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Integrating the ocean into the climate regime: Future prospects

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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 Intergovernmental Panel on Climate Change's (IPCC) Special Report on the Ocean and Cryosphere in a Changing Climate; (ii) National engagement, as reflected in Nationally Determined Contributions (NDCs) increasingly covering marine issues; (iii) Intergovernmental cooperation, especially through various United Nations Framework Convention on Climate Change (UNFCCC) workstreams.

This *Issue Brief*, along with the supporting *Note*, aims to assess the efforts made in recent years to integrate the ocean into the climate regime, and to identify ways of stepping up action.

KEY MESSAGES

In terms of integration of marine issues, analysis shows that (i) NDCs vary considerably from one to another; (ii) commitments frequently lack precision, lacking quantified objectives and failing to reference the means allocated for implementation; (iii) the mitigation measures proposed do not sufficiently exploit the ocean's potential. While Parties are now beginning to review and update their NDCs, due nine to twelve months ahead of COP30 (November 2025, Brazil), it is crucial to correct the course.

The Ocean and Climate Dialogue has become the main entry point for fostering international cooperation to support the integration of ocean-based action for both mitigation and adaptation purposes. However, it is regarded by many as more of a stakeholders' workshop, with limited attendance of delegates. It is therefore necessary to make it more attractive for climate negotiators.

Initiated at COP21 in 2015, the "agenda-setting" process, aimed at integrating the ocean into the UNFCCC regime, was finalized in 2021 with the COP26 Glasgow Pact. The 2023 Global Stocktake has ushered in a new phase, and there are several options for States to further anchoring the ocean into UNFCCC agenda items.

Since COP21 in particular, civil society has played a pivotal role in supporting States to integrate the ocean into the climate regime. Following the Global Stocktake that encouraged increased collaboration between Parties and non-Party stakeholders, it is imperative to support the active engagement of non-State actors and foster their contribution to the Paris Agreement goals.

A solely climate-focused approach, aimed at maximizing the mitigation capabilities of marine ecosystems, risks overlooking crucial safeguards necessary for protecting their biological diversity. Therefore, ocean-based carbon dioxide removal projects must be considered in light of the precautionary principle.

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 CO₂ 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. 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.

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 Nationally Determined Contributions (NDCs) increasingly covering marine and maritime issues; (iii) Intergovernmental cooperation, especially through various United Nations Framework Convention on Climate Change (UNFCCC) workstreams.

To strengthen the on-going efforts and improve their effectiveness, action should now focus on six key areas: (1) Building the next generation of NDCs, (2) Making the best of the Ocean and Climate Dialogue; (3) Strengthen the place of the ocean in selected UNFCCC agenda items; (4) Reinforcing stakeholders mobilization; (5) Enhancing synergies with other multilateral environmental agreements (MEAs); (6) Exercising caution regarding ocean-based carbon dioxide removal.

2. BUILDING THE NEXT GENERATION OF NDCs

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. However, in terms of integration of marine issues, an analysis of the current situation shows that (i) NDCs vary considerably from one to another; (ii) commitments frequently lack precision, lacking quantified objectives and failing to reference the means allocated for implementation; (iii) the mitigation measures proposed do not sufficiently exploit the ocean's potential, particularly on how to deploy decarbonizing measures from the ocean beyond the preservation of blue carbon ecosystems, e.g. through marine renewable energy. While Parties are now beginning to review and update their NDCs, due nine to twelve months ahead of COP30 (10-21 November 2025, Belém, Brazil), it is crucial to correct the course. To this end, several options, possibly cumulative, are possible:

- Invite COP29 and CMA6 to request SBSTA62 to prepare recommendations and provide guidance on how to address ocean-based action in the next rounds of NDCs to be communicated ahead of COP30;
- Request, through a CMA Decision, 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;
- Mobilize civil society to organize dedicated workshops and produce relevant documents and guidelines.

3. MAKING THE BEST OF THE OCEAN AND CLIMATE DIALOGUE

COP25, under the Presidency of Chile that renamed it the "Blue COP", led to the creation of the Ocean and Climate Dialogue "to consider how to strengthen mitigation and adaptation action in this context". This 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, it is regarded by many as more of a stakeholders' workshop, with limited attendance of delegates. 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 do so, States could:

- Request a five-year work programme of the Ocean and Climate Dialogue to further strengthen its mandate, outlining clear objectives and priorities for collaboration;
- Establish a new Contact Group on ocean to be convened by the Subsidiary Body for Scientific and Technological Advice (SBSTA) back-to-back to the meetings of the UNFCCC and Paris Agreement COPs and CMAs.

4. STRENGTHENING THE PLACE OF THE OCEAN IN SELECTED UNFCCC AGENDA ITEMS

Initiated at COP21 in 2015, the "agenda-setting" process, aimed at integrating the ocean into the UNFCCC regime, was finalized in 2021 with the COP26 Glasgow Pact, that "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". The 2023 Global Stocktake has ushered in a new phase, and there are several options for States to further anchor the ocean into UNFCCC agenda items.

Research and systematic observation

An information note by the SBSTA Chair introducing the Earth Information Day in 2023 emphasized that persistent observation gaps exist for many parts of the globe, with many Essential Climate Variables (ECVs) unobserved. Some fragile systems, such as the ocean and cryosphere, are particularly affected by these gaps. The COP could therefore request the Global Climate Observing System (GCOS) to address the observation gaps, e.g. particularly concerning services provided by marine ecosystems, while also enhancing the involvement of the scientific community from developing country Parties.

Mitigation Work Programme (MWP)

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 an opportunity to discuss these issues in a "safe place". 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. 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.

Adaptation Committee

Adaptation action should follow a country-driven approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science. Therefore, it is important to support countries to systematically integrate ocean-based action in adaptation planning. To this end, States could:

- Request, through a COP Decision, a review of the "Guidelines for the establishment of the National Adaptation Plans (NAPs)". 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);
- Request, through a COP Decision, the introduction of an ocean-based adaptation agenda in the next workplan (2025-2027) of the Adaptation Committee.

Climate finance

The Standing Committee on Finance (SCF) is tasked with assisting the COP/CMA in exercising its functions concerning the Financial Mechanism of the Convention. Its role includes improving coordination in the delivery of climate finance 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. The Standing Committee on Finance could therefore be requested, through a COP Decision, to report on available sources of finance to support ocean-based action and recommend that the financial mechanism of the UNFCCC more precisely earmark climate finance to preserve marine ecosystems as well as to enhance international cooperation for the preservation of the oceans as a carbon sink.

Collaborative approaches

Given the increased market demand for blue carbon credits on the Voluntary Carbon Market (VCM), it is highly 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, States could therefore ask for a debate on methodological safeguards within the Supervisory Body of the international mitigation mechanism established by Article 6.4 of the Paris Agreement.

5. 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. Following the Global Stocktake that encouraged increased collaboration between Parties and non-Party stakeholders, it is imperative to support the active engagement of non-State actors and foster their contribution to the Paris Agreement goals. 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 the five key sectors identified: marine conservation, ocean renewable energy, ocean-based transport, aquatic food, and coastal tourism.

6. ENHANCING SYNERGIES WITH OTHER MEAs

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, ocean and biodiversity agendas. To pursue this objective and reinforce the actions undertaken to this end, States could:

- Ensure more coherence and coordination between NDCs and their biodiversity counterpart: the National Biodiversity Strategies and Action Plans (NBSAPs);
- Strengthen synergies between the Global Climate Action Agenda and the Action Agenda for People and Nature;
- Recognize the 30x30 target as an effective tool for both mitigation and adaptation to climate change;
- Preserve the blue carbon ecosystems in areas beyond national jurisdictions, by ensuring a prompt entry into force of the BBNJ agreement and by supporting a precautionary pause on deep sea mining;
- Integrate more climate perspectives into regional ocean governance, especially through RFMOs and regional seas programmes.

7. EXERCISING CAUTION REGARDING OCEAN-BASED CARBON DIOXIDE REMOVAL

There is currently a growing interest in geoengineering approaches aimed at leveraging the ocean's capacity to sequester and store carbon dioxide. These technologies include approaches such as iron fertilization, macroalgae cultivation and sinking, ocean alkalinity enhancement, and deep-sea storage. However, the current scientific understanding of these technologies and their impacts on the marine environment is limited. A solely climate-focused approach, aimed at maximizing the mitigation capabilities of marine ecosystems, risks overlooking crucial safeguards necessary for protecting their biological diversity. Therefore, ocean-based carbon dioxide removal projects must be considered in light of the precautionary principle.

Summary of recommendations

What?	Why?	How?
Building the next generation of NDCs	The current NDCs vary considerably from one to another, frequently lack precision and do not sufficiently exploit the ocean's potential.	<p>Invite COP29 and CMA6 to request SBSTA62 to prepare recommendations and provide guidance on how to address ocean-based action in the next round of NDC to be communicated ahead of COP30.</p> <p>Request, through a CMA Decision, 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 round of NDCs and to facilitate the sharing of knowledge and good practices on ocean-based mitigation action.</p> <p>Mobilize civil society to organize dedicated workshops and produce relevant documents/guidelines.</p>
Making the best of the Ocean and Climate Dialogue	The dialogue only meets once a year, with limited attendance of delegates.	<p>In its conclusions, the 2024 Ocean and Climate Dialogue should recommend to COP29 and CMA6 to establish a five-year work programme to further strengthen the mandate of the Dialogue, outlining clear objectives and priorities for collaboration.</p> <p>In its conclusions, the Ocean and Climate Dialogue of 2024 should invite COP29 and CMA6 to establish a new Contact Group on ocean to be convened by SBSTA back-to-back to the meetings of the UNFCCC and Paris Agreement COPs and CMAs.</p>
Strengthening the place of the ocean in selected UNFCCC agenda items	<p>As highlighted by the SBSTA, persistent observation gaps exist for many parts of the globe, including in the ocean.</p> <p>The Mitigation Work Programme (MWP) can offer a platform to discuss, in a "safe place", carbon removal solutions which are increasingly drawing attention in the ocean realm, as well as growing concerns from the scientific community and civil society.</p>	<p>Request the COP to invite the Global Climate Observing System (GCOS) to address the observation gap by giving priority to the ocean in the future GCOS Implementation Plans (GCOS-IP).</p> <p>Propose to the MWP co-facilitators that nature-based carbon removal approaches be put on the agenda of the MWP in 2025, with a scope limited to those carbon removal methods on land and oceans that do not substitute for immediate and deep emissions reductions.</p>
	There is a need to support countries to systematically integrate ocean-based action in adaptation planning.	<p>Request, through a COP Decision, to review of the "Guidelines for the establishment of the National Adaptation Plans (NAP)".</p> <p>Request, through a COP Decision, the introduction of an ocean-based adaptation agenda in the next workplan (2025-2027) of the Adaptation Committee.</p>
	It is currently challenging to assess the volume of climate finance channeled through the multilateral framework to support ocean-based action.	Request, through a COP Decision, the Standing Committee on Finance to report on available sources of finance to support ocean-based action and recommend that the financial mechanism of the UNFCCC more precisely earmark climate finance to preserve marine ecosystems as well as to enhance international cooperation for the preservation of the oceans as a carbon sink.
	Given their rapid development on the voluntary carbon market, 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.	Request the Supervisory Body of the international mitigation mechanism established by Article 6.4 of the Paris Agreement to address methodological safeguards to ensure the environmental integrity of blue carbon activities, with the aim to become a blueprint for all other carbon market mechanisms.
Reinforcing stakeholders mobilization	Since COP21 in particular, civil society has played a pivotal role in encouraging and supporting States to integrate the ocean into their national climate strategies and, more broadly, within the UNFCCC.	<p>Request Parties to 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.</p> <p>Seek the support of Parties and non-States actors to support and build on the Ocean Breakthroughs to accelerate the deployment of robust ocean-based climate action in five key sectors.</p>
Enhancing synergies with other MEAs	The creation of synergies between multilateral environmental agreements (MEA) represents an objective pursued by the international community to ensure greater coherence and, consequently, effectiveness in the actions undertaken by States.	<p>Ensure more coherence and coordination between NDCs and their biodiversity counterpart: the National Biodiversity Strategies and Action Plans (NBSAPs).</p> <p>Strengthen synergies between the Global Climate Action Agenda and the Action Agenda for People and Nature.</p> <p>Recognize the 30x30 target as an effective tool for both mitigation and adaptation to climate change.</p> <p>Preserve the blue carbon ecosystems in areas beyond national jurisdictions, by ensuring a prompt entry into force of the BBNJ agreement and supporting a precautionary pause on deep sea mining.</p> <p>Integrate more climate perspectives into regional ocean governance, especially through RFMOs and regional seas programmes.</p>
Exercising caution regarding ocean-based carbon dioxide removal	Interest in geoengineering approaches aimed at utilizing the ocean's capacity to sequester and store carbon dioxide is growing, yet our current scientific understanding of these technologies and their impacts on the marine environment remains limited.	Apply the precautionary principle.

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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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