United Nations

Ocean-based action in Parties current cycle of nationally determined contributions (NDCs)

Summary

This paper prepared by the secretariat analyses ocean-based action in the current cycle of Parties NDCs. From 1 January 2024 to 08 September 2026, a total of 129 Parties have submitted their new NDCs. Parties continued to report a significant increase in ocean-based climate action compared with the previous NDCs, with 78 per cent of Parties including in the new NDCs at least one explicit reference to the ocean. Of the 69 per cent of Parties that reported finance-related needs for ocean-based action, 54 per cent have made conditional commitments, which were mostly identified by small island developing States to implement ocean-related climate measures. Ocean-based adaptation remains prominent, with measures relating to coastal resilience-building through integrated coastal zone management, marine spatial planning, strengthening the resilience of coastal and marine tourism and responding to sea level rise, conservation and restoration of blue carbon ecosystems through nature-based solutions and marine protected areas, and fisheries and aquaculture. Though fewer in number, reported ocean-based mitigation measures show increasing innovation and sectoral diversity, spanning renewable energy deployment, blue carbon sequestration, fisheries and aquaculture, and decarbonization of maritime transport.

I. Introduction

1. Parties continued to report a significant increase in ocean-based climate action in their new NDCs compared with their previous NDCs. Overall, 78 per cent of Parties included at least one explicit reference to the ocean, of which 87 per cent included ocean-based adaptation measures and 57 per cent ocean-based mitigation measures. For the ocean, a total of 629 adaptation measures and 142 mitigation measures were reported, along with 77 cross-cutting measures aimed at fostering mitigation and adaptation co-benefits (see figure 1), highlighting the type and spread of sectoral mitigation and adaptation-based measures in NDCs.

2. Most ocean-based adaptation and mitigation actions were reported in the form of policies, programmes and initiatives. The analysis identified 108 quantified targets, comprising 86 adaptation targets and 22 mitigation targets. These targets include measures relating to offshore wind and other ocean-based renewable energy capacity, reductions in marine transport emissions, carbon sequestration through blue carbon ecosystems, mangrove restoration, improved management of coastal zones, expansion of marine protected areas, and coverage of communities by climate-resilient fisheries and aquaculture management.

3. Of the Parties with an ocean-related adaptation or mitigation component, 16 per cent reported some form of progress in implementing ocean-based measures since their previous NDC. The analysis also identified limited quantitative reporting on implementation progress, with progress frequently reported qualitatively or without outcomes being specifically attributed to ocean-related measures. Monitoring, reporting and verification systems and ocean data were identified in the NDCs as important enabling elements for implementation.

4. Ocean-based adaptation measures are concentrated in coastal resilience, conservation and restoration of blue carbon ecosystems, and fisheries and aquaculture. 284 adaptation measures and 21 cross-cutting measures address coastal resilience, including integrated coastal zone management (ICZM), climate-resilient coastal infrastructure planning, coastal and marine tourism resilience, shoreline restoration, sea-level-rise measures, marine pollution and marine spatial planning (MSP). 201 adaptation measures and 34 cross-cutting measures relate to conservation and restoration of blue carbon ecosystems, including mangrove reforestation, coral reef rehabilitation, seagrass restoration, marine biodiversity conservation and marine protected areas. 144 adaptation measures and 14 cross-cutting measures concern fisheries and aquaculture, including climate-resilient fishing practices, early warning systems, sustainable aquaculture and measures addressing food security and coastal livelihoods.

5. Although fewer in number than adaptation measures, ocean-based mitigation measures show increasing sectoral diversity. 38 mitigation measures relate to ocean-based renewable energy, including offshore wind, wave and tidal energy and thermal energy conversion. 49 mitigation measures and 6 cross-cutting measures focus on blue carbon sequestration through the protection and restoration of blue carbon ecosystems, including some exploration of marine carbon dioxide removal technologies. 42 mitigation measures and 2 cross-cutting measures address the decarbonization of maritime transport and shipping through low-emission fuels, energy-efficient shipping and greener port infrastructure. A further 10 mitigation measures concern fisheries and aquaculture, including decarbonization of aquatic food production and food chains, decommissioning of fishing vessels and the use of low-emission fishing vessels.

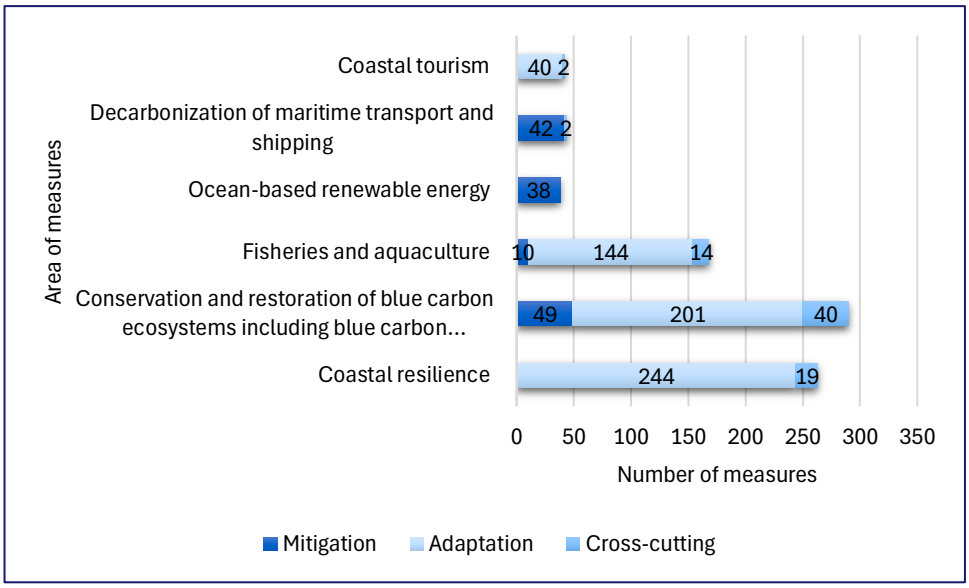
6. The analysis also records increasing references to biodiversity–climate–ocean linkages. 38 per cent of Parties explicitly reported on biodiversity–climate–ocean synergies in their NDCs. Among these Parties, 34 per cent referenced a National Biodiversity Strategies and Action Plan (NBSAP), while 46 per cent referenced the Kunming-Montreal Global Biodiversity Framework (KMGBF). The most frequent KMGBF references concerned Target 2 on restoration and Target 3 on area-based conservation, while 13 per cent referred to the need for ocean-based coordination across the Rio Conventions.

7. Means of implementation (MOI) were also a significant part of ocean-related reporting. Approximately 69 per cent of Parties reported finance-related needs, of which around 54 per cent identified conditional finance needs. All conditional finance needs were

identified by developing countries, with approximately 40 per cent of conditional finance needs identified by SIDS. Overall, 55 per cent explicitly referred to access to and deployment of technologies, including technology needs assessments, ocean observation and monitoring systems and monitoring, reporting and verification (MRV) frameworks. 28 per cent referenced science-based needs, including ocean monitoring and the collection of and access to ocean data and research. Approximately 54 per cent highlighted capacity-building needs, including data collection for ocean observation and monitoring systems, forecasting systems for sea-level rise, deployment of ocean-based technologies and strengthening national institutional capacity for marine management and planning.

Figure 1

Number of ocean-based adaptation, mitigation and cross-cutting measures reported in Parties' nationally determined contributions, by area of measure



II. Ocean-based adaptation

8. Ocean-based adaptation is the most frequently reported form of ocean-related climate action in the current NDCs. The adaptation measures are concentrated in three principal areas: coastal resilience; conservation and restoration of blue carbon ecosystems and other coastal and marine ecosystems; and fisheries and aquaculture.

(a) **Coastal resilience.** The largest adaptation category concerns coastal resilience, with 284 adaptation measures and 21 cross-cutting measures identified. The measures include the development and strengthening of ICZM frameworks, MSP, climate-resilient coastal infrastructure planning, shoreline and wetlands restoration, and measures addressing sea-level rise and extreme events.

(b) The category also includes measures addressing marine pollution and litter and measures aimed at strengthening the resilience of coastal and marine tourism. Examples recorded in the NDC analysis include strengthening regulatory and planning instruments for coastal adaptation, improving coastal management systems, expanding monitoring systems, incorporating sea-level-rise considerations into infrastructure and planning, and restoring or rehabilitating coastal areas. The measures also include targets related to areas of coastal zones brought under improved management, coastal infrastructure planning, shoreline restoration and the development of systems for monitoring coastal and marine conditions.

(c) **Conservation and restoration of blue carbon ecosystems.** A second major area of adaptation concerns the conservation and restoration of coastal and marine ecosystems. The analysis identifies 201 adaptation measures and 34 cross-cutting measures in this area.

(d) Measures include mangrove reforestation, coral reef rehabilitation, seagrass restoration, nature-based solutions, marine biodiversity conservation, and marine protected areas and other area-based management tools. The NDCs also identify measures to expand or strengthen MPA, with references to establishing or expanding MPAs, conservation of coastal and marine ecosystems, restoration of degraded ecosystems, and the use of nature-based solutions (NbS). Some NDCs identify quantified targets associated with ecosystem restoration and conservation, including hectares of ecosystems restored and areas brought under improved management or protection.

(e) **Fisheries and aquaculture.** The analysis records 144 adaptation measures and 14 cross-cutting measures related to fisheries and aquaculture. Measures include climate-resilient fishing practices, sustainable aquaculture practices, participatory and co-management approaches, measures concerning fishers' rights and livelihoods, aquatic food and food security, and the integration of early warning systems.

(f) The reported measures include actions to support climate-resilient fishing techniques, improve fisheries management, strengthen sustainable aquaculture, and protect food security and livelihoods. Community-based management and participatory approaches are also recorded in a number of NDCs. The analysis identifies fisheries and aquaculture as an area in which adaptation measures are connected with livelihoods, food security and management of coastal and marine resources.

(g) **Marine tourism.** 40 measures relate to marine tourism. The measures include strengthening the resilience of coastal and marine tourism and integrating tourism within wider coastal resilience, ecosystem and planning measures. The MOI analysis also records finance, technology and capacity needs associated with resilient ecosystems, tourism, coastal areas and marine resources.

III. Ocean-based mitigation

9. The analysis identifies 58 NDCs containing ocean-based mitigation measures and a total of 142 mitigation measures. The measures cover four principal areas: ocean-based renewable energy; blue carbon and carbon sequestration; decarbonization of maritime transport and shipping; and fisheries and aquaculture.

(a) **Ocean-based renewable energy**. A total of 38 mitigation measures relate to ocean-based renewable energy. The measures recorded include offshore wind, wave and tidal energy, thermal energy and other ocean-based renewable-energy measures. The NDCs include references to deployment of offshore wind and other ocean-based renewable-energy capacity, with quantified targets identified among the 22 mitigation targets recorded in the overall analysis.

(b) **Blue carbon and carbon sequestration.** The analysis identifies 49 mitigation measures and 6 cross-cutting measures concerning blue carbon sequestration. These measures focus on the protection and restoration of blue carbon ecosystems, including ecosystem restoration and conservation measures associated with carbon sequestration. The analysis also records references to carbon dioxide removal processes and technologies, including marine carbon dioxide removal.

(c) Blue carbon measures therefore appear in both mitigation and adaptation classifications in the NDC analysis, including where ecosystem restoration and conservation are identified as contributing to mitigation and adaptation objectives.

(d) **Maritime transport and shipping.** The current NDCs include 42 mitigation measures and 2 cross-cutting measures addressing decarbonization of maritime transport and shipping. The measures include low-emission shipping fuels, green shipping technologies, port infrastructure and measures relating to the energy efficiency of shipping. The analysis identifies low-emission fuels as one of the recurring areas of action and includes measures associated with greener port infrastructure and shipping technologies.

(e) **Fisheries and aquatic food production.** The NDCs analysis also identifies 10 mitigation measures in fisheries and aquaculture. These include decarbonization of aquatic

food production and food chains, decommissioning of fishing vessels, and the use of low-emission fishing vessels. These measures complement the larger adaptation portfolio for fisheries and aquaculture and show that the sector is addressed in both mitigation and adaptation dimensions.

IV. Cross-cutting ocean measures and ocean-climate-biodiversity synergies

10. The analysis identifies 77 cross-cutting measures aimed at supporting mitigation and adaptation co-benefits. These include measures recorded across coastal resilience, ecosystem restoration, fisheries and aquaculture, blue carbon and other ocean-related categories. Cross-cutting measures include 21 measures associated with coastal resilience, 34 measures related to conservation and restoration of blue carbon ecosystems, and 14 measures concerning fisheries and aquaculture. Additional cross-cutting measures occur in other areas, including maritime transport and blue carbon.

11. The NDC analysis also records 38 NDCs with ocean-climate-biodiversity synergies. Among the Parties identified as explicitly reporting biodiversity–climate–ocean linkages, 34 per cent referenced an NBSAP, National Biodiversity Strategy or equivalent national biodiversity strategy. Forty-six per cent referenced the KMGBF, with the most frequent references concerning Target 2 on restoration and Target 3 on area-based conservation. Thirteen per cent referenced the need for coordination across the Rio Conventions in relation to the ocean. The measures recorded include marine biodiversity conservation, marine protected areas, ecosystem restoration and nature-based solutions, demonstrating the presence of biodiversity considerations within the reported ocean measures.

V. Quantified targets and implementation progress from previous NDC

12. Most ocean-related measures are recorded as policies, programmes and initiatives rather than as quantified targets. The analysis identifies 108 quantified targets, comprising 86 adaptation targets and 22 mitigation targets. The quantified targets cover a range of outcomes. These include deployment of offshore wind and other ocean-based renewable-energy capacity; reductions in marine transport emissions; increased carbon sequestration through blue carbon ecosystems; hectares of mangroves restored; areas of coastal zones brought under improved management; expansion of marine protected areas; and the share of communities covered by climate-resilient fisheries and aquaculture management.

13. Among Parties with an ocean-related adaptation or mitigation component, 15.8 per cent reported some form of progress since their previous NDC. The information recorded on progress is frequently qualitative. The analysis notes that many Parties report progress without attributing outcomes specifically to ocean-related measures. Consequently, monitoring, reporting and verification systems and ocean data are identified as important enablers for tracking implementation.

VI. Means of implementation

14. Approximately 69 per cent of Parties reported finance-related needs, and around 54 per cent identified conditional finance needs. The conditional finance needs were identified by developing countries, with approximately 40 per cent of these conditional finance needs associated with SIDS.

15. The finance-related analysis includes requests or references to support for coastal protection, ecosystem restoration, marine and fisheries measures, resilient ecosystems, tourism, infrastructure, data collection and monitoring, among other ocean-related areas. 55 per cent of Parties explicitly referenced access to and deployment of technologies. Technology needs include technology needs assessments; ocean observation and monitoring systems; meteorological and oceanographic technologies; risk forecasting and early warning

systems; sea-level-rise assessment; coastal vulnerability assessment; geographic information systems and remote sensing; technologies for coastal protection; technologies associated with fisheries and aquaculture; and MRV and data systems.

16. The analysis also identifies science-based needs in 28 per cent of Parties. These include ocean monitoring, collection of and access to ocean data and research, and information relevant to sea-level rise and coastal and marine conditions. Capacity-building needs are identified by approximately 54 per cent of Parties. The capacity-building needs reported include strengthening data collection and ocean observation and monitoring systems, use of forecasting systems for sea-level rise, deployment of ocean-based technologies, marine research, training and strengthening the capacity of national institutions for marine management and planning.

17. The MOI entries also contain references to training and institutional support related to coastal management, marine biodiversity, fisheries, aquaculture, GIS and remote sensing, climate monitoring and early warning, coastal protection and marine research.