Subsidiary Body for Scientific and Technological Advice

Ocean and Climate Change Dialogue to consider how to strengthen adaptation and mitigation action

Information note by the Chair

(9 November 2020)

Summary

The Conference of the Parties, at its twenty-fifth session, requested the Chair of the Subsidiary Body for Scientific and Technological Advice to convene a dialogue on the ocean and climate change to consider how to strengthen mitigation and adaptation action in this context. This note provides background information on ocean and climate change action under the Convention and the Paris Agreement and within the wider United Nations system. It also provides a summary of the 47 submissions received by the secretariat from Parties and non-Party stakeholders to inform the dialogue. It further provides a proposed approach for organizing the dialogue by the Chair of the Subsidiary Body for Scientific and Technological Advice.

Abbreviations and acronyms

BBNJ Intergovernmental Conference	Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction
CAN	Climate Action Network
CBD	Convention on Biological Diversity
CCAMLR	Convention for the Conservation of Antarctic Marine Living Resources
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CO2 eq	carbon dioxide equivalent
COP	Conference of the Parties
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	greenhouse gas
IAEA	International Atomic Energy Agency
IDDRI	Institute for Sustainable Development and International Relations
IMO	International Maritime Organization
Informal Consultative Process	The UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
ISA	International Seabed Authority
IUCN	International Union for Conservation of Nature
LDC	least developed country
NAP	national adaptation plan
NDC	nationally determined contribution
OHRLLS	United Nations Office of the High Representative for the Least Developed Countries
RAMSAR	The Convention on Wetlands
REDD+	reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (decision 1/CP.16, para. 70)
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCF	Standing Committee on Finance
SDG	Sustainable Development Goal
SIDS	small island developing State(s)

SPREP	Secretariat of the Pacific Regional Environment Programme
SROCC	Intergovernmental Panel on Climate Change Special Report on the Ocean and Cryosphere
UNCLOS	United Nations Convention on the Law of the Sea
UN DESA	United Nations Department of Economic and Social Affairs
UN ECOSOC	UN Economic and Social Council
UN ESCAP	UN Economic and Social Commission for Asia and the Pacific
UNCTAD	United Nations Conference on Trade and Development
UN-DOALOS	Division for Ocean Affairs and the Law of the Sea of the United Nations Office of Legal Affairs
UNDP	United Nations Development Programme
UNDRR	UN Office for Disaster Risk Reduction
UNEP	United Nations Environment
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGA	UN General Assembly
UN-Habitat	United Nations Human Settlements Programme
UNHCR	The United Nations High Commissioner for Refugees
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and research
UNOOSA	United Nations Office for Outer Space Affairs
UNU	United Nations University
WIM	Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts
WIM Executive Committee	Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts
WMO	World Meteorological Organization

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I. Introduction and background

A. Context

1. COP 25, the so-called "Blue COP" because of its focus on issues related to the ocean, requested the Chair of the SBSTA to convene, at SBSTA 52, a dialogue on the ocean and climate change to consider how to strengthen mitigation and adaptation action in this context. The COP invited Parties and non-Party stakeholders to submit inputs via the submission portal by 31 March 2020 to inform the dialogue.[1]

2. The COP also requested the Chair of the SBSTA to prepare an informal summary report on the dialogue.[2]

3. This information note provides an overview of relevant information for the dialogue on the ocean and climate change, including background information (chapter I), an analysis of the 47 submissions received by the secretariat from Parties and non-Party stakeholders to inform the dialogue (chapter II), a proposed approach to organizing the dialogue (chapter III) and next steps (chapter IV). Annex I provides a list of submissions received by the secretariat from Parties and non-Party stakeholders to inform the dialogue, annex II provides an indicative programme for the dialogue and annex III provides an overview of the United Nations system organizations, bodies, funds and programmes supporting action on the ocean and climate change.

B. Intergovernmental Panel on Climate Change Special Report on the Ocean and Cryosphere

4. The Intergovernmental Panel on Climate Change (IPCC) adopted the Special Report on the Ocean and Cryosphere (SROCC)[3] and the Summary for Policymakers[4] of the SROCC in 2019.[5]

5. The SROCC assesses the latest scientific knowledge, including on observed changes and impacts of climate change on the ocean and the cryosphere and on the ecosystems and the human communities that depend on them. It assesses projected changes and risks for the ocean and cryosphere, ecosystems, people and ecosystem services. The SROCC evaluates response options to ocean and cryosphere change as well as the enabling conditions for effective climate-resilient development pathways.

6. The report includes a focus on the disproportionately higher risks for low-lying islands and coasts and the vulnerabilities of communities in these regions - vulnerable human communities, especially those in coral reef environments and polar regions, may exceed adaptation limits well before the end of this century and even in a low greenhouse gas emission pathway (high confidence).

7. The SROCC reveals that enabling climate resilience and sustainable development depends critically on urgent and ambitious emissions reductions coupled with coordinated sustained and increasingly ambitious adaptation actions (very high confidence). The report also emphasises the escalating costs and risks of delayed action.

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[1] Decision 1/CP.25, paras. 31 and 33.

[2] Decision 1/CP.25, para. 34.

[3] IPCC. 2019. IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. H-O Pörtner, DC Roberts, V Masson-Delmotte, et al. (eds.). Available at https://www.ipcc.ch/srocc/home.

[4] Available at https://www.ipcc.ch/srocc/chapter/summary-for-policymakers/.

[5] The SROCC was adopted at the second joint session of Working Groups I and II of the IPCC, held from 20 to 23 September 2019 in Monaco. The Summary for Policymakers was accepted by the IPCC at its 51st session on 24 September 2019. See https://www.ipcc.ch/event/second-joint-session-of-ipcc-working-groups-i-and-ii-and-ipcc-51/.

8. The SROCC was presented at the SBSTA-IPCC special event, "Unpacking the new scientific knowledge and key findings in the Special Report on the Ocean and Cryosphere in a Changing Climate," held on 5 December 2019, within the framework of SBSTA 51 and COP 25. The SBSTA Chair's summary report of this event is available online.[6]

9. The SROCC is one of three recent IPCC Special Reports, including the IPCC Special Report on Global Warming of 1.5 °C (2018)[7] and the IPCC Special Report on Climate Change and Land (2019).[8]

10. The COP has repeatedly expressed its appreciation and recognition of the work of the IPCC. COP 25 expressed its appreciation and gratitude to the IPCC and the scientific community for providing the SROCC and the Special Report on Climate Change and Land, which reflect the best available science, and encouraged Parties to continue to support the work of the IPCC. COP 25 also invited Parties to make use of the information contained in the IPCC Special Reports in their discussions under all relevant agenda items of the UNFCCC governing and subsidiary bodies.[9]

C. The ocean under the UNFCCC

11. Article 2 of the Convention states that the objective of the Convention is "to achieve…stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The climate system is defined in Article 1.3 as "the totality of the atmosphere, hydrosphere, biosphere and geosphere and their interactions," which by definition includes the ocean and all life in it, the cryosphere and the ocean floor.

12. All Parties commit in Article 4.1(d) of the Convention to "promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases…including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems".

13. The Paris Agreement specifically mentions ocean ecosystems: Parties note the "importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth".[10]

14. In their nationally determined contributions (NDCs) (submitted from 2015 to 2016), approximately 70 per cent of Parties have identified ocean-related vulnerabilities and commitments, to different extents, on mitigation and adaptation.[11]

15. In 2020, Parties are expected to provide revised or updated NDCs to the secretariat. Examples of ocean-related actions identified in NDCs received as at 1 September 2020 include the following:

(a) Chile has proposed advancing its consideration of climate change in the management of marine protected areas by evaluating (i) risks and vulnerabilities and (ii) co-benefits. Chile has presented a range of quantitative targets for marine protected areas, taking into account climate change: three targets on identifying new protected areas in under-represented marine ecoregions; four targets on implementing a management or administration plan for all marine protected areas created up until 2020, considering

[6] https://unfccc.int/event/srocc-special-event.

[7] IPCC. 2018. IPCC Special Report on the Impacts of Global Warming of 1.5 °C above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty. V Masson-Delmotte, P Zhai, H-O Pörtner, et al. (eds.). Geneva: World Meteorological Organization. Available at https://www.ipcc.ch/sr15.

[8] IPCC. 2019. IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems. PR Shukla, J Skea, E Calvo Buendia, et al. (eds.). Available at https://www.ipcc.ch/report/srccl.

[9] Decision 1/CP.25, paras. 5–7.

[10] See preamble, available at http://www.unfccc.int/node/512.

[11] The NDC submissions are available at https://www4.unfccc.int/sites/NDCStaging/Pages/Home.aspx.

adaptation; and two targets on assessing the co-benefits of different ecosystems in marine protected areas with respect to climate change mitigation and adaptation;

(b) Suriname, whose small population is concentrated along its low-lying coastal zone, has proposed strengthening coastal protection through nature-based solutions, such as mangrove planting, which, in addition to improving resilience, brings significant co-benefits in the form of carbon sequestration and enhanced food security. The estimated carbon stock of the country's mangrove forest (an area of 112,261 ha) is 23,861,761 Mg CO_2 eq, and of the young coastal plain (an area of 1,981,396 ha) is 1,422,380,986 Mg CO_2 eq;

(c) The Marshall Islands has identified the need to improve data collection to better illustrate what proportion of imported fossil fuels are used by domestic ocean-based transport and to explore options to reduce GHG emissions from domestic ocean-based transport, including improved regulatory control (by using, among others, the results of the German Agency for International Cooperation/University of the South Pacific Low Carbon Sea Transport Transition Project).

16. Ocean-related action on climate change is addressed to some extent in a range of UNFCCC agenda items, bodies and processes, as referenced in many of the submissions received by the secretariat from Parties and non-Party stakeholders to inform the dialogue. Activities under the UNFCCC are outlined below.

1. Scientific research and systematic observation

17. Under the research and systematic observation agenda item,[12] the SBSTA exchanges updates and needs, including on the ocean, with the scientific community,[13] through statements, reports and the annual mandated events: the Earth information day[14] and the meetings of the research dialogue.[15]

18. At SBSTA 51, the SBSTA recognized the importance of sustained systematic observation, both in situ and through remote sensing, including from space, for monitoring changes in the ocean and cryosphere in order to support adaptation, particularly in vulnerable communities and ecosystems, and mitigation. Parties also recognized the importance of systematic observation to advancing the understanding of the role of the ocean in the climate system and supporting adaptation and mitigation in communities exposed to ocean changes.[16] The SBSTA encouraged Parties to address gaps in monitoring of the ocean and cryosphere.

19. At SBSTA 48, the SBSTA encouraged Parties and relevant organizations to address research gaps and needs with regard to the role of the ocean in the global climate system, including for the global energy balance and carbon cycle, and impacts related to, inter alia, ocean acidification, sea level rise and ecosystem services. The SBSTA has also noted the proclamation of the United Nations Decade of Ocean Science for Sustainable Development (2021–2030), which is coordinated by IOC.[17]

2. Adaptation and resilience

(a) National adaptation plan process

20. The NAP process was established in Decision 1/CP.16 to enable Parties to identify medium- and long-term adaptation needs, and develop and implement strategies and programmes to address those needs.[18] The NAP technical guidelines, developed by the Least

[12] See https://unfccc.int/node/105128.

[13] This includes IPCC, WMO, GCOS (to discuss progress made on the GCOS implementation plan), the Joint Committee on Earth Observation Satellites and the Coordination Group for Meteorological Satellites Working Group on Climate (to discuss progress made on their support for the GCOS implementation plan), IOC and UN-Oceans.

[14] See https://unfccc.int/node/60972.

[15] See https://unfccc.int/node/227818.

[16] FCCC/SBSTA/2019/5, para. 34.

[17] FCCC/SBSTA/2018/4, para. 47.

[18] See http://www.unfccc.int/node/698.

Developed Countries Expert Group, offer guidance to Parties on the process to formulate and implement NAPs.[19] Some of the supplementary guidelines to the NAPs offer assistance to Parties in including ocean-related activities in NAPs. These include the Convention on Biological Diversity guidelines on linking NAPs and national biodiversity strategies and action plans, and the FAO guidelines on integrating genetic diversity into adaptation planning and on addressing agriculture, forestry and fisheries.[20]

21. As at 10 August 2020, the secretariat had received NAPs from 20 Parties, most of which include ocean-related interventions addressing issues such as ecosystem protection, sustainable aquaculture and fisheries, early warning systems and sea level rise.[21]

(b) Nairobi work programme on impacts, vulnerability and adaptation to climate change

22. The Nairobi work programme on impacts, vulnerability and adaptation to climate change[22] includes a focus area on oceans, coastal areas and ecosystems, including mega deltas, coral reefs and mangroves, as mandated by SBSTA 48[23] and SBSTA 50.[24] Parties agreed that efforts under the Nairobi work programme should prioritize this focus area in 2019–2020, in collaboration with partners and relevant organizations.

23. Activities on oceans, coastal areas and ecosystems under the Nairobi work programme followed its knowledge-to-action methodology and have included preparing a scoping paper to review existing knowledge; setting up an expert group and meetings of the expert group to support ongoing activities; and holding the Nairobi work programme 13th Focal Point Forum on closing knowledge gaps and advancing action at COP 25.[25]

24. Using outcomes from the scoping paper, the 13th Focal Point Forum and a number of online expert meetings, adaptation knowledge gaps, and proposed initial actions to address those gaps, have been identified under four clusters: (i) data and methods, (ii) governance, (iii) protection and restoration and (iv) support. The expert group is now collaborating with other partners on the proposed initial actions to implement action to address the adaptation knowledge gaps.

(c) Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts

25. Under the Convention, the work on loss and damage associated with the adverse effects of climate change was initiated through Decision 1/CP.16, whereby Parties recognized the need to strengthen international cooperation and expertise in order to understand and reduce loss and damage, including impacts related to extreme weather events and slow onset events.[26] In this respect, the WIM[27] and the WIM Executive Committee[28] were established in 2013.[29]

26. Under its current workplan, the WIM Executive Committee partnered with the Technology Executive Committee, with valuable contribution from international experts in these areas, to develop a joint policy brief on technologies for averting, minimizing and addressing loss and damage in coastal zones.[30] The brief aims to inform policy-makers and

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[19] https://www4.unfccc.int/sites/NAPC/Guidelines/Pages/Technical-guidelines.aspx.
[20] See https://www4.unfccc.int/sites/NAPC/Guidelines/Pages/Supplements.aspx.
[21] The NAPs submitted are available at https://www4.unfccc.int/sites/NAPC/News/Pages/national_adaptation_plans.aspx.
[22] See http://www.unfccc.int/node/693.
[23] FCCC/SBSTA/2018/4, para. 21(b).
[24] FCCC/SBSTA/2019/2, paras. 8 and 17.
[25] See https://www4.unfccc.int/sites/NWPStaging/Pages/oceans-page.aspx.
[26] The slow onset events identified in this decision are sea level rise, increasing temperatures, ocean acidification, glacial retreat and related impacts, salinization, land and forest degradation, loss of biodiversity and desertification. See also http://www.unfccc.int/node/277.
[27] See http://www.unfccc.int/node/16493.
[28] See https://unfccc.int/wim-excom.
[29] Decision 2/CP.19.
[30] The policy brief is available at http://www.unfccc.int/node/231688.

practitioners on technological solutions to assess and manage climate-related risks comprehensively in coastal zones.

3. Mitigation

(a) National greenhouse gas inventories

27. Parties report information on GHG emissions to the secretariat through different communication vehicles. GHG inventory reports under the Convention and the Kyoto Protocol, as well as those to be provided under the enhanced transparency framework under the Paris Agreement, are guided by the IPCC guidelines for national GHG inventories. The SBSTA, at SBSTA 50,[31] noted the release of the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*,[32] which provides updates to guidance on wetlands provided in volume 4, chapter 7 of the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands.[33]

(b) Reducing emissions from deforestation and forest degradation in developing countries

28. The COP has invited Parties, relevant organizations and stakeholders to support ongoing efforts, capacity-building, demonstration activities and the mobilization of resources relating to reducing emissions from deforestation and forest degradation in developing countries, and to share the outcomes of these efforts via the REDD+ web platform.[34] Mangrove forests can be included as part of national REDD+ strategies and processes in cases where mangroves are described under the National Forest Definition.[35]

(c) Bunker fuels

29. The COP invited the IMO to contribute to the work of the SBSTA, especially on the location and control of emissions from international bunker fuels.[36] Through the SBSTA, the IMO secretariat provides reports and information on work relevant to the SBSTA. Special expert meetings are also organized to address methodological issues relating to estimating, compiling and reporting GHG emissions data from maritime transport.[37]

4. Finance

30. The Financial Mechanism facilitates the provision of financial assistance from Parties with more resources to those that have fewer and are more vulnerable to climate change.[38] The operating entities of the Financial Mechanism are the Global Environment Facility[39] and the Green Climate Fund.[40] Funding for climate change activities is also available through a wide range of bilateral, regional and multilateral channels.

31. The SCF assists the COP in relation to the Financial Mechanism through a range of activities, including regular forums for the communication and continued exchange of

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[31] FCCC/SBSTA/2019/2, para. 74.

[32] Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Edited by E Calvo Buendia et al., IPCC, 2019, https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/.

[33] Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands. Edited by Takahiko Hiraishi et al., IPCC, 2014, https://www.ipcc.ch/publication/2013-supplement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories-wetlands/.

[34] https://redd.unfccc.int/.

[35] Reducing emissions from deforestation; reducing emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (Decision 1/CP.16, para. 70).

[36] Decision 4/CP.1.

[37] For more information on actions related to international bunker fuels, see http://www.unfccc.int/node/491.

[38] See http://www.unfccc.int/node/65952.

[39] See https://www.thegef.org/.

[40] See https://www.greenclimate.fund/.

information among bodies and entities dealing with climate change finance in order to promote linkages and coherence.[41]

32. In 2020 the SCF opened a call for inputs for the SCF Forum, to be held in 2021, which will focus on nature-based solutions.[42] Preparatory work for the Forum is being co-facilitated by two SCF members: Mohamed Nasr (Egypt) and Fiona Gilbert (Australia).

5. Technology

33. The Technology Mechanism[43] consists of its policy arm, the Technology Executive Committee,[44] and its operational arm, the Climate Technology Centre and Network.[45]

34. The Climate Technology Centre and Network promotes the accelerated transfer of environmentally sound technologies for low-carbon and climate-resilient development at the request of developing countries. Many of those technologies are relevant to ocean-related issues and sectors, including: coastal zones, early warning and environmental assessment, marine fisheries, forestry (which includes mangroves) and renewable energy, as well as cross-cutting approaches and enablers.

35. The Technology Executive Committee, as highlighted in paragraph 26 above, has recently partnered with the WIM Executive Committee to develop a joint policy brief on technologies for averting, minimizing and addressing loss and damage in coastal zones.

6. Action for climate empowerment

36. The over-arching goal of the action for climate empowerment (ACE) work is to empower all members of society to engage in climate action, through education, training, public awareness, public participation, public access to information, and international cooperation on these issues.[46] Ocean has been addressed under the work on ACE in several ways including, in 2019: at the Conference of Youth 15,[47] one of the topics was "Youth action for Oceans and Antarctica;" and one of the winners of the Global youth video competition was the Portugese NGO "Ocean Alive."[48]

7. Technical examination process

37. The technical examination process [49] identified opportunities to strengthen adaptation[50] and mitigation action,[51] although ocean-related opportunities were only briefly touched upon in some of the meetings.

8. Talanoa Dialogue

38. The Talanoa Dialogue, initiated in 2018, was a facilitative dialogue designed to take stock of the collective efforts of Parties in relation to progress towards the long-term goal referred to in Article 4, paragraph 1, of the Paris Agreement, and to inform the preparation of NDCs.[52]

39. A number of inputs to the Talanoa Dialogue[53] highlight the importance of oceans to ambition under the Paris Agreement. The COP invited Parties to consider the outcome, inputs

[41] Decision 2/CP.17, section IV.
[42] See http://www.unfccc.int/node/231652.
[43] Decision 1/CP.16
[44] See https://unfccc.int/ttclear/tec.
[45] See https://www.ctc-n.org/.
[46] See https://unfccc.int/node/201712.
[47] See https://www.coy15.org/youth-action-oceans-and-antarctica.
[48] See https://www.youtube.com/watch?v=eu0QtlmgRCc&feature=youtu.be.
[49] See Decision 1/CP.21, paras. 109 and 124.
[50] See http://www.unfccc.int/node/735.
[51] https://unfccc.int/resource/climateaction2020/tep/index.html.
[52] See Decision 1/CP.21, para. 20.
[53] For more information on the Talanoa Dialogue, see https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/2018-talanoa-dialogue-platform

and outputs of the Talanoa Dialogue in preparing their NDCs and in their efforts to enhance pre-2020 implementation and ambition.[54]

9. Marrakech Partnership for Global Climate Action

40. The Marrakech Partnership for Global Climate Action,[55] under the guidance of the high-level champions, aims to strengthen collaboration between governments and key stakeholders to immediately lower emissions and increase resilience to climate impacts. It has eight action areas, one of which is **oceans and coastal zones**.

41. Since COP 22, the ocean community, supported by the global climate action team and the high-level champions, has raised awareness of the importance of the interactions between oceans and climate.

D. The ocean and climate change in the wider United Nations context

42. A number of United Nations agencies and organizations are supporting action on ocean and coastal zones in synergy with action on climate change. The 2030 Agenda for Sustainable Development clearly addresses both climate change (SDG 13) and the ocean (SDG 14 on conserving and sustainably using the oceans, seas and marine resources for sustainable development). The submissions received from Parties and non-Party stakeholders identify a range of activities within the United Nations system. Annex III provides more detailed information on the wide range of activities on ocean and climate change being undertaken across the United Nations.

43. As reaffirmed by the General Assembly in its annual resolutions on Oceans and the law of the sea, the United Nations Convention on the Law of the Sea sets out the legal framework within which all activities in the oceans and seas must be carried out.[56] The General Assembly has also drawn a link between oceans and climate change in various resolutions and reaffirmed that climate change is one of the greatest challenges of our time.[57] Ongoing processes established by the General Assembly include the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea,[58] and the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects.[59] Recent activities under the latter process include the preparation of the Second World Ocean Assessment, due to be released in late 2020. Negotiations on an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction are also ongoing.[60]

44. IOC works with its member States to monitor and document the impacts of climate change on the world's oceans, coasts and marine ecosystems, including through the Global Ocean Observing System and IOC science programmes, which support many studies of the impacts of climate change, with a focus on ocean acidification. IOC regularly provides support to the SBSTA, particularly through the research and systematic observation agenda (see paragraphs 17–19 above).[61]

45. The work of the Open-Ended Working Group on the Post-2020 Global Biodiversity Framework is expected to culminate in the adoption of a global biodiversity framework by the Conference of the Parties to the Convention on Biological Diversity at the United Nations

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[54] Decision 1/CP.24, para. 37.

[55] See https://unfccc.int/climate-action/marrakech-partnership-for-global-climate-action.

[56] See https://www.un.org/depts/los/convention_agreements/convention_overview_convention.htm and https://www.un.org/Depts/los/general_assembly/general_assembly_resolutions.htm.

[57] See, for example, General Assembly resolution 74/219, available at https://undocs.org/en/A/RES/74/219.

[58] See https://www.un.org/Depts/los/consultative_process/consultative_process.htm.

[59] See https://www.un.org/regularprocess/.

[60] See https://www.un.org/bbnj/.

[61] See http://www.ioc-unesco.org/.

Biodiversity Conference in 2021.[62] Some of the biodiversity targets currently being considered under the framework directly address climate change mitigation and adaptation, as well as disaster risk reduction, through nature-based solutions and protection of marine ecosystems.

46. The FAO Fisheries and Aquaculture Department, along with the Global Partnership Climate, Fisheries and Aquaculture,[63] promote a coordinated response from the fisheries and aquaculture sector to climate change. One of the key messages of the FAO International Symposium on Fisheries Sustainability (November 2019)[64] is the essential role adaptation and mitigation strategies play in building the sustainability of the fisheries and aquaculture sector. FAO has extensive experience supporting actions the fisheries and aquaculture sector can take in response to climate change.

47. The UNEP Regional Seas Programme aims to address the accelerating degradation of the world's oceans and coastal areas through a "shared seas" approach.[65] There are currently 18 regional seas conventions and action plans for the sustainable management and use of the marine and coastal environment. In most cases, the action plan is underpinned by a strong legal framework in the form of a regional convention and associated protocols on specific problems.

48. The Sendai Framework for Disaster Risk Reduction 2015–2030, coordinated by the United Nations Office for Disaster Risk Reduction, is the road map for the United Nations system to make human communities safer and more resilient to disasters.[66] The Sendai Framework promotes the mainstreaming of disaster risk assessment and mapping and management into rural development planning and management of coastal flood plain areas, wetlands and all other areas prone to flooding (and droughts), including through the identification of areas that are safe for human settlement, while at the same time preserving ecosystem functions that help to reduce risk.

49. IMO adopted its Initial Strategy on Reduction of GHG Emissions from Ships in 2018[67] with the objective of reducing GHG emissions from the shipping sector by at least 50 per cent in absolute terms by 2050, relative to the 2008 emission level, while at the same time pursuing efforts towards phasing out such emissions entirely. The strategy includes, inter alia, a proposed short-term measure to encourage the development and update of national action plans to develop policies and strategies to address GHG emissions from international shipping in accordance with guidelines to be developed by IMO, taking into account the need to avoid regional or unilateral measures.

50. The 2020 United Nations Ocean Conference (postponed to 2021) to support the implementation of SDG 14 will focus on the theme, "Scaling up Ocean Action Based on Science and Innovation for the Implementation of Goal 14: Stocktaking, Partnerships and Solutions".[68] This is the second such conference; the first Ocean Conference, held in 2017 on the theme "Our Oceans, Our Future: Partnering for the Implementation of Sustainable Development Goal 14",[69] was a success, and its call to action has led to the establishment of nine Communities of Ocean Action[70] and over 1,600 voluntary commitments on ocean action.[71]

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62 See https://www.cbd.int/process/.
63 See http://www.fao.org/pacfa/en/.
64 See http://www.fao.org/about/meetings/sustainable-fisheries-symposium/en/.
65 See https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/working-regional-seas/why-does-working-regional-seas-matter.
66 https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030.
67 See Resolution MEPC.304(72), available at http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-%28MEPC%29/Documents/MEPC.304%2872%29.pdf. Two Member States reserved their position with regard to the adoption of the Initial Strategy.
68 See https://www.un.org/en/conferences/ocean2020.
69 See https://oceanconference.un.org/about.
70 See https://oceanconference.un.org/coa.
71 Available at https://oceanconference.un.org/commitments.

51. The United Nations Decade of Ocean Science for Sustainable Development (2021–2030),[72] is currently in its preparatory phase, coordinated by IOC. The draft implementation plan for the Decade has been submitted to the 75th session of the General Assembly. The Decade will provide a platform for synergistic action including a focus on increasing understanding of the ocean–climate nexus and generating knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change, and improve climate services and predictions. The United Nations Decade on Ecosystem Restoration (2021–2030),[73] led by UNEP and FAO, has the primary aim of preventing, halting and reversing the degradation of ecosystems worldwide by enhancing knowledge exchange and connecting initiatives to increase impact, stimulate a blue economy and effectively engage stakeholders.

52. Collaborations between the UNFCCC secretariat and other United Nations agencies and processes are outlined in the secretariat's annual report to the SBSTA on cooperative activities with United Nations entities and other intergovernmental organizations that contribute to the work under the Convention.[74] The secretariat regularly contributes to the reports of the United Nations Secretary-General on oceans and the law of the sea, including those on the topic of focus of the Informal Consultative Process, most recently on the topic of sea-level rise and its impacts.[75] The UNFCCC is a member of UN-Oceans and is committed to working as one United Nations system to achieve the Sustainable Development Goals.

II. Overview of the submissions

53. This chapter provides a summary of the themes and key topics identified in the submissions received by the secretariat from Parties and non-Party stakeholders to inform the dialogue (see Annex I). Chapter II.A provides an outline of the submissions. Chapter II.B summarizes the adaptation and mitigation actions on the ocean and climate change identified. Chapter II.C provides the organization, structure and format of the dialogue. Chapter II.D the provides the substantive considerations regarding the dialogue. Chapter II.E identifies considerations on expected outcomes and next steps.

54. For the themes and key topics identified, an example of a submission mentioning the theme or topic is often provided as a reference, although the theme or topic is not exclusive to that submission.

A. Outline

55. This information note is based on an analysis of submissions from Parties and non-Party stakeholders to inform the dialogue, pursuant to Decision 1/CP.25, paragraph 31. In total, 47 submissions were received, of which 19 were from Parties or groups of Parties and 28 were from non-Party stakeholders.[76] Of the submissions received from Parties, three were from groups of Parties, namely, submissions from Bhutan on behalf of the Least Developed Countries Group, Belize on behalf of the Alliance of Small Island States, and Croatia and the European Commission on behalf of the European Union and its Member States. Submissions from non-Party stakeholders consisted of 3 from United Nations organizations, 17 from admitted non-governmental organizations, 2 from admitted intergovernmental organizations (IUCN and SPREP), and 6 from non-admitted entities.

56. A quantitative analysis of the submissions (see the figure below) shows that more than half of the submissions recognize the inherent nexus between the ocean and climate. Some of the themes frequently referred to include the impacts of climate change on fishery resources (60 per cent of submissions); the importance and protection of blue carbon (57 per cent); ensuring the integrity, protection and resilience of mangroves, salt marshes, seagrasses,

[72] See https://www.oceandecade.org.
[73] See https://www.decadeonrestoration.org.
[74] FCCC/SBSTA/2020/INF.2.
[75] See https://www.un.org/Depts/los/general_assembly/general_assembly_reports.htm.
[76] The submissions are available at https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx.

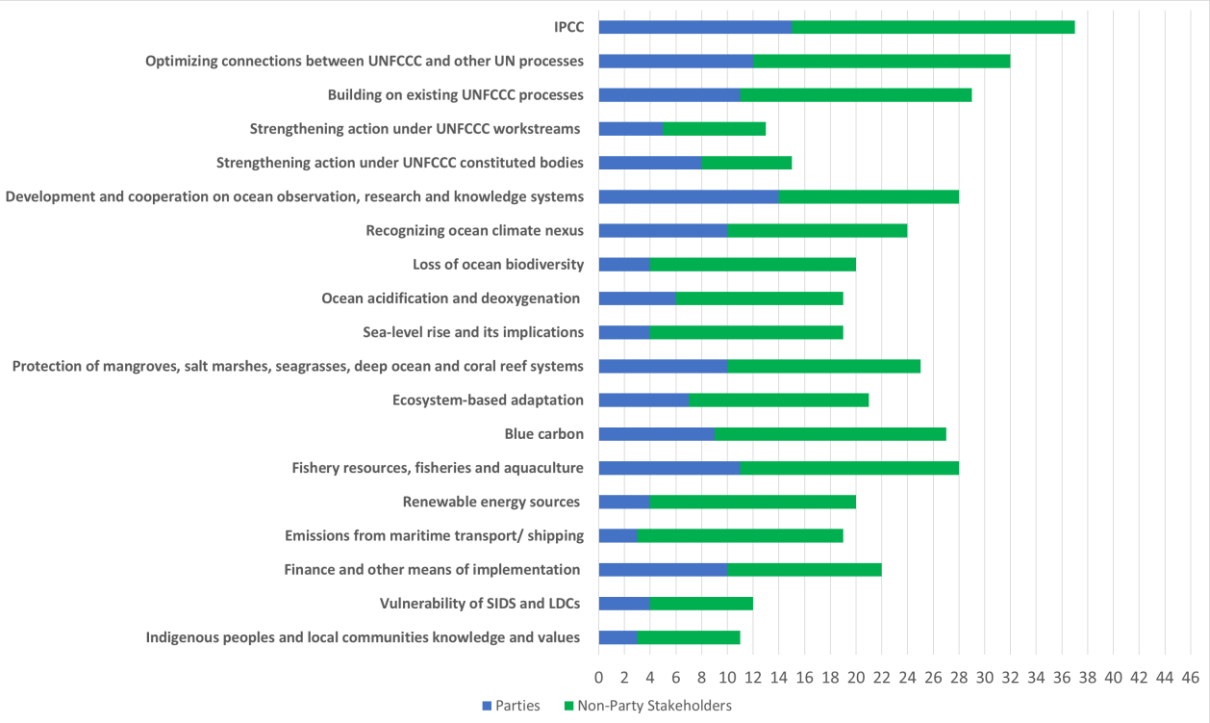
deep ocean systems and coral reef systems (53 per cent); enhancing ecosystem-based adaptation (47 per cent); concern regarding the loss of ocean biodiversity (43 per cent) and ocean acidification and deoxygenation (40 per cent); addressing emissions from maritime transport/shipping (40 per cent); and good practices with respect to marine renewable energy sources (47 per cent).

57. The most frequently mentioned subject (referred to in 80 per cent of submissions) is the need to amplify findings and key messages of the IPCC, in particular those from the SROCC. In addition, the importance of development and cooperation on ocean observation, research and knowledge systems within the context of the dialogue is highlighted in more than 50 per cent of submissions. In this regard, recommendations include guiding the dialogue based on the latest available science; enhancing scientific research and investment in observation and research; and addressing gaps and options for cooperation on scientific findings and data sharing. Additionally, some submissions emphasize featuring, within the context of the dialogue, relevant traditional knowledge, innovations and practices of indigenous peoples and local communities.

58. More than 65 per cent of submissions stress that the dialogue should build on the existing activities of the UNFCCC and the work of other international organizations, with 62 per cent of submissions highlighting that the dialogue could serve as a platform to enhance understanding about such processes and strengthen the ocean-related work of UNFCCC workstreams (e.g. research and systematic observation, the Nairobi work programme), instruments (e.g. NDCs, NAPs, and transparency and reporting arrangements under the Convention and the Paris Agreement), and constituted bodies (e.g. the Local Communities and Indigenous Peoples Platform, SCF, Least Developed Countries Expert Group, WIM, Technology Executive Committee, Paris Committee on Capacity-building).

59. About 70 per cent of submissions highlight a wide range of international processes and forums involved in addressing the ocean and the need to optimize connections between the UNFCCC and other relevant United Nations processes.

Major themes mentioned in the 47 submissions to inform the dialogue on the ocean and climate change



B. Adaptation and mitigation actions on the ocean and climate change

60. The submissions from Parties and non-Party stakeholders highlight the urgency of reducing GHG emissions to limit the scale of climate change impacts on the ocean and

cryosphere, and the impacts on, and risks to, ecosystems and the livelihoods that depend on them. Ocean protections and nature-based solutions can provide a range of adaptation, resilience and mitigation values, but cannot be considered as a substitute for the urgent deep decarbonization of global economies that is needed to preserve the health of the ocean. The limitations of adaptation are an important factor to consider in this regard. Moreover, the submissions note that carbon absorption by the ocean should not be used as an offset for emissions on land.

1. Ocean–climate nexus

61. The importance of the ocean–climate nexus is a recurring theme across submissions. The submissions emphasize the vital role of the ocean as a global climate regulator. They identify the crucial role of ocean-related actions in meeting the SDGs, and, particularly, the goals of the Paris Agreement to address climate change and build resilience. "The climate crisis that we are facing is, in fact, an ocean crisis" (WWF). Addressing the combined crises requires integrated ocean and climate approaches, finance and solutions, which consider gender, indigenous peoples and the most vulnerable coastal communities (Norway).

62. The submissions affirm that the ocean needs to be integrated into decision-making regarding climate change at all levels and that there already exist opportunities to do so (e.g. Chile, IDDRI, Because the Ocean). Conversely, climate change needs to be integrated into ocean-related decision-making and ocean policies (Panama). Climate change must be considered in respect of other drivers of change and management practices, such as fisheries (e.g. FAO), ecosystem protection and disaster risk reduction (e.g. CAN), and pollution reduction (e.g. Georgetown University), including noise pollution (e.g. Ocean Care), as well as in multilateral negotiations such as those in the context of the BBNJ Intergovernmental Conference, the Convention on Biological Diversity Post-2020 Global Biodiversity Framework and discussions within the framework of the International Seabed Authority.

2. Science

63. Submissions note that decision-making requires and should be based on the best available science: observations, data, research and knowledge. The findings of the SROCC is clearly identified in submissions as key foundations for decision-making and for the dialogue. The SROCC highlights the urgency of prioritizing timely, ambitious and coordinated action to address the unprecedented and enduring changes happening in the oceans and the cryosphere (New Zealand). The IPCC Special Report on Global Warming of 1.5 °C was also identified as useful input for the dialogue.

64. The submissions also make reference to the 2019 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services *Global Assessment Report on Biodiversity and Ecosystem Services*,[77] which identifies climate change as a growing risk for biodiversity loss in the ocean (Norway) and notes that fishing is the largest threat to marine biodiversity and ecosystem services (Our Fish). The First World Ocean Assessment, which was the outcome of the first cycle of the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including socioeconomic aspects, found that climate change and related changes in the atmosphere have serious implications for the ocean. The Second World Ocean Assessment will feature chapters on issues related to climate change and oceans (DOALOS).

65. Many submissions point out that indigenous communities and their knowledge and values need to be recognized and are necessary for strengthening action on adaptation and mitigation. There is a rapidly expanding role and relevance of indigenous and local knowledge in climate change adaptation in ocean observation, management, disaster risk management and resilience-building efforts at both local and national levels. Indigenous knowledge should be recognized as legitimate and valuable and considered side-by-side with scientific knowledge. Indigenous peoples should be recognized as rights-holders and knowledge-holders in the co-production of knowledge, including in every aspect of research and related activities (Inuit Circumpolar Council).

[77] https://ipbes.net/global-assessment.

66. Coordination and cooperation on systematic observation and the sharing of scientific data, research and knowledge systems are needed to address gaps in understanding, especially among countries with limited technical capacity and resources (e.g. Indonesia).[78]

67. The high degree of uncertainty related to current knowledge, combined with a great sense of urgency to act, indicate the importance of improving the collection of long-term observational data sets and research results (IOC). Climate data records and climate indicators are essential decision-making support tools for the UNFCCC and its Parties (Plymouth Marine Laboratory). Knowledge of the deep sea and other marine habitats and species, from whales and krill to deep sea bacteria, also needs to be expanded to assess risk and climate change response options (Deep Ocean Stewardship Initiative and Deep Ocean Observing Strategy).

68. For example, further research is needed to better understand the marine environment's capacity to sequester carbon, and the interconnected role of climate and nature, in order to apply nature-based solutions in the ocean and to better quantify the mitigation potential of carbon-rich habitats and species beyond those already recognized in the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands* (Global Ocean Forum, Natural Resources Defense Council, Pew Charitable Trusts).

69. Submissions describe some of the ongoing action on ocean and climate research and observation. For example, IOC, together with its member States and partners, launched the Global Sea Level Observing System and the Working Group on Integrated Ocean Carbon Research, while the Monaco Exploration Society conducts international collaborative missions linking scientific research, public outreach and government cooperation (Monaco).

3. Impacts, vulnerabilities and risks

70. Many submissions refer to the impacts, vulnerabilities and risks of climate change with regard to the ocean and cryosphere, as clearly detailed in the SROCC (see chapter I.B above). Sea level rise, extreme sea level events and coastal hazards pose grave risks to human societies. Climate change is fundamentally altering marine and coastal ecosystems, changing the distribution of tuna and other fish populations (SPREP), affecting nutrient circulation and food chains, and reducing biodiversity (e.g. CAN).

71. The IPCC indicates that the ocean is entering a new state, with warmer, more acidic water (due to ocean acidification), reduced oxygen levels (de-oxygenation), reduced biological productivity, increased salinization and changes in ocean circulation. Two aspects of the ocean's dynamics that will be particularly affected by the level of ambition of climate action, as they are influenced by the degree of global warming, are sea level rise, which is expected to continue for centuries, and the capacity of the ocean to act as a carbon dioxide sink. Furthermore, ocean acidification is a direct result of human-caused carbon dioxide emissions; it is only by reducing such emissions that further ocean acidification can be prevented.

72. The submissions note that climate change impacts have severe, long-term consequences for both national economies and human well-being, with adverse impacts on people's health and safety, food security and ultimately on life itself (IUCN). Specifically, these impacts include increased insecurity of food production and the aggravation of the poverty conditions of people (Rare).

73. Submissions highlight the vulnerabilities and risks of the LDCs, SIDS and archipelagic countries, with regard to food, income, revenue and coastal protection, and to specific economic sectors, such as tourism (LDCs, Alliance of Small Island States).[79] In addition, risks are distributed unevenly around the globe, affecting high- and low-latitude regions the most. Furthermore, responses must consider gender (Women and Gender Constituency), indigenous knowledge and values, and human rights (SPREP). By 2050, it is estimated that 50 to 200 million people worldwide will be displaced owing to sea level rise

[78] This issue is also raised in the SROCC.

[79] See also SROCC chapter 4 and cross-chapter box 9.

and other negative impacts of climate change, threatening food security, livelihoods and peace (Global Ocean Forum).

4. Ecosystem-based actions

74. Submissions identify the vital role that nature-based solutions can play in preserving vulnerable coastal and marine ecosystems and enhancing conservation that supports the resilience of ecosystems and people to climate change impacts while promoting mitigation and adaptation. Nature-based solutions include ecosystem-based adaptation; the protection and restoration of mangroves, salt marshes, seagrasses, deep ocean systems, coral reef systems and other ecosystems; and climate-resilient fishing and aquaculture. Submissions indicate that nature-based solutions should be prioritized over hard engineering (e.g. concrete structures and dykes).

75. While currently receiving less than 2 per cent of global climate funds, nature-based solutions are low-regret and relatively low-cost measures (IDDRI) that have the potential to provide up to 37 per cent of the climate change mitigation needed globally by 2030 to keep the global temperature increase below 2 °C while also providing a range of adaptation and resilience benefits (Pew Charitable Trusts).

76. Ecosystem-based adaptation has both mitigation and development co-benefits. Submissions highlight that the conservation of intact ecosystems, and wherever possible, the natural regeneration of degraded ecosystems (e.g. through climate-smart marine protected areas) should be prioritized, as these natural systems help protect the world's coastlines, play a key role in food security and have high capacity to adapt to changing conditions (Nature Conservancy, WWF). For example, Seychelles recently completed a marine spatial planning process with the objective of, among others, increasing the resilience of the ocean through a system of marine protected areas.

5. Blue carbon

77. Mangroves, salt marshes and seagrasses are commonly referred to as blue carbon ecosystems (or coastal wetlands environments). These systems store and sequester carbon dioxide and, importantly, are also vital to enhancing climate resilience by protecting against coastal erosion and storm surges. They are therefore often a first line of defence to protect low-lying communities (Because the Ocean). Mangroves, salt marshes and seagrasses are currently the only marine ecosystems for which there are accepted IPCC methodologies for measuring carbon sequestration, including default emission factors, which Parties need in order to factor related emission information into their GHG inventories.[80]

78. Other forms of marine systems, such as kelp, macroalgae, and carbon-rich coastal and shelf sea sediments, have been less well researched. Further investigation is required regarding their role as sinks and other benefits they offer (Plymouth Marine Laboratory).

79. An example of an ongoing action, submitted by Belize, is the work with local and international partners to refine and further detail understanding of the climate values of the country's blue carbon systems in order to enhance the commitments in its updated NDCs.

6. Fishery resources, fisheries and aquaculture

80. The 2019 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services *Global Assessment Report on Biodiversity and Ecosystem Services*[81] confirmed that fishing is the largest threat to marine biodiversity and ecosystem services. Submissions identify the importance of ending overfishing and fishing subsidies, avoiding ocean habitat

[80] 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands. T Hiraishi, T Krug, K Tanabe, et al. (eds.). Geneva: IPCC. Available at https://www.ipcc.ch/publication/2013-supplement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories-wetlands.

[81] Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Edited by ES Brondízio et al., IPBES secretariat, 2019, https://ipbes.net/global-assessment.

destruction, and protecting food chains and substituting fish feed in the aquaculture sector (e.g. IUCN, Ocean and Climate Platform).

81. Submissions highlight that climate-resilient fisheries and aquaculture play an important role in food, nutrition and livelihoods security. Including aquatic food production (such as tuna and coastal species) in climate action should therefore become a priority. Marine capture fisheries, inland capture fisheries and aquaculture combined provide a significant portion (53 per cent) of global fish production and thus food security for millions of people. Climate-related strategies and processes that give specific focus to their concerns are required (FAO).

82. Ongoing action includes a commitment by Mexico to invest in nature-based solutions to protect and restore its marine biodiversity by expanding fishing refuge areas. SPREP identifies its initiatives for practical adaptation assistance to local fishing communities, including a project to adapt tuna-dependent Pacific Islands communities and economies to climate change.

7. Sea level rise, extreme sea level events and coastal hazards

83. Submissions identify the need for urgent action to (i) increase understanding of and (ii) address the risks associated with sea level rise, extreme sea level events and coastal hazards, particularly to SIDS and LDCs.

84. Actions identified to increase understanding include the development of the Global Sea Level Observing System (IOC). Addressing the risks involves both nature-based solutions as well as a range of other actions.[82] Responses are also provided in the joint policy brief of the WIM Executive Committee and the Technology Executive Committee (see paragraph 26 above).

8. Marine renewable energy and reducing fossil fuel emissions

85. Submissions identify potential areas for mitigation action, including developing marine renewable energy and reducing emissions from maritime transport. Options for other emerging technologies, such as carbon dioxide capture and storage, are also identified.

86. Marine renewable energy, such as offshore wind, tidal, and wave energy, has the potential to contribute enormously to the reduction of GHG emissions and limit climate impacts on the ocean. Marine renewable energy also has the potential to meet all global electricity requirements, although this would require further infrastructure development (IDDRI). Consideration must be given to how ocean-based renewable energy structures could minimize local adverse impacts and deliver co-benefits for ecosystems, biodiversity and society (IUCN, Plymouth Marine Laboratory). For example, the European Union notes in its submission that the European Union and its member States lead the world in terms of offshore wind (representing 79 per cent of global cumulative installed capacity) and ocean energy (representing 78 per cent of global installed capacity) production and are working on a number of initiatives to accelerate cost reductions and improve conditions for ocean energy and offshore wind energy, including through its Strategic Energy Action Plan. Monaco was one of the first countries to develop seawater heat pumps, and now has over 80 operational pumps and continues to work on optimizing their efficiency while minimizing ecosystem impact.

87. The submissions also identify the importance of reducing emissions from maritime transport, shipping and fisheries, both international and domestic (International Alliance to Combat Ocean Acidification, SPREP), and the work of IMO in this regard. They also call for an end to fossil fuel subsidies for maritime transport and fisheries (Women's Environment and Development Organization, Our Fish). In the case of fisheries, an reduction of between 10 and 30 per cent carbon dioxide emission reduction is achievable for capture fisheries, and a carbon dioxide emission reduction of 21 per cent per tonne of fish produced could be achievable for aquaculture (FAO). An example of how such reductions can be achieved is mentioned by SPREP, which highlights the Pacific Blue Shipping Partnership, an open

[82] These actions are described in chapter 4 of the SROCC.

coalition of eight Pacific Island countries that have committed to accelerating the development of a 100 per cent carbon-free maritime transport sector by 2050.

88. There is a need to consider long-term, no-harm, ocean-based carbon dioxide capture and storage (Global Ocean Forum, IUCN) as well as other emerging mitigation technologies (IDDRI, IUCN) and appropriate governance of such technologies. Importantly, carbon dioxide capture and storage is a decisive measure only if it is implemented in a way that avoids significant leakage (IDDRI). In its submission, Japan highlighted its work on carbon dioxide capture and storage (offshore storage) including a large-scale carbon dioxide capture demonstration project in Omuta city, as well as surveys and suitability studies for carbon capture and storage carried out in a range of locations.

9. Integrated responses for sustainable ocean systems

89. Submissions underscore the importance of integrated solutions for adaptation and mitigation. Coastal and ocean management solutions that consider climate change are needed for the protection of blue carbon ecosystems, fisheries and aquaculture, as well as to support emission reduction and develop climate-smart renewables to bring together adaptation, mitigation and sustainability benefits. Submissions mention that these solutions could be included as part of national responses, such as NDCs and NAPs. For example, Chile highlights in its submission the ocean component of its NDC and the integrated approach taken to enable both mitigation and adaptation objectives.

90. Integrated approaches, finance and solutions, must consider and engage with women and youth, indigenous peoples and the most vulnerable coastal communities. For example, New Zealand highlights that its national law goes some way towards acknowledging Maori interests in the ocean through its customary fishing regulations and the fisheries quota management system. The Maori people maintain kaitakitanga (guardianship) over their waterways and participate in the development and ongoing management of marine conservation areas and protocols to improve water quality (mauri or life force) and replenish marine life.

91. Marine spatial planning is recognized in submissions as one option for an integrated response that brings together area-based and ecosystem-based public processes to sustainably manage coastal and marine ecosystems. It aims to overcome sectoral planning through an integrative and participative process, taking into account an analysis of potential future scenarios in order to select the most sustainable one, in accordance with national priorities for the marine environment and maritime sectors (IOC). For example, Mexico and SPREP both highlighted their experience with marine spatial planning, as well as integrated ocean-related climate commitments.

92. Relevant reports and guidelines, highlighted in submissions, that support integrated responses to adaptation and mitigation include:

(a) The report, *Ocean for climate: Ocean-related measures in climate strategies* (2019) (Because the Ocean);[83]

(b) *Policy Recommendations: A healthy ocean, a protected climate* (2019) (Ocean and Climate Platform);[84]

(c) *Guide to Including Nature in Nationally Determined Contributions: A checklist of information and accounting approaches for natural climate solution* (2019) (Conservation International, The Nature Conservancy, Land Use and Climate Knowledge Initiative, Environmental Defense Fund, and National Wildlife Federation);[85]

[83] https://becausetheocean.org/wp-content/uploads/2019/10/Ocean_for_Climate_Because_the_Ocean.pdf.

[84] https://ocean-climate.org/wp-content/uploads/2019/11/mep-plaidoyer-ENG-WEB-1.pdf.

[85] https://www.conservation.org/docs/default-source/publication-pdfs/guide-to-including-nature-in-ndcs.pdf?sfvrsn=99aecda2_2.

(d) *Making Ecosystem-based Adaptation Effective: A Framework for Defining Qualification Criteria and Quality Standards* (2017) (Conservation International);[86]

(e) FAO Technical Paper 627, on the impacts of climate change on fisheries and aquaculture, which provides a synthesis of current knowledge, adaptation and mitigation options (2018),[87] and includes an adaptation toolbox. This paper served as the basis for FAO Technical Paper 650, on decision-making and economics of adaptation to climate change in the fisheries and aquaculture sector (2019) (FAO);[88]

(f) *Opportunities for increasing ocean action in climate strategies* (2019) (IDDRI);[89]

(g) Ocean acidification action plans (International Alliance to Combat Ocean Acidification);[90]

(h) Joint Roadmap to accelerate Maritime/Marine Spatial Planning processes worldwide, known as the MSP Roadmap (IOC);[91]

(i) Report on *the effects of climate change on oceans* of the eighteenth meeting of the Informal consultative process (A/72/95) and the report of the Secretary-General on that theme (A/72/70), as well as the report on *Sea-level rise and its impacts* of the twenty first meeting of the Informal consultative process (DOALAS);

(j) Reports of the High Level Panel for a Sustainable Ocean Economy (Norway).[92]

93. Submissions note that adaptation and mitigation measures for ocean systems should be aligned with the ongoing action of measures and policies under other multilateral agreements, such as the 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction 2015–2030, the post-2020 global biodiversity framework under the Convention on Biological Diversity, conventions under FAO and IMO, regional seas conventions, the Antarctic Treaty System, the discussions under the BBNJ Intergovernmental Conference and the International Seabed Authority (see chapter I.C above as well as annex III).

94. Submissions also highlight the work of high-level panels, coalitions and alliances to support action at the ocean–climate nexus. These include the High Level Panel for a Sustainable Ocean Economy,[93] the Pacific Island Forum 2050 Strategy for the Blue Pacific Continent,[94] the High Ambition Coalition for Nature and People,[95] the Nature-based Solutions Coalition,[96] and the Platform for Science-based Ocean Solutions announced by Chile at COP 25.

10. Finance and funding and other cross-cutting issues

95. Submissions identify the importance of finance and funding and joining up the finance/funding agendas for climate change and those for ocean action, particularly in support of SIDS, developing countries and economies in transition, in order to build capacity in the form of knowledge, tools, and scientific and political expertise to empower people to implement mitigation and adaptation measures ("blue finance").

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[86] https://www.iucn.org/sites/dev/files/feba_eba_qualification_and_quality_criteria_final_en.pdf.
[87] http://www.fao.org/documents/card/en/c/I9705EN/.
[88] http://www.fao.org/3/ca7229en/ca7229en.pdf.
[89] https://www.iddri.org/en/publications-and-events/policy-brief/opportunities-increasing-ocean-action-climate-strategies. This report also served as the IDDRI submission for this dialogue.
[90] https://www.oaalliance.org/actionplans/.
[91] http://www.mspglobal2030.org/msp-roadmap/.
[92] https://www.oceanpanel.org/SpecialReports.
[93] See https://www.oceanpanel.org.
[94] See https://www.forumsec.org/pacific-regionalism.
[95] See https://www.campaignfornature.org/high-ambition-coalition.
[96] See https://nature4climate.org/nature-based-solutions-a-summary-of-announcements-and-developments-during-the-un-climate-action-summit-and-climate-week.

96. There is still great potential to advance ocean-based solutions that are based on solid science and are properly financed (Sasakawa Peace Foundation). In particular, increased funding for adaptation and nature-based solutions, including through aligning support is emphasized in submissions (Monaco, WWF).

97. Submissions identify a number of ongoing initiatives on finance and funding:

(a) The Climate Finance Explorer tool developed by the NDC Partnership provides access to a searchable database of open climate funds and related support for mitigation and adaptation and cross-cutting activities, including for ocean and coastal resources;[97]

(b) The IUCN highlights its report, *Blue Infrastructure Finance: A new approach, integrating Nature-based Solutions for coastal resilience*;[98]

(c) Canada is working with the Ocean Risk and Resilience Action Alliance to develop, pilot and scale up innovative finance models that can drive greater private investment in nature-based solutions and enhance resilience and provide mitigation co-benefits;[99]

(d) Seychelles has taken a leading role on implementing innovative financing solutions to address conservation and adaptation through a debt-for-nature swap and a sovereign blue bond;

(e) SPREP mentions, among others, the Pacific Ocean Finance Program under the Pacific Regional Oceanscape Program, funded by the World Bank and the Global Environment Facility, as an initiative that improves the efficacy and increases the amount of finance for Pacific Island countries.[100]

98. Submissions frequently highlight the importance of strengthening the cross-cutting work under the UNFCCC (see chapter I.B above) in leveraging support for finance.

99. Other important cross-cutting needs identified include capacity-building, inclusive planning, education and technology transfer. The submissions also highlight the importance of putting people at the centre of action on climate change and oceans, while ensuring consideration of equity, rights, gender and legal frameworks.

C. Organization, structure and format of the dialogue

1. Considerations regarding participants

100. Many submissions highlighted that participation in the dialogue should be inclusive (SPREP, Seychelles) and balanced (CAN), and that both Parties and non-Party stakeholders, including academia, sub-national authorities, non-governmental organizations and youth organizations, should be invited to participate (Indonesia, Japan, Norway, Samoa, Seychelles, IUCN, Georgetown University, WWF). In particular, civil society organizations (non-governmental and non-profit organizations) representing those whose livelihoods are most impacted, as well as scientific experts and negotiators should participate (Natural Resources Defense Council). High-level policymakers and specialists from both ocean and non-ocean fields are crucial to ensure that a cross-sectoral approach is followed up with policy decisions (Sasakawa Peace Foundation).

2. Considerations on duration

101. Considering the range of issues and objectives that are suggested in the dialogue, many submissions call for a six-hour or one-day event.

[97] https://ndcpartnership.org/climate-finance-explorer.
[98] https://bluenaturalcapital.org/wp2018/wp-content/uploads/2020/03/Blue-Infrastructure-Finance.pdf.
[99] See https://www.oceanriskalliance.org.
[100] See https://opocbluepacific.net/.

3. Considerations on structure

102. Many submissions suggest that the dialogue should be organized in sessions on particular topics with brief expert presentations which then lead to and allow plenty of time for dialogue (e.g. Indonesia, WWF). Some submissions suggest a mixed approach that includes expert presentations and discussions as well as interactive facilitated breakout sessions (Seychelles, Conservation International).

103. The dialogue should include a broad cross-section of interests and experts to facilitate a comprehensive discussion about climate and ocean ambition, plans of action for key stakeholders, and the co-benefits and synergies that can be achieved through a much more integrated climate agenda (SPREP, WWF).

104. There should be a final overview session for determining conclusions and next steps (e.g. Costa Rica, Seychelles).

105. Considering the COVID-19 pandemic and related travel restrictions, some submissions suggest that the dialogue should use technology and online solutions that would allow all participants and stakeholders to participate (e.g. Norway, WWF).

4. Considerations on a summary report and other outcomes

106. Many submissions stated their expectations concerning a summary report and other expected outcomes of the ocean dialogue. Suggestions include:

(a) Making all presentations and information available to the public, and developing and sharing a summary of the dialogue (e.g. Norway);

(b) Ensuring that the recommendations that emerge from the dialogue are included in the informal summary that is produced as an output (e.g. Seychelles);

(c) Submitting the informal summary of the dialogue to the SBSTA plenary and COP 26 for concrete follow-up decisions (e.g. Sasakawa Peace Foundation);

(d) Generating outputs (reports, public communications, policy recommendations, data, etc.) from the dialogue that can serve as inputs to a range of other mechanisms and processes, including the Financial Mechanism, the global stocktake, and the preparation, updating and implementation of NDCs and NAPs (e.g. WWF).

D. Substantive considerations regarding the dialogue

107. This section summarizes the main substantive considerations regarding the dialogue identified in the submissions and categorizes them into four components, considerations on: (i) increasing understanding and awareness of the ocean–climate nexus and the need for action, (ii) strengthening action under the UNFCCC and across existing multilateral processes; (iii) strengthening national action on adaptation and mitigation; and (iv) enhancing support for action on adaptation and mitigation.

1. Considerations on increasing understanding and awareness of the ocean–climate nexus and the need for action

108. The dialogue should be guided by the latest available science, particularly the SROCC.[101] Submissions recognize that the SROCC is the main knowledge input that should guide the dialogue. The IPCC should be invited to set the scene for the dialogue and briefly present the main findings of the SROCC (e.g. Chile, European Union). The dialogue should

[101] In this regard, a broad definition of science, as used for the United Nations Decade of Ocean Science for Sustainable Development (2021-2030), could be suggested. "Ocean science" encompasses natural and social science disciplines, including interdisciplinary approaches; the technology and infrastructure that supports ocean science; the application of ocean science for societal benefit, including knowledge transfer and applications in regions that lack science capacity; and the science–policy and science–innovation interfaces. Ocean science embraces and integrates local and indigenous knowledge. Ocean science recognizes the central role of the ocean in the Earth system and considers the land–sea interface and ocean–atmosphere and ocean–cryosphere interactions.

fundamentally build upon the scientific findings and recommendations of the SROCC (e.g. SPREP).

109. Submissions note that the dialogue should emphasize the role of science and the importance of enhancing observation and research (including on social, economic and environmental data) and scientific collaboration and expertise at the national, regional and international level, including with indigenous peoples and local communities, to address knowledge gaps and support the planning and implementation of solutions.

110. Oceans must be part of solutions in response to climate change, and climate change must be considered when undertaking ocean planning action, as well as action in other forums beyond the UNFCCC. Action on the ocean cannot be considered as a substitute for the rapid decarbonization of economies.

111. Submissions note that the dialogue should seek to increase understanding and awareness of linkages across the ocean–climate nexus. It should identify opportunities for raising ambition and strengthening mitigation and adaptation action to ensure the integrity of the ocean and coastal ecosystems in the context of climate change. Action should engage with all relevant national and international constituencies, as well as local communities and indigenous people, and include a diverse set of values that emphasize the well-being of people and nature.

112. Submissions also note that the dialogue should consider the importance of nature, taking into account the integrity, protection and resilience of marine and coastal ecosystems and the societies that depend on these natural resources. Consideration of nature is critical when making decisions not only on nature-based solutions, but also on climate-smart solutions related to marine energy and emission reductions for marine transport and fisheries. With these points in mind, increasing understanding, awareness and action should be considered as a nexus between the ocean, climate and biodiversity.

2. Considerations on strengthening action under the UNFCCC and across existing multilateral processes

113. Ocean and climate change are already addressed in a range of activities and agenda items under the UNFCCC (see chapter I.B above). Many submissions affirm that the dialogue should provide the space to understand these activities and explore how to further enhance and strengthen action and synergies in this regard as well as to discuss what further actions can be taken and/or processes initiated to identify gaps, and synergize and strengthen existing and future work and mandates (e.g. Costa Rica, European Union, Fiji, Ocean and Climate Platform).

114. Submissions identify that updates on relevant UNFCCC activities should be provided by the SBSTA Chair and relevant representatives of bodies and expert groups, on topics such as (but not limited to) research and systematic observation, the Nairobi work programme, the NAP process, loss and damage (WIM Executive Committee) and finance (SCF).

115. Many submissions encourage the SBSTA, together with other relevant bodies, to explore and build knowledge on the impacts of climate change on the ocean, coastal and marine systems; encourage the development of sound methodologies for monitoring and conducting comprehensive assessment of the complex links between the ocean and climate; and support the production of climate scenarios to enable system- and science-based decision-making at different scales to carry out climate change mitigation and adaptation in the ocean. The use of relevant methodologies should also be encouraged and applied; for example, the IPCC methodologies and guidelines for wetlands and blue carbon ecosystems.

116. Submissions also recommend that efforts to strengthen the mitigation and adaptation role of the ocean could be synthesized and included as an input to the global stocktake, which offers an important avenue to potentially strengthen mitigation and adaptation actions in the context of the overall progress made under the Paris Agreement (IUCN, Nature Conservancy, Plymouth Marine Laboratory).

117. The dialogue was identified in submissions as an opportunity for considering the interaction between the UNFCCC and other United Nations bodies. Discussions could not only include an update on current plans and actions, but also consider ways to optimize

institutional arrangements, identify gaps and strengthen synergies across the range of multilateral agreements that address the management of the ocean and mitigation and adaptation, as well as avoid duplication between convention bodies and related UNFCCC agenda items. For instance, engagement with the United Nations Decade of Ocean Science for Sustainable Development and the United Nations Decade on Ecosystem Restoration could provide increased opportunities for collaboration and funding.

118. Submissions particularly note the need to explore and strengthen synergies between UNFCCC and the Convention on Biological Diversity, including with regard to the Post-2020 Global Biodiversity Framework; IOC with regard to observation and research and to coordinate on the Decade of Ocean Science for Sustainable Development, including on ways it can contribute to achieving the objectives of the Paris Agreement; FAO with regard to sustainable fisheries and aquaculture; UNEP Regional Seas Conventions with regards to ecosystem protection, and UNCLOS with regard to the BBNJ Intergovernmental Conference (e.g. European Union, Japan, Norway, Ocean and Climate Platform).

3. Considerations on strengthening national action on adaptation and mitigation

119. Submissions identify a number of considerations that could serve as the basis for strengthening national-level action and its support (see chapter II.B above):

(a) Basing action on the best available science is of ultimate importance;

(b) Using integrated participatory approaches that consider ocean, climate change, nature and people;

(c) Scaling up existing action including through partnerships, inclusion of women, youth, indigenous peoples and local communities;

(d) Considering appropriate governance of action on the ocean and climate change at all levels and sectors, and across levels and sectors;

(e) Ensuring and mobilising finance and other types of support;

(f) Ensuring the sustainable use of the ocean to drive the blue economy in all relevant sectors and increase the resilience of coastal communities.

120. Submissions state that Parties and non-Party stakeholders would benefit from an exchange of information, experience, challenges and best practices in ocean-based adaptation and mitigation at the national and regional level (e.g. Chile, Indonesia, Japan).

121. The submissions also mention that the vulnerability of SIDS and LDCs to ocean-related climate change impacts should be addressed in the dialogue (LDCs, SPREP).

122. Many submissions emphasize the importance of strengthening action in NDCs, NAPs, biennial transparency reports under the UNFCCC and other national management and policy mechanisms and instruments (e.g. Belize, Indonesia, Panama and Global Ocean Forum).

123. Submissions note the importance of the following in regards to action on adaptation and mitigation:

(a) The paramount role of coastal and marine nature-based solutions and the protection and restoration of blue carbon systems in achieving a tighter linking of mitigation, adaptation and resilience measures (e.g. Pew Charitable Trusts, CAN, IUCN).

(b) The opportunities for better understanding and developing methodologies for assessing blue solutions in strengthening mitigation and adaptation (Federated States of Micronesia).

(c) Strengthening action on climate-resilient fisheries and aquaculture, including mainstreaming them into national responses to climate change (FAO, Environmental Defense Fund)

(d) Options available for vulnerable countries to increase their resilience against slow onset events, such as sea level rise, as well as the implications, impacts and options for managing loss and damage resulting from 1.5 ºC and higher levels of global warming (e.g. LDCs, SPREP);

(e) Global efforts to mitigate GHG emissions through offshore renewable infrastructure (EU). The construction of such infrastructure should thoroughly optimize the co-benefits for ecosystems, biodiversity and society (Plymouth Marine Laboratory);

(f) Options for reducing emissions from shipping, fisheries and aquaculture (SPREP, CAN, Ocean and Climate Platform);

(g) Options and opportunities for innovative funding and financing, technology transfer, capacity building and other cross-cutting support (AOSIS, Global Ocean Forum).

124. Submissions highlight that presentations from Parties and non-Party stakeholders could support the discussions described in paragraphs 119–123 above. Furthermore, submissions recognize the large range of information available to increase understanding of opportunities for action at the ocean–climate nexus. Presentations from experts undertaking this work, such as the High Level Panel for a Sustainable Ocean Economy, could be relevant (Norway, Fiji).

125. Some submissions highlight that the dialogue could also discuss how to identify, assess, and address the potential negative impacts of new and emerging mitigation measures and technologies on ocean and marine systems, such as new types of renewable energy, geoengineering, and carbon dioxide capture and storage, including those used in the deep sea (IUCN).

4. Considerations on support for action on adaptation and mitigation

126. Submissions provide a strong call to discuss options and opportunities for finance and funding and other cross-cutting issues (AOSIS).

127. Submissions call particularly for an emphasis at the dialogue on exploring funding and financing mechanisms for ocean-related action through both directing current funds to coastal and SIDS issues as well as developing innovative financing to support adaptation and mitigation measures through innovative approaches and partnerships (SPREP, Global ocean forum). Submissions recognise the need to "put people at the centre and join up the climate and ocean finance agendas" (WWF).

128. Submissions identify some opportunities for exploring finance and funding including new finance tools for ocean-related action to fund scientific research and the preservation of ocean ecosystems integrating blue finance approaches and nature-based solutions into marine and coastal infrastructure financing (Ocean and Climate Platform), finance options for sustainable aquatic food production (FAO), blue infrastructure financing (IUCN) and provision of guidance and information for accessing finance and funding (Federated States of Micronesia).

129. Submissions recognize that the 2021 SCF Forum will focus on finance for nature-based solutions and emphasize the importance of considering coastal and marine nature-based solutions in this work (IUCN, Sasakawa Peace Foundation, Nature Conservancy). Submissions identify the importance of hearing from a representative of the SCF in this regard.

130. Submissions note the dialogue should explore how to improve the effectiveness of mechanisms already in place on financial support, technology transfer and capacity-building that specifically aim to enhance the resilience of SIDS and LDCs to ocean-related climate threats. This includes the need to strengthen inclusive socio-institutional responses and institutional support.

E. Considerations on expected outcomes and the way forward

131. Several submissions provide suggestions on the way forward, underlining that the dialogue should not be a one-off event and recommending that such a dialogue should be recurring (e.g. yearly or biannually) to facilitate continued action and engagement on considering ways to further strengthen mitigation and adaptation related to the ocean–climate nexus. In this regard, some submissions mentioned that a recurring dialogue (e.g. similar to the Talanoa Dialogue) should be convened by the SBSTA Chair in conjunction with SBSTA

sessions, with an open submission period, while others suggested that the dialogue should continue to be held under the future ocean agenda item or workplan. Another suggestion was to continue the dialogue by means of relevant existing bodies and processes.

132. Some submissions make specific references to COP 26. These include suggestions that a second dialogue should be held in conjunction with COP 26. Submissions also suggest that the summary report prepared for this dialogue by the SBSTA Chair should be presented at either the SBSTA plenary session, the COP 26 plenary session or at a high-level segment (e.g. ministerial). Submissions recommend that the outcome of the ocean dialogue should be reflected in a COP 26 decision or in the context of a broader decision, to provide mandates for further work.

133. Further suggestions and advice from submissions include, but are not limited to:

(a) Creating an ocean task force to inform future steps and mandates;

(b) Holding one or more technical expert dialogues on specific ocean-climate topics, in line with topics and gaps identified at the 2020 dialogue;

(c) Creating a permanent group of experts on ocean and coastal zones, through expanding the Nairobi work programme expert group, who would report to Parties on possible actions to be undertaken;

(d) Adopting an informal Glasgow ocean work programme or set of activities at COP26;

(e) Defining the possible scope and parameters for a future ocean agenda item.

134. Some submissions recommend that the informal summary report prepared by the SBSTA Chair should be used as an input for the 2023 global stocktake to ensure that the outcome of the dialogue and processes that follow will be reflected and accounted for in the global stocktake.

III. Proposed approach for the dialogue

135. Given the continuing limitations on holding international in-person meetings, and in the absence of a scheduled upcoming session, the Chairs of the SBSTA and the Subsidiary Body for Implementation will host the Climate Change Dialogues 23 November – 5 December to advance work on the agendas of the subsidiary bodies and the COP. The ocean dialogue will take place as part of these virtual dialogues on 2-3 December 2020.

A. Format

136. The two days of the dialogue will consist of presentations from Parties and non-Party stakeholders, a question and answer session, and group and plenary discussions. Some presentations will be pre-recorded and made available before the dialogue in order to optimize the time for dialogue and engagement across different time zones.

137. All plenary sessions and breakout group discussions will be recorded and made available online following the event.

B. Focus

138. The dialogue will be a two-day event, consisting of two, 2.5-hour dialogue sessions with two breakout groups on each day.

139. Day 1 will involve a high level opening to the dialogue. This will be followed by a session to understand the key messages from the IPCC SROCC. Discussions will then continue in parallel discussion groups on i) how to strengthen action under existing UNFCCC processes and ii) how to strengthen engagement between UNFCCC and other United Nations processes.

140. Day 2 will begin with a plenary session on options for strengthening national level action on adaptation and mitigation. Breakout groups will discuss i) how to strengthen action on adaptation and mitgation at the national level and ii) how to strengthen cross-cutting support for national action. The day will conclude with a plenary session discussing expected outcomes from the dialogue and ways forward.

141. A draft agenda is provided in annex II.

IV. Next steps

142. Additional information on the dialogue, including a detailed programme, will be posted on the UNFCCC website at https://unfccc.int/event/ocean-and-climate-change-dialogue-to-consider-how-to-strengthen-adaptation-and-mitigation-action.

143. Information about the Climate Change Dialogues will be made available at https://unfccc.int/process-and-meetings/conferences/un-climate-change-dialogues-2020-climate-dialogues.

Annex I.

List of submissions received from Parties and non-Party stakeholders to inform the dialogue on the ocean and climate change

Parties

1. Australia
2. Belize on behalf of AOSIS
3. Belize
4. Bhutan on behalf of the Least Developed Countries Group (LDCs)
5. Canada
6. Chile
7. Costa Rica
8. Croatia and the European Commission on behalf of the European Union and its member states
9. Fiji
10. Gabon on behalf of the African Group of Negotiators
11. Indonesia
12. Japan
13. Mexcio
14. Federated States of Micronesia
15. Monaco
16. New Zealand
17. Norway
18. Panama
19. Seychelles

UN organizations

20. Division for Ocean Affairs and the Law of the Sea, Office of Legal Affairs of the United Nations (DOALOS-OLA)
21. Food and Agriculture Organization (FAO)
22. Intergovernmental Oceanographic Commission of UNESCO (IOC)

Admitted intergovernmental organizations (IGOs)

23. International Union for Conservation of Nature (IUCN)
24. Secretariat of the Pacific Regional Environment Programme (SPREP)

Admitted non-governmental organizations (NGOs)

25. Climate Action Network (CAN)
26. Conservation International (CI)
27. Environmental defense fund
28. Georgetown University
29. Institute for Sustainable Development and International Relations (IDDRI)
30. International Coastal and Ocean Organization / Global Ocean Forum
31. Inuit Circumpolar Council Indigenous Peoples organization
32. Leave it in the Ground Initiative, Texas Environmental Justice Advocacy Services and South Durban Community Environmental Alliance
33. Natural Resources Defense Council
34. The Nature Conservancy
35. Ocean & Climate Platform
36. Pew Charitable Trusts
37. Plymouth Marine Laboratory
38. The Institute of Social Order, NGOs for Fisheries Reform, Pambansang Koalisyon ng mga Samahan sa Kanayunan, Rare, and Tambuyog Development Center
39. Sasakawa Peace Foundation
40. Women's Environment and Development Organization (WEDO) on behalf of Women and Gender Constituency
41. World Wildlife Fund for Nature (WWF)

Non-admitted entities

42. Because the Ocean Initiative
43. Deep Ocean Stewardship Initiative and Deep Ocean Observing Strategy
44. International Alliance to Combat Ocean Acidification
45. Ocean Care
46. Ocean Conservancy
47. Our Fish

Annex II

Indicative programme for the dialogue on the ocean and climate change

Day 1 (2.5 hours)

<table>
<tr><td>30 mins</td><td colspan="2">High-level opening</td><td>Speakers to be identified</td></tr>
<tr><td>30 mins</td><td colspan="2">Keynote presentations (focus on science)</td><td>Speakers to be identified</td></tr>
<tr><td>5 mins</td><td colspan="2">Transition</td><td></td></tr>
<tr><td rowspan="2">60 mins</td><td colspan="2">Strengthening existing processes and process support for action on adaptation and mitigation</td><td rowspan="2">Moderators, Rapporteurs, Participants</td></tr>
<tr><td>Discussion Group 1
Strengthening understanding of, and synergies across, existing ocean-related work of UNFCCC workstreams, instruments, and constituted bodies</td><td>Discussion Group 2
Strengthening understanding of, and synergies between, UNFCCC and the wider UN system’s support for action on ocean and climate change</td></tr>
<tr><td>5 mins</td><td colspan="2">Transition</td><td></td></tr>
<tr><td>15 mins</td><td colspan="2">Plenary
Reports from breakout groups
General discussion</td><td>Moderator
Breakout group rapporteurs,
Participants</td></tr>
<tr><td>5 mins</td><td colspan="2">Closing of part 1</td><td>SBSTA Chair</td></tr>
</table>

Day 2 (2.5 hours)

<table>
<tr><td>30 mins</td><td colspan="2">Keynotes (focus on practice)</td><td>Speakers to be identified</td></tr>
<tr><td>5 mins</td><td colspan="2">Transition</td><td></td></tr>
<tr><td rowspan="2">60 mins</td><td colspan="2">Strengthening action on adaptation and mitigation and means of implementation</td><td rowspan="2">Moderators, Rapporteurs, Participants</td></tr>
<tr><td>Discussion Group 3
Strengthening understanding, synergies and action on adaptation and mitigation, including as part of countries’ national response under the UNFCCC</td><td>Discussion Group 4
Options and opportunities for strengthening finance and funding and other cross-cutting support</td></tr>
<tr><td>5 mins</td><td colspan="2">Transition</td><td></td></tr>
<tr><td>15 mins</td><td colspan="2">Plenary
Reports from breakout groups
General discussion</td><td>Moderator
Breakout group rapporteurs,
Participants</td></tr>
<tr><td>30 mins</td><td colspan="2">Expected outcomes from the dialogue and ways forward</td><td>Moderator
All participants</td></tr>
<tr><td>5 mins</td><td colspan="2">Closing</td><td>SBSTA Chair</td></tr>
</table>

Annex III

United Nations action on the ocean and climate change

This annex provides a brief overview of the United Nations system organizations, bodies, funds and programmes supporting action on ocean and climate change, as well as action in other relevant .

	United Nations organs, other entities, and Secretariat Departments and Offices
UN General Assembly (UNGA)	A number of processes established by UNGA address issues related to ocean and climate change. The UNGA has drawn the link between oceans and climate change most recently in its annual resolution on Oceans and the law of the sea[1] and its recent resolution on Protection of global climate for present and future generations of humankind.[2] United Nations Decade of Ocean Science for Sustainable Development (2021–2030)[3] The decade's primary vision is to move from the 'ocean we have' to the 'ocean we want.' The Ocean Decade will be implemented on a voluntary basis within the legal framework of UNCLOS. The Ocean Decade will facilitate the generation of the data, information and knowledge needed. It is currently in the preparatory phase, coordinated by IOC, and the implementation plan has been submitted to the 75th session of UNGA in accordance with Resolution 74/19.[4] Amongst its priorities, the Decade will aim to enhance understanding of the ocean-climate nexus and generate knowledge and solutions to mitigate, adapt and build resilience to the effects of climate change, and to improve services including predictions for the ocean, climate and weather (challenge 5). It will also enhance multi-hazard early warning services for all geophysical, ecological, biological, weather, climate and anthropogenic related ocean and coastal hazards, and mainstream community preparedness and resilience (challenge 6). United Nations Decade of Ecosystem Restoration (2021–2030)[5] The decade's primary aim is to prevent, halt and reverse the degradation of ecosystems worldwide. The two lead agencies for the decade are UNEP and FAO. The decade aims to contribute to achieving the targets set by international conventions and agreements such as the 2030 Agenda for Sustainable Development, the Strategic Plan for Biodiversity 2011-2020 and Aichi Biodiversity Targets, the UNFCCC and the Paris Agreement, the UNCCD and the Land Degradation Neutrality target setting programme, the Ramsar Convention, the Global Partnership on Forest and Landscape Restoration (GPFLR), the Global Restoration Council and the UN Strategic Plan for Forests 2017–2030. The Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects (the Regular Process), established after the 2002 World Summit on Sustainable Development, regularly

[1] See Resolution 74/19. Oceans and the law of the sea, https://undocs.org/en/A/RES/74/19.

[2] See Resolution 74/219. Protection of global climate for present and future generations of humankind, https://undocs.org/en/A/RES/74/219. See also https://www.un.org/Depts/los/oceans_climate_change/oceans_climate_change_7_september_2010.pdf.

[3] A/RES/73/284, https://undocs.org/A/RES/72/73.

[4] A/RES/74/19, https://undocs.org/en/A/RES/74/19.

[5] A/RES/73/284, https://undocs.org/A/RES/73/284.

	reviews the environmental, economic and social aspects of the world's oceans, both current and foreseeable. The regular process is currently in the review stage for the second World Ocean Assessment (WOA II).[6] The UN Open-ended Informal Consultative Process on Oceans and the Law of the Sea (the Informal Consultative Process), established in 1999, facilitates the annual review by the General Assembly of developments in ocean affairs and the law of the sea by considering the report of the Secretary-General on oceans and the law of the sea and by suggesting particular issues to be considered by it (A/RES/54/33). Most recently, the Informal Consultative Process themes relevant to ocean and climate have included: marine renewable energies (2012), the impacts of ocean acidification on the marine environment (2013), the effects of climate change on oceans (2017), and sea-level rise and its impacts (2020 – postponed due to COVID-19). As reflected in the report on the work of the informal consultative process at its eighteenth meeting, delegations noted the urgent need to address the effects of climate change on oceans and the need for continued, coordinated international focus, in particular in view of the grave implications for countries with low-lying coasts whose very existence was under threat.[7] The Intergovernmental Conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction[8] The Revised draft text of an agreement is currently available, ahead of the postponed fourth session of the conference, that includes reference to climate change, ocean acidification and related impacts as stressors and part of cumulative impacts on biodiversity. It also includes references to approaches to build ecosystem resilience to the adverse effects of climate change and ocean acidification and restore ecosystem integrity. The SIDS Accelerated Modalities of Action (S.A.M.O.A) Pathway[9] The SAMOA Pathway, an international framework developed as the outcome of the Third International Conference on Small Island Developing States (SIDS Conference) held on 1–4 September 2014 in Apia, Samoa Following the high-level mid-term review on the progress made in addressing the priorities of SIDS through the implementation of the SAMOA Pathway, the UNGA adopted the resolution on the Political declaration of the high-level meeting to review progress made in addressing the priorities of small island developing States through the implementation of the SIDS Accelerated Modalities of Action (SAMOA) Pathway.[10] UN-Oceans UN-Oceans is an inter-agency mechanism which seeks to strengthen and promote coordination and coherence of United Nations system activities related to ocean and coastal areas. The UNFCCC secretariat is a member of UN-Oceans. UN-Oceans' side events on climate change and oceans are regularly organized at the UNFCCC climate change conferences. UN Ocean Conference The United Nations Conference to Support Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine

[6] https://www.grida.no/publications/112.
[7] A/RES/72/95, https://undocs.org/A/72/95.
[8] A/RES/72/249, https://undocs.org/en/a/res/72/249.
[9] A/RES/69/15, https://www.undocs.org/A/RES/69/15.
[10] A/RES/74/3, https://www.undocs.org/A/RES/74/3.

	resources for sustainable development (UN Ocean Conference), convened in 2017, adopted the declaration entitled "Our ocean, our future: call for action", addressing, inter alia, the vital role of the ocean in the climate system and the adverse impacts of climate change on the ocean. Over 1600 voluntary commitments have been registered in the context of the Conference. The 2020 UN Ocean Conference, which was postponed due to COVID-19, will address, among other topics, ocean acidification, deoxygenation and ocean warming.
United Nations Conference on Trade and Development (UNCTAD)	UNCTAD supports developing countries to participate equitably in the global economy, including the oceans economy and fishery.[11] Support includes research and analytical work assessing the implications of maritime transport operations for the sustainability of marine environment and ocean. Insights and main findings are disseminated through various channels including technical assistance programmes, online-statistical databases, and publications. A recent publication summarizes the project on Climate change impacts on coastal transport infrastructure in the Caribbean: enhancing the adaptive capacity of Small Island Developing States (SIDS).[12]
UN Economic and Social Council (UN ECOSOC): **UN Economic and Social Commission for Asia and the Pacific (UN ESCAP)** **United Nations Economic Commission for Africa (UN ECA)** **United Nations Economic Commission for Latin America and the Caribbean (UN ECLAC)**	The Economic and Social Council is at the heart of the United Nations system to advance the three dimensions of sustainable development – economic, social and environmental. It is the central platform for fostering debate and innovative thinking, forging consensus on ways forward, and coordinating efforts to achieve internationally agreed goals. It is also responsible for the follow-up to major UN conferences and summits. ECOSOC links a range of entities including functional and regional commissions. Action includes the work under the regional commission for **UN ESCAP** at its 76th Session which focussed on "*Promoting economic, social and environmental cooperation on oceans for sustainable development.*" (ESCAP/RES/76/1)[13] At the 75th session, Parties recognized progress on the project "Ocean cities: supporting Pacific island developing States to adapt sustainable urban development to island systems. A network of practitioners called the Friends of Ocean Cities, was established with experts in the fields of ocean governance, marine and coastal ecosystem conservation, urban resilience and climate change in Pacific small island developing States.[14] ESCAP also hosts the Asia-Pacific Day for the Ocean on an annual basis, the third edition took place on 29 October 2020[15]. The Day for the Ocean is a multi-stakeholder platform designed to strengthen current partnerships and to develop new partnerships, for the conservation and sustainable use of the ocean, seas and marine resources, through participatory and systematic dialogue, including climate change issues, among civil society, the private sector, governments, the scientific community, academia, philanthropic organizations and the youth. The outcomes of these dialogues are aligned with UN Global processes, such as the UN Ocean Conference and the UN Decade of Ocean Science. In partnership with UN DESA Division for Sustainable Development Goals (DSDG), as part of a four-part series on "Keeping the Momentum for Ocean Action", ESCAP

[11] Oceans Economy and Fishery in UNCTAD: https://unctad.org/en/Pages/DITC/Trade-and-Environment/Oceans-Economy.aspx.

[12] https://sidsport-climateadapt.unctad.org/.

[13] https://www.unescap.org/commission/76/document/RES_76_1_ENG.pdf

[14] Resolution ESCAP/75/3, 73/5 Strengthening Asia-Pacific's support for the United Nations Conference to Support the Implementation of Sustainable Development Goal 14 https://www.unescap.org/commission/75/document/E75_3E.pdf.

[15] https://www.unescap.org/events/third-asia-pacific-day-ocean

	co-organized an event[16] to mobilize stakeholders in the Asia-Pacific region, share information and collect ideas and proposals on how to keep the momentum towards Ocean Action and the engagement of stakeholders in Asia-Pacific in the preparatory process of the UN Ocean Conference. One of the two substantive areas was on ***Ocean and Climate synergies***, as this is one of the priorities identified for the region. In May 2020, ESCAP published a theme study entitled *"Changing Sails: Accelerating Regional Actions for Sustainable Oceans in Asia and the Pacific"*[17] *(*ST/ESCAP/2905*),* which promotes transformative ocean actions and regional cooperation and highlights issues related to climate change. In anticipation for the Sixth session of the Committee on Environment and Development of ESCAP, the Secretariat will produce a document on "Accelerating regional ocean actions for sustainable development in Asia and the Pacific" (ESCAP/CED/2020/INF/3). This document provides an overview of the challenges for the ocean in Asia and the Pacific, as well as the regional actions that can be carried out to accelerate the protection of the ocean. Among other challenges, the document highlights a section on ***The Ocean, Ecosystems and Climate Change*** and its significance for SIDS in the Pacific. The document includes recommendations that will inform the design of the ESCAP Decade Program for the regional implementation of the UN Decade of Ocean Science for Sustainable Development 2021-2030, including outcomes of the Third Asia-Pacific Day for the Ocean held on 29 October 2020. **The United Nations Economic Commission for Africa (UN ECA)** works on climate change, conservation practices, and is engaged with countries in the region on the Blue Economy18 within the African Union. **The United Nations Economic Commission for Latin America and the Caribbean (UN ECLAC)** encourages economic cooperation, with a mandate to support Member States to strengthen their development strategies. ECLAC has a special cooperation programme with the Chilean Presidency for COP25, in the framework of the European Regional Programme for Climate Change: EuroCLIMA19 to support adoption of disaster risk management and reduction plans by national governments of Latin America. The constitution of the UNECLAC subregional headquarters for the Caribbean recognizes the fragile ecosystems of the SIDS and coastal states, and the importance of promoting and integrating management to the Caribbean Sea in the context of sustainable development. For example, the 'Debt for Climate Adaptation Swap Initiative'20 seeks to respond to the Caribbean's most urgent development needs and includes the creation of a resilience fund proposed by the Commission for small island Caribbean states.
High-level political forum on sustainable development (HLPF)	HLPF is the main United Nations platform on sustainable development and it has a central role in the follow-up and review of the 2030 Agenda for Sustainable Development, including the Sustainable Development Goals (SDGs), at the global level. HLPF convened under the auspices of ECOSOC reviewed in depth, among other Goals, SDG 13 and SDG 14 in 2019 and 2017, respectively. SDG 13 will be reviewed in depth again in 2021. HLPF convened under the auspices of UNGA

16 https://www.un.org/en/conferences/ocean2020/participate/momentum

17 https://www.unescap.org/sites/default/files/publications/CS76%20Theme%20Study.pdf

18 https://www.uneca.org/sites/default/files/PublicationFiles/blue_economy_english-nov2016.pdf

19 https://euroclimaplus.org/en/chile-en

20 https://www.cepal.org/en/news/alicia-barcena-reviewed-caribbean-authorities-progress-debt-climate-adaptation-swap-initiative

	(SDG Summit) in 2019 adopted the Political Declaration addressing, inter alia, issues relating to climate change, as well as the ocean.
The United Nations High Commissioner for Refugees (UNHCR)	UNHCR's work on climate change and disaster displacement covers four main areas: 1. Legal advice, guidance and the development of norms to support the enhanced protection of the rights of people displaced in the context of disasters and climate change. 2. Promoting policy coherence to ensure that issues of disaster displacement are effectively mainstreamed across relevant areas. 3. Research to fill gaps that underpin this operational and policy work. Field-based activities to address internal and cross-border disaster displacement; to reduce the environmental impact of refugee settlements and ensure sustainable responses to displacement; risk reduction activities and others which may contribute to efforts to avert, minimize and address displacement.
United Nations Institute for Training and research (UNITAR)	UNITAR provides innovative learning solutions to individuals, organizations and institutions to enhance global decision-making and support country-level action for shaping a better future. The Climate Change Programme aims at building and developing capacity both at the country and regional levels to deal with the impacts of climate change, both on adaptation and mitigation.[21]
United Nations University (UNU)	The UNU contributes collaborative research and education, through its 14 institutes, to efforts to resolve the pressing global problems of human survival, development and welfare that are the concern of the United Nations, its Peoples and Member States. For example, the International Satoyama Initiative (ISI)[22] promotes the study of worldwide experiences on sustainable use of marine resources for biodiversity conservation. The UNU Institute for Environment and Human Security (UNU-EHS) explores problems and promotes solutions related to the environmental dimension of human security,[23] such as through the CLIMAFRI project which is mapping mangroves, along with other ecosystems, that are relevant to flood risk reduction in the Lower Mono River catchment in Togo and Benin.[24]
UN Office for Disaster Risk Reduction (UNDRR)	UNDRR sits at the centre of the UN system for reducing risk, convening and coordinating risk reduction activities towards a more resilient future, protecting gains made towards the Sustainable Development Goals. The UNDRR supports member States in their implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030.[25] The Sendai Framework promotes the mainstreaming of disaster risk assessment, mapping and management into rural development planning and management of, including coastal flood plain areas, wetlands and all other areas prone to flooding (and droughts), including through the identification of areas that are safe for human settlement, and at the same time preserving ecosystem functions that help to reduce risk.
United Nations Department of	UN DESA is the interface between global policies and national action in the economic, social and environmental sphere and in support of the SDGs. UN DESA

[21] https://unitar.org/about/news-stories/news/climate-change-programme
[22] https://satoyama-initiative.org/.
[23] http://www.ehs.unu.edu/
[24] https://ehs.unu.edu/research/climafri.html#outline.
[25] https://www.undrr.org/implementing-sf.

Economic and Social Affairs (UN DESA)	is leading preparations for the 2020 UN Ocean Conference, Lisbon, Portugal (currently postponed by the UNGA), to support the implementation of SDG 14, as well as the second Global Sustainable Transport Conference. UN DESA hosts the UN platform to save our ocean: which has over 1600 voluntary commitments on ocean action as well as information about the Communities of Ocean Action, both launched by the UN to facilitate action on SDG14.[26]
United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (OHRLLS)	UN-OHRLLS mobilizes international support and advocates in favour of the three vulnerable country groups (SIDS, LDCs, LLDCs), raising awareness about the economic, social and environmental potential that exists in these countries and ensuring that the pressing needs of the 1.1 billion people who live in them, remain high on the international agenda. Oceans is among the seven thematic priority areas of the SIDS-Global Business Network which aims to promote new and existing partnerships on conservation and sustainable use of oceans and marine resources.[27]
United Nations Office for Outer Space Affairs (UNOOSA)	UNOOSA promotes international cooperation in the peaceful use and exploration of space, and in the utilization of space science and technology for sustainable economic and social development. UNOOSA, responding to UNGA resolution 74/82, recently published the report *Coordination of space-related activities within the United Nations system: directions and anticipated results for the period 2020–2021 – megatrends and realization of the Sustainable Development Goals*.[28]
Division for Ocean Affairs and the Law of the Sea of the United Nations Office of Legal Affairs (UN-DOALOS)	DOALOS is the Division within the Office of Legal Affairs of the United Nations Secretariat that supports the work of the General Assembly and its subsidiary bodies in relation to ocean affairs and the law of the sea. DOALOS also performs the functions of the Secretary-General under the United Nations Convention on the Law of the Sea (UNCLOS) and the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the 'United Nations Fish Stocks Agreement).[29] UNCLOS sets out the legal framework within which all activities in the oceans and seas must be carried out and is of strategic importance as the basis for national, regional and global action and cooperation in the marine sector (A/RES/74/19, preamble). The UNFSA was adopted in 1995 and entered into force in 2001. It provides that States should cooperate to ensure conservation and promote the objective of the optimum utilization of fisheries resources both within and beyond the exclusive economic zone.

[26] https://oceanconference.un.org/commitments/.
[27] http://unohrlls.org/new-global-business-network-for-small-islands/.
[28] A/AC.105/1230, https://www.unoosa.org/oosa/en/oosadoc/data/documents/2020/aac.105/aac.1051230_0.html.
[29] A/CONF.164/37, https://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm.

	United Nations specialized agencies and related organizations
Food and Agriculture Organization of the United Nations (FAO)	FAO supports countries to both adapt to and mitigate the impacts of climate change for fisheries and aquaculture, as an integral part of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), through a series of initiatives and action, including those identified in the FAO Strategy on Climate Change (2017).[30] The FAO international symposium on fisheries sustainability (November 2019)[31] highlighted the essential role of adaptation and mitigation strategies in building the sustainability of the fisheries and aquaculture sectors.
Intergovernmental Oceanographic Commission (IOC)	The IOC of the UNESCO is the United Nations entity devoted to ocean science and the promotion of scientific cooperation on ocean-related matters. IOC is a science-driven, knowledge and application-orientated organization. Its programmes and activities span ocean science and observations to early warning systems for ocean hazards, ocean data and information systems, and marine spatial planning, all contributing to ocean sustainability and strengthening of capacities around the world. It has four high-level objectives: ecosystem health, marine hazards, climate change and enhanced scientific knowledge. IOC supports the application of knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States. IOC is custodian agency for 2 SDG 14 targets, namely 14.3 on ocean acidification and 14.a on marine scientific research capacity. The 30th session of the IOC Assembly, UNESCO, Paris, 26 June–4 July 2019 approved the Decision IOC-XXX/5.2 Contribution to the United Nations Framework Convention on Climate Change (UNFCCC).[32] Recent relevant publications include The Science we need for the ocean we want: the United Nations Decade of Ocean Science for Sustainable Development (2021-2030),[33] the Global Ocean Science Report[34] and the Global Ocean Observing System 2030 Strategy.[35] The IOC coordinates the Global Ocean Observing System (jointly sponsored by WMO, UNEP and the International Science Council (ICS)) which provides essential knowledge to understand climate through measuring ocean heat content and sea level. Together with WMO and ICS, IOC is also a co-sponsor of the World Climate Research Programme which contributes to advancing our understanding of the multi-scale dynamic interactions between natural and social systems that affect climate.
International Maritime Organization (IMO)	IMO is the key United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships, as well as the prevention of pollution from dumping of wastes at sea. Its main task is to create a fair and effective, generally accepted and implemented legal framework for the shipping industry. The Marine Environment Protection Committee (MEPC) of IMO has agreed a number of measures aimed at supporting

[30] http://www.fao.org/3/a-i7175e.pdf.
[31] http://www.fao.org/about/meetings/sustainable-fisheries-symposium/en/.
[32] See http://www.ioc-unesco.org/index.php?option=com_oe&task=viewDocumentRecord&docID=24911.
[33] https://unesdoc.unesco.org/ark:/48223/pf0000265198.
[34] https://en.unesco.org/gosr.
[35] https://www.goosocean.org/index.php?option=com_content&view=article&id=168:goos-2030-strategy&catid=22&Itemid=207.

	the achievement of the objectives set out in the initial GHG Strategy adopted in April 2018 on reduction of greenhouse gas (GHG) emissions from ships.[36] At the seventy-fifth session of IMO's Marine Environment Protection Committee (MEPC 75), 16 - 20 November 2020, IMO Member States will consider draft amendments to Annex VI of the International Convention for the prevention of pollution from ships (MARPOL) laying down mandatory requirements aiming at reducing CO_2 emissions per transport work by at least 40 per cent by 2030, in accordance with the levels of ambition of the Initial IMO GHG Strategy for short-term measures. The Committee will also consider the terms of reference for an assessment of possible impacts of the proposed amendments on States. MEPC 75 will further consider the adoption of a resolution on encouragement of Member States to submit voluntary National Action Plans (NAPs) to address GHG emissions from ships.[37] IMO will make NAPs available on its website, with a view to better sharing good practice and information among Member States. Member States will also consider the Fourth IMO GHG Study 2020, providing an updated GHG emissions inventory for shipping (also distinguishing domestic shipping and international shipping) from 2012 to 2018, carbon intensity estimates for the years 2008 and 2012 to 2018, and emissions scenarios from 2018 to 2050. This study will be an important source of information for further policy discussion and decisions in the implementation of the Initial IMO GHG Strategy. Following the ongoing discussion on the short-term GHG reduction measures, it is expected that MEPC will consider proposals for global market-based measures aimed to reduce carbon emissions from international shipping in the coming years. The London Convention (LC) and London Protocol (LP) treaty regime also addresses climate change mitigation technologies by ensuring they are regulated responsibly to protect the marine environment. They are the most advanced international regulatory instruments addressing carbon capture and sequestration (CCS) in sub-sea geological formations and marine geoengineering such as ocean fertilization (OF). The LP Parties have adopted amendments to the LP to regulate the sequestration of CO_2 streams from CO_2 capture processes in sub-seabed geological formations, and to allow the transboundary export of CO_2 streams for disposal. As the export amendment is not yet in force, the LP Parties, in 2019, adopted a resolution to allow provisional application of the export amendment to allow sub-seabed geological formations for sequestration projects to be shared across national boundaries (resolution LP.14(5)). In 2013, the LP Parties also adopted an amendment to the LP which is intended to provide for the regulation of, not only ocean fertilization activities that have been assessed as constituting legitimate scientific research, but of other marine geoengineering activities that fall within the scope of the LP and have the potential to cause widespread, long-lasting or severe impacts on the marine environment (resolution LP.4(8)). The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), hosted by IMO, also have a Working Group on Marine

[36] Resolution MEPC.304[72]. http://www.imo.org/en/KnowledgeCentre/IndexofIMOResolutions/Marine-Environment-Protection-Committee-%28MEPC%29/Documents/MEPC.304%2872%29.pdf. Two Member States reserved their position with regard to the adoption of the Initial Strategy.

[37] http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/RELEVANT-NATIONAL-ACTION-PLANS-AND-STRATEGIES.aspx.

	Geoengineering (WG 41) which is providing advice to the LP Parties and a better understanding of the potential environmental and wider societal implications of different marine geoengineering approaches on the marine environment. The WG is co-sponsored by IMO, IOC-UNESCO and WMO.[38]
United Nations Educational, Scientific and Cultural Organization (UNESCO)	The 1972 UNESCO World Heritage Convention unites 194 nations behind a shared commitment to preserve the world's outstanding heritage for the benefit of present and future generations. Currently, the World Heritage List also includes 50 marine sites recognized for their exceptional marine biodiversity, singular ecosystem, unique geological processes and incomparable beauty. Once a site achieves World Heritage status, its conservation is continuously monitored, and countries are held accountable for their action (or non-action) to protect these special places for humanity. This oversight is carried out by UNESCO's World Heritage Centre in collaboration with its advisory bodies. The World Heritage Marine Programme focuses on building resilience through the reduction of on-site pressures, empowering local communities toward holistic climate adaptation strategies and assessing the impacts of climate change on World Heritage-listed marine protected areas. One of its main climate change projects is a new innovative climate adaptation initiative being piloted at five UNESCO World Heritage coral reefs in Palau, Australia, Belize and France. This Resilient Reefs Initiative aims to create deep structural change in the way communities plan for and adapt to the new realities brought on by climate change.[39]
United Nations Industrial Development Organization (UNIDO)	UNIDO promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability and supports countries in their environmental management efforts, including the implementation of multilateral environmental agreements and the provision of sustainable energy. UNIDO hosts the Climate Technology Centre and Network.
World Meteorological Organization (WMO)	WMO is the specialised agency of the UN for meteorology (weather and climate), operational hydrology and related geophysical sciences. It is mandated to report to SBSTA and provide its annual statement on the state of the global climate (including ocean indicators). WMO is enhancing service delivery of developing countries, in particular LDCs and SIDS, to ensure the availability of essential information and services needed by governments, economic sectors and citizens. This includes support of observation, research, services and early warning systems such as the Climate Risk and Early Warning Systems (CREWS) initiative. The WMO reports regularly to the SBSTA under the RSO agenda item.
World Bank Group	The World Bank Group and many of its partners have adopted the Blue Economy approach to oceans and waterways.[40] The Bank's engagement in the Blue Economy is supported by PROBLUE,[41] which aims to support healthy and productive oceans and the implementation of SDG 14. PROBLUE is fully aligned with the World Bank's twin goals of ending extreme poverty and increasing the income and welfare of the poor in a sustainable way. This new, umbrella multi-donor trust fund focuses on four key themes: Fisheries and Aquaculture, Marine Pollution, Enhancing sustainability of key oceanic sectors, and Seascape Management.

[38] See www.gesamp.org/work/groups/41.
[39] https://whc.unesco.org/en/reefresilience/.
[40] https://www.worldbank.org/en/topic/oceans-fisheries-and-coastal-economies#2.
[41] https://www.worldbank.org/en/programs/problue.

International Atomic Energy Agency (IAEA)	The IAEA operates the only marine laboratory in the UN system and can assist Member States engage in their work towards achieving relevant UN Sustainable Development Goal (SGD) targets, as well as the UN Decade of Ocean Science for Sustainable Development using nuclear and derived techniques. Broadly, this work encompasses climate change- and ocean change-impacts such as land-based or marine pollution, ocean warming, ocean acidification, and ocean deoxygenation. Pollution can include a suite of deleterious compounds or elements such as marine plastics, trace metals (e.g. Hg or Pb), organics (e.g., hydrocarbons, emerging contaminants), radionuclides (e.g. ^{210}Po, ^{137}Cs) and/or biotoxins (e.g., ciguatera). As these contaminants usually exist as complex mixtures, the IAEA can uniquely examine the impacts of these contaminants and environmental stressors in synergy (multiple stressors). The research and development on ocean- and climate change-impacts conducted at the IAEA is transferred to Member States through the Agency's Technical Cooperation Programme, that can deliver expertise and build capacity at country, regional, or interregional scales (e.g., SIDS). In addition, the IAEA's Ocean Acidification - International Coordination Centre (OA-ICC) communicates, organizes training courses, and promotes research and development in science, data portals, standardized methodologies and best practices on all aspects of ocean acidification.
International Seabed Authority (ISA)	ISA is established under UNCLOS. Stakeholder Consultations are currently being undertaken on the draft standards and guidelines to support the implementation of the Draft Regulations for Exploitation of mineral resources in the Area. ISA's responsibilities include taking the necessary measures with respect to activities in the Area to ensure the effective protection of the marine environment from harmful effects which may arise from activities in the Area.
	United Nations funds and programmes
United Nations Development Programme (UNDP)	UNDP is working in countries to strengthen new frameworks for development, disaster risk reduction and climate change and support countries' efforts to achieve the Sustainable Development Goals. The UNDP's portfolio includes support to advancing integrated, ecosystem-based, cross-sectoral approaches to the sustainable management and governance of ten of the world's Large Marine Ecosystems.[42] UNDP is also supporting countries in expanding and strengthening the management effectiveness of their Marine Protected Areas and is piloting approaches to the sustainable management and governance of Areas Beyond National Jurisdiction. Long term cooperation with the GEF and the IMO on greening the shipping industry includes programs addressing ship-mediated invasive species (ballast water, biofouling) as well as improving the sector's energy efficiency. UNDP launched, in 2020, its Ocean Innovation Challenge (OIC)[43] to accelerate progress on SDG14 via the identification, financing, advising and mentoring of truly innovative, entrepreneurial and creative approaches towards ocean and coastal

[42] https://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/global-environmental-finance/large-marine-ecosystems-and-sustainable-development--a-review-of.html

[43] https://www.undp.org/content/undp/en/home/news-centre/news/2020/undp-launches-new-ocean-innovation-challenge.html.

	restoration and protection that sustains livelihoods and advances the 'blue economy'. Lastly, building on a SIDS portfolio of over $1 billion in projects and programmes, UNDP recently launched its renewed 'SIDS Offer' which includes three pillars: climate action, blue economy and digital transformation. The Blue Economy pillar will support SIDS in the development and realization of their national Blue Economy strategies.
United Nations Environment Programme (UNEP)	The UN Environment Assembly (UNEA) is the world's highest-level decision-making body on the environment and sets the global environmental agenda in cooperation with UN institutions and Multilateral Environmental Agreements. UNEA4 adopted two relevant resolutions UNEP/EA.4/Res.12 on 'Sustainable management for global health of mangroves' and UNEP/EA.4/Res.13 'Sustainable coral reefs management.'[44] UNEP coordinates a range of activities and initiatives on oceans and seas. This includes the Regional Seas Programme, which addresses the accelerating degradation of the world's oceans and coastal areas by engaging neighbouring countries in comprehensive and specific actions to protect their common marine environments. There are currently 18 Regional Seas Conventions and Action Plans providing the world's only legal framework for protecting the oceans and seas at the regional level[45]. The UNEP World Conservation Monitoring Centre (UNEP-WCMC)[46] is assisting UNEP in assessing the current status and trends in mangrove ecosystems and their values globally. UNEP, UNEP-WCMC and GRID-Arendal[47] are currently preparing a report on the global importance and status of seagrass ecosystem services. Both reports available 2020.
United Nations Human Settlements Programme (UN-Habitat)	UN-Habitat works with partners to build inclusive, safe, resilient and sustainable cities and communities. As outlined in its strategic plan 2020-2023, UN-Habitat is able to lead the normative debate on how towns and cities can optimally leverage the blue economy for prosperity and development towards achieving the urban dimensions of the Sustainable Development Goal. UN-Habitat prepared the Blue Economy and Cities paper for the Sustainable Blue Economy Conference 2018 in Nairobi, Kenya.[48]
	Other United Nations bodies
Convention on Biological Diversity (CBD)	Preparations are ongoing for the Post-2020 Global Biodiversity Framework,[49] which will contain a new set of global goals and targets for biodiversity. The Open-Ended Working Group on the Post-2020 Global Biodiversity Framework is advancing preparations and it is expected that this process will culminate in the adoption of a post-2020 global biodiversity framework by the Conference of the Parties to the CBD, at the UN Biodiversity Conference in 2021. Some of the biodiversity targets currently being considered as part of the framework directly contribute to climate change mitigation and adaptation, and to

[44] https://environmentassembly.unenvironment.org/proceedings-report-ministerial-declaration-resolutions-and-decisions-unea-4.
[45] https://www.unenvironment.org/explore-topics/oceans-seas/what-we-do/working-regional-seas/regional-seas-programmes/regional-seas.
[46] https://www.unep-wcmc.org/.
[47] https://www.grida.no/.
[48] https://www.oceanactionhub.org/blue-economy-and-cities-un-habitat.
[49] https://www.cbd.int/conferences/post2020.

	disaster risk reduction, through nature-based solutions and protection and sustainable use of marine ecosystems. Other relevant and recent work under the CBD includes: • Voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction (COP decision 14/5) (2018); • Priority Actions to Achieve Aichi Biodiversity Target 10 for Coral Reefs and Closely Associated Ecosystems (COP decision XII/23) (2014); • CBD SBSTTA recommendation 23/2 on biodiversity and climate change (2019) to be considered at CBD COP 15 in 2021; • Sustainable Ocean Initiative[50], a capacity building platform coordinated by the CBD; • Ecologically or Biologically Significant Marine Areas (EBSAs)[51], a global process coordinated by the CBD to facilitate the identification of areas that are most important to the healthy functioning of the ocean; • Various technical Series publications, such as the following: ○ No. 75— An Updated Synthesis of the Impacts of Ocean Acidification on Marine Biodiversity (2014);[52] ○ No. 85—Synthesis report on experiences with ecosystem-based approaches to climate change adaptation and disaster risk reduction (2016);[53] ○ No. 86—Managing Ecosystems in the Context of Climate Change Mitigation: A review of current knowledge and recommendations to support ecosystem-based mitigation actions that look beyond terrestrial forests (2016);[54] ○ No. 93—Voluntary guidelines for the design and effective implementation of ecosystem-based approaches to climate change adaptation and disaster risk reduction and supplementary information (2019);[55] ○ Review of new scientific and technical information on biodiversity and climate change and its implications for the work of the Convention contained in the note by the Executive Secretary (2019).[56]
Convention on the Conservation of Migratory Species of Wild Animals (CMS)	CMS provides a global platform for the conservation and sustainable use of migratory animals and their habitats. CMS brings together the States through whose territories migratory animals – including many marine species – pass. It lays the legal foundation for internationally coordinated conservation measures throughout a migratory range. Climate change is having multiple effects on migratory species, changing their range, the timing of their migrations, the quality and availability of their habitats and prey, and the intensity of human pressures on species and their habitats. To understand and address these issues, through Resolution 12.21 *Climate Change and Migratory Species*[57], Parties to CMS adopted a *Programme of Work on Climate Change and Migratory Species* which applies to all species covered by the Convention. To support the work or Parties, the Scientific Council and the Secretariat on this issue, the Conference of Parties has appointed a Scientific Councillor for Climate Change.

[50] https://www.cbd.int/soi/.
[51] https://www.cbd.int/ebsa.
[52] https://www.cbd.int/doc/publications/cbd-ts-75-en.pdf.
[53] https://www.cbd.int/doc/publications/cbd-ts-85-en.pdf.
[54] https://www.cbd.int/doc/publications/cbd-ts-86-en.pdf.
[55] https://www.cbd.int/doc/publications/cbd-ts-93-en.pdf.
[56] CBD/SBSTTA/23/INF/1, https://www.cbd.int/doc/c/4dd8/71cd/eb688d50a44bd74738f074e3/sbstta-23-inf-01-en.pdf.
[57] https://www.cms.int/en/document/climate-change-and-migratory-species-3.

	Multiple CMS Resolutions[58] and associated Decisions[59] address threats that exacerbate the negative effects of climate change on marine ecosystems. Examples include Resolution 12.14 *Adverse Impacts of Anthropogenic Noise on Cetaceans and Other Migratory Species*, Resolution 12.15 *Aquatic Wild Meat*, Resolution 12.22 *Bycatch* and Resolution 12.25 *Promoting Conservation of Critical Intertidal and Other Coastal Habitats for Migratory Species*. Further, regional and species-specific Agreements[60] and Memoranda of Understanding[61] concluded under the umbrella of the Convention, such as on cetaceans, seals, sharks, turtles or seabirds, address the specific concerns relating to these species groups.
UN Global Compact	The Compact's Action Platform for Sustainable Ocean Business has, in consultation with more than 300 stakeholders worldwide, developed the Sustainable Ocean Principles in order to emphasize the responsibility of businesses to take necessary actions to secure a healthy and productive ocean.[62] Three core issues for UN Global Compact in the decade ahead (as identified by the board of UNGC) are: climate change, gender equality and oceans. UN Global Compact identified 4 main threats to ocean sustainability, including climate change in terms of carbon emissions, ocean acidification and ocean warming. The report Global Goals, Ocean Opportunities elaborates the role of business in securing a healthy, productive and well-governed ocean.[63]
	Other relevant bodies and mechanisms
The Convention on Wetlands (RAMSAR)	In 2018, Parties to the Ramsar Convention on Wetlands agreed to measures which protect, restore and sustainably manage peatlands and coastal ecosystems. Parties with coastal blue carbon ecosystems in their territories are encouraged to apply ecosystem-based and integrated approaches in managing their ecosystems, consistent with the Principles and guidelines for incorporating wetland issues into Integrated Coastal Zone Management (ICZM) to ensure recognition of their values, functions and services, including their role in climate change mitigation and adaptation.[64]
Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)	CCAMLR implements a comprehensive set of measures in order to support the conservation of Antarctic marine living resources and the management of fisheries in the Southern Ocean. Resolution 30/XXVIII specifically considers climate change.
Global Environment Facility (GEF)	The GEF works with partners to improve ocean governance with and across nations. Through such transboundary partnerships, they help countries develop regional institutional frameworks. The GEF's marine projects have addressed the breadth of threats and issues facing ocean governance, including fisheries.

[58] https://www.cms.int/documents/cop-resolutions
[59] https://www.cms.int/en/documents/decisions/cop13.
[60] https://www.cms.int/en/cms-instruments/agreements.
[61] https://www.cms.int/en/cms-instruments/mou.
[62] https://www.unglobalcompact.org/take-action/ocean.
[63] https://www.unglobalcompact.org/library/5711.
[64] Ramsar COP13 Doc.18.15 Rev.1, https://www.ramsar.org/document/cop13-doc1815-rev1-draft-resolution-on-promoting-conservation-restoration-and-sustainable.

Green Climate Fund (GCF)	The GCF is a dedicated funding agency helping developing countries reduce their greenhouse gas emissions and enhance their ability to respond to climate change. The Fund aims for a 50:50 balance between mitigation and adaptation investments over time. An example of an investment area on climate change and ocean lies under the thematic area of Ecosystems and Ecosystem Services.[65]

[65] https://www.greenclimate.fund/sites/default/files/document/sap-technical-guidelines-ecosystems-and-ecosystem-services.pdf.