutan, Bolivia, Botswana, Brazil, Brunei Darussalam, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Costa Rica, Côte d'Ivoire, Cuba, Democratic People's Republic of Korea, Democratic Republic of the Congo, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Fiji, Gabon, Gambia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kiribati, Kuwait, Lao People's Democratic Republic, Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia (Federated States of), Mongolia, Morocco, Mozambique, Myanmar, Namibia, Nauru, Nepal, Nicaragua, Niger, Nigeria, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Singapore, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, State of Palestine, Sudan, Suriname, Syrian Arab Republic, Tajikistan, Thailand, Timor-Leste, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkmenistan, Uganda, United Arab Emirates,

[186] African Group – Source: <https://bit.ly/40u0uAz>; AOSIS – Source: <https://bit.ly/3L5dqau>; CARICOM – Source: <https://bit.ly/3owljhE>; CLAM (OLIVEIRA, 2022, p. 44); High Ambition Coalition – Source: <https://bit.ly/41tvmTh>; PIF – Source: <https://bit.ly/3L54Ica> PSIDS – Source: <https://bit.ly/41R9osX>. All accessed April 21, 2023.

Coalition	Members[186]
	United Republic of Tanzania, Uruguay, Vanuatu, Venezuela (Bolivarian Republic of), Vietnam, Yemen, Zambia, and Zimbabwe.
High Ambition Coalition[187]	Australia, Canada, Chile, Colombia, Comoros, Costa Rica, Egypt, Gabon, Iceland, India, Mexico, Monaco, Morocco, Namibia, New Zealand, Norway, Palau, Peru, Republic of Korea, the Republic of the Congo, Singapore, Switzerland, Togo, the UK, the US, and the EU (and its 27 Member States).
PIF	Australia, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.
PSIDS	Cook Islands, Federated State of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea, Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

[187] As of 22 February 2023.

Annex III. Membership of international organizations and treaties – Selected countries

Country/Region	NATO[i]	QUAD[ii]	AUKUS[iii]	G-7[iv]	G-20[v]	SCO[vi]	APEC[vii]	ASEAN[viii]	RCEP[ix]	UNCLOS[x]	Part XI[xi]	UNFSA[xii]	CLCS[xiii]	ISBA contracts[xiv]	CBD[xv]	Nagoya Protocol[xvi]	AT: ATCP – Claimants[xvii]	AT: ATCP – Other original[xviii]	AT: ATCP – Other countries[xix]	AT: Non ATCP[xx]	CAMLR Convention[xxi]	Environ. Protocol (ATCP)[xxii]	Environ. Protocol (non-ATCP)[xxiii]	Antarctic research station[xxiv]	Arctic Council - Coastal states[xxv]	Arctic Council - Others[xxvi]	Arctic Council - Observers[xxvii]	UNFCCC[xxviii]	Paris Agreement[xxix]
Argentina					x					x	x		x		x	x	x				x	x		x				x	x
Australia		x	x		x		x		x	x	x	x	x		x		x				x	x		x				x	x
Austria										x	x	x			x	x				x			x					x	x
Bangladesh										x	x	x	x		x	x												x	x
Belarus										x	x				x	x				x			x	x				x	x
Belgium	x									x	x	x		x	x	x		x			x	x						x	x
Brazil					x					x	x	x	x	x	x	x			x		x	x		x				x	x
Bulgaria										x	x	x		x	x	x			x			x		x				x	x
Canada	x			x	x		x			x	x	x	x		x					x	x		x		x			x	x
Chile							x			x	x	x	x		x		x				x	x		x				x	x
China					x	x	x		x	x	x		x	x	x	x			x		x	x		x			x	x	x
Colombia															x					x			x					x	x
Cuba										x	x	x	x	x	x	x				x								x	x
Czechia										x	x	x		x	x	x			x			x		x				x	x
Denmark	x									x	x	x	x		x	x				x					x			x	x
Ecuador										x	x	x	x		x	x			x		x	x		x				x	x
Egypt										x					x	x												x	x
European Union					x					x	x	x			x	x					x							x	x
Finland	x									x	x	x			x	x			x			x		x		x		x	x

Country/Region	NATO[i]	QUAD[ii]	AUKUS[iii]	G-7[iv]	G-20[v]	SCO[vi]	APEC[vii]	ASEAN[viii]	RCEP[ix]	UNCLOS[x]	Part XI[xi]	UNFSA[xii]	CLCS[xiii]	ISBA contracts[xiv]	CBD[xv]	Nagoya Protocol[xvi]	AT: ATCP – Claimants[xvii]	AT: ATCP – Other original[xviii]	AT: ATCP – Other countries[xix]	AT: Non ATCP[xx]	CAMLR Convention[xxi]	Environ. Protocol (ATCP)[xxii]	Environ. Protocol (non-ATCP)[xxiii]	Antarctic research station[xxiv]	Arctic Council - Coastal states[xxv]	Arctic Council - Others[xxvi]	Arctic Council - Observers[xxvii]	UNFCCC[xxviii]	Paris Agreement[xxix]
France	x			x	x					x	x	x	x	x	x	x	x				x	x		x			x	x	x
Germany	x			x	x					x	x	x		x	x	x			x		x	x		x			x	x	x
Greece										x	x	x			x	x				x	x		x					x	x
Iceland	x									x	x	x	x		x					x						x		x	x
India		x			x	x				x	x	x	x	x	x	x			x		x	x		x			x	x	x
Indonesia					x		x	x	x	x	x	x	x		x	x												x	x
Iran												x			x													x	x
Ireland										x	x	x	x		x							x						x	x
Israel															x													x	x
Italy				x	x					x	x	x			x				x		x	x		x			x	x	x
Japan		x		x	x		x		x	x	x	x	x	x	x	x		x			x	x		x			x	x	x
Malaysia							x	x	x	x	x		x		x	x				x			x					x	x
Mexico					x		x			x	x		x		x	x												x	x
Monaco										x	x	x			x					x			x					x	x
Morocco										x	x	x			x	x												x	x
Myanmar								x	x	x	x		x		x	x												x	x
Namibia										x	x	x	x		x	x					x							x	x
Netherlands										x	x	x			x	x			x		x	x		x			x	x	x
New Zealand							x		x	x	x	x	x		x		x				x	x		x				x	x
Nigeria										x	x	x	x		x	x												x	x
Norway	x									x	x	x	x		x	x	x				x	x		x	x			x	x
Oman										x	x	x	x		x	x												x	x
Pakistan						x				x	x		x		x	x				x	x		x					x	x

Country/Region	NATO[i]	QUAD[ii]	AUKUS[iii]	G-7[iv]	G-20[v]	SCO[vi]	APEC[vii]	ASEAN[viii]	RCEP[ix]	UNCLOS[x]	Part XI[xi]	UNFSA[xii]	CLCS[xiii]	ISBA contracts[xiv]	CBD[xv]	Nagoya Protocol[xvi]	AT: ATCP – Claimants[xvii]	AT: ATCP – Other original[xviii]	AT: ATCP – Other countries[xix]	AT: Non ATCP[xx]	CAMLR Convention[xxi]	Environ. Protocol (ATCP)[xxii]	Environ. Protocol (non-ATCP)[xxiii]	Antarctic research station[xxiv]	Arctic Council - Coastal states[xxv]	Arctic Council - Others[xxvi]	Arctic Council - Observers[xxvii]	UNFCCC[xxviii]	Paris Agreement[xxix]
Peru							x								x	x			x			x		x				x	x
Philippines							x	x	x	x	x	x	x		x	x												x	x
Poland										x	x	x		x	x				x		x	x		x			x	x	x
Portugal										x	x	x	x		x	x				x			x					x	x
Republic of Korea					x		x		x	x	x	x	x	x	x	x			x		x	x		x			x	x	x
Romania										x	x	x			x	x				x			x					x	x
Russia						x	x			x	x	x	x	x	x			x			x	x		x	x			x	x
Saudi Arabia					x					x	x				x	x												x	x
Singapore							x	x	x	x	x			x	x												x	x	x
Slovenia	x									x	x	x			x					x								x	x
South Africa					x					x	x	x	x		x	x		x			x	x		x				x	x
Spain	x									x	x	x	x		x	x			x		x	x		x			x	x	x
Sweden										x	x	x			x	x			x		x	x		x		x		x	x
Switzerland										x	x				x	x				x			x				x	x	x
Thailand							x	x	x	x	x	x			x													x	x
Türkiye	x				x										x					x			x					x	x
Ukraine										x	x	x			x	x			x		x	x		x				x	x
United Arab Emirates															x	x												x	x
United Kingdom	x		x	x	x					x	x	x	x	x	x	x	x				x	x		x			x	x	x
United States	x	x	x	x	x		x					x						x			x	x		x	x			x	x
Uruguay										x	x	x	x		x	x			x		x	x		x				x	x
Venezuela															x	x				x		x	x					x	x
Vietnam							x	x	x	x	x	x	x		x	x												x	x

[i] North Atlantic Treaty Organization (NATO). Source: <https://bit.ly/2uKp5VY> Accessed April 8, 2023.
[ii] Quadrilateral Security Dialogue (QSD ou QUAD). Source: <https://bit.ly/40oNzQJ> Accessed April 8, 2023.
[iii] Australia–United Kingdom–United States Partnership (AUKUS). Source: <https://bit.ly/3og1E5g> Accessed April 8, 2023.
[iv] Group of Seven (G7). Source: <https://bit.ly/3zGwczT> Accessed April 8, 2023.
[v] Group of 20. Source: <https://bit.ly/3zGwczT> Accessed April 8, 2023.
[vi] Shanghai Cooperation Organization (SCO). Source: <https://bit.ly/3KEOkPp> Accessed April 8, 2023.
[vii] Asia-Pacific Economic Cooperation (APEC). Source: <https://bit.ly/3KEOkPp> Accessed April 8, 2023.
[viii] Association of Southeast Asian Nations (ASEAN). Source: <https://bit.ly/3L1QAC2> Accessed April 14, 2023.
[ix] Regional Comprehensive Economic Partnership (RCEP). Source: <https://bit.ly/3L1QAC2> Accessed April 14, 2023.
[x] 1982 UNCLOS. Source: <https://bit.ly/3KLj82g> Accesses April 8, 2023.
[xi] 1994 Part XI Agreement – UNCLOS Implementing Agreement. Source: <https://bit.ly/3ZTZcP6> Accessed April 9, 2023 (Status as of June 27, 2019).
[xii] 1995 UNFSA – UNCLOS Implementing Agreement. Source: <https://bit.ly/3ZTZcP6> Accessed April 9, 2023 (Status as of June 27, 2019).
[xiii] Submissions to the CLCS (UNCLOS Art. 76.8). Other submissions: Angola, Bahamas, Barbados, Benin, Cabo Verde, Cook Islands, Costa Rica, Côte d'Ivoire, Fiji, Gabon, Ghana, Guinea, Guinea-Bissau, Guyana, Kenya, Kiribati, Liberia, Madagascar, Maldives, Mauritania, Mauritius, Micronesia, Mozambique, Nicaragua, Palau, Papua New Guinea, Senegal, Seychelles, Sierra Leone, Solomon Islands, Somalia, Sri Lanka, Suriname, Tanzania, The Gambia, Tonga, Tongolese Republic, Trinidad and Tobago, Tuvalu, and Yemen. Source: <https://bit.ly/40bW8hv> Accessed April 12, 2023.
[xiv] ISBA Exploration contracts. Other countries: Cook Islands, Jamaica, Kiribati, Nauru, Slovakia, and Tonga. Source: <https://bit.ly/3mxqqgS> Accessed April 12, 2023.
[xv] 1992 CBD. Source: <https://bit.ly/3Up3nRT> Accessed April 8, 2023.
[xvi] 2010 Nagoya Protocol. Source: <https://bit.ly/3GwXFb4> Accessed April 8, 2023.
[xvii] 1959 Antarctic Treaty: ATCP – Claimants. Source: <https://bit.ly/3Gzb2az> Accessed April 8, 2023.
[xviii] 1959 Antarctic Treaty: ATCP – Other original signatories. Source: <https://bit.ly/3Gzb2az> Accessed April 8, 2023.
[xix] 1959 Antarctic Treaty: Other consultative parties. Source: <https://bit.ly/3Gzb2az> Accessed April 8, 2023.
[xx] 1959 Antarctic Treaty: Non consultative parties. Source: <https://bit.ly/3Gzb2az> Accessed April 8, 2023.
[xxi] 1980 CAMLR Convention. Source: <https://bit.ly/3nXuqb1> Accessed April 8, 2023.
[xxii] 1991 Environmental Protocol (ATCP). Source: <https://bit.ly/40VW4DH> Accessed April 8, 2023.
[xxiii] 1991 Environmental Protocol (non-ATCP). Source: <https://bit.ly/40VW4DH> Accessed April 8, 2023.
[xxiv] Antarctic research stations. Source: <https://bit.ly/3odkTN3> Accessed April 8, 2023.
[xxv] 1996 Arctic Council – Coastal states. Source: <https://bit.ly/3GvdVJy> Accessed April 8, 2023.
[xxvi] 1996 Arctic Council – Other countries. Source: <https://bit.ly/3GvdVJy> Accessed April 8, 2023.
[xxvii] 1996 Arctic Council – Observers (non-Arctic). Source: <https://bit.ly/3GvdVJy> Accessed April 8, 2023.
[xxviii] 1992 UNFCCC. Source: <https://bit.ly/3MqYfL1> Accessed April 8, 2023.
[xxix] 2015 Paris Agreement. Source: <https://bit.ly/3MuI1kg> Accessed April 8, 2023.