



# Ocean-Based Climate Solutions in Nationally Determined Contributions

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**N**ational climate goals under the Paris Agreement (Nationally Determined Contributions, or NDCs) are currently insufficient to address the climate crisis. Yet the promise of the Agreement is that it created not only an initial set of commitments but also a “ratchet” cycle, in which countries submit NDCs every five years.

Until recently, the international climate effort and the ocean conservation effort have been largely siloed. Although a majority of countries referenced the ocean in their first round of NDCs, only a minority discussed ocean actions as climate solutions. Fewer than 20 percent of countries with coastal blue carbon ecosystems, for example, discussed their role as carbon sinks.<sup>1,2,3</sup>

There is increasing recognition of the linkages between the ocean and climate change. As Parties to the Paris Agreement communicate their second round of national climate goals, this policy brief tracks the inclusion of concrete, ocean-based mitigation and adaptation actions. It sorts commitments first by ocean-based solution and then by country. Updates to this brief will post regularly, as countries submit further NDCs.

- As of this update, which analyzes 100 submissions from coastal countries, at least 93 include one or more ocean element.

## Contents

*Section titles link to relevant sections.*

- *This update analyzes the NDC submissions and updates thus far from:  
Albania, Angola, Antigua and Barbuda, Argentina, Australia, Bahamas, Bahrain, Bangladesh, Benin, Bosnia-Herzegovina, Brazil, Brunei Darussalam, Cabo Verde, Cambodia, Cameroon, Canada, Chile, China, Colombia, Comoros, Democratic Republic of the Congo, Costa Rica, Cuba, Dominica, Dominican Republic, Egypt, El Salvador, Equatorial Guinea, European Union, Fiji, Gabon, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Haiti, Honduras, Iceland, India, Indonesia, Ivory Coast, Jamaica, Japan, Kenya, Kiribati, Lebanon, Malaysia, Maldives, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia (Federated States of), Monaco, Montenegro, Morocco, Mozambique, Namibia, Nauru, New Zealand, Nicaragua, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Peru, Philippines, Republic of Korea, Russia, Samoa, Sao Tome and Principe, Saudi Arabia, Senegal, Seychelles, Singapore, Solomon Islands, Somalia, Saint Kitts and Nevis, St. Lucia, Sudan, Thailand, Timor-Leste, Togo, Tonga, Tunisia, Türkiye, Tuvalu, United Arab Emirates, United Kingdom, United Republic of Tanzania, Uruguay, United States, Vanuatu, Venezuela, and Vietnam.*

### 1. Scaling Up Offshore Renewable Energy

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- United Republic of Tanzania

# 1. Scaling Up Offshore Renewable Energy

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## *Democratic Republic of the Congo*

[Link to submission](#)

- The Democratic Republic of the Congo will promote renewable energy, including wind (note there is no specific reference to offshore wind) (p. 19).

## *Dominica*

[Link to submission](#)

- Dominica notes its intention to construct wind farms for Climate Change Mitigation contingent on financial support (p. 59).

## *Equatorial Guinea*

[Link to submission](#)

- Guinea Equatorial pledges to generate renewable energy from different renewable sources, including wind, solar, and/or tidal and to produce at least 5MW of renewable energy for the Island of Annobon by 2030 (p. 18).

## *Mauritania*

[Link to submission](#)

- In the face of climate change, Mauritania recognizes addressing social vulnerability and employment will require a just transition focused on jobs in renewable energy, improved fisheries management, and other green jobs, with a focus on youth.

## *Namibia*

[Link to submission](#)

- Among its proposed climate solutions, Namibia includes enhancing use of “renewable energy potential across the ocean and coastal environments (hydro, desalination, fogging, solar, wind, biomass and geothermal)” (p. 29).

## *Nauru*

[Link to submission](#)

- Nauru plans to ensure renewable energy comprises half of its national power generation and notes its intention to develop technical assessments of potential renewable energy sources, such as ocean thermal energy conversion (p. 33).

## *Singapore*

[Link to submission](#)

- Singapore is deploying solar photovoltaics through continued investment in research, development, and demonstration (RD&D) to reduce cost, improve efficiency and enable innovative modes of deployment such as floating, offshore, and building-integrated photovoltaics (p. 18 of Singapore’s 2<sup>nd</sup> updated NDC).

## *Seychelles*

[Link to submission](#)

- Citing mitigation co-benefits of adaptation planning in the fisheries sector, St. Lucia includes implementing “fuel efficient technologies for aquaculture and fishing operations” (p. 11).



- Among its mitigation goals, Seychelles includes a commitment to decarbonize its economy by 2050, noting that it intends to leverage marine renewable energy technologies, among others (p. 21).

### *Thailand*

#### [Link to submission](#)

- In its section on support needs (specifically technology development and transfer), Thailand lists research into the potential of offshore renewable energy as a priority area (p. 7).

### *Tunisia*

#### [Link to submission](#)

- Tunisia notes its intention to decrease its carbon intensity by 45% in 2030 compared to its 2010 levels. In order to achieve this, Tunisia notes its need for technology transfer programs to enable a low-carbon transition and a massive development of renewable energy, which includes offshore wind, among other technologies (p. 12, 15).

### *Türkiye*

#### [Link to submission](#)

- Türkiye's line ministries and public institutions are currently drafting legislation and policies to enhance Türkiye's climate actions including an offshore wind roadmap (p. 4).

### *United Kingdom*

#### [Link to submission](#)

- The UK has invested over £1.6 billion to advance offshore wind and meet its 50GW of renewable energy target by 2050 (p. 12). The UK is also investing in the offshore wind workforce and offshore wind education programs (p. 17, 29). The second iteration of the Northern Ireland Marine Plan, expected in 2023, includes advancements in offshore wind technologies (p. 26). The Welsh National Marine Plan includes a framework for offshore renewable energy generation (p. 26).

### *United States*

#### [Link to submission](#)

- Among its mitigation strategies, the United States (U.S.) includes scaling-up offshore renewable energy (p. 2).

### *Viet Nam*

#### [Link to submission](#)

- Viet Nam states its intent to reduce its total GHG emissions by 15.8% compared to business-as-usual by the year 2030, which is equivalent to 146.3 Mt CO<sub>2</sub>eq. To meet this target, Viet Nam plans to reduce emissions sector-by-sector, including the development of more renewable energy, such as wind and solar, to decarbonize its energy sector. To implement this target, Viet Nam states its intent to complete policies and national marine spatial plans for the development of offshore wind power (p. 7, 9, 27).

## 2. Reducing Emissions from Shipping and Ports

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### *Cabo Verde*

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- Among its mitigation contributions, Cabo Verde mentions that it will shift to “low carbon public transport,” which includes international maritime transport, by 2030 (p. 5).
- Among its goals to reduce emissions from the transportation sector, Cabo Verde includes that by 2023, it intends to determine the national emissions reductions possible with a shift to international maritime transport that is less carbon intensive and Cabo Verde will encourage the international community to scale-up technologies that decarbonize maritime transport (p. 26).
- Among its goals to reduce emissions from the transportation sector, Cabo Verde states that it will develop policy frameworks for decarbonizing international and domestic maritime transport by 2023 (p. 26).

### *Canada*

[Link to submission](#)

- Among its commitments dedicated to promoting clean and affordable transportation, Canada includes collaborating with domestic and international partners to reduce emissions from marine vessels. Canada specifically states that British Columbia is committed to investing in cleaner transportation infrastructure, including hybrid ferries (p. 4, 25).

### *China*

[Link to submission](#)

- Among its commitments to emission reduction through green transportation, China mentions “normalizing the utilization of shore-end cable for vessels at Ports.” (p. 36).

### *Dominica*

[Link to submission](#)

- By 2030, Dominica aims to reduce emissions from transportation overall by 20% including reducing emissions from the shipping sub-sector by 100% and the commercial and residential fishing sub-sector by 8.1% (p. 30).

### *Equatorial Guinea*

[Link to submission](#)

- Guinea Equatorial will continue the modernization of ports and will produce an annual report on the mitigation plan for the reduction of GHG emissions from shipping (p. 18).
- Will create a sectoral focal point for the energy sector linking to shipping efforts (p. 18-19).

### *Fiji*

[Link to submission](#)

- Fiji enhanced its emissions reduction targets, committing to “reduce domestic maritime shipping emissions by 40%” by 2030 (p. 4).

### *Japan*

[Link to submission](#)

- Japan aims to reduce its greenhouse emissions by 46% by 2030 and reach net-zero by 2050 through efforts under gas sectors including transport and fisheries among others (p. 3).

### *Maldives*

[Link to submission](#)

- Maldives mentions establishing a vessel emissions standard in order to achieve its overall emissions reduction target (p. 2).

### *Monaco*

[Link to submission](#)

- Among its strategies to reduce emissions from the transportation sector, Monaco mentions a ban on heavy oil fuels and a shift toward using hydrogen as a shipping fuel (p. 27).

### *New Zealand*

[Link to submission](#)

- New Zealand has worked on proposals that may be included in its first emissions reduction plan, designing a number of national-level strategies, including a National Energy Strategy, Circular Economy Strategy, Bioeconomy Strategy, National Low-emission Freight Strategy, industry plans and policies to decarbonize the industrial sector, and a Building Transformation Plan (p. 9).

### *Norway*

[Link to submission](#)

- Through the climate cooperation with the European Union and Iceland, Norway has specific legislation for the period 2021-2030 covering all emissions and sectors, including the Effort Sharing Regulation (ESR) that sets binding national target for different sectors, including transport, agriculture, buildings, and waste management, and emissions from industry and petroleum not covered by the European Union Emission Trading System. These targets can be fulfilled through domestic emission reductions and/or by use of flexible mechanisms within the EU framework (p. 7).

### *Republic of Korea*

[Link to submission](#)

- The Republic of Korea has markedly raised its 2030 target on the deployment of zero-emission vehicles such as the ones powered by electricity and hydrogen, including by deploying eco-friendly ships for shipping (p. 3).

### *Republic of the Marshall Islands*

[Link to submission](#)

- In its enhanced NDC, Republic of the Marshall Islands (RMI) includes reducing domestic shipping emissions “40% below 2010 levels by 2030 and full decarbonization of the sector by 2050” (p. 3).
- RMI notes that short and medium-term strategies for reducing emissions in the shipping sector include modifications to “ship design, operations, fuel, and docking facilities” (p. 3).
- RMI recognizes the need for more widespread decarbonization of the shipping sector, encouraging ambitious action in the International Maritime Organization and amongst other Pacific countries (p. 3).

### *Samoa*

[Link to submission](#)

- Stating its climate mitigation goal to “reduce GHG emissions in the energy sector by 30 percent in 2030 compared to 2007 levels”, Samoa includes the following contributions from its shipping sector:
  - “Develop shore side electricity supply for vessels and reviewing the energy efficiency of maritime transport;

- Expand Samoa’s efforts to install solar panels on vessels;
- Pilot the use of biodiesel on one of Samoa’s freight or passenger vessels;
- Conduct studies to understand viability of low carbon maritime transport options” (p. 9).
- Samoa notes that the shift to low-carbon maritime transport will require “technology transfer, capacity building, and external financial support” (p. 9).

### *Saudi Arabia*

[Link to submission](#)

- Saudi Arabia aims to be a global leader in blue hydrogen production, capitalizing on its natural resources and CCUS technology. It is crafting a strategy to increase blue hydrogen usage across domestic industries while capturing carbon emissions. The focus is on advancing technology and reducing costs in sectors like aviation, shipping, petrochemicals, and steel (pg. 6). (Note: Blue hydrogen is not considered an ocean and climate change solution but is noted here for the connection made in the NDC to reducing shipping emissions.)

### *Seychelles*

[Link to submission](#)

- Seychelles notes the importance of climate-ready port infrastructure to its Blue Economy, stating that the Seychelles Port Authority’s Strategic Plan requires “future development to be conducted according to the Green Ports Initiative (GPI)”, an initiative that works to reduce marine pollution and use renewable energy resources (p. 29).
- Among its mitigation priorities in the transportation sector, Seychelles includes its goals to decarbonize its domestic maritime sector and to “shift progressively to low carbon transport, including active modes and international maritime transport”, by 2030 (p. 16, 21, 24).

### *St. Lucia*

[Link to submission](#)

- Citing mitigation co-benefits of adaptation planning in the fisheries sector, St. Lucia includes implementing “fuel efficient technologies for aquaculture and fishing operations” (p. 11).

### *Türkiye*

[Link to submission](#)

- Türkiye has set interim targets within its National Transportation and Logistics Master Plan (2022-2053) to expand its green ports by using renewable energy (p. 12).

### *Tuvalu*

[Link to submission](#)

- Tuvalu intends to reduce the demand for fuels to generate electricity with ocean tidal energy conversion once it becomes available and affordable as well as exploring decarbonization options in the domestic maritime sector (p. 10).

### *United Kingdom*

[Link to submission](#)

- The UK is supportive of efforts to reduce these emissions through action under the International Maritime Organization (p. 6).

### *United Republic of Tanzania*

[Link to submission](#)

- Among its mitigation contributions in the transportation sector, United Republic of Tanzania mentions that it will reduce emissions from mass marine transport systems by deploying investments in maritime infrastructure (p. 14).

### *United States*

[Link to submission](#)

- Among its efforts to reduce emissions from the shipping sector, the U.S. mentions domestically decarbonizing ships and ports as well as promoting international decarbonization efforts through the International Maritime Organization (IMO) (p. 4).

### *Vanuatu*

[Link to submission](#)

- Vanuatu's commitment includes a target of 10% energy efficiency improvement in marine transport by 2030 (p 4).

### *Venezuela*

[Link to submission](#)

- Venezuela will support research to produce recommendations to stop greenhouse gas emissions from the shipping sector. Actions may include renewing and updating the existing fleet with ships that would allow to reduce emissions and measures to comply with MARPOL's fuel standards (p. 67).
- Venezuela plans to develop a management plan for energy efficiency to consider the planning of routes, the increase in the frequency of the cleaning of the submerged parts of ships and the propeller, the introduction of technical measures such as the capture of residual heat, or the installation of new propellers. Also, Venezuela will develop regulatory, operations, and other economic measures such as providing energy to ports from renewable sources, build the needed infrastructure to support the use of low carbon alternative fuels, and use of speed reduction approaches (p. 66-67).

### *Vietnam*

[Link to submission](#)

- Among its mitigation actions, Vietnam cites its efforts to mainstream climate considerations in its planning of seaports (p. 5).

## **3. Reducing Emissions from Offshore Oil and Gas**

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### *Brunei Darussalam*

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- Among initiatives to reduce emissions in its industrial sector, Brunei Darussalam mentions “rejuvenation projects” that will cut greenhouse gas emission from onshore and offshore oil and gas industry facilities (p. 10).

## Canada

[Link to submission](#)

- Among its mitigation actions, Canada mentions “exploring a continental approach to address methane emissions from the oil and gas sector, including investing \$750 million onshore and offshore to help oil and gas companies implement green solutions to reduce methane and other GHG emissions” (p. 6).

## 4. Protecting and Restoring Blue Carbon Ecosystems

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*See also sections on advancing marine protected areas and protecting coastal communities, infrastructure and ecosystems for complementary/related actions. There is some repetition of notable and cross-cutting commitments.*

## Antigua and Barbuda

[Link to submission](#)

- Recognizing the climate mitigation benefits of blue carbon ecosystems, Antigua and Barbuda states its conditional goal of protecting “all remaining wetlands, watershed areas, and seagrass bed areas with carbon sequestration potential” by 2030 (p. 19).

## Argentina

[Link to submission](#)

- Argentina states it will implement public policy measures to ensure that companies within the country do not cause harm to ecosystems, including wetlands and peatlands (p. 20).
- Among its adaptation priorities, Argentina recognizes the benefits of Ecosystem-based Adaptation (EbA) for building resilient “infrastructures, city-regions, and habitat”, stating its intention to promote the preservation and conservation of wetlands and peatlands through EbA management strategies (p. 22, 27).

## Australia

[Link to submission](#)

- Australia notes its use of the IPCC 2013 Wetlands Supplement in estimating greenhouse gas emissions and removals (p. 9).

## Bahamas

[Link to submission](#)

- Bahamas will improve the management and conservation of ecosystems by:
  - Promoting nature-based solutions (NbS) to sustain ecosystems that ensure resilience against climate-related threats (ex. coral reef and mangrove) involving local communities (p. 40).
  - Improving education and awareness on climate change impacts (p. 38 and 40).
  - Increasing awareness of the importance of coral reef and mangroves that support sustainable development and coastal protection (p. 41).

## *Benin*

[Link to submission](#)

- To support its coastal habitats Benin will undertake mangrove planting and restoration projects (p. 31, 33).

## *Canada*

[Link to submission](#)

- Recognizing the carbon sequestration potential of coastal wetlands, Canada states that it will invest \$631 million to “restore and enhance wetlands” and peatlands, which includes improving land management strategies (p. 6).
- Canada mentions its use of the IPCC 2013 Wetland Supplement in estimating greenhouse gas emissions and removals (p. 19).

## *Cabo Verde*

[Link to submission](#)

- Recognizing the climate mitigation benefits of natural carbon sinks, Cabo Verde includes studying ocean-based natural carbon sequestration (p. 30).
- Among its priorities to increase natural carbon sequestration, Cabo Verde states that it intends to update its wetlands inventory in order to increase data access and sharing. Cabo Verde also mentions strengthening wetland data collection and management strategies, aiming to integrate wetlands into municipal development plans (p. 30).
- Among its goals to expand marine protected areas, Cabo Verde includes utilizing spatial analysis tools to determine “optimal locations” for marine protected areas, taking into consideration carbon sequestration potential (p. 39).
- Among its adaptation priorities, Cabo Verde includes implementing some form of coastal protection for each island, using “nature-, ecosystem- and landscape-based solutions” combined with (or substituted for) grey infrastructure, taking advantage of carbon sequestration among other adaptive benefits (p. 40).
- Among its adaptation priorities, Cabo Verde notes that by 2024, it will develop an inventory of the island’s seagrass beds and formulate a comprehensive protection plan. Also, Cabo Verde intends to implement a “seaweed germplasm bank” and encourage the “scientific and university community” to enhance knowledge and expertise in this area (p. 40).
- Among its adaptation priorities, Cabo Verde intends to pursue risk mapping, identifying areas with “potential for mitigation and adaptation,” as well as “climate risk hot spots,” listing wetlands as a target area. Cabo Verde also intends to prioritize seagrass areas for conservation and protection (p. 42).

## *Cambodia*

[Link to submission](#)

- Among mitigation priorities, Cambodia includes enhancing sustainable management of mangrove conservation areas and improving “ocean capacity to capture carbon from the atmosphere” (p. 99, 110).

## *Cameroon*

[Link to submission](#)

- To protect ecosystems, Cameroon will reduce illegal logging, including on the coast (\$22b) (p. 3, 38).

## *Chile*

[Link to submission](#)

- In the “integration component” (i.e., the section on actions with both mitigation and adaptation co-benefits) of its enhanced NDC (specifically in its contributions on peatlands), Chile states that it will identify wetlands under a national inventory by 2025 (p. 59).

- In the integration component of its enhanced NDC (specifically in its contributions on peatlands), Chile states that it will create standardized metrics to assess the mitigation and adaptation capacity of wetlands by 2030 (p. 59).
- In the integration component of its enhanced NDC (specifically in its ocean contributions), Chile states that “new protected areas will be established in under-represented marine ecoregions” (p. 64). In the scope of this commitment, Chile includes the following sub-goals:
  - “By 2025, protect at least 20 coastal wetlands as new protected areas.”
  - “By 2030, protect at least 10% of under-represented marine eco-regions (Humboldt, Central Chile, Araucanía and Chiloe), in the framework of a participatory marine spatial planning.”
  - “By 2030, protect at least 10 additional coastal wetlands as protected areas.”

## *China*

### [Link to submission](#)

- Among its priorities to increase work toward carbon neutrality, China states that it will stabilize the carbon sequestration role of existing carbon sinks including wetlands and seas (p. 39).
- China commits to protecting and restoring marine blue carbon ecosystems through various blue carbon pilot projects and marine ecological protection and restoration projects, listing wetlands, mangroves, seagrass beds, and salt marshes as target areas (p. 39).

## *Colombia*

### [Link to submission](#)

- Emphasizing the importance of its immense biodiversity and critical ecosystems, Colombia states that it will prioritize the conservation and restoration of mangroves, wetlands and the ocean (p. 4).
- Aiming to promote climate-resilient mangrove ecosystems, Colombia intends to “update and implement 50% of the ‘National Program for Sustainable Use, Management and Conservation of Mangrove Ecosystems’ by 2030” (p. 20).
- Acknowledging the carbon sequestration potential of marine and coastal ecosystems, such as mangroves and seagrasses, Colombia explains that it will work to “create knowledge related to the role of these ecosystems in greenhouse gas mitigation” (pg. 34).

## *Costa Rica*

### [Link to submission](#)

- Recognizing the co-benefits of blue carbon ecosystems, Costa Rica notes that it plans to continue leading in conservation, responsible use, protection and restoration of coastal wetlands through enhancing scientific knowledge about ecosystem services that these habitats provide (p. 43).
- Emphasizing oceans as a “principal area of action,” Costa Rica states that it will aim to conserve and protect 100% of its coastal wetlands that are included in the National Registry of Wetlands (for the 2016-2018 period) (p. 44).
- Costa Rica notes that it plans to expand the area of registered estuarine wetlands by at least 10% by 2030 (p. 44).
- Expressing its intention to manage and monitor coastal wetlands effectively, Costa Rica notes that it will continue advancing strategies for the sustainable use and management of vital mangrove areas by communities whose livelihoods depend on them (p. 44).
- Costa Rica states its aspiration to stop and/or revert the loss of coastal wetlands by 2030, focusing on addressing main causes of degradation that pose a threat to their health (p. 45).
- Costa Rica notes that it aims to explore innovative finance mechanisms in order to support the implementation of blue carbon strategies. One possible approach included is to expand terrestrial models for the payment of ecosystem services (p. 46).
- Costa Rica mentions that it will explore the potential of public-private investments to advance mangrove protection and restoration efforts (p. 46).



## *Cuba*

[Link to submission](#)

- Citing its State Plan to confront Climate Change, Cuba states the importance of restoring mangroves to enhance the resilience of vulnerable coastal cities, combat soil erosion and protect water quality (p. 6).

## *Dominican Republic*

[Link to submission](#)

- Among its mitigation priorities, the Dominican Republic includes the conservation and restoration of mangroves, noting their “blue carbon” sequestration potential (p. 29).
- Among priorities to protect and enhance coastal-marine systems, the Dominican Republic includes creating a fund focused on building resilient mangrove and estuarine ecosystems (p. 45).

## *El Salvador*

[Link to submission](#)

- El Salvador will restore and rehabilitate one million hectares of degraded lands, including 2000 hectares of degraded mangroves.

## *Equatorial Guinea*

[Link to submission](#)

- By 2030, Guinea Equatorial will restore 1300 hectares and conserve 24700 hectares of mangroves, absorbing 344500 tons of CO<sub>2</sub>eq (p. 20).

## *European Union*

[Link to submission](#)

- The European Union (EU) intends to include wetlands in estimating greenhouse gas emissions and removals (p. 16).

## *Fiji*

[Link to submission](#)

- Citing the co-benefits of coastal ecosystems, Fiji includes protecting and restoring mangroves and seagrass beds (p. 6).
- Fiji notes its use of the IPCC 2013 Wetlands Supplement in estimating greenhouse gas emissions and removals (p. 12).

## *Guatemala*

[Link to submission](#)

- By 2025, 1500 hectares of mangrove ecosystems will have been restored and reforested with the help of local communities, indigenous people and Garifuna, and women and youth groups (p. 40).

## *Guinea*

[Link to submission](#)

- Among priorities to build climate resilience in its coastal zone, Guinea states its goals to promote implementation of a “mangrove management strategy” and to reduce stresses to mangroves, supporting the conservation of ecosystems and enhancing resilience of coastal populations (p. 41).

## *Haiti*

[Link to submission](#)

- Haiti will undertake blue carbon initiatives include plans to restore mangrove forests (1000 hectares) and protect coral reefs and sea grasses; expected costs are over \$1b (p. 29, 45, 46).

## *Honduras*

[Link to submission](#)

- Among its adaptation strategies, Honduras includes enhancing conservation in protected areas, including those with wetlands and estuaries (p.44).

## *Iceland*

[Link to submission](#)

- Iceland intends to include wetlands in estimating greenhouse gas emissions and removals (p. 10).
- Among its mitigation contributions in the land-use sector, Iceland includes advancing nature-based solutions, discouraging wetland draining and reclaiming drained wetlands (p. 13).

## *Indonesia*

[Link to submission](#)

- Indonesia will develop climate resilient coastal zones by implementing an integrated management of mangrove ecosystems (p. 39).
- Indonesia also plans to enhance ecosystems, species, and genetic conservation, and improve the functionality of integrated ecosystems to ensure improvement of essential services by restoring degraded mangroves and peatland (p. 40).

## *Jamaica*

[Link to submission](#)

- Jamaica notes its use of the IPCC 2013 Wetlands Supplement in estimating greenhouse gas emissions and removals (p. 2, p. 8).

## *Kenya*

[Link to submission](#)

- Among its mitigation initiatives, Kenya aims to explore coastal carbon Payment for Ecosystem Services (PES) (p. 8).
- Kenya intends to include wetlands in estimating greenhouse gas emissions and removals (p. 9).
- Highlighting opportunities for nature-based solutions, Kenya:
  - Aims to implement a national mangrove management plan and promote mangrove ecotourism;
  - Notes the need for nature-based solutions in mitigating floods, especially around “informal settlements and selected urban areas” and;
  - Mentions seaweed farming as another nature-based enterprise (p. 15).
- Among adaptation priorities, Kenya aims to “conduct a blue carbon readiness assessment for full integration of blue carbon/ocean-climate action into NDCs” (p. 15).
- Among adaptation priorities, Kenya includes a program that manages flood risk and incorporates nature-based solutions (p. 15).

## *Kiribati*

[Link to submission](#)

- Kiribati aims to increase the carbon sink potential of coastal systems through mangrove forest preservation and enhancement (p. 29).

### *Lebanon*

[Link to submission](#)

- Lebanon notes that it will use the 2013 IPCC Wetlands Supplement for estimating greenhouse gas emissions and removals (p. 20).

### *Malaysia*

[Link to submission](#)

- Recognizing the co-benefits of blue carbon ecosystems, Malaysia includes goals to increase “riparian area management units” and implement “larger buffer areas around wetlands, peat swamps and mangroves”. Malaysia also notes its intention to construct wetlands to promote nature-based wastewater treatment (p. 11, 12).

### *Maldives*

[Link to submission](#)

- Highlighting multiple adaptation benefits of mangroves, Maldives seeks to protect and restore these critical ecosystems (p. 14).

### *Mauritius*

[Link to submission](#)

- Improve management of marine and terrestrial protected areas and expansion of protected area network, including rehabilitation of wetlands, seagrass, mangrove plantation, increase in tree coverage areas and coral reef rehabilitation/farming (p. 6-8, 14-15, 27).

### *Mexico*

[Link to submission](#)

- Mexico will strengthen instruments and implement actions for the conservation of biodiversity and the restoration of marine and freshwater ecosystems, as well as to promote the increase and permanence of carbon reservoirs, with an emphasis on blue carbon ones (p. 40).
- Mexico is contemplating the development of a National Blue Carbon Strategy to cover the protection of mangroves, sea grasses, and marshes. These are important carbon reservoirs. Mexico is the twelfth ranked country for the largest number of coastal ecosystems and resources. Mexico has 775,555 hectares of mangroves, 400,000 hectares of sea grasses, and 133,000 hectares of marshes (p. 10).

### *Mozambique*

[Link to submission](#)

- Mozambique intends to boost fishery resilience through mangrove regeneration, protection of aquatic habitats (eg. seagrass), and the integration of climate adaptation in fishery planning and budgeting processes. The country has plans to construct eight centers for fish conservation (p. 21).
- Mozambique is dedicated to curbing deforestation and unchecked burning. The country plans to implement integrated agroforestry systems, use multi-purpose forest species, and rehabilitate degraded ecosystems and grasslands, with initiatives such as REDD+, MozBIO, FIP, Sustenta, and MozFIP (p. 22).

### *Norway*

[Link to submission](#)

- Norway notes its use of the IPCC 2013 Wetlands Supplement in estimating greenhouse gas emissions and removals (p. 13).

### *Namibia*

[Link to submission](#)

- Recognizing the mitigation and adaptation co-benefits of blue carbon ecosystems, Namibia states its goal to prevent degradation of wetlands and estuaries and highlights the importance of kelp beds as a climate solution (p. 21).

### *New Zealand*

[Link to submission](#)

- As an element of their methodology to account for forestry and other land uses, New Zealand looks forward to considering methodologies introduced by the 2013 IPCC Wetlands Supplement and the 2019 Refinement to the 2006 IPCC Guidelines in the future (p. 2).

### *Pakistan*

[Link to submission](#)

- Pakistan is committed to the conservation and restoration of mangroves, peatland, and coastal and marine ecosystems, along with developing a comprehensive management system for protected areas including coastal wetlands, and increasing coastal areas under protection, particularly through creating new marine protected areas and extensive no-take zones (p. 36, 37, 48).

### *Panama*

[Link to submission](#)

- Among its priorities in ocean-based sectors, Panama notes that it aims to develop a “Technical Manual for the Restoration of Degraded Mangrove Areas” (p. 56).
- Panama notes that it intends to use the IPCC 2013 Wetlands Supplement in estimating greenhouse gas emissions and removals beginning in 2022 (p. 56).

### *Papua New Guinea*

[Link to submission](#)

- Among its adaptation priorities, Papua New Guinea includes expanding and managing mangrove ecosystems to protect coastal infrastructure and prevent damage to coral reefs (p. 24, 25).
- Papua New Guinea notes its intention to identify strategies for incorporating blue carbon ecosystems into existing REDD+ initiatives in its 2025 NDC (p. 43).

### *Republic of Korea*

[Link to submission](#)

- Republic of Korea notes its use of the IPCC 2013 Wetlands Supplement in estimating greenhouse gas emissions and removals (p. 21).
- The Republic of Korea will maintain and improve its carbon sinks including by creating new coastal and inland wetlands as well as vegetation in waterfront areas (p. 3).

## Samoa

[Link to submission](#)

- Among adaptation priorities specific to blue carbon ecosystems, Samoa states its commitment to “expand the area of mangrove forests in Samoa by 5 percent by 2030 relative to 2018”. To achieve this, Samoa intends to develop a program to restore mangrove forests, and these efforts will require “technical expertise, external financial support, and consent from various stakeholders (including coastal villages) in order to determine the areas on which mangroves will be planted and how mangroves will be planted and monitored” (p. 6, 10, 12).

## Saudi Arabia

[Link to submission](#)

- Saudi Arabia is implementing coastal strategies to decrease erosion, boost blue carbon sinks, and address climate change's marine impacts. The Kingdom promotes mangrove planting and improves coral reef restoration with innovative technologies. Research is underway to accurately estimate blue carbon sinks in regional waters (p. 8).

## Senegal

[Link to submission](#)

- Outlining strategies for reaching mitigation goals in the forestry sector, Senegal notes that it aims to increase mangrove coverage by 1,297 hectares annually (p. 28).
- Senegal mentions restoring 4,000 hectares of mangroves annually, citing it as a conditional goal (p. 28).

## Seychelles

[Link to submission](#)

- Among adaptation commitments specific to blue carbon ecosystems, Seychelles states that it will:
  - Protect “at least 50% of its seagrass and mangrove ecosystems by 2025, and 100% of seagrass and mangrove ecosystems by 2030;
  - and “establish a long-term monitoring programme for seagrass and mangrove ecosystems by 2025 and include the GHG sink of Seychelles’ blue carbon ecosystems within the National Greenhouse Gas Inventory by 2025” (p. 17).
- Among its climate mitigation priorities, Seychelles includes its goals to determine a baseline of its marine carbon stocks and “map the full extent of seagrass and mangroves (blue carbon) habitats within Seychelles’ territorial sea and EEZ and assess carbon storage capacity”, leveraging new technologies and “partnerships specifically designed to strengthen local, scientific, methodological and governance capacities” (p. 32, 33).
- Among its nature-based climate adaptation priorities, Seychelles includes the following goals:
  - “In conjunction with protections through the SMSP process and MPA network, Seychelles intends for coastal planning and infrastructure to be regulated at the national and local level to prioritize the 33 consideration of ‘blue’ Nature-based Solutions (NbS)”;
  - “Seychelles will put in place protections including but not limited to the ongoing SMSP and marine protected area (MPA) network, for at least 50% of Seychelles seagrass and mangrove ecosystems by 2025, and 100% of seagrass and mangrove ecosystems by 2030, subject to external support and identification of financing mechanisms to support the implementation and protection.”;
  - “Establish a long-term monitoring programme for seagrass and mangrove habitats by 2025 and include the GHG sink of Seychelles’ blue carbon ecosystems within the National Greenhouse Gas Inventory by 2025” (p. 32, 33).

## Singapore

[Link to submission](#)

- Singapore notes its use of the IPCC 2013 Wetlands Supplement in estimating greenhouse gas emissions and removals (p. 8).

- In its accompanying information on adaptation efforts (sub-section on water and floods), Singapore cites its efforts to conserve and restore mangrove forests to protect coastlines (p. 22).

### *Solomon Islands*

[Link to submission](#)

- Among its mitigation goals, Solomon Islands includes its priority to “enhance its carbon sink” by promoting sustainable management of coastal and marine ecosystems (p. 1).

### *Somalia*

[Link to submission](#)

- Among its adaptation priorities, Somalia mentions its mangrove and shoreline restoration program (p. 11).

### *St. Lucia*

[Link to submission](#)

- Citing adaptation initiatives that are expected to have mitigation co-benefits, St. Lucia includes a project that would solve the “die-back of the largest mangrove in St. Lucia” (p. 15).

### *Sudan*

[Link to submission](#)

- Recognizing the co-benefits of coastal ecosystems, Sudan intends to pursue blue carbon through the “restoration and conservation of mangrove forests in Red Sea State”. Highlighting the potential to build resilience in its coastal zone, Sudan includes strategies to protect seagrass beds and enhance management of mangroves (p. 6).
- Among measures to build resilience in its coastal zone, Sudan mentions protecting and restoring ecosystems such as mangroves, seagrass beds, and coral reefs (p. 20).

### *Timor-Leste*

[Link to submission](#)

- Timor-Leste also intends to utilize the mitigation and adaptation co-benefits that can be derived from protecting its natural carbon sinks and reservoirs, including those in marine environments (p. 38).

### *Togo*

[Link to submission](#)

- Togo will undertake restoration of coastal zone vegetation like mangroves for adaptation and carbon sequestration (p. 41, 46).

### *Tunisia*

[Link to submission](#)

- The updated NDC also states the intention to promote a Tunisia that is resilient to climate change through reduced vulnerability and strengthened adaptive capacity – to achieve this vision, Tunisia notes plans for knowledge sharing within the coastal sector, integration of climate change and natural disasters into coastal sector planning, and development of a program for the management and protection of coastal and marine landscapes and ecosystems (p. 8, p. 70).

### *United Arab Emirates*

[Link to submission](#)

- The UAE is researching carbon sequestration in mangrove soil via radiometric dating to inform coastal management and emissions inventories (p. 34).
- The UAE is planting native trees like mangroves to restore ecosystems and sequester 1,073,696 metric tons of CO<sub>2</sub> annually. Their goal is to plant 100 million mangrove seedlings by 2030, up from their previous target of 30 million (p. 34).
- The Emirate of Abu Dhabi plans to protect 20% of marine blue carbon habitats by 2025 (p. 34).
- The UAE is part of the Mangrove Alliance for Climate, a global effort to protect and strengthen mangroves (p. 34).

### *United Kingdom*

[Link to submission](#)

- The Scottish Government is gathering new evidence from the Scottish Blue Carbon Forum (p. 26). Northern Ireland's new Marine Plan, expected in 2023, will address adaptation and mitigation measures, including blue carbon (p. 26).

### *United Republic of Tanzania*

[Link to submission](#)

- United Republic of Tanzania states that it will “embark on a climate resilient development pathway” aiming to “reduce the impacts of sea level rise to the island” and ecosystems, noting benefits to mangrove ecosystems (p. 7).

### *United States*

[Link to submission](#)

- Recognizing the co-benefits of coastal ecosystems, the U.S. states that it will promote nature-based solutions to enhance coastal resiliency and increase the sequestration of blue carbon (pg. 5).

### *Uruguay*

[Link to submission](#)

- By 2030, 100% of the vulnerable elements of the coastal zone will be included in adaptation plans or programs for the variability and climate change, defining its level of protection and/or applying adaptation measures based in ecosystems for conservation and restoration.

### *Vanuatu*

[Link to submission](#)

- Vanuatu is committed to protecting resilient areas like coral reefs with high coral cover, mangroves, and coastal wetlands that can move inland. (p. 17).

### *Venezuela*

[Link to submission](#)

- Venezuela will establish forests and agroforestry systems and carbon sinks for the environmental recovery of natural areas for the environmental and ecological recovery of degraded areas within watersheds prioritized by the government. This will be done as a compensatory measure for the environmental impacts of the oil sector activities (p. 54).

### *Viet Nam*

[Link to submission](#)

- To help achieve its GHG emissions reductions target, Viet Nam plans to shift its land-use by protecting coastal areas and improving the quality and productivity of the carbon stock of natural lands (p. 7).

## 5. Advancing Marine Protected Areas (MPAs)

[Return to contents](#)

*See also sections on protecting and restoring blue carbon ecosystems and protecting coastal communities, infrastructure, and ecosystems for complementary/related actions. There is some repetition of notable and cross-cutting commitments.*

### Albania

[Link to submission](#)

- Albania will proclaim additional Marine Protected areas along the wetland and lagoon area will help develop adaptation measures (p. 73).

### Australia

[Link to submission](#)

- Australia will strengthen the management of its Marine Parks and will invest an additional \$194.5 million to protect the Great Barrier Reef (p. 5).

### Bahamas

[Link to submission](#)

- Bahamas will improve the management and conservation of ecosystems by:
  - Increasing the amount of marine protected areas under effective management (p. 40).

### Cabo Verde

[Link to submission](#)

- Among its adaptation priorities, Cabo Verde recognizes the importance of protecting marine natural habitats and biodiversity. To expand its marine protected areas and implement “monitoring mechanisms,” Cabo Verde intends to adopt the following measures:
  - Utilize spatial analysis tools to determine “optimal locations” for marine protected areas, taking into consideration carbon sequestration potential.
  - By 2022, manage marine spatial planning by adopting a regulatory law, and/or amend the “basic law of territorial planning and urban planning to include maritime spatial planning.”
  - From 2023-2024, work to raise awareness “among residents, tourists and fishermen associations” to better protect marine species.
  - By 2024, adopt a “national maritime space management plan” focusing on protecting and restoring Cabo Verde’s “blue natural capital.” This plan will include ambitious climate goals and the Special Economic Zone of Maritime Economy in São Vicente (ZEEEM-SV) will assume “an explicit stewardship role.”
  - By 2030, expand the area of coastal and marine protected regions by 50% and create management plans with adaptive strategies for 100% of marine protected areas. Procedures for reviewing management plans will include local populations (p. 39, 40).



## Canada

[Link to submission](#)

- Highlighting the mitigation and adaptation co-benefits of protecting ecosystems, Canada states that it's committed to protecting 25% of its ocean by 2025 and 30% by 2030 (p. 13).

## Chile

[Link to submission](#)

- In the integration component of its enhanced NDC (specifically in its ocean contributions), Chile states that “new protected areas will be established in under-represented marine ecoregions” (p. 64). In the scope of this commitment, Chile includes the following sub-goals:
  - “By 2025, protect at least 20 coastal wetlands as new protected areas.”
  - “By 2030, protect at least 10% of under-represented marine eco-regions (Humboldt, Central Chile, Araucanía and Chiloe), in the framework of a participatory marine spatial planning.”
  - “By 2030, protect at least 10 additional coastal wetlands as protected areas.”
- In the integration component of its enhanced NDC (specifically in its ocean contributions), Chile states that “all marine protected areas of Chile created up to 2020 will have a management or administration plan under implementation, taking into account actions for adaptation to climate change,” with a range of sub-goals for 2025 and 2030 (p. 65).
- In the integration component of its enhanced NDC (specifically in its ocean contributions), Chile states that it will assess and strengthen mitigation and adaptation co-benefits in protected areas, with the sub-goals that three protected areas will have standardized metrics to evaluate mitigation and adaptation by 2025 and that Chile will apply metrics for monitoring and verifying mitigation and adaptation in at least five protected areas by 2030, “while strengthening co-benefits in their management plans” (p. 66).

## Costa Rica

[Link to submission](#)

- Citing the ocean as a “principal area of action,” Costa Rica intends to have 30% of its ocean under an official protection scheme by 2022 (p. 43).

## Dominica

[Link to submission](#)

- Dominica intends to establish and support an institutional framework for a coastal management plan by growing its capacity to monitor and assess the protection of marine areas via technology (p. 60).

## Egypt

[Link to submission](#)

- Egypt will protect 17% of its national marine and wildlife areas, with 5% located on the coast (p. 26).

## Fiji

[Link to submission](#)

- Among its adaptation targets, Fiji intends to use the National Ocean Policy to:
  - “Establish 30% of our Exclusive Economic Zone (EEZ) as Marine Protected Areas” and
  - “Work toward 100% management of our EEZ by 2030” (p. 5).

## Gabon

[Link to submission](#)

- Gabon is well on its way to 30% protection for marine ecosystems (27%) and plans to achieve 30x30 in marine areas by 2030; additionally, Gabon is interested in preserving keystone species to promote carbon sequestration and ending destructive fisheries practices, in particular bottom trawling (p. 13, 28, 29).

### *Guatemala*

[Link to submission](#)

- By 2025, CONAP will have approved the technical studies of at least two new protected areas in the Pacific coast to be included in the Sistema Guatemalteco de Áreas Protegidas (SIGAP, Guatemalan System for Protected Areas). The technical studies will include the participation and knowledge from women, men and local communities and will have a scope that guarantees their livelihoods (p. 51).
- By 2025, at least one new protected area in the Pacific Coast will be added to the SIGAP (Guatemalan System for Protected Areas). This process will have been socialized with women and local communities (p. 51).

### *Honduras*

[Link to submission](#)

- Among its adaptation strategies, Honduras includes enhancing conservation in protected areas, including those with wetlands, estuaries, biological corridors, and “coastal marine zones with declaration”. Its NDC notes that “by 2030, [Honduras] will have updated management plans of protected areas with components for climate adaptation” (p. 44).

### *Indonesia*

[Link to submission](#)

- Indonesia plans to enhance ecosystems, species, and genetic conservation, and improve the functionality of integrated ecosystems to ensure improvement of essential services by protecting existing and developing new marine protected areas (p. 40).

### *Malaysia*

[Link to submission](#)

- Among strategies to promote adaptation for vulnerable coastal and marine ecosystems, Malaysia states its intention to “expand protected areas”, prioritizing “fisheries zones within the marine and coastal protection corridors” (p. 12).

### *Micronesia (Federated States of)*

[Link to submission](#)

- FSM also intends to develop integrated management plans to protect and sustain coastal ecosystems, while expanding the number of Protected Areas in their Protected Areas Network (p. 27).

### *Namibia*

[Link to submission](#)

- To promote healthy marine protected areas, Namibia includes a goal to ensure that “exploration and mining within the Protected Areas comply with the environmental and economic regulatory frameworks” (p. 30).

### *Papua New Guinea*

[Link to submission](#)

- In Papua New Guinea’s initiative to protect coral reefs, it notes the importance of establishing marine protected areas (p. 25).

### *Senegal*

[Link to submission](#)

- Highlighting adaptation measures in its fisheries sector, Senegal prioritizes expanding and improving marine protected areas, with a goal of “10 MPAs by 2050” in the scenario of a 2-degree Celsius temperature increase and a goal of 15 in the scenario of a 4-degree Celsius temperature increase (p. 31).

### *Seychelles*

[Link to submission](#)

- Among its adaptation commitments, Seychelles includes implementing its Marine Spatial Plan and managing “the 30% marine protected areas within the Seychelles’ Exclusive Economic Zone” (p. 17).
- Seychelles mentions its Marine Spatial Plan (SMSP) among its adaptation solutions, which includes a goal to designate 30% of its Exclusive Economic Zone (EEZ) as marine protected areas (p. 28).
- Among its nature-based climate adaptation priorities, Seychelles includes its goal to implement “protections including but not limited to the ongoing SMSP and marine protected area (MPA) network, for at least 50% of Seychelles seagrass and mangrove ecosystems by 2025, and 100% of seagrass and mangrove ecosystems by 2030, subject to external support and identification of financing mechanisms to support the implementation and protection” (p. 33).

### *Solomon Islands*

[Link to submission](#)

- Among its adaptation targets, Solomon Islands states that it intends to protect “15% of coastal and marine areas enabling ecological, representative and well-connected system of protected area in the country, as provided in The National Biodiversity Strategic Action Plan 2016-2020” (p. 15).

### *St. Lucia*

[Link to submission](#)

- Citing adaptation initiatives expected to have mitigation co-benefits, St. Lucia includes establishing the Iyanola Park Biosphere Reserve with the purpose of building “ecological and livelihood resilience” (p. 15).

### *Timor-Leste*

[Link to submission](#)

- Timore-Leste plans to protect at least 10% of its total combined land and marine area from extractive activities, while strengthening the protection and conservation of coastal and marine ecosystems against the impacts of climate change. Furthermore, the expansion of Timor-Leste’s marine protected areas will help to “strengthen the adaptive capacity of the marine environment, fishing sector, and its associated natural ecosystems” (p. 38).

### *Tonga*

[Link to submission](#)

- To achieve several of its adaptation goals, Tonga cites the need to expand marine protected areas and special management areas (SMAs) to 30% of its EEZ (p. 10).

### *United Arab Emirates*

[Link to submission](#)

- The UAE has 49 protected areas covering 15.5% of its land. They're developing the UAE Smart Map of Natural Capital to identify valuable ecosystems (p. 32).

### *United Kingdom*

[Link to submission](#)

- The UK is committed to a well-managed network of Marine protected Areas (p. 25). The Scottish new Blue Economy vision includes a network of highly protected marine areas by 2026 (p. 25).

### *Uruguay*

[Link to submission](#)

- By 2030, the National Strategy for Biodiversity, the National Strategic Plan for Protected Areas, Ocean Planning, and the Neutrality Strategy on the degradation of lands under climate change and variability (p. 29).
- By 2030, management plans for protected areas with an approved management plan will consider risk assessments, goals and specific actions for Adaptation (p. 30).
- By 2030, risk assessments, as well as goals and specific actions for adaptation to climate change and climate variability will be included in 100% of the protected areas with an approved management plan, and updated starting in 2025 (p. 31).

### *Vanuatu*

[Link to submission](#)

- Vanuatu plans to incorporate uncertainty into marine protected areas by implementing protection measures across various areas. (p. 17).

### *Venezuela*

[Link to submission](#)

- During the period 2021-2030 Venezuela plans to continue strengthening the group of areas under special administration regime as part of the commitments and agreements taken under CBD and the UNFCCC which would include: 1. Declaration of 3 new national parks; 2. Declaration of one new national monument; 3. Declaration of 6 new nature reserves; 4. Proposed expansion of eight national parks; 5. Expansion of one national monument; 6. Declaration of one biosphere reserve; 7. Elaboration of three management plans and use regulations; 8. Update of four management plans and use regulations (p. 146).

## **6. Protecting Coastal Communities and Infrastructure**

[Return to contents](#)

*See also sections on protecting and restoring blue carbon ecosystems and advancing marine protected areas for complementary/related actions.*

## *Albania*

[Link to submission](#)

- Albania plans to develop an integrated coastal zone adaptation plan, for specific regions, or cities for settlements, populations and tourism in the Albanian coast (p. 73).
- Albania plans to develop an integrated coastal zone adaptation plan for Lagoons and Wetlands (p. 73).
- Albania will develop risk management plans, especially on flood prevention for Lagoons and Wetlands (p.73)
- Albania will rehabilitate and restore degraded habitats, including barriers along the coastal zone for lagoons and wetlands (p. 73)
- Albania will perform water quality\_in each wetland/lagoon to track impacts of climate change on abiotic factors to reduce risks through environmental quality monitoring methods and techniques (p. 73).

## *Angola*

[Link to submission](#)

- Among efforts to protect its population and economic activities from climate impacts, Angola includes mapping settlements vulnerable to erosion and flooding and assessing the “defense capacity of existing protection structures in risk areas, including the analysis of the feasibility of new investments for the construction of protection structures against sea level rise” (p. 57).

## *Antigua and Barbuda*

[Link to submission](#)

- Among priorities to promote adaptation planning in the coastal zone, Antigua and Barbuda includes commitments to predict and assess “current and future risk from tropical cyclones (wind and storm surge), marine heat waves, and sea level rise” through climate modelling in order inform sectoral adaptation plans (p. 28).
- Among priorities to promote adaptation in its coastal zone, Antigua and Barbuda describes a project intending to “build resilience of ecosystems and vulnerable communities who depend on them for their livelihoods through innovative financing of Ecosystem-based Adaptation (EbA) measures” (p. 49).

## *Argentina*

[Link to submission](#)

- Among its adaptation priorities, Argentina includes further developing strategies to prevent floods by 2030, emphasizing the vulnerability of the agricultural, livestock and forestry industries (p. 21).
- Among its adaptation priorities, Argentina recognizes the benefits of Ecosystem-based Adaptation (EbA) for building resilient “infrastructures, city-regions, and habitat,” stating its intention to promote the preservation and conservation of wetlands and peatlands through EbA management strategies (p. 22, 27).
- Among its adaptation priorities, Argentina mentions a number of strategies to create coastal zones that are resilient to the effects of climate change, including modeling “impact scenarios” in the industrial sector and enhancing responses of the healthcare system to extreme weather and flooding (p. 56, 58).
- Among goals to create climate-ready transportation infrastructure, Argentina includes maritime transportation, aiming for increased “safety in navigability” in the face of ocean-climate impacts which cause changing ocean conditions (p. 59).
- Among targets focused on building climate-resilient infrastructure, Argentina includes strengthening port design and maintenance (p. 59).
- Among its adaptation priorities, Argentina includes implementing a coastal management program which will protect “ecosystems and populations located in the most vulnerable areas” and Argentina promotes an Ecosystem-based Approach to conserving and sustainably using aquatic ecosystems (p. 64, 65).

## *Bahamas*

### [Link to submission](#)

- Bahamas will enhance climate change information and monitoring by establishing national standards for collecting geospatial data including coral reefs and fisheries (p. 41).

## *Benin*

### [Link to submission](#)

- Benin’s adaptation priorities include institutional changes, specific help for cities to adapt to climate change, in particular sea level rise and flooding, and better observation and monitoring. Benin will:
  - establish reliable climate observation and monitoring (p. 42).
  - strengthen institutions that address ocean protection (p. 42).
  - undertake four initiatives to help cities adapt to climate change – protection from erosion (\$386.73m); sustainable cities and infrastructure (\$78.52m); adaptation capacity building for city and national-level managers (\$70.89m); and stormwater management, flood protection, infrastructure development, and socioeconomic development initiatives (\$4.31m) (pp. 39-42).
  - undertake modeling for saltwater intrusion in the coastal zone (p. 42).
  - protect socio-economic systems against erosion and sea level rise (p. 43).
  - address coastal erosion and sea level rise and strengthening coastal city resilience (p.73).
  - implement Horizon 2030 projects to reduce vulnerability to flooding and sea level rise and to ensure protection of marine and estuarine areas (p. 25, 26).

## *Brunei Darussalam*

### [Link to submission](#)

- Among initiatives to mitigate climate impacts such as flooding and storm surge, Brunei Darussalam cites 56km of coastal protection structures that have been established along its coastline (p. 14).

## *Cabo Verde*

### [Link to submission](#)

- Among enhancements focused on the tourism industry, Cabo Verde states that it will work to improve climate resiliency in the coastal and marine tourism industry and increase its “climate and environmental benefits” (p. 28).
- Among its adaptation priorities, Cabo Verde includes implementing some form of coastal protection for each island, using “nature-, ecosystem- and landscape-based solutions” combined with (or substituted for) grey infrastructure, taking advantage of carbon sequestration among other adaptive benefits (p. 40).
- Among its adaptation contributions, Cabo Verde includes creating “all Coastal and Adjacent Seaside Management Plans” which should prepare for adapting coastal zones to impacts of climate change such as sea level rise, the loss of coastal territory and displacement of coastal communities (p. 42).

## *Cameroon*

### [Link to submission](#)

- In addressing adaptation, Cameroon will increase resilience of infrastructure, protecting the coast against climate change effects (p. 34, 39, 53).

## *Chile*

### [Link to submission](#)

- In its adaptation contribution, Chile states that it will develop and begin implementation of its adaptation plan on coastal areas in 2022 and will update its coastal areas adaptation plan in 2027 (p. 41).

## *China*

### [Link to submission](#)

- Among its adaptation goals, China states that it will focus on monitoring water resources and terrestrial and marine coastal ecosystems to strengthen early warning of climate change risks (p. 39).
- Among its adaptation goals, China commits to stepping up the protection of ecosystems including wetlands and oceans to improve their climate resilience while “improving the capacity of climate disaster prediction, warning and prevention, so as to ensure the safety of people in coastal areas” (p. 40).

## *Democratic Republic of the Congo*

### [Link to submission](#)

- The Democratic Republic of the Congo will undertake a number of adaptation actions before 2030 that will focus on reducing erosion, protecting vulnerable areas from flooding, implementing early warning systems, and understanding risks and vulnerability of the coastal zone, with a total cost of about \$2.3m.

## *Cuba*

### [Link to submission](#)

- As part of its adaptation objective, Cuba states its intention to improve the Civil Defense System, using science and technology to enhance coastal resilience in areas vulnerable to sea level rise (p. 4).
- Among adaptation initiatives related to water resources, Cuba notes that its hydraulic program will include sea water desalination (p. 4).
- Citing several actions in its State Plan to confront Climate Change, Cuba plans to adapt coastal infrastructure and agricultural activities in low-lying areas to flooding, taking advantage of low-cost strategies such as nature-based solutions (p. 5, p. 10).

## *Dominica*

### [Link to submission](#)

- Dominica intends to protect coastal infrastructure and communities against climate impacts (such as sea level rise and flooding) using nature-based solutions including mangrove restoration, and integrated water and coastal resources management (p. 79).
- Dominica will reinforce its coast, rivers, and slopes while improving critical infrastructure to mitigate the effects of climate change on ecosystems, communities, and cities (p.83).
- Dominica will prepare vulnerable communities for disasters by establishing early warning systems, multi-use disaster shelters and emergency training programs (p. 83).

## *Dominican Republic*

### [Link to submission](#)

- In order to advance climate-resilient coastal zones, the Dominican Republic intends to consider adaptation strategies in the “zoning and planning of coastal-marine systems” and intends to prioritize Ecosystem-based Adaptation and “green infrastructure” (p. 45).

## *Egypt*

### [Link to submission](#)

- Egypt is aiming to desalinate up to 4 million cubic meters of water per day using solar and wind energy and to create rainwater catchments to support tourism and local drinking or irrigation water needs (p. 23).
- Egypt will develop structural and architectural interventions (i.e. maritime walls, submersible barriers, soil fixation), carry out sand nourishment to deal with the erosion of beaches, and construction and reinforcement of anti-flood protection structures to protect lives, properties and economic activities for vulnerable populations (p. 25).

- Egypt will reinforce nature-based solutions for land protection through sand dune stabilization by the cultivation of wild plants and wooden barriers and preserving natural defense lines against sea encroachment during storms (p. 25).
- Egypt will strengthen the implementation of good fishing practices in both the Mediterranean and the Red Sea to protect marine life and its ecosystems (p. 25).
- Egypt will share information for effective planning and implementation including on the effectiveness of proposed adaptation measures and Decision Support Tools (p. 25).
- Egypt will conduct capacity building and enhance national partnerships for the effective management and response to climate change associated risks and disasters coupled with long term monitoring of changes in the sea and early warning system to minimize the impacts of extreme weather events (p. 25).
- Egypt plans to take a hybrid green-gray infrastructure approach to protect its coasts from erosion and sea-level rise. Other updates include developing an Integrated Coastal Zone Management Plan along Egypt's Northern coast, along with providing capacity, monitoring, and an early warning system for extreme weather events (p. 25).

### *Fiji*

[Link to submission](#)

- To mitigate the effects of flooding and cyclones on public infrastructure, Fiji includes prioritizing nature-based adaptation solutions (p. 5).
- Fiji notes that developing future infrastructure must consider climate impacts (p. 5).

### *Gabon*

[Link to submission](#)

- Gabon recognizes that adaptation costs will be high, and that the state will be losing the 60% of its revenue currently generated by fossil fuels by 2040; coastal erosion and sea level rise may require managed retreat for Port-Gentil and large areas of the capital, Libreville (p. 4, 21).
- Gabon will support planning for climate change and investment in coastal infrastructure, nature-based solutions like mangroves and coastal forests, urban planning, climate-resilient architecture, job support, and potential managed retreat for Port-Gentil, Gabon's second largest city, and large portions of the capital, Libreville (p. 6, 23).

### *Guinea*

[Link to submission](#)

- Among priorities to build climate resilience in its coastal zone, Guinea states its goals to promote implementation of a "mangrove management strategy" and to reduce stresses to mangroves, supporting the conservation of ecosystems and enhancing resilience of coastal populations (p. 41).

### *Haiti*

[Link to submission](#)

- Haiti's adaptation goals include undertaking measures planned to address coastal risk from flooding, sea level rise, and habitat degradation include bans on coastal development and converting coastal areas to different uses, increasing built and nature-based coastal protection measures, capacity development and education, planning for managed retreat, and efforts to fight sargassum (p. 45, 46, 49).

### *India*

[Link to submission](#)

- Among its adaptation goals, India commits to investing in climate adaptation development in vulnerable coastal regions (p. 3).



## *Indonesia*

### [Link to submission](#)

- Indonesia notes that as foundational principles for the development of their NDC that:
  - Climate change adaptation and mitigation efforts are multi-sectoral in nature, and that they take an integrated, landscape-scale approach covering terrestrial, coastal and marine ecosystems; and
  - Fulfilling the needs of a growing population for food, water and energy is important, and notes that they will improve management of natural resources to enhance climate resilience by protecting and restoring key terrestrial, coastal and marine ecosystems (p. 2).

## *Ivory Coast*

### [Link to submission](#)

- Ivory Coast will undertake adaptation measures that include strengthening coastal zone protection, improving integrated coastal zone planning, implementing an early warning system for coastal risks, and supporting vulnerable communities through capital and social investment (p. 21).

## *Kenya*

### [Link to submission](#)

- Among adaptation priorities, Kenya notes the potential of nature-based solutions to mitigate floods, especially around “informal settlements and selected urban areas” (p. 16).
- Kenya notes the need for climate risk assessments of buildings and houses (p. 16).

## *Kiribati*

### [Link to submission](#)

- Kiribati aims to develop climate change resilient infrastructure while building coastal resilience through marine management and strategic coastal protection initiatives (p. 15).

## *Lebanon*

### [Link to submission](#)

- Aiming to reduce the vulnerability of coastal zones to climate change impacts, Lebanon includes improving measures that protect coasts against sea level rise and storm surge (p. 11).
- Among its adaptation priorities, Lebanon mentions evaluating major coastal aquifers for seawater intrusion (p. 11).

## *Malaysia*

### [Link to submission](#)

- Among priorities to strengthen resilience in its coastal zone, Malaysia includes the following goals:
  - “SLR and storm surge projections will be mainstreamed into the Integrated Shoreline Management Plan and for the planning of coastal protection and development projects”;
  - Malaysia’s Coastal Vulnerability Index associated with sea-level rise “will be embedded in mapping out vulnerability assessment of different socioeconomic segments. Efforts will be focused on intensification of developing coastline SLR-based inundation maps”;
  - “Malaysia focuses on increasing coastal resilience against the impacts of SLR and management of storm surge impacted areas through rehabilitation and protection programs. Adoption of nature-based solutions and green-gray infrastructures will be continuously promoted” (p. 11).
- Among priorities to strengthen resilience of coastal infrastructure, Malaysia mentions that future planning for “waste and wastewater infrastructures will take into account its sustainability, efficiency and effectiveness whilst avoiding

areas that are environmentally sensitive, flood-prone and categorized as water catchments. Adopting nature-based solutions such as constructed wetlands in facilitating wastewater treatments will be a priority” (p. 11).

### *Maldives*

[Link to submission](#)

- Among its adaptation priorities, Maldives mentions developing resilient coastal infrastructure through enhancement of its National Building Code (p. 13).
- Citing the need for major coastal adaptation efforts, Maldives aims to:
  - “Promote use of evidence-based decision making on coastal adaptation planning and management of coastal zones;”
  - “Facilitate mobilization of financing to reduce exposure of communities to coastal hazards;”
  - “Mainstream climate change risks into coastal development policies;” and
  - “Continue to facilitate investments in coastal protection of inhabited islands, industrial islands and resorts” (p. 16).

### *Mauritania*

[Link to submission](#)

- Mauritania recognizes climate change risks from sea level rise, flooding, and coastal erosion will require adaptation through actions including early warning systems, wetlands management and protection, coastal dune protection, other coastal protection, restoration of ecologically and biologically important sites, ecosystem-based adaptation practices and coastal planning, infrastructure protection (water systems), and creation of green jobs.

### *Mauritius*

[Link to submission](#)

- Implement the component on Integrated Coastal Zone Management (ICZM) part of the Draft Master Plan on Environment– Adopt an Ecosystem-based approach (p. 27).
- Enhance the knowledge regarding the risks of climate change for coastal ecosystems and communities – develop storm surge models to assess vulnerability in terms of coastal inundation and prepare hazard maps (p. 27).
- Awareness raising, enhanced rehabilitation and strengthened regulatory framework for the protection of beaches, dunes, and vegetation. Development and implementation of sustainable fishing management plans, strengthening of institutional capacity and adaptation of infrastructure to climate change, including sea level rise (p. 27).

### *Micronesia (Federated States of)*

[Link to submission](#)

- FSM plans to climate-proof its major ports by 2030 to help protect its coastal infrastructure and communities against flooding from sea level rise and king tides (p. 31).

### *Monaco*

[Link to submission](#)

- Among its adaptation priorities, Monaco cites flooding as a major climate threat and states that it has mapped the entire coastal zone for sea level rise risk, identifying coastal regions most vulnerable to floods and submersion (p. 31).
- Highlighting strategies to adapt its coastal infrastructure to climate impacts such as sea level rise, Monaco states the need for short-term, localized raising of structures (p. 31).

### *Mozambique*

[Link to submission](#)

- Mozambique plans to restore deforested coastal regions for use in farming, pastures, and sustainable forestry (p. 22).
- The country plans to assess climate risks, promote appropriate building codes, foster good practices via public-private partnerships, develop coastal protection, encourage climate insurance for tourism, and implement a technological plan for coastal infrastructure (p. 23).

### *Namibia*

#### [Link to submission](#)

- Among goals to protect coastal communities and infrastructure from climate impacts, Namibia includes integrating sea-level rise risks into planning decisions and disaster plans (p. 21).
- Among its climate adaptation priorities, Namibia includes building “seawalls, groynes, detached breakwaters, and revetments” and highlights the benefits of nature-based solutions, such as dune cordons, estuaries, wetlands, and kelp beds (p. 21).
- Other contributions intended into increase adaptation in the coastal zone include the following:
  - “Research and monitor sea-level rise;
  - Undertake vulnerability mapping;
  - Collaborate with the insurance market to guide investment in coastal areas;
  - Install sea walls barriers and barrages”;
  - “Prioritize seawater desalination”;
  - “Improve climate-resilient engineering and building standards for infrastructure in housing, rail, transport, coastal, waste management, telecoms, refrigeration, and energy”;
  - “Expand and modernize the coastal weather observation network with technological systems such as the oceanographic and meteorological buoys to ensure adequate climate information service for adaptation;
  - Improve research on understanding impacts and responses to sea-level rise at some of the vulnerable coastal areas, and through data exchange between Benguela countries and ocean-based economies;
  - Establish comprehensive early warning and disaster prevention systems specific to areas in the ocean and coastal environments.” (p. 24, 26, 29).
- Among priorities to help coastal farmers adapt to the impacts of climate change, Namibia includes goals to:
  - “Adapt conservation agriculture approach as the basis for sustainable coastal farming and improved food security”;
  - and “use irrigation water-saving technologies and organic soil nutrient sources” (p. 30).

### *Nauru*

#### [Link to submission](#)

- Nauru notes its intention to develop a land-use plan to relocate communities and critical infrastructure as a part of their Higher Ground Initiative to protect against climate impacts such as sea level rise and flooding (p.16).
- Nauru plans to conduct technical assessments of coastal erosion and modeling of the impacts of sea level rise and saltwater intrusion to inform development of hard and nature-based solutions (p. 18, 27).

### *Panama*

#### [Link to submission](#)

- In order to identify and monitor slow-progressing impacts of climate change, such as sea level rise and ocean acidification, Panama states that it intends to improve, expand and strengthen its SIREM Platform (System for the Collection and Evaluation of Damages) (p. 128).

### *Papua New Guinea*

[Link to submission](#)

- Among its adaptation priorities, Papua New Guinea includes relocating and resettling vulnerable coastal populations, practicing “community-based flood simulation exercises,” and scaling up successful coastal protection measures countrywide (p. 24).
- Papua New Guinea notes its intention to adapt transportation infrastructure, including transportation by sea, “according to climate-resilient codes and standards” (p. 30).

### *Philippines*

[Link to submission](#)

- The Philippines notes that it will undertake coastal and marine ecosystem adaptation measures “to preempt, reduce and address residual loss and damage” (p. 5).

### *Republic of Korea*

[Link to submission](#)

- To improve climate resilience, the Korean government will establish and implement measures to manage climate risks in six sectors including water management, ecosystems, national land and coastal areas, agriculture and fisheries, health and industry and energy. The measures will be focused on water management that considers future climate risks such as floods and droughts, maintaining the health of ecosystems through ecosystem conservation and recovery, ensuring climate resilience of national land, coastal and social infrastructure, creating an environment that enables sustainable agriculture and fisheries, developing a prevention system against health damages associated with climate change, and improving the adaptive capacity of the industry and energy sector (p. 4).
- To strengthen monitoring, forecasting and assessment, the Korean government will build infrastructure and improve climate vulnerability and risk assessment tools. Satellites will be used for the collection of diverse information from meteorological, **ocean** and environmental monitoring (p. 4).

### *Russia*

[Link to submission](#)

- Russia mentions constructing dams and forest protection belts as strategies to increase resilience against floods (p. 3).

### *Saint Kitts and Nevis*

[Link to submission](#)

- Among its adaptation priorities aimed at protecting critical infrastructure from climate impacts, St. Kitts and Nevis will “retrofit public buildings and infrastructure with climate-smart technology” and update building codes, while modeling and mapping coastal assets.
- St. Kitts and Nevis will also protect “key natural and built assets”, specifically in low-lying areas (p. 6, 7).

### *Sao Tome and Principe*

[Link to submission](#)

- Among its adaptation goals, Sao Tome and Principe includes increasing resilience of coastal communities (p. 14).

## *Saudi Arabia*

[Link to submission](#)

- Saudi Arabia plans to implement Integrated Coastal Zone Management Planning to protect key coastal infrastructures such as roads, residential areas, industrial facilities, desalination plants, and seaports (p. 9).
- Saudi Arabia is implementing strategies like Reverse Osmosis (RO) technology, renewable energy-powered desalination, leak minimization, increased wastewater treatment and reuse, rainwater harvesting, surface water runoff storage, and advanced irrigation techniques to decrease energy consumption, lower greenhouse gas emissions, and conserve precious groundwater resources. These measures aim to reduce exposure and vulnerability (p. 7-8).

## *Senegal*

[Link to submission](#)

- Specifying adaptation priorities for its coastal zone, in the scenario of a 2-degree Celsius temperature increase, Senegal identifies the following measures:
  - Integrated management and increased regulations in the coastal zone; and
  - Identification of zones most vulnerable to the effects of climate change and restoration of degraded ecosystems with benefits for adaptation (p. 31).
- Specifying adaptation priorities for its coastal zone, in the scenario of a 4-degree Celsius temperature increase, Senegal identifies the following measures:
  - Models of waves and swells;
  - Further identification of risks from sea level rise;
  - Analysis of coastal risks and vulnerable infrastructure and communities; and
  - Improved regulations for use of the coastal zone (p. 31).

## *Seychelles*

[Link to submission](#)

- Among its adaptation priorities, Seychelles commits to regulate coastal planning and infrastructure, intending to strengthen the protection of nature-based solutions and enhance coastal resilience (p. 17).
- Intending to promote coastal climate-ready infrastructure, Seychelles is creating a “Port Development Master Plan” and adaptation strategy (p. 17).
- In its updated NDC, Seychelles mentions its Coastal Management Plan (CMP), which outlines Seychelle’s plan to build resilience against “coastal erosion, flooding, tidal variations and cyclones” and focuses on “nature-based and hybrid engineering solutions such as the restoration of beaches and dunes, coral reefs and wetlands” (p. 28).
- Among its climate adaptation priorities, Seychelles notes that its Integrated and Comprehensive Sanitation Master Plan (ICSMP) outlines strategies to construct and enhance 13 wastewater treatment plants across three islands by 2030. Seychelles also has plans to “refurbish the current four desalination plants and construct new plants” (p. 29).
- Among its adaptation priorities specific to coastal infrastructure, Seychelles commits to:
  - “Undertake research to better understand, plan for and address the vulnerability of Seychelles’ critical infrastructure, in particular to climate change impacts, identifying gaps and priorities;
  - Establish linkages between responsible government entities to ensure an appropriate adaptation approach and coordination between the implementation national plans and strategies addressing climate adaptation for critical infrastructure;
  - Establish a national infrastructure database with information on the location, use, ownership and compliance with safety standards of critical infrastructure;
  - Develop and implement a responsive education and awareness program targeting infrastructure users, supported by appropriate research and reflexive monitoring;
  - Undertake the risk assessment of existing and future road networks and construction of retaining walls and drains are important adaptation actions, which need to be further developed and implemented in collaboration with key partners” (p. 30).
- Among its adaptation goals specific to protecting coastal communities from natural disasters, Seychelles includes:
  - Building capacity and designing strategies to better “monitor risks and hazards related to climate impacts”;
  - Creating early warning systems;

- Coordinating preparation and response strategies with “key partners from government, the private sector, and civil society”;
- Further integrating climate adaptation into national response programs (p. 36).

### *Singapore*

[Link to submission](#)

- In its accompanying information on adaptation efforts (sub-section on research investment), Singapore states that the Centre for Climate Research Singapore will develop a National Sea Level Rise Programme to create better projections and improve understanding of long-term sea level rise (p. 20).
- In its accompanying information on adaptation efforts (sub-section on sea level rise), Singapore notes that “minimum platform levels for new development projects have been raised to four metres above the Singapore Height Datum (SHD)” since 2011; it also states that “new critical infrastructure, such as the Tuas Port and Changi Airport Terminal 5, will have platforms raised even higher, to at least five metres above the SHD” (p. 21).
- In its accompanying information on adaptation efforts (sub-section on sea level rise), Singapore notes that it has “installed coastal erosion protection measures on more than 70% of its coastal areas” (p. 21).
- In its accompanying information on adaptation efforts (sub-section on sea level rise), Singapore notes that it has developed a national sea level rise protection plan and states that it will continue researching coastal protection approaches, which may combine nature-based solutions as well as engineering solutions such as sea walls. Given that Singapore expects its coastal protection projects to cost “S\$100 billion over 100 years,” it has created a Coastal and Flood Protection Fund with S\$5 billion of preliminary funding (p. 21).
- In its accompanying information on adaptation efforts (sub-section on water and floods), Singapore states that it will incorporate floodplains into coastal and riverine parks to “protect coastal and low-lying regions from sea level rise or flooding” (p. 22).
- In its accompanying information on adaptation efforts (sub-section on biodiversity), Singapore states that it will “conserve more native plants and animals,” including by “enhancing 30 hectares of forest, marine and coastal habitats” by 2030 (p. 24).

### *Somalia*

[Link to submission](#)

- Among strategies to promote adaptation in its coastal zone, Somalia includes:
  - “Develop and implement coastal zone policy, strategy and management plan;
  - Promote livelihood diversification for coastal communities;
  - Improve monitoring and early warning systems of both sea-level rise impacts and extreme weather events for building adaptive capacity” (p. 10, 11).

### *St. Lucia*

[Link to submission](#)

- Citing adaptation initiatives expected to have mitigation co-benefits, St. Lucia includes evaluating “shoreline stabilization technologies,” targeting specific vulnerable coastal areas (p. 15).

### *Sudan*

[Link to submission](#)

- Among efforts to increase resilience in flood-prone areas, Sudan includes the following strategies:
  - “Improvement of preparedness and mapping of areas vulnerable to risks of flooding;
  - Strengthening preparedness and early warning system
  - Enable forecasting of extreme weather events, including through:
    - Installation of and operation of automatic water level instruments with satellite-based transmission technology

- Implementation and installation of automatic loggers and management of key locations in Sudan
  - Implementation and installation of telemetry monitoring on key stations
  - Improved water harvesting and water management practices introduced in an estimated total of 500,000 Ha, taking stock of successful pilot interventions such as those in Wadi El KU in Darfur and the Gash Basin in Kassala.” (p. 16).
- Among measures to build resilience in its coastal zone, Sudan mentions protecting and restoring ecosystems such as mangroves, seagrass beds, and coral reefs. Sudan includes provisions for mangrove restoration and management to build resilience and alternative livelihoods for mangrove-dependent communities. Sudan also includes strategies to better map and mark “coastal hazard lines” for places vulnerable to impacts of sea level rise and strategies to build “resilience of ecologically and historically altruistic islands” (p. 20).

### *Thailand*

[Link to submission](#)

- Among its adaptation priorities, Thailand notes its aim to “reduce loss and damage from water-related disasters” (p. 5).
- In its section on support needs, Thailand lists applying Integrated Water Resources Management (IWRM) and Ecosystem-based Adaptation (EbA) practices and tools for a climate change vulnerability assessment as priority areas (p. 7-8).

### *Togo*

[Link to submission](#)

- Togo will undertake a range of adaptation activities including improved data, observations, and mapping; early warning systems; coastal protection and infrastructure repair and adaptation; coastal pollution reduction; support for displaced populations; and support for socioeconomic resilience, including the creation of a Ministry for the Blue Economy, [just] transitions for sand-dredgers, and training and capacity building (p. 45, 46, 52, 61, 74).

### *Tonga*

[Link to submission](#)

- Among its adaptation priorities, Tonga notes its target to “prevent any permanent loss of land to rising sea levels on Tonga’s four main islands” (p. 9).

### *Tunisia*

[Link to submission](#)

- The updated NDC also states the intention to promote a Tunisia that is resilient to climate change through reduced vulnerability and strengthened adaptive capacity – to achieve this vision, Tunisia notes plans for knowledge sharing within the coastal sector, integration of climate change and natural disasters into coastal sector planning, and development of a program for the management and protection of coastal and marine landscapes and ecosystems (p. 8, 70).

### *Tuvalu*

[Link to submission](#)

- Tuvalu intends to increase the climate change resilience of coastal areas; strengthen the community-led management of vulnerable near-shore ecosystems; and increase the productivity of fisheries through adaptation to “near-shore coastal shellfish fisheries and coral reef ecosystems (p. 13).

## *United Arab Emirates*

### [Link to submission](#)

- Among adaptation priorities, UAE cites urban masterplans and coastal zoning which provide guidance for adapting existing infrastructure to and protecting new developments against impacts of climate change such as sea level rise (p. 30).
- UAE mentions upgrading flood monitoring and management systems (p. 30).

## *United Republic of Tanzania*

### [Link to submission](#)

- United Republic of Tanzania states that it will “embark on a climate resilient development pathway” aiming to “reduce the impacts of sea level rise to the island and coastal communities, infrastructure and ecosystems”. This includes:
  - “Strengthening management of coastal and marine resources and monitoring systems;
  - Promoting sustainable livelihood diversification for coastal communities;
  - Improving early warning systems of both sea level rise impacts and extreme weather events” (p.7, 10).

## *United States*

### [Link to submission](#)

- Among its adaptation strategies, the U.S. includes promoting nature-based coastal resilience efforts as part of pre-disaster planning (p. 5).

## *Uruguay*

### [Link to submission](#)

- By 2030, 100% of the cities with very high-, high-, or medium- risk of flooding will have maps describing their risks associated with shoreline flooding, drainage, and/or sea level rise and storm surge (p. 23).
- By 2030, Uruguay will have regulated Law 19.772 about the National Directive for Territorial Planning and Sustainable Development of the Coastal Areas of the Atlantic Ocean and the Rio de la Plata (De la Plata River) (p. 35).
- By 2030, the 2026-2030 Action Plan for the National Adaptation Plan for Coastal Zones will have been implemented (p. 36).
- By 2030, Uruguay will have developed a guide to include the valuation of the vulnerability to climate change in the EIA and EAE processes of the coastal zone using the best available scientific knowledge and we will have capacitated the key stakeholder to implement it (p. 37).
- By 2030, 100% of the vulnerable elements of the coastal zone will be included in adaptation plans or programs for the variability and climate change, defining its level of protection and/or applying adaptation measures based in ecosystems for conservation and restoration.
- Uruguay will promote the generation of financing instruments for the implementation of adaptation action in the coastal zone (p. 38).
- By 2030, Uruguay will have designed and implemented a public-private financing instrument for the implementation of the adaptation measures in the coastal zone. Implement a monitoring system of the coastal dynamics of the Rio de la Plata and the Atlantic Ocean (p. 39).

## *Vanuatu*

### [Link to submission](#)

- Vanuatu is taking action to address the increasing climate risks in the marine area through effective adaptation and resilience strategies. These efforts will be integrated into sustainable development, conservation, and governance actions across all levels (p. 17).



- Vanuatu will implement disaster prevention plans and protection programs for coastal communities at high risk (p. 17).
- Vanuatu commits to control beach sediment removal to prevent coastal erosion and loss of protection (p. 17).
- Vanuatu commits to adaptive management for coastal and marine areas, working with traditional leaders (p. 17).

### *Vietnam*

[Link to submission](#)

- Among its adaptation actions, Vietnam cites its efforts to “prevent and mitigate impacts of high tides, inundation, and saline intrusion due to sea level rise,” as well as efforts to create flood risk maps and take flood prevention actions for coastal cities, with a focus on the Mekong River Delta (p. 19).
- Among its adaptation actions, Vietnam cites its efforts to protect and restore mangrove and “coastal protection” forests, “aiming to exceed over 30% of the plan to 2020” (p.19).
- Among the adaptation elements highlighted for its updated NDC, Vietnam includes developing coastal protection / wave prevention forests, including bamboo forests (p. 20, p. 21).
- Among the adaptation elements highlighted for its updated NDC, Vietnam includes building housing in the North-Central and South-Central regions that is resilient to typhoons and floods, creating drainage projects for metropolitan areas, preventing coastal erosion and creating resilience to saltwater intrusion (p. 21).
- Among the adaptation elements highlighted for its updated NDC, Vietnam includes resettling communities in areas “frequently affected by natural disasters” (p. 21).
- Among its criteria for evaluating the implementation of its updated NDC, Vietnam includes increasing forest area to 42-42.5% and increasing coastal protection forests, including mangroves (p. 38).

### *Venezuela*

[Link to submission](#)

- Venezuela is improving the capacity of its National Environmental Laboratories so they are able to analyze the quality of the water to better inform the public and to support the development of policies to adapt to the changes brought by climate change (p. 136).
- Venezuela will improve mass communication efforts with the goal of sensitizing the general public and informing them and other organizations about the adaptation actions and the ways in which they can contribute to the conservation and preservation of the water with a goal of reducing the adverse impacts of climate change (p. 137).
- The National Water Quality Information System will be improved to be able to obtain data that allows the calculation of a water quality index and determine the fluctuation of parameters correlated to the impacts of climate change and provide with relevant information inform policies on adaptation and mitigations that would help reduce the negative impacts of climate change (p. 138).

## 7. Protecting Coastal and Marine Ecosystems and Biodiversity

[Return to contents](#)

### *Antigua and Barbuda*

[Link to submission](#)

- Among priorities to promote adaptation in its coastal zone, Antigua and Barbuda describes a project intending to “build resilience of ecosystems and vulnerable communities who depend on them for their livelihoods through innovative financing of Ecosystem-based Adaptation (EbA) measures” (p. 49).

### *Argentina*

[Link to submission](#)

- Outlining its intended contributions to marine research, specifically in the area of sustainable resource and ecosystem management, Argentina describes its Pampa Azul initiative. The Pampa Azul initiative is a “project coordinated between various ministries and national organizations” that is intended to produce scientific knowledge and technological innovations for strengthening “industries linked to the sea” and “economic development of the Argentine maritime regions” while prioritizing responsible natural resource use (p. 22).
- Among its adaptation priorities, Argentina includes implementing a coastal management program which will protect “ecosystems and populations located in the most vulnerable areas” and Argentina promotes an Ecosystem-based Approach to conserving and sustainably using aquatic ecosystems (p. 64, 65).

### *Cabo Verde*

[Link to submission](#)

- Among enhancements focused on the tourism industry and circular economy, Cabo Verde includes promoting strict “reuse and recycling” practices, banning single-use plastics and planning beach cleanups (p. 29).
- Among enhancements focused on the tourism industry, Cabo Verde includes implementing its National Strategy for Disaster Risk Reduction to avoid oil leaks from ships (p. 29).
- Among its adaptation priorities, Cabo Verde notes that by 2023, it will conduct a study that analyzes the socio-economic and ecological impacts of “collecting and extracting sand from beaches,” and it will work to determine alternative opportunities for those who rely on sand collection. By 2024, the results of the study will be used to inform policy (p. 40).

### *Cambodia*

[Link to submission](#)

- Among its adaptation priorities, Cambodia includes sustainably managing and protecting marine and coastal zones, as well as building resilience against pollution from land-based activities, in order to promote productive ecosystems and oceans (p. 35).

### *Canada*

[Link to submission](#)

- Among its mitigation contributions, Cabo Verde mentions that it will shift to “low carbon public transport,” which includes international maritime transport, by 2030 (p. 5).

### *Colombia*

[Link to submission](#)

- Emphasizing the importance of its immense biodiversity and critical ecosystems, Colombia states that it will prioritize the conservation and restoration of mangroves, wetlands, coral reefs and the ocean (p. 4).

### *Cuba*

[Link to submission](#)

- Citing its State Plan to confront Climate Change, Cuba includes restoring sandy beaches and protecting coral reefs in the archipelago, including actions to prevent overfishing of species that utilize reef habitat (p. 6, p. 10, p. 11).

### *Dominican Republic*

[Link to submission](#)

- Among priorities to adapt coastal marine species and ecosystems to the effects of climate change, the Dominican Republic includes institutionally strengthening “research, management and monitoring” practices and making “marine data, products, and metadata” more readily available to the public (p. 45).
- Among priorities to protect coastal-marine systems, the Dominican Republic includes creating a fund for “the recovery of mangroves, estuaries, coral reefs, and other coastal-marine ecosystems” and working to prevent pollution on beaches, pushing for better “compliance and enforcement” (p. 45).
- Among actions related to the tourism sector, the Dominican Republic includes establishing a “carrying capacity” for coastal marine systems, limiting amounts of “acceptable change for recreational uses” to promote better adaptation to climate change (p. 46).

### *Equatorial Guinea*

[Link to submission](#)

- By 2040, 50% of coastal areas will be protected (p. 20).

### *Fiji*

[Link to submission](#)

- Citing the co-benefits of coastal ecosystems, Fiji includes protecting and restoring mangroves, seagrasses and coral reefs (p. 6).

### *Gabon*

[Link to submission](#)

- Gabon will support improved monitoring through implementing better climate data collection, including oceanographic data (p. 6).
- Gabon is well on its way to 30% protection for marine ecosystems (27%) and plans to achieve 30x30 in marine areas by 2030; additionally, Gabon is interested in preserving keystone species to promote carbon sequestration and ending destructive fisheries practices, in particular bottom trawling (p. 13, 28, 29).

### *Guatemala*

[Link to submission](#)

- By 2025 the coral reef index of Guatemala will be at the same level as the baseline from 2020 (p. 51).

### *Lebanon*

[Link to submission](#)

- Among its adaptation priorities, Lebanon includes establishing measures to “control the introduction and diffusion” of non-native species into the marine environment (p. 11).

### *Malaysia*

[Link to submission](#)

- Among strategies to promote adaptation for vulnerable coastal and marine ecosystems, Malaysia states its intention to “expand protected areas”, prioritizing “fisheries zones within the marine and coastal protection corridors” (p. 12).

## *Maldives*

### [Link to submission](#)

- Among its adaptation priorities, Maldives emphasizes multiple services coral reefs provide. To protect coral reef ecosystems, the following strategies are included in its enhanced NDC:
  - Establish measures to prevent pollution, such as developing suitable waste management and water treatment facilities;
  - “Phase-out” single-use plastic products;
  - Promote best management practices and policy tools for increasing resilience of coral reefs;
  - Strengthen the coral reef monitoring program to better estimate vulnerable species and effects of climate change on reefs; and
  - Promote research and address existing knowledge gaps (p. 16, p. 17).

## *Mexico*

### [Link to submission](#)

- Among its adaptation priorities, Mexico will strengthen instruments and implement actions for the conservation of biodiversity and the restoration of marine and freshwater ecosystems, as well as to promote the increase and permanence of carbon reservoirs, with an emphasis on blue carbon ones (p. 40).
- Mexico will strengthen environmental policy instruments and implement actions to conserve and restore the islands and increase their resilience (p. 40).
- Mexico will implement actions for the conservation and restoration of the ocean and strengthen its resilience against the impacts of climate change (p. 40).

## *Namibia*

### [Link to submission](#)

- Among its priorities to build coastal resilience, Namibia includes its goal to “reduce the degradation of wetlands, estuaries, dune cordons and sandbars” (p. 21).
- Among its adaptation contributions, Namibia includes introducing legislation to “reduce property and infrastructure development in environmentally sensitive areas and areas at risk of sea-level rise” (p. 24).
- Among contributions intended to advance conservation in the coastal zone, Namibia include protecting the “1500 km coastline beaches against erosion, which will include the prioritization of ecosystem-based adaptation solutions” and establishing Coastal Vulnerability Index to sea-level rise (p. 29).
- Among priorities to ensure sustainable mining practices, Namibia includes enacting a “legal framework benchmarked against environmental global best practices” and ensuring that mining within protected areas “comply with the environmental and economic regulatory frameworks” (p. 30).

## *Oman*

### [Link to submission](#)

- Among its adaptation priorities, Oman notes the vulnerability of its marine ecosystems and states that it has begun to identify adaptation strategies promoting marine biodiversity. However, Oman states that barriers to accessing data, tools, funds, and regulatory frameworks hinder planning and implementation of these strategies (p. 10).

## *Panama*

### [Link to submission](#)

- Among its priorities regarding watersheds, Panama includes the following:
  - By 2022, the Panama Canal Authority will have developed the Indicative Plan for an environmental planning initiative that targets the Panama Canal Watershed; and

- By 2025, Panama will have a “Climate Change Plan for the Integrated Management of Watersheds” that incorporates climate adaptation and mitigation elements (p. 26).
- Panama states that it intends to create a Technical Guide for climate change adaptation and mitigation for coastal marine systems by 2025 (p. 29).
- Panama includes its intention to identify and design preliminary actions that will implement its Guide for Climate Change for the Biodiversity Sector by 2025. Panama notes that these actions will focus on adaptation and mitigation and will be informed by guidance from its Office of Protected Areas and Biodiversity and the office of Coasts and Seas (p. 117).
- In order to identify and monitor slow-progressing impacts of climate change, such as sea level rise and ocean acidification, Panama states that it intends to improve, expand and strengthen its SIREP Platform (System for the Collection and Evaluation of Damages) (p. 128).

### *Papua New Guinea*

[Link to submission](#)

- In Papua New Guinea’s initiative to protect coral reefs, it notes the importance of expanding mangrove and seagrass ecosystems, establishing Marine Protected Areas (MPAs) and “locally managed marine areas” (LMMA), and re-planting corals (p. 25).

### *Philippines*

[Link to submission](#)

- The Philippines notes that it will undertake coastal and marine ecosystem adaptation measures “to preempt, reduce and address residual loss and damage” (p. 5).

### *Seychelles*

[Link to submission](#)

- Among its adaptation commitments, Seychelles includes “prioritizing nature-based solutions to protect coastal ecosystems from climate change impacts such as storm surges, flooding and erosion, using the Coastal Management Plan as a guideline” (p. 17).
- In its updated NDC, Seychelles prioritizes “undertaking research to better understand, plan for and address” climate impacts on “marine and terrestrial biodiversity and ecosystems” (p. 19).
- Among its goals related to climate finance, Seychelles commits to doing a “cost assessment” of its future contributions. It explores strategies such as developing a “State of the Coast assessment program” to better comprehend the cost of losing coastal and marine ecosystems and their services (p. 20).
- Among commitments specific to the tourism sector, Seychelles notes that “all tourism accommodation and catering businesses should have phased out the use of nonrecyclable plastic bottles and replace with recyclable containers” by 2030 (p. 25).
- Highlighting the importance of coastal and marine ecosystems to adaptation and maintaining a healthy Blue Economy, Seychelles promotes a “Ridge to Reef” approach for management. This leverages the interconnectedness of marine, coastal, and terrestrial ecosystems to enhance protection and management strategies (p. 26, 27).
- In its updated NDC, Seychelles mentions its Coastal Management Plan (CMP), which outlines Seychelle’s plan to build resilience against “coastal erosion, flooding, tidal variations and cyclones” and focuses on “nature-based and hybrid engineering solutions such as the restoration of beaches and dunes, coral reefs and wetlands” (p. 28).
- Seychelles notes its Marine Spatial Plan (SMSP), which is expected it launch in 2021, in its climate adaptation commitments. The SMSP is intended to promote the sustainable use and health of the Exclusive Economic Zone (EEZ), prioritizing “climate change adaptation, marine protection and supporting the Blue Economy” (p. 28).
- Among its climate adaptation priorities, Seychelles includes goals intended to:
  - “Integrate biodiversity considerations into existing Climate Change Adaptation programmes”;
  - “Conduct a biodiversity impact profile assessment for Seychelles”;

- Strengthen capacity to deal with existing climate threats to biodiversity” (p. 33).

### *St. Lucia*

[Link to submission](#)

- St. Lucia notes that a Sectoral Adaptation Strategy Action Plan (SASAP) has already been developed for marine ecosystems, and names resilient marine ecosystems as one of its adaptation priority areas (p. 5).
- Citing adaptation initiatives expected to have mitigation co-benefits, St. Lucia includes a project that aims to reduce water pollution by decreasing runoff from pig farms (p. 15).
- Citing adaptation initiatives expected to have mitigation co-benefits, St. Lucia includes a project that lays the foundation for addressing coastal erosion and improving beach management (p. 15).

### *Sudan*

[Link to submission](#)

- Among its adaptation strategies, Sudan includes protecting coral reefs and seagrass beds, as well as restoring mangroves (p. 20).

### *Thailand*

[Link to submission](#)

- In its section on support needs, Thailand lists technical support to promote community participation in the preservation and conservation of natural resources, ecosystems, and biodiversity as a priority area (p. 8).

### *United Arab Emirates*

[Link to submission](#)

- Among its adaptation initiatives, UAE outlines the following actions being taken to strengthen the resilience of coral reef ecosystems:
  - The commitment to cultivating 1.5 million coral reef colonies over five years. Across its marine and coastal zones, the UAE has placed 4,500 artificial reefs, which are being closely monitored to enhance marine life and fish stocks. Furthermore, the country is installing natural rock barriers along its coastal areas to recreate natural habitats and breeding grounds for marine species (p. 32).

### *United Kingdom*

[Link to submission](#)

- The UK envisions a clean, healthy, safe, and biologically diverse ocean. HM Government introduced the Environment Act 2021 which includes measures to address restoration of nature and biodiversity, including in marine environments (p. 25).

### *Uruguay*

[Link to submission](#)

- By 2030, Uruguay will have regulated Law 19.772 about the National Directive for Territorial Planning and Sustainable Development of the Coastal Areas of the Atlantic Ocean and the Rio de la Plata (De la Plata River) (p. 35).
- Will promote the conservation and reduction of the vulnerability of the coastal zone threatened by climate change and climate variability starting at the adaptation measures based on ecosystems (p. 38).
- By 2030, 100% of the vulnerable elements of the coastal zone will be included in adaptation plans or programs for the variability and climate change, defining its level of protection and/or applying adaptation measures based in ecosystems for conservation and restoration.

- Uruguay will promote the generation of financing instruments for the implementation of adaptation action in the coastal zone (p. 38).
- By 2030, Uruguay will have designed and implemented a public-private financing instrument for the implementation of the adaptation measures in the coastal zone. Implement a monitoring system of the coastal dynamics of the Rio de la Plata and the Atlantic Ocean (p. 39).
- By 2030, Uruguay will have implemented a monitoring system of the ocean-climate variables, of sediments and topographic of the Rio de la Plata and the Atlantic Ocean, reinforcing those areas highly vulnerable to extreme events (river mouths, sandy beaches and ravines) (p. 40).

## 8. Creating Climate-Ready Fisheries

[Return to contents](#)

### *Albania*

[Link to submission](#)

- Albania will develop fishery sectoral climate change adaptation plans and risk management plans integrated to the supporting sectors (water, energy and agriculture) to improve the management of the fisheries sector (p. 74).
- Albania will address the specific needs of small-scale coastal fishing and support the socio-economic role of sea fisheries in coastal and insular areas (p. 59)
- Albania will restructure and modernize the fishing fleet by improving work and safety, conditions, the quality and hygiene of products, energy efficiency and selectivity (p. 74).
- Albania will improve the marine fisheries employment age structure and promote the diversification of activity and/or parallel employment, as alternative solution to impacted fishery related activities by climate change (p. 74).

### *Angola*

[Link to submission](#)

- Among its efforts to promote adaptation within the fishing sector, Angola intends to study the effects of climate change on fishing productivity, invest in the improvement of fishing infrastructure, develop aquaculture, and promote efforts to further support artisanal fisheries, such as improving the “income of fishing communities, increasing revenues, managing marine resources and maritime safety” (p. 52, 57).

### *Antigua and Barbuda*

[Link to submission](#)

- Among goals to build climate resilience in the fisheries sector, with a focus on finance strategies, Antigua and Barbuda includes the following:
  - A project that would “mainstream climate-resilient investment and de-risking options into Antigua and Barbuda’s key economic sectors”. The primary objectives are:
    - “to build climate resilience in the financial sector; and
    - strengthen the resilience of farmers and fisherfolk to improve food security”;
    - A goal to promote access to “comprehensive and tailored” national programs for fishers, helping them to “affordably manage and transfer risks resulting from increasing climate variability”;
    - Strategies to enhance climate-resilience of “fisheries and agricultural sectors to slow onset and extreme weather events through the identification and implementation of priority adaptation interventions, with a focus on ecosystem-based adaptation (EbA)” (p. 21, 30).

## *Argentina*

[Link to submission](#)

- Aiming to adapt its fishing sector to the impacts of climate change, Argentina states that “fishing activities will be strengthened sustainably” by 2030 (p. 22).

## *Benin*

[Link to submission](#)

- To support its fisheries, Benin will conduct capacity-building for and promotion of climate-ready fisheries (\$30.04) (p. 33, 58).

## *Cabo Verde*

[Link to submission](#)

- Among its adaptation priorities, Cabo Verde highlights the importance of maintaining sustainable fisheries. Cabo Verde intends to adopt the following measures:
  - By 2025, create a robust monitoring and surveillance system to track legal and illegal fisheries activities, including activity by foreign fishing vessels. This system will leverage a “digital traceability” tool.
  - Establish “science- and ecosystem-based” plans to restore depleted fish stocks and promote fisheries management that advances adaptive responses to the effects of climate change.
  - Prioritize security of small-scale fisheries and local fish consumption in Cabo Verde.
  - Establish safeguards to prevent overfishing using strategies such as conditioning “fishing subsidies, quotas and authorizations to sound screening of available fishing resources and replenishment rates, endangered and vulnerable species and habitats, including with respect to the risk for habitats (including seabeds) and by-catches” (p. 39).
  - By 2027, create and implement a label for fishery products that indicates quality and environmental sustainability (p. 39).
  - Adopt “fiscal and regulatory incentives” for the establishment of management frameworks that work to mitigate negative environmental impacts of aquaculture (p. 39).
- Emphasizing the necessity of “climate empowerment”, Cabo Verde states that, from 2023 onwards, it will implement “training programs, create job opportunities and offer financial support” to those interested in “sustainable aquaculture” (p. 51).

## *Cambodia*

[Link to submission](#)

- Among priorities to build resilience in the fisheries sector, Cambodia includes advancing climate-ready aquaculture practices in order to “reduce fishing pressure on fisheries resources” (p. 72).
- Among priorities to promote climate-resilient fisheries, Cambodia includes restoring fish refuges and protecting mangrove forests, which serve as “the spawning, nursing and feeding habitats for fish” (p. 109).
- Among its adaptation priorities, Cambodia aims to “strengthen livelihoods and safeguard food and nutrition security of small-scale fishermen” (p. 109).

## *Canada*

[Link to submission](#)

- Among its mitigation contributions, Cabo Verde mentions that it will shift to “low carbon public transport,” which includes international maritime transport, by 2030 (p. 5).



### *Chile*

[Link to submission](#)

- In its adaptation contribution, Chile states that it will update its fisheries and aquaculture adaptation plans in 2022 and 2027 (p. 41).

### *Comoros*

[Link to submission](#)

- Comoros highlights that it will manage and restore coastal and marine ecosystems as well as educate and prepare fishers for climate risks (p. 9).

### *Costa Rica*

[Link to submission](#)

- Emphasizing oceans as a “principal area of action,” Costa Rica mentions promoting sustainable fisheries activities, including aquaculture, “of value-added” artisanal and traditional fisheries, and strategic marine spatial planning (p. 46).

### *Democratic Republic of the Congo*

[Link to submission](#)

- The Democratic Republic of the Congo will undertake microprojects for sustainable fisheries and aquaculture will support livelihoods and increase food security (p. 72, 90).

### *Cuba*

[Link to submission](#)

- As part of its objective to reduce Cuba’s vulnerability to the effects of climate change, it cites developing sustainable fishing practices (p. 3).

### *Dominica*

[Link to submission](#)

- Dominica will research and develop sustainable and diverse aquaculture, inshore, and offshore fisheries (p. 80, p. 82).
- Through its Sustainable Fishing Communities and Livelihoods Strategy, Dominica will safeguard the vulnerable in the fishing industry; train and guide new entrants to the industry; provide community outreach programs; and provide aid with adaptation, recovery, and resilience to natural disasters (p. 80).

### *El Salvador*

[Link to submission](#)

- El Salvador will improve supply chains for agriculture and aquaculture with an adaptation focus to benefit 87 municipalities and 5000 producers from different cities.

### *Fiji*

[Link to submission](#)

- Among its adaptation targets, Fiji includes adopting climate-smart practices in the fisheries sector (p. 5).

### *Guatemala*

[Link to submission](#)

- By 2025, at least one the main fisheries of the country, the shark fishery, will be managed using an ecosystem approach. This goal includes both the industrial and artisanal sector, and the participation of women, men, youth, and local communities (p. 50).

### *Haiti*

[Link to submission](#)

- Haiti will undertake climate ready fisheries efforts including capacity development, active management of fisheries, insurance and cooperatives for fishers, improved weather prediction systems, gear improvements, installation of FADs, and habitat protection (mangroves and corals), with anticipated costs over \$1b (p. 44, 48).

### *Ivory Coast*

[Link to submission](#)

- Ivory Coast will undertake capacity-building and investments for climate ready fisheries and aquaculture (p. 21).

### *Jamaica*

[Link to submission](#)

- Jamaica notes its project Promoting Community-Based Climate Resilience in the Fisheries Sector (p. 3).

### *Kenya*

[Link to submission](#)

- Among adaptation priorities, Kenya aims to build resilience in fisheries through sustainable management practices while including insurance and other “safety nets” (p. 15).

### *Kiribati*

[Link to submission](#)

- Kiribati intends to increase water and food security by integrating communities in the sustainable management of their coastal fisheries while implementing climate change adaptation and disaster risk reduction measures (p. 14).

### *Lebanon*

[Link to submission](#)

- Among its adaptation priorities, Lebanon states that it will promote sustainable fisheries management practices while increasing the efficiency and competitiveness of its fisheries (p. 9, 11).

### *Malaysia*

[Link to submission](#)

- Among strategies to promote adaptation for vulnerable coastal and marine ecosystems, Malaysia states its intention to “expand protected areas”, prioritizing “fisheries zones within the marine and coastal protection corridors” (p. 12).

### *Maldives*

[Link to submission](#)

- Among adaption strategies related to the fisheries sector, Maldives includes the following:
  - Pursue fisheries research and development strategies in preparation for the management of fish stocks that change and migrate with climate change;

- Promote sustainability by reducing emissions from fishing vessels and land-based fisheries facilities; and
- Increase access to financing opportunities and insurance schemes, promoting better adaptive capacity for vulnerable, small-scale fishers (p. 17, p. 18).

### *Mauritius*

[Link to submission](#)

- Enhance the knowledge base regarding the risks of climate change for the fisheries sector and the impacts on communities (p. 27).
- Establish an integrated framework for the management of fisheries founded on the Blue Economy concept, which includes coastal zone management and marine biodiversity conservation (p. 27).

### *Micronesia (Federated States of)*

[Link to submission](#)

- The Federated States of Micronesia notes its intention to effectively manage 50% of its marine resources, with an emphasis on its fisheries, by restricting commercial fishing, updated monitoring of fishing vessels, and developing more sustainable Fish Aggregating Devices (p. 27).

### *Mozambique*

[Link to submission](#)

- Mozambique plans to improve the National Meteorology Institute’s ability to provide tailored weather information, including for the fisheries sector, by developing user-specific products (p. 20).
- Mozambique intends to boost fishery resilience through mangrove regeneration, protection of aquatic habitats, and the integration of climate adaptation in fishery planning and budgeting processes. The country has plans to construct eight centers for fish conservation (p. 21).

### *Namibia*

[Link to submission](#)

- Among its priorities to build climate-ready fisheries, Namibia includes the following goals:
  - “Implement effective environmental monitoring systems including environmental and sanitary surveillance and warning system along the coastline;
  - Establish partnerships to facilitate the generation of knowledge (basic and applied) through the alliance of research institutions, public regulators, and ocean and marine industries;
  - Identify and proclaim marine protected areas to conserve biologically sensitive sites”;
  - and scale-up technologies that improve fisheries productivity (p. 29).

### *Nauru*

[Link to submission](#)

- Nauru notes its intention to prepare and approve National Plans for coastal fisheries and aquaculture management, including research on climate change impacts to fisheries and marine resources, as well as development and expansion of aquaculture practices (30, 44).

### *Oman*

[Link to submission](#)

- Among its adaptation priorities, Oman describes the vulnerability of its fisheries and says that it hopes to invest in “mega-projects” for this sector. However, Oman states that barriers to accessing data, tools, funds, and regulatory frameworks hinder planning and implementation of these strategies (p. 10, 11).

## *Papua New Guinea*

[Link to submission](#)

- Fisheries are included in Papua New Guinea’s list of priority sectors for adaptation (p. 29).

## *Peru*

[Link to submission](#)

- Among its adaptation priorities, Peru includes establishing adaptation targets for its fishery and aquaculture activities (p. 15).

## *Russia*

[Link to submission](#)

- Citing its National Action Plan for the period up to 2022, Russia intends to adapt the fishing sector to the impacts of climate change (p. 3).

## *Sao Tome and Principe*

[Link to submission](#)

- Highlighting its goals to promote climate adaptation in its fisheries sector, Sao Tome and Principe includes the following:
  - “Construction of fisheries quay;
  - Adoption of fiberglass boats over traditional wooden boats;
  - Development of aquaponics;
  - Construction of biodegradable fish aggregating devices (FADs);
  - Introduction of selected good management practices and sustainable resources for the fisheries sector”;
  - Increase marine security for artisanal fishers (p. 14).

## *Senegal*

[Link to submission](#)

- Highlighting adaptation measures in its fisheries sector, in the scenario of a 2-degree Celsius temperature increase, Senegal specifies the following as priorities:
  - Sustainable fisheries management;
  - Expand and improve MPAs, with a goal of “10 MPAs by 2050;”
  - Promote sustainable aquaculture;
  - Enhance security for fishing communities and fishery-related infrastructure; and
  - Increase sustainable management and restoration of mangrove ecosystems, which can serve as important fish habitat (p. 31).
- Highlighting adaptation measures in its fisheries sector, in the scenario of a 4-degree Celsius temperature increase, Senegal specifies the following as priorities:
  - Sustainable fisheries management;
  - Expand and improve MPAs, with a goal of 15 MPAs;
  - Promote sustainable aquaculture;
  - Enhance security for fishing communities and fishery-related infrastructure; and
  - Increase sustainable management and restoration of mangrove ecosystems, as well as improve research for mangroves and connected ecosystems (p. 31).

## *Seychelles*

[Link to submission](#)

- Seychelles states that it intends to promote climate adaptation in its fisheries sector through the development and implementation of “effective, sustainable and license-based fisheries management plans” (p. 6, 17).
- Seychelles notes its Marine Spatial Plan (SMSP), which is expected to launch in 2021, in its climate adaptation commitments. The SMSP is intended to promote the sustainable use and health of the Exclusive Economic Zone (EEZ), prioritizing “climate change adaptation, marine protection and supporting the Blue Economy” (p. 28).
- Among its adaptation priorities specific to the fisheries sector, Seychelles includes the following commitments:
  - “Develop and implement effective, sustainable and license-based fisheries management plans, to ensure sustainable use of resources and avoid overexploitation. Climate change adaptation should be integrated into all fisheries related plans and strategies.
  - Work with the private sector to support diversification of the sector with a focus on promoting investment in sustainable aquaculture.
  - Invest in research to understand the vulnerability of the various fisheries and the sector to climate change.
  - Promote awareness and utilization of existing funding options that support sustainability transitions and empower climate adaptation of the sector
  - Promote inclusion across gender in the downstream of the sector” (p. 31).

## *Somalia*

[Link to submission](#)

- Among adaptation priorities in its fisheries sector, Somalia includes strengthening “resilience of the fisheries value chains by promoting climate-smart fisheries development” and enhancing capacity for “fisher folks in terms of equipment, nets and boats” (p. 10).

## *Sudan*

[Link to submission](#)

- Sudan will use ecosystem-based management approaches to improve fisheries management and marine resource benefits (p. 20).

## *St. Lucia*

[Link to submission](#)

- St. Lucia notes that a Sectoral Adaptation Strategy Action Plan (SASAP) has already been developed for the fisheries sector, and names it a priority sector for adaptation (p. 5).
- Citing mitigation co-benefits of adaptation planning in the fisheries sector, St. Lucia includes implementing “fuel efficient technologies for aquaculture and fishing operations” (p. 11).
- Citing adaptation initiatives expected to have mitigation co-benefits, St. Lucia includes a project that upgrades fisheries data management and Early Warning Systems to allow fishers to better manage climate risks (p. 15).

## *Timor-Leste*

[Link to submission](#)

- “Sustainable management of Timor-Leste’s fisheries is required to alleviate the multitude of stressors on the marine environment. The expansion of marine protected areas and reduction of localised stressors (e.g. pollution, overfishing) on inshore fisheries will be used in conjunction with the creation of alternative livelihood options to strengthen the adaptive capacity of the marine environment, fishing sector, and its associated natural ecosystems” (p.49).

## *Togo*

[Link to submission](#)

- Togo will provide support for coastal zone, maritime and artisanal fisheries, aquaculture, and fish processing to promote income generating activities (p. 46, 61, 74).

### *Tonga*

[Link to submission](#)

- Among its adaptation priorities, Tonga includes a goal to conserve existing fish stocks (p. 9).

### *Tuvalu*

[Link to submission](#)

- Tuvalu’s goals to benefit communities and prepare for climate change include increasing the productivity of fisheries through adaptation to “near-shore coastal shellfish fisheries and coral reef ecosystems” (p. 13).

### *United Arab Emirates*

[Link to submission](#)

- Highlighting advances in technology development and innovation, UAE mentions its Seawater Energy and Agriculture System, which is described as “a first-of-its-kind research facility” that grows fish and shrimp “using desert land irrigated by sea water” (p. 40).
- The commitment to cultivating 1.5 million coral reef colonies over five years. Across its marine and coastal zones, the UAE has placed 4,500 artificial reefs, which are being closely monitored to enhance marine life and fish stocks. Furthermore, the country is installing natural rock barriers along its coastal areas to recreate natural habitats and breeding grounds for marine species (p. 32).

### *United Kingdom*

[Link to submission](#)

- The UK will introduce a Sustainable Fisheries policy to address marine climate risks (p. 25). The Scottish Government introduced fishery management measures including a Scottish Wild Salmon Strategy (p. 25). Northern Ireland is expecting to finalize a new Marine Plan which will address adaptation and mitigation measures, including sustainable fisheries (p. 26).

### *United Republic of Tanzania*

[Link to submission](#)

- United Republic of Tanzania states that it aims to realize a “climate resilient development pathway”, centering strategies for:
- “Increasing productivity in an environmentally sustainable way through inter alia climate-smart fisheries and aquaculture interventions;
- Promoting accessible mechanisms for small-holder fishers and farmers against climate related shocks, including insurances;
- Strengthening fisheries and aquatic resources research and development;
- Strengthening extension services and technologies for fisheries and aquaculture development” (p. 10).

### *Vanuatu*

[Link to submission](#)

- Vanuatu is committed to improving community-based fisheries management and preserving traditional fishing practices while developing and implementing 40 coastal management plans by 2030. (p. 10).
- Vanuatu committed to regularly monitor and evaluate coastal fisheries, enforcing climate change monitoring and impact assessment protocols. (p. 10).

### *Viet Nam*

[Link to submission](#)

- Viet Nam states its intent to contribute to climate change adaptation through the implementation of its National Climate Change Strategy to 2050 and through recently approved national strategies that includes a master plan for the Mekong Delta region. The adaptation strategies include food security as a priority, and plan to achieve this through aquaculture and fisheries development (p. 3, 19).

## 9. Advancing Ocean-Climate Justice

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### *Antigua and Barbuda*

[Link to submission](#)

- Among its strategies focused on fisheries, Antigua and Barbuda notes that its updated NDC considers gender equality in this sector (p. 39).
- Among priorities to promote adaptation in its coastal zone, Antigua and Barbuda describes a project intending to “build resilience of ecosystems and vulnerable communities who depend on them for their livelihoods through innovative financing of Ecosystem-based Adaptation (EbA) measures” (p. 49).

### *Argentina*

[Link to submission](#)

- Among its adaptation priorities, Argentina recognizes the benefits of Ecosystem-based Adaptation (EbA) for building resilient “infrastructures, city-regions, and habitat”, and it intends to adopt “community-based approaches” to include and prioritize the needs of frontline communities (p. 22).

### *Cabo Verde*

[Link to submission](#)

- Cabo Verde states that it intends to create a “gender analysis” of people in the blue economy by 2022 and then “identify priority gender-specific actions”, with a goal of women making up at least 40% of employment in the “blue economy” by 2030 (p. 39).
- Among its strategies to expand marine protected areas, Cabo Verde mentions that procedures for reviewing protected area management plans will include local populations (p. 39).

### *Cambodia*

[Link to submission](#)

- Among priorities to create climate-ready fisheries, Cambodia notes that half of the workforce tasked to restore fish refuges and mangrove forests will be women, and more women will “gain access to fisheries resources,” among other benefits (p. 109).
- Among its adaptation priorities, Cambodia aims to “strengthen livelihoods and safeguard food and nutrition security of small-scale fishermen” (p. 109).
- Among priorities to build resiliency in the fisheries sector, Cambodia notes that half of “beneficiaries in improved aquaculture production” will be women, increasing their access to markets and other benefits (p. 109).

### *Canada*

[Link to submission](#)

- Among its mitigation contributions, Cabo Verde mentions that it will shift to “low carbon public transport,” which includes international maritime transport, by 2030 (p. 5).

### *Dominica*

[Link to submission](#)

- Dominica seeks to empower Indigenous people, women, youth, elderly, persons with disabilities, to manage their own climate change risks in vulnerable sectors e.g., agriculture, fisheries, water resources; and impacts on eg. human health, food security, poverty, economic growth and sustainable livelihoods (p. 86).

### *Kiribati*

[Link to submission](#)

- Kiribati intends to increase water and food security by integrating communities in the sustainable management of their coastal fisheries while implementing climate change adaptation and disaster risk reduction measures (p. 14).

### *Maldives*

[Link to submission](#)

- Among strategies to promote the conservation of marine and coastal biodiversity, Maldives cites the importance of community resource-management and considering the livelihoods of local resource users before establishing conservation programs (p. 16).
- Among adaptation strategies related to the fisheries sector, Maldives includes increasing access to financing opportunities and insurance schemes, promoting better adaptive capacity for vulnerable, small-scale fishers (p. 18).

### *Monaco*

[Link to submission](#)

- Emphasizing the ways in which Least Developed Countries (LDCs) and Small Island Developing States (SIDS) are among the most vulnerable to impacts of climate change, Monaco states that the Principality will increase climate finance for LDCs and SIDS. This is expected to be a bi-annual increase of 100,000 euros from 2020 through 2030, with a focus on initiatives that have co-benefits for climate, biodiversity and the ocean (p. 32).

### *Republic of Korea*

[Link to submission](#)

- The Republic of Korea will scale up financial investment in achieving its enhanced NDC and will establish the Korea Climate Action Fund for developing carbon-neutrality technologies, foster low carbon industries, promote circular economy and protect the vulnerable groups, and plans to scale up fiscal investment as well (p. 25).

### *Russia*

[Link to submission](#)

- Included in capacity-strengthening initiatives for developing countries, Russia intends to continue training specialists in oceanography “within the framework of relevant international agreements” (p. 4).



### *Sao Tome and Principe*

[Link to submission](#)

- Included in its discussion of inclusive and gender-responsive public engagement, Sao Tome and Principe notes that the increasing participation of women is visible in coastal and fisheries sectors, stating that women will have a key role to play in these sectors (p. 7).

### *Seychelles*

[Link to submission](#)

- Among climate goals focused on the fisheries sector, the Seychelles includes advancing “inclusion across gender in the downstream of the sector” (p. 31).

### *St. Lucia*

[Link to submission](#)

- Expressing its commitment to gender equality, St. Lucia states that it will include gender considerations in adaptation actions plans from the fisheries sector (p. 8).

### *United Kingdom*

[Link to submission](#)

- The UK mentions initiatives to promote women’s participation in the offshore wind sector, included in “UK’s Sector Deal on Offshore Wind” (p. 10).

### *Uruguay*

[Link to submission](#)

- By 2030, Uruguay will conduct capacity building to train people and strengthen the skills associated with green and blue jobs, considering particularly the inclusion of women and socially vulnerable people (p. 3).
- By 2030, Uruguay will have developed a guide to include the valuation of the vulnerability to climate change in the EIA and EAE processes of the coastal zone using the best available scientific knowledge and will have capacity from the key stakeholder to implement it (p. 37).

## 10. Enhancing a Blue Economy

[Return to contents](#)

### *Argentina*

[Link to submission](#)

- Outlining its intended contributions to marine research, specifically in the area of sustainable resource and ecosystem management, Argentina describes its Pampa Azul initiative. The Pampa Azul initiative is a “project coordinated between various ministries and national organizations” that is intended to produce scientific knowledge and technological innovations for strengthening “industries linked to the sea” and “economic development of the Argentine maritime regions” while prioritizing responsible natural resource use (p. 22).

### *Cabo Verde*

[Link to submission](#)

- Among its adaptation priorities, Cabo Verde includes developing a “blue fund” by 2023 in order to finance the domestic and international blue economies. Cabo Verde states that it is working to develop a National Blue Economy Investment Plan (PNIEB) (p. 38, 40).
- In order to promote engagement with the maritime sector, Cabo Verde intends to connect the “Cabo Verde Ocean Observatory, the Cabo Verde Atmospheric Observatory and the Ocean Science Center in São Vicente” with the goal of training executives to carry out work and research related to the maritime sector. Cabo Verde also includes investing in “high-impact research on marine resources and marine biology in collaboration with international research centers” (p. 40).
- Among priorities related to expanding and strengthening marine protected areas, Cabo Verde includes the following targets:
  - From 2023-2024, work to raise awareness “among residents, tourists and fishermen associations” to better protect marine species (p. 40).
  - By 2024, adopt a “national maritime space management plan” focusing on protecting and restoring Cabo Verde’s “blue natural capital.” This plan will include ambitious climate goals and the Special Economic Zone of Maritime Economy in São Vicente (ZEEEM-SV) will assume “an explicit stewardship role” (p. 40).
- Emphasizing the necessity of “climate empowerment,” Cabo Verde states that, from 2023 onwards, it will implement “training programs, create job opportunities and offer financial support” to those interested in “marine protection and technology” and “sustainable aquaculture” (p. 51).

### *Dominica*

[Link to submission](#)

- Through the ResilienSEA Economy Investment Fund, Dominica will collaborate with the private and social sector to develop sustainable business linked to its rich marine environment; investing in the blue economy to further social, environmental, and financial returns (p. 25).

### *Equatorial Guinea*

[Link to submission](#)

- By 2030, the concepts of blue and green economy will be integrated in the relevant legal frameworks of Equatorial Guinea. By 2030, at least one project on the blue and green economy will be ongoing (p. 20).

### *Mozambique*

[Link to submission](#)

- Mozambique is planning to bolster its agricultural and livestock sectors' resilience by transitioning to a resilient Blue Economy in the western Indian Ocean region.

### *Republic of Korea*

[Link to submission](#)

- The Republic of Korea has been developing sectoral strategies to achieve its NDC and the 2050 goal. Policy directions of each sector – energy, industry, transportation, buildings, circular economy, and agriculture, forestry, livestock farming and fisheries – will be coordinated consistently with such sectoral strategies. National plans under the law that include sectoral mitigation and adaptation measures such as the Basic Plan for Carbon Neutrality and Green Growth will be established or revised in line with the NDC and the 2050 goal.

## Seychelles

[Link to submission](#)

- Citing tourism as a major part of its Blue Economy, Seychelles states that it intends to create “climate change strategy”, partnering with the private sector. This strategy will promote sustainable coastal management planning that includes tourism infrastructure. Seychelles also intends to develop beach management plans (p. 17, 31, 32).
- Among commitments specific to the tourism sector, Seychelles notes that “all tourism accommodation and catering businesses should have phased out the use of nonrecyclable plastic bottles and replace with recyclable containers” by 2030 (p. 25).
- Highlighting the importance of coastal and marine ecosystems to adaptation and maintaining a healthy Blue Economy, Seychelles promotes a “Ridge to Reef” approach for management. This leverages the interconnectedness of marine, coastal, and terrestrial ecosystems to enhance protection and management strategies (p. 26, 27).
- Seychelles notes the importance of climate-ready port infrastructure to its Blue Economy, stating that the Seychelles Port Authority’s Strategic Plan requires “future development to be conducted according to the Green Ports Initiative (GPI)”, an initiative that works to reduce marine pollution and use renewable energy resources (p. 29).

## United Republic of Tanzania

[Link to submission](#)

- Tanzania states that it aims to realize a “climate resilient development pathway” which would strengthen area-based management systems to promote a sustainable blue economy (p. 10).

## Citations

<sup>1</sup> D Herr and E Landis. Coastal blue carbon ecosystems: Opportunities for Nationally Determined Contributions. 2016. International Union for Conservation of Nature et al. Available from: [http://www.mangrovealliance.org/wp-content/uploads/2017/08/BC-NDCs\\_FINAL.pdf](http://www.mangrovealliance.org/wp-content/uploads/2017/08/BC-NDCs_FINAL.pdf).

<sup>2</sup> ND Gallo, DG Victor, LA Levin. Ocean commitments under the Paris Agreement. *Nature Climate Change* 7 (2017): 833–838 and supplementary material. Available from: <https://www.nature.com/articles/nclimate3422>.

<sup>3</sup> G Taraska. Integrating ocean and climate policy: A next step forward in the global climate effort. 2018. Center for American Progress. Available from: <https://www.americanprogress.org/issues/green/reports/2018/12/19/464467/integrating-ocean-climate-diplomacy/>.

*This document includes direct links to the most recent NDC submissions.*