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Integrating the ocean into the climate regime: Progress report and future prospects

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NOTE

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1. INTRODUCTION

The ocean serves as a vital "climate regulator", having absorbed 93% of the Earth's additional heat since the 1970s, thereby keeping the atmosphere cooler. It has also captured 28% of human-caused CO_2 emissions since 1750 and received all water from melting ice. Without the ocean, climate change would be far more intense and life on Earth would simply be unbearable. However, these crucial services come at a price: the rise in atmospheric greenhouse gas concentrations has triggered significant environmental changes in the ocean, including warming, acidification, oxygen loss, and sea-level rise.[1] Changes in the ocean's physical and chemical properties affect the structure, productivity, distribution, and abundance of marine organisms and ecosystems. This impact extends across human well-being from high to low latitudes, making this issue a global concern transcending the traditional North/South divide.[2]These physical links between the ocean and climate have been highlighted for several decades and are increasingly well-documented. They were already reflected in the United Nations Framework Convention on Climate Change (UNFCCC) adopted in 1992. The Convention recognizes the ocean as part of the climate system, defined by Article 1.3 as "*the totality of the atmosphere, hydrosphere, biosphere, and geosphere and their interactions*", which, by definition, includes the ocean and all life within it, the cryosphere, and the seafloor. Article 3.1 of the Convention establishes the general principle that all Parties "*should protect the climate system for the benefit of present and future generations of humankind*". Furthermore, the Convention obliges States to "*promote sustainable management and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases (...) including biomass, forests, oceans, as well as other terrestrial, coastal, and marine ecosystems*". This recognition of the ocean as an essential element of the climate system to be protected is reiterated in the 2015 Paris Agreement, particularly in its preamble and Article 5.

These legal foundations have prompted some governments and civil society stakeholders to advocate for a better reflection of the ocean and climate nexus into the international climate regime. Consequently, numerous initiatives have been launched to ensure that marine issues are integrated into the Convention workstreams and associated initiatives. This note identifies and evaluates the main advancements in this area (Section 2) and highlights potential avenues for further action (Section 3).

2. THE DEVELOPMENT OF A TRIPLE INTEGRATION

The ocean has gradually evolved into an integral component of three key facets of climate discussions and initiatives: science, Nationally Determined Contributions (NDCs), and intergovernmental cooperation.

1 Rhein, M. *et al.* (2013). Observations: Ocean. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F. *et al.* (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA; Gattuso, J.-P. *et al.* (2015). Contrasting futures for ocean and society from different anthropogenic CO_2 emissions scenarios. *Science* 349: 6243, DOI: 10.1126/science.aac4722.

2 Magnan, A., Billé, R., Cooley, S., Kelly R., Pörtner H-O., Turley C., Gattuso, J-P. (2015). Intertwined ocean and climate: implications for international climate negotiations. IDDRI *Policy Brief* 4/2015.

2.1 Integration through science

Scientific research on ocean-climate interactions commenced several decades ago, but it was not until the 2000s that the subject gained significant traction, becoming an integral part of the "grey" literature. In 2016, the first UN-led Global Integrated Marine Assessment, also known as the World Ocean Assessment, issued a clear warning regarding the declining state of the ocean, highlighting numerous cumulative pressures it faces, including climate change. It stood as one of the earliest UN-led reports to illuminate and sound the alarm on the impacts of climate change on the ocean.

However, the pivotal moment for the ocean to assert its climate legitimacy and garner international visibility came with the scientific endorsement of the International Panel on Climate Change (IPCC). Leveraging the recommendations of the first Because the Ocean Declaration, the Principality of Monaco, alongside the governments of Spain and the Republic of China, advocated in 2016 for an IPCC special report on the ocean. Three years later, as part of its sixth assessment cycle, the IPCC released this report (Box 1), known as the Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC). This marked the first time in IPCC history that three special reports were produced in a single cycle, alongside reports on "Global Warming of 1.5°C" and "Climate Change and Land", significantly elevating natural ecosystems in climate action discourse. The SROCC provided an unprecedentedly detailed review of ocean-climate interactions, underscoring the crucial role of marine ecosystems in both mitigating climate change and adapting to its impacts. Moreover, it catalyzed collaborations between the IPCC and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) to explore the interconnectedness of climate, biodiversity, and human society.

In parallel, the UN General Assembly designated the years 2021 to 2030 as "UN Decade of Ocean Science for Sustainable Development". The Decade aims to generate scientific knowledge for the sustainable development of the ocean and to inform policies supporting the Sustainable Development Goal (SDG) 14, particularly within the context of climate change. Climate change is a central focus of the Decade, notably addressed in Challenge 5 "Unlocking ocean-based solutions to climate change". This challenge seeks to enhance understanding of the ocean-climate nexus and develop mitigation and adaptation solutions. It is highlighted as one of the most frequently referenced challenges for knowledge utilization within the Decade and has garnered substantial support through numerous Decade Actions, indicating its significance.

BOX 1. KEY CONCLUSIONS OF THE IPCC OCEAN AND CRYOSPHERE IN A CHANGING CLIMATE*

Sarah Palazot & Anaïs Deprez (Ocean and Climate Platform)

The Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC) is part of the IPCC's 6th Assessment cycle, informing subsequent reports of the three working groups. Focused on the physical evidence of climate change in the ocean and cryosphere, the SROCC also addresses the resulting impacts on ecosystems and society, while offering insights into adaptation options in line with the achievement of the SDGs. The IPCC warns of rapid, often irreversible changes caused by human-induced climate change, including thawing glaciers and permafrost, declining sea ice, rising temperatures, ocean acidification, deoxygenation, rising sea levels, altered ocean circulation, and intensified extreme events. These changes already have severe impacts on ecosystems and communities, exacerbating with each degree of temperature rise. Marine ecosystems, facing both climate change and human pressures, are experiencing abrupt shifts, some reaching tipping points. Over the last century, days of marine heatwaves have increased by 54% leading to mass mortality in many marine species. Communities, especially those located in coral reef areas, urban atolls, and low-lying Arctic regions are on the front lines, facing compounded threats notably from sea level rise. By the end of the century, sea levels could rise by over 1 meter in a high-emissions scenario (RCP8.5), putting these communities at risk of reaching adaptation limits and rendering some island nations inhabitable. Drastically reducing greenhouse gas emissions is imperative, but adaptation strategies are equally needed to mitigate vulnerabilities. The IPCC crucially highlights the importance of protecting, restoring and precautionary managing ecosystems to provide mitigation and adaptation solutions, along with strengthening the enabling conditions for adaptation. In addition to improving finance, literacy and knowledge, social justice; cooperation at all levels of governance is highlighted as a critical enabler to enhancing the resilience of communities and ecosystems.

* Based on: https://ocean-climate.org/wp-content/uploads/2023/04/DIFCO-2023-EN-web-1.pdf (AR6); https://ocean-climate.org/wp-content/uploads/2019/12/fiches-EN-web.pdf (SROCC)

2.2 Integration through NDCs

Shortly after the adoption of the Paris Agreement, the Ocean community initiated a campaign to integrate ocean-based measures into Parties' national climate strategies, known as the Nationally Determined Contributions (NDCs). Following a bottom-up approach, the NDCs represent the commitments taken by each Party individually to contribute to the collective long-term goals of the Paris Agreement. As such, they are the primary vehicle for its implementation, and the most effective tool to harness the mitigation and adaptation potential of the ocean. NDCs are to be communicated every five years, building on the conclusions of the Global Stocktake–which acts as a global checkpoint between the short-term commitments presented in NDCs and the long-term goals of the Paris Agreement. When it comes to mitigation action, they follow a progression principle, whereby each successive NDC shall represent an improvement, and reflect the highest possible ambition.

The ocean was already relatively present in the first cycle of NDCs communicated or updated after the Paris Agreement became effective at the end of 2020, with 70% of them mentioning at least one marine issue.[3] Despite this positive signal, many NDCs at this stage primarily focused on the pressures affecting the ocean or the threats arising from ocean changes, without committing to concrete measures. Coastline impacts (95), ocean warming (77), and fisheries impacts (72) received the most attention, while maritime transport and ocean renewable energy were addressed by only 15 and 14 strategies, respectively.[4] It is also noteworthy that, at this point, large ocean States and groups of States, such as Australia, Brazil, Russia, the United States or the European Union, did not reference the ocean in their strategies at all. This ambition gap underscored the need for improved understanding and communication regarding existing ocean-based climate options, as well as the next steps required to implement these options.

The Because the Ocean initiative,[5] which had been advocating for ocean action plans under the UNFCCC since COP21, took a leading role in this effort. Through widespread consultation and a series of regional workshops in 2019, it identified five key actions, detailed in the Ocean for Climate report[6]–namely blue carbon ecosystems, marine renewable energy, marine protected areas, sustainable fisheries and aquaculture, and decarbonized shipping. This report, tailored for policy makers, provided the technical information needed to include the ocean in national strategies.

In addition, the ocean community drove and fostered political support for ambitious ocean-based action. For instance, Fiji, as COP23 President, championed the ocean in the "Talanoa Dialogue"–convened to take stock of collective efforts in preparation of the first NDC revision cycle–resulting in a Call for Action which envisioned a better world with "healthy lands, forests, and oceans".[7] Various State-led coalitions emerged worldwide, including the High-level Panel for a Sustainable Ocean Economy–which convenes 18 world leaders with the authority needed to trigger, amplify and accelerate ocean-based action–and the the Friends of the Ocean and Climate group, a network of like-minded Parties aimed at promoting the inclusion of ocean-based climate solutions into NDCs and at integrating the ocean into the UNFCCC processes. Another game changer was the COP27 Decision, which encouraged Parties to "consider, as appropriate, ocean-based action in their national climate goals and in the implementations of these goals", highlighting specifically NDCs. In this context, the process itself facilitated the inclusion of ocean-based measures in national strategies.

These efforts have yielded the intended effect, and led to a shift in narrative, moving from problem to solution. As a result, more than 70% of updated NDCs submitted during the first revision cycle include at least one ocean-based climate measure.[8] The most common actions are related to coastal and marine nature-based solutions, such as conservation, restoration, and sustainable management, compared to other ocean sub-sectors like offshore renewable energy, sustainable coastal tourism, or maritime transport.[9] Out of 148 submissions, almost 100 included coastal and marine nature-based solutions,[10] with more than half (62) integrating them into their mitigation strategy. For instance, Belize committed to protecting and restoring mangrove and seagrass ecosystems by 2030 to remove a cumulative total of 381 $KtCO_2e$. When considering adaptation purposes, this number increases to 96 submissions. For example, the Maldives pledged to strengthen insurance schemes to enhance the resilience of small-scale fishers against losses due to extreme weather events. This suggests that, while many countries (55) highlighted the co-benefits of their actions, ocean-based measures reported in NDCs relate more often to adaptation than mitigation.[11] These figures underscore that Parties increasingly recognize the ocean's potential to contribute to the goals of the Paris Agreement and are effectively raising their ambition for ocean-based climate action.

2.3 Integration through UNFCCC workstreams

After COP21 and the Paris Agreement, the ocean was gradually featured in the various UNFCCC workstreams and related processes, initially in those dedicated to Non-Party's stakeholders engagement. In 2016, the Marrakech Partnership for Global Climate Action was launched, under the leadership of the UN High-level Champions, to spur greater ambition and action across non-State actors. Pivotal outcome of COP22, it identified seven thematic areas–covering 80% of global CO_2 emissions and therefore representing huge potential for large scale reduction[12]–including the "Ocean and Coastal Zones". Since its adoption, the Ocean and Coastal Zones group played a major role in enhancing civil society-led efforts but also in increasing the visibility of the ocean community, including through the organization of the *Ocean Action Day* at COPs.

3 Gallo, N. *et al.* (2017). Ocean commitments under the Paris Agreement. *Nature Climate Change*. Volume 7, pp. 833-838. Available here.

4 Gallo, N. *et al.* (2017). Ocean commitments under the Paris Agreement. *Nature Climate Change*. Volume 7, pp. 833-838. Available here.

5 https://www.becausetheocean.org/

6 Because the Ocean (2019). Ocean for Climate. Ocean-related Measures in Climate Strategies (Nationally Determined Contributions, National Adaptation Plans, Adaptation Communications and National Policy Framework). Available here.

7 https://unfccc.int/sites/default/files/resource/Talanoa%20Call%20for%20Action.pdf

8 Khan, M. *et al.* (2022). Ocean-based Climate Action in New and Updated Nationally Determined Contributions. Working Paper. Washington, DC: World Resources Institute. Available here.

9 Khan, M. *et al.* (2022). Ocean-based Climate Action in New and Updated Nationally Determined Contributions. Working Paper. Washington, DC: World Resources Institute. Available here.

10 Lecerf, M. *et al.* (2023), Coastal and marine ecosystems as Nature- based Solutions in new or updated Nationally Determined Contributions, Ocean & Climate Platform, Conservation International, IUCN, Rare, The Nature Conservancy, Wetlands International and WWF. 75 pages. Available here.

11 Lecerf, M. *et al.* (2023), Coastal and marine ecosystems as Nature- based Solutions in new or updated Nationally Determined Contributions, Ocean & Climate Platform, Conservation International, IUCN, Rare, The Nature Conservancy, Wetlands International and WWF. 75 pages. Available here.

12 UNFCCC (2017). Yearbook of Global Climate Action, 2017. Marrakech Partnership. Available here.

Ocean Champions carried the baton inside the negotiations rooms to foster political support. Some of them served as COP Presidencies and took this as an opportunity to bring the ocean to the forefront of the climate debate. As president of COP23, Fiji launched, with the support of Sweden, the Ocean Pathway Partnership–a two-track strategy for 2020 aimed to embed the ocean in UNFCCC processes and accelerate action for ocean conservation. The "partnership format" underlined the importance of collaboration and solidarity among all Parties–not only Pacific small-island developing States which were particularly supportive of this initiative. They moved the discussion beyond the ocean as a powerful carbon sink, and highlighted the other ecosystem services it can provide to coastal communities such as coastal resilience.

Building on these preliminary achievements, Chile, as COP25 President, renamed it "the Blue COP", with the promise of a special focus on the ocean and its ecosystems within the negotiations. After two weeks of hard-fought discussions among Parties, they rose to the challenge and ultimately integrated for the first time the ocean in the final decision of a UNFCCC COP. Among the two ocean-related decisions, one requested the SBSTA Chair to "*convene at its fifty-second session (June 2020) a dialogue on the ocean and climate change to consider how to strengthen mitigation and adaptation action in this context*". While this "dialogue format" might not be as powerful as a work programme or an agenda item, as requested by several ocean leading countries, it remained an achievement for the ocean community. Moreover, it reflected the tension within the negotiations not to create another agenda item, but rather, to focus on strengthening the existing entry points for the ocean in the different processes. As such, the dialogue provides a dedicated space for Parties and observers to discuss how to take ocean-based climate action to the next level under the convention. Moreover, placing the dialogue under the aegis of the SBSTA, which plays an important role as the link between scientific information provided by experts on the one hand and the policy needs of the COP on the other hand, also sends a strong signal. It highlights Parties' intention to pivot from problem to solution, bridging knowledge gaps on ocean-climate interactions to deploy ocean-based climate solutions at impact scale.

Due to the global pandemic of COVID-19, the first-ever Ocean and Climate Change Dialogue took place online in December 2020. Participants welcomed this new space, in which they could share both the challenges they are facing and examples of good practices. Considering the Dialogue as a great success, they all agreed on the need to pursue this important effort and extend its term. As a result, Parties decided at COP26 to turn the dialogue into an annual meeting (Glasgow Climate Pact, Paragraph 61). One year later, at COP27, Parties further strengthened the mandate of the dialogue by appointing two co-facilitators to conduct the dialogue in consultation with Parties and observers, namely Julio Cordano (Chile) and Niall O'Dea (Canada), for the 2023-2024 biennial. Among other prerogatives, they are now responsible for identifying each year's priority topics for the dialogue–as for instance "Coastal ecosystem restoration, including blue carbon ecosystems" and "Fisheries and food security" for 2023.

These new modalities took the Dialogue to the next level in several ways. From a technical perspective, limiting the number of topics addressed while adding time for discussion gave Parties the opportunity to dive deeper on a specific set of challenges and solutions. As a result, over 250 case studies from around the world were highlighted during the 2023 Dialogue.[13] From a political perspective, co-facilitators can draw attention to the Dialogue's annual conclusions, and help maintain political momentum throughout the year. For instance, Julio Cordano presented the highlights and key messages of the 2023 Dialogue during one negotiation session of the Global Stocktake to make sure it is not left out of its conclusions. The Dialogue is now able to respond to Parties' call for support, providing a forum for discussion where they can deepen their understanding and find out more about existing good practices. It plays a key role in placing the ocean within the solution space under the convention, focusing on implementation, and could be further leveraged to continue to raise ambition for ocean-based action.

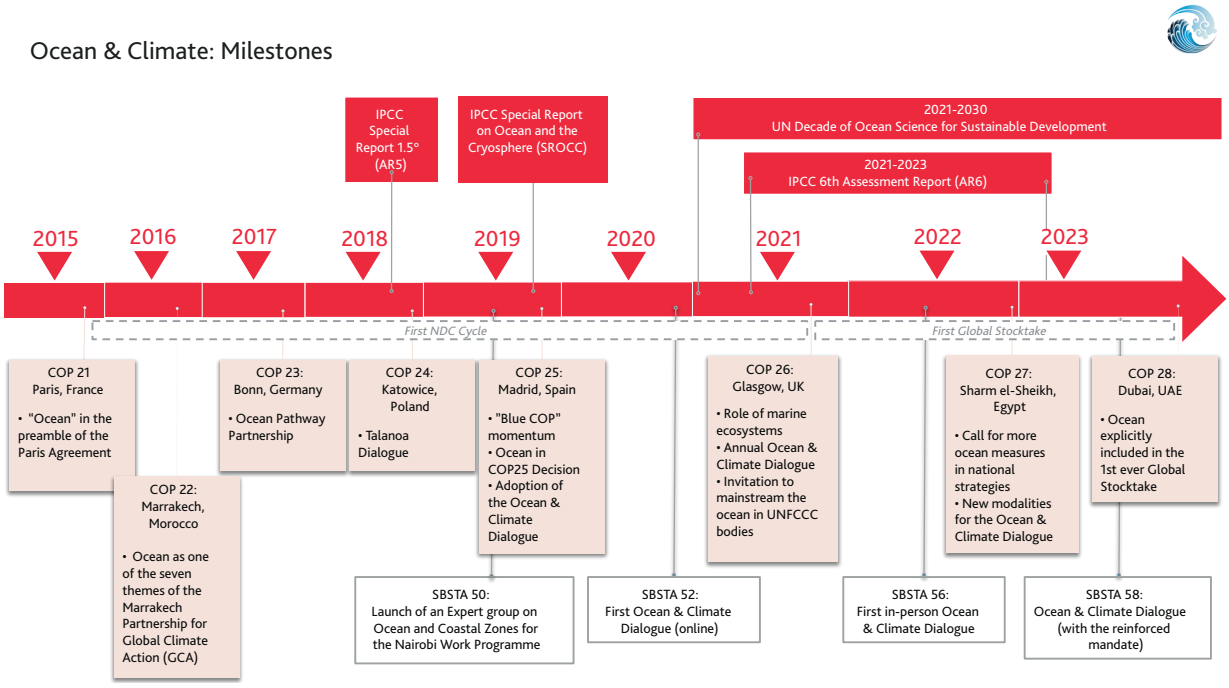
With each of these important milestones, the ocean community laid the foundation for a more integrated ocean-climate governance. Building on this, the COP26 Decision ultimately anchored the ocean into the climate regime, as Paragraph 60 "*invites the relevant work programmes and constituted bodies under the UNFCCC to consider how to integrate and strengthen ocean-based action in their existing mandates and workplans and to report on these activities within the existing reporting processes, as appropriate*". As such, it gave a formal mandate to mainstream the ocean within the UNFCCC, and already led to some positive developments. For instance, the Nairobi Work Programme, a knowledge-to-action hub for climate resilience and adaptation, now includes an expert group on ocean and coastal zones to support countries in strengthening ocean-based adaptation. With this, Parties recognized the vulnerability of coastal zones and islands to the impacts of climate change and the resulting risks for communities, ecosystems and economies. Additionally, the Technology Executive Committee, the policy arm of the UNFCCC Technology Mechanism, published a policy brief on nature-based solutions in the coastal zones in collaboration with the Nairobi Work Programme,[14] and included "Innovative Ocean Climate Solutions" in its 2023-2027 workplan. To continue breaking down the silos, it also participates actively in the Ocean and Climate Change Dialogue.

As a barometer of change, the first-ever Global Stocktake highlighted progress in the way the international community addresses the ocean under the Paris Agreement. While the technical conclusions of the Global Stocktake do not mention the ocean explicitly, it is deeply embedded in its political outcome–result of a two-year long process. Indeed, the Global Stocktake Decision sends a clear signal reaffirming the intrinsic link between the ocean and the climate (Preamble), highlighting both the

13 UNFCCC (2023). Informal summary report of the ocean and climate change dialogue 2023. Available here.

14 UNFCCC and IUCN (2022). Innovative Approaches for Strengthening Coastal and Ocean Adaptation - Integrating Technology and Nature-based Solutions. United Nations Climate Change Secretariat. Bonn. Available here.

FIGURE 1. Charting the course for strong ocean-climate action



Source: Ocean & Climate Platform

ability of coastal and marine ecosystems to act as carbon sinks and reservoirs (Paragraph 33) and to mitigate impact and losses (Paragraph 55). In addition, Parties are encouraged to leverage both the mitigation (Paragraph 35) and adaptation (Paragraph 56) potential of the ocean. While ecosystem-based approaches are stressed, in connection with the Kunming-Montreal Global Biodiversity Framework, the Decision calls for the scaling-up of other ocean-based mitigation options which implicitly include the decarbonization of maritime sectors (e.g., transport) and deployment of ocean renewable energy. This opens a new chapter for increased ambition, to ensure the ocean is an integral part of the global plan to course correct and successfully deliver on the long-term goals of the Paris Agreement.

3. WHAT'S NEXT?

3.1 Building the next generation of NDCs

The 2023 Global Stocktake has issued a warning that the world is not currently on track to meet the goals of the Paris Agreement, and the window of opportunity to course correct is rapidly closing. Drawing a better way forward, it encourages States to further strengthen ocean-based action, underscoring the consensus among Parties that this source of solutions remains largely untapped. This sends a strong signal as Parties are now beginning to review and update their national climate strategies, due nine to twelve months ahead of COP30 (10-21 November 2025, Belém, Brazil).

This first calls States to further strengthen the place of the ocean into their updated or new NDCs. Indeed, while a growing number of countries are committing to ocean measures, they are still underrepresented in climate strategies. An analysis of NDCs[15] showed, for instance, that among ten adaptation priority areas and sectors, coastal and low-lying areas ranked seventh and ocean ecosystems last, respectively, in comparison to terrestrial biodiversity and ecosystems, which ranked third.

This also invites States to more clearly specify the content and means of implementation of their ocean-based measures. The lack of precision of some NDC commitments currently hinders their effective implementation. For instance, out of the 97 countries integrating at least one marine and coastal Nature-based Solution in their strategy, less than half (45) include numerical targets to quantify and monitor their objectives[16]–e.g. stating that the protection of coastal ecosystems is a national priority rather than aiming for a specific percentage of ecosystems or number of hectares to be protected. In this context, and to address these gaps effectively, it seems crucial to provide States with further guidance on how to integrate the ocean into the next rounds of NDCs, and particularly on how to include decarbonizing measures from the ocean beyond the preservation of blue carbon ecosystems.[17] To achieve this, several options, possibly cumulative, are possible:

15 NDC Partnership (2022). Climate Action Enhancement Package. Lessons in developing implementation-ready NDCs. March 2022. Available here.

16 Lecerf, M. *et al.* (2023), Coastal and marine ecosystems as Nature- based Solutions in new or updated Nationally Determined Contributions, Ocean & Climate Platform, Conservation International, IUCN, Rare, The Nature Conservancy, Wetlands International and WWF. 75 pages. Available here.

17 E.g. by deploying offshore renewable energy.

- COP29 and CMA6 could request SBSTA62 to prepare concrete recommendations and provide detailed guidance on how to address ocean-based action in the next rounds of NDC to be communicated ahead of COP30;
- A CMA Decision could request the Paris Committee on Capacity-building (PCCB) to identify activities for enhancing the capacity of developing countries to integrate ocean-based mitigation action in the next rounds of NDCs and to facilitate the sharing of knowledge and good practices on ocean-based mitigation action;
- Civil society could be mobilized and support States by organizing dedicated workshops and producing relevant documents.

3.2 Making the best of the Ocean and Climate Dialogue

With a strong signal sent to Contracting Parties in the Glasgow Climate Pact to increase ambition and enhance action on the ocean, notably through the next round of their NDCs, the annual Climate and Ocean dialogue has become the main entry point for fostering international cooperation to support the integration and implementation of ocean-based action for both mitigation and adaptation purposes. However, the annual Ocean and Climate Change Dialogue continues to be regarded by many as more of a stakeholders' workshop, with limited attendance of delegates. This is regrettable, particularly considering its potential to serve as a forum to strengthen the capacity of climate negotiators on ocean-related issues and to increase ownership of ocean-based action. It is therefore necessary to make it more attractive for climate negotiators to engage in political discussions about the challenges and opportunities of the ocean and climate nexus.

To this end and to facilitate the integration of ocean-based action into all UNFCCC workstreams, it is important to select topics for the Dialogue highlighting the interlinkages and synergies between ocean-based action and the agenda items of various UNFCCC and Paris Agreement workstreams where it can be advanced. Parties could therefore request a five-year work programme of the Ocean and Climate Dialogue to further strengthen its mandate, outlining clear objectives and priorities for collaboration. For adoption at COP29, this proposal should be integrated in the conclusions of the June 2024 Ocean and Climate Dialogue. Furthermore, to extend the Dialogue discussions that usually take place once a year in June, while creating an informal negotiating setting, it could be proposed to establish a Contact Group on ocean to be convened by the SBSTA back-to-back to the meetings of the UNFCCC and Paris Agreement COPs and CMAs. Contact Groups are typically established by a Decision of the COP (and/or the CMA), so it would be necessary to mobilize Contracting Parties ahead of COP29 to ensure their support for this proposal.

3.3 Strengthening the place of the ocean in selected UNFCCC agenda items

Research and systematic observation (COP agenda item 5)

According to articles 4.1(g) and 5 of the UNFCCC, Parties should promote and cooperate in research, systematic observation and the development of data, considering the needs and concerns, and building the capacity of developing countries. In an information note released for the Earth Information Day in 2023, the SBSTA Chair highlighted that "persistent observation gaps exist for many parts of the globe, with many Essential Climate Variables (ECVs) unobserved with some fragile systems among them, such as the ocean and cryosphere".[18]

The COP could therefore invite the Global Climate Observing System (GCOS) to address the observation gap, e.g. particularly concerning services provided by marine ecosystems, while also enhancing the involvement of the scientific community from developing country Parties. This would ensure that scientific cooperation is promoted in a fair and equitable manner. As negotiations on research and systematic observation are typically considered by the SBSTA, usually at the first intersessional meeting, this topic should be emphasized at SB60 meetings taking place in June 2024.

Mitigation Work Programme (CMA agenda item 6)

Established in 2021, the MWP aims at scaling up mitigation ambition and implementation in this critical decade by 2030 to stay on track with the 1,5°C objective. It is operationalized through focused exchanges of views, so that the outcomes of the WMP are non-prescriptive. Implemented under the guidance of two co-chairs appointed for two years, views are exchanged at two global dialogues every year and investment focused events. In 2024, the MWP focus will be on "Cities: buildings and urban systems".

Given the difficulties to shift away quickly from fossil fuels, there is currently a growing interest in carbon removal solutions to keep hope to reach carbon neutrality during the second half of this century, with an increasing appetite for ocean-based carbon dioxide removal and growing concerns from the scientific community and civil society. The MWP can offer a platform to discuss it, in a "safe place", as part of exchanges of views on both nature-based approaches and technological removal technologies. It is therefore suggested to propose to the two co-facilitators that nature-based carbon removal approaches be put on the agenda of the MWP in 2025, having in mind that it will resume in 2026. In order to avoid that some stakeholders take the opportunity of a discussion on the potential of carbon removal technologies to delay the phasing out of fossil fuels, the MWP should limit its work on those carbon removal methods on land and ocean that do not substitute for immediate and deep emissions reductions such as afforestation, reforestation, soil carbon sequestration, agroforestry, biochar, bioenergy with

18 https://unfccc.int/sites/default/files/resource/IN_EID2023_Final.pdf?download

carbon capture and storage, enhanced rock weathering, peatland and wetland restoration.

Adaptation Committee (COP agenda item 6, SBSTA/ SBI agendas)

Adaptation action should follow a country-driven approach, taking into consideration vulnerable groups, communities and ecosystems, and should be grounded in, and guided by, the best available science. It is therefore important to support countries to systematically integrate ocean-based action in adaptation planning. To this end, it is proposed to push for the review of the "Guidelines for the establishment of the National Adaptation Plans (NAP)". This could be supported by recommendations and good practice guidance for ocean-based adaptation put forward by the expert group on ocean established since 2019 under the Nairobi Work Programme (NWP). This expert group can become the knowledge hub on ocean-based adaptation action, which could draw on outcomes of the annual Ocean and Climate Dialogue. In addition, the Adaptation Committee could foster the integration of ocean-based adaptation action in all UNFCCC workstreams and programmes of other constituted bodies. To make it possible, it is proposed to introduce an ocean-based adaptation agenda into the upcoming workplan (2025-2027) of the Adaptation Committee.

Climate Finance (COP agenda item 8)

The Standing Committee on Finance (SCF) is mandated to assist the COP/CMA in exercising its functions regarding the Financial Mechanism of the Convention, including enhancing coordination in climate finance delivery and mobilizing financial resources. Currently, it is challenging to assess the volume of climate finance channeled through the multilateral framework to support ocean-based action. Therefore, it could be proposed that the Standing Committee on Finance report on available financial sources for ocean-based initiatives that the financial mechanism of the UNFCCC more precisely earmark climate finance to preserve marine ecosystems and bolster international cooperation for preserving the ocean' role as carbon sink.

In parallel, the Green Climate Fund (GCF) and the Global Environment Facility (GEF), which are the two entities designated to operate the Financial Mechanism of the Convention, could be requested to allocate more resources to support specific ocean-based mitigation and/or adaptation programmes targeted by developing country Parties in their next round of NDCs or NAPs, in synergy with other environmental objectives including biodiversity conservation. This would send a signal to these countries that some financial resources will be made available for such programmes in the future.

Collaborative approaches (CMA agenda item 14, SBSTA agenda)

Given the increased market demand for blue carbon credits on the Voluntary Carbon Market (VCM), it is very likely that blue carbon activities will be proposed and developed sooner or later as collaborative approaches under Article 6.2 of the Paris Agreement. However, if coastal zones and the ocean become productive sources of carbon sequestration service revenues, it is essential to ensure that these services provide real climate, environmental, and social benefits, particularly in developing country Parties. Because collaborative approaches under Article 6.2 follow a decentralized approach, it is proposed to request a debate on methodological safeguards within the Supervisory Body of the international mitigation mechanism established by Article 6.4 of the Paris Agreement. This is particularly to ensure that, through the international mitigation mechanism of article 6.4, blue carbon activities are subject to a conservative approach in terms of quantifying carbon sequestration. Supervising blue carbon projects under Article 6.4 would then provide a blueprint for a conservative approach under Article 6.2 as well as for the VCM, which will inevitably seek an alignment with the regulated market developed through the use of the market-based collaborative approaches of Article 6, because of its higher environmental integrity.

3.4 Reinforcing stakeholders' mobilization

Since COP21 in particular, civil society has played a pivotal role in encouraging and supporting States to integrate the ocean into the climate regime. Organizations within the ocean community have strived to identify common goals and messages to speak as one voice and swim in the same direction. In this context, the Marrakech Partnership for Global Climate Action on "Ocean and Coastal Zones" spearheaded efforts to scale up and accelerate the deployment of ocean-based climate solutions, with the support and leadership of the UN High-level Climate Champions. In the spirit of the "ambition loop" approach,[19] where bold government policies and non-State actor leadership reinforce each other, the Global Stocktake encouraged increased collaboration between Parties and non-Party stakeholders, recognizing the latter's potential contribution to achieving the Paris Agreement goals. While Parties are expected to respond with updated and more ambitious climate and biodiversity strategies, the "Ocean Breakthroughs" currently stand as the only established pathways for ocean sub-sectors to deliver on both climate and nature targets.

Designed by the Ocean and Coastal Zones group of the Marrakech Partnership, with the support of the UN High-level Climate Champions and over 30 organizations, the Ocean Breakthroughs identify turning points to be achieved by 2030 to ensure a healthy and resilient ocean by 2050. These science-based targets are designed to bolster mitigation and adaptation efforts across five key ocean sectors: marine conservation, ocean renewable energy, ocean-based transport, aquatic food, and coastal tourism. To effectively guide these efforts, a mechanism will be designed by COP30 to track progress on ocean-climate initiatives led by non-State actors–serving as an input to the

19 Northrop, E. *et al.* (2022). *BLUE AMBITION LOOP: Achieving Ambitious 2030 Ocean-Climate Action Non-State Actor Ambition towards Net Zero and a Resilient Ocean Economy*. Global Ocean Trust. UN Climate Change High-level Champions. Ocean & Climate Platform. UN Global Compact. World Resources Institute. Available here.

UNFCCC and CBD formal processes, especially their respective stocktake exercises. Therefore, the Breakthroughs can serve as a compass for all, enabling non-State actors and positively influencing governments for the benefit of People, Nature, and Climate. In this context, it is imperative to further encourage the active engagement of non-State actors and foster their contribution to the Paris Agreement goals, in support of ambitious government action. To that end:

- Parties could strengthen and renew the mandate of the Marrakech Partnership for Global Climate Action, beyond 2025, to drive action and catalyze investments from non-State actors;
- Governments and non-State actors could support and build on the Ocean Breakthroughs to accelerate the deployment of robust ocean-based climate action in five key sectors.

3.5 Enhancing synergies with other multilateral environmental agreements

The creation of synergies between multilateral environmental agreements (MEAs) represents an objective pursued by the international community to ensure greater coherence and, consequently, effectiveness in the actions undertaken by States. This presents a significant challenge to better link the climate, biodiversity and ocean agendas.

In this regard, initiatives are developing between the UNFCCC and the CBD.[20] The primary challenge today lies in ensuring coherence and coordination between NDCs and their biodiversity counterpart: the National Biodiversity Strategies and Action Plans (NBSAPs). This alignment is an essential condition for ensuring that global goals are translated into coherent action on the ground. Another way of strengthening synergies between the two regimes is to bring the Global Climate Action Agenda and the Action Agenda for People and Nature closer together through new forms of collaboration. While intended as equivalents, the latter remains a voluntary commitment platform. Extending its mandate could be a game-changer in the way non-State actors mobilize. The work already undertaken under the Global Climate Action Agenda since 2016 could facilitate and support its operationalization. For example, bringing campaigns led by the Global Climate Action Agenda, such as the "Ocean Breakthroughs", to the biodiversity fora could help stimulate and strengthen the Action Agenda for Nature and People. Last, in the context of the UNFCCC, States could recognize the 30x30 target as a key instrument for both mitigation and adaptation objectives.

The conservation of offshore blue carbon ecosystems also emerges as a significant challenge, requiring coherent action on the part of governments. In 2023, States adopted an international agreement aimed at ensuring the conservation and sustainable use of biodiversity in marine areas beyond national jurisdiction (BBNJ). This treaty includes several tools to ensure the protection of high seas ecosystems, including a mechanism for the creation of MPAs. States should therefore ratify the text and ensure its entry into force, as well as its implementation, as soon as possible. Moreover, recent scientific research shows that a very large quantity of carbon is stored in deep-sea ecosystems, including sediments.[21] Given the current state of scientific knowledge, and the evidence we have that even after small-scale experimental deep-sea mining events carbon cycling in the deep has still not recovered after 26 years,[22] States should refrain from paving the way for the exploitation of mineral resources in the deep sea, and adopt a precautionary approach.

Finally, regional organizations that have a mandate on the marine environment have a key role to play in ensuring the coherence of climate and biodiversity actions. This is particularly true of RFMOs, whose members will have to adapt to the impacts of climate change on the distribution and abundance of fish stocks. This is also the case for regional seas programs, which have the competence to both take measures to protect coastal carbon sinks and develop adaptation measures in coastal areas.

4. CONCLUSION

These recent years have seen a gradual and continuous integration of the ocean into the climate institutional landscape, materializing in three complementary fields: (i) Science, evident through the development of specific research on the links between the ocean and climate, with key milestones such as the 2019 IPCC Special Report; (ii) National engagement, as reflected in NDCs increasingly covering marine issues; (iii) Intergovernmental cooperation, especially through various UNFCCC workstreams.

Initiated at COP21 in 2015, the "agenda-setting" process, aimed at integrating the ocean into the UNFCCC regime, was finalized in 2021 with the Glasgow Pact. This milestone has paved the way for the ocean to rightfully contribute to climate efforts, particularly evident in NDCs. However, as the next round of NDCs is expected to be communicated by end 2025, it will be essential to evaluate their ambition against climate objectives, rather than simply assessing the inclusion of ocean-related elements: while integrating marine issues is crucial, an NDC lacking ambitious emission reduction targets and measures remains ineffective.

Avenues have also been opened within the Climate Convention framework, and progress is possible in several agenda items, from adaptation to research and financing. On this latter topic, caution must be exercised when calling for the integration of blue carbon into market instruments. Recent scientific

20 Picourt, L., Lecerf, M., Goyet, S., Gaill, F., Cuvelier, R. & Parmentier, R. (2021), Swimming the talk: How to strengthen collaboration and synergies between the Climate and Biodiversity Conventions? *Policy brief*, May 2021, Ocean and Climate Platform.

21 Amon, D., Anderson, N., & Levin, L. (2022). Undisturbed: The deep ocean's vital role in safeguarding us from crisis. Available at: http://www.stateoftheocean.org/wp-content/uploads/2022/11/DeepSea-Synthesis-31oct-high.pdf

22 de Jonge, D.S.W. *et al.* (2020). Abyssal food-web model indicates faunal carbon flow recovery and impaired microbial loop 26 years after a sediment disturbance experiment, *Progress in Oceanography*, Volume 189,

work has highlighted several issues affecting the reliability of carbon accounting for coastal ecosystems.[23] Moreover, a solely climate-focused approach aimed at maximizing the mitigation capabilities of marine ecosystems runs the risk of omitting crucial safeguards necessary for protecting their biological diversity. It is also in the light of this requirement to preserve the marine environment that the current and future projects on marine carbon capture, removal and storage will have to be assessed.[24]

23 Williamson P., Gattuso, J-P. (2022). Carbon removal using coastal blue carbon ecosystems is uncertain and unreliable, with questionable climatic cost-effectiveness. *Frontiers in Climate*, Vol.4-2022.

24 Deprez, A. *et al.* (2024). Sustainability limits needed for CO_2 removal - The true climate mitigation challenge is revealed by considering sustainability impacts. *Science* 383, 484-486.

Rochette, J., Lecerf, M., Wemaëre, M., Picourt, L. (2024). Integrating the ocean into the climate regime: Progress report and future prospects. *Note*, IDDRI.

The Oceano Azul Foundation is an international organization that contributes to protecting and conserving the ocean, integrating key areas such as Ocean Conservation, International Ocean Advocacy and Ocean Policies, Frameworks and Economics. The Foundation also promotes raising awareness, involving, and educating society in order to influence a change in behaviour.

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