

T.B.3.2. Nature-Based-Solutions in Ocean Ecosystems and Freshwater Resources:

Urgent Action towards 1.5°C Global Warming Pathways: Adapting to Climate Change in Ocean and Coastal Zones for Building Resilience in Low-Lying Coastal Communities and Cities within the Latin-America and Caribbean Region

This thematic block was lead and organized by the Future Ocean Alliance (FOA), with the support of the Inter-American Development Bank (IAD), the United Nations Development Program (UNDP), and with the special support of the Food and Agriculture Organization Regional Office for Latin America and the Caribbean (FAORLC). The event took place on the 21 of August 2019, during the Latin-America and Caribbean Climate Week (LACCW) in Salvador, Brazil, and was organized by FOA as an **ocean knowledge to climate policy dialogue** between ocean and climate experts from the communities of practitioners, decision-makers and researchers.

The main objectives of the event were:

1. Leveling the playing field on the most updated best available scientific knowledge, by raising awareness on the medium and long-term implications of the latest scientific knowledge on the impacts of global warming of 1.5 °C above pre-industrial levels (IPCC 2018, IPCC Special Report on Global warming of 1.5°C),¹ and the needs of adaptation action from a LAC regional perspective.
2. Exchanging experiences, success stories, needs and challenges, and recommendations to enhance vulnerability assessments, adaptation measures, national adaptation plans to impacts in ocean and coastal areas, and the UN sustainable development goals, focused on the specificities of the LAC region and its coastal settlements and cities. Approaches to finance climate action and capacity development.
3. Exchanging experiences and advances in how to implement ecosystem-based adaptation in ocean and coastal areas across the LAC region and, how these can contribute to enhance social-economic and ecological resilience with climate co-benefits.
4. Raising awareness for the need of a coherent and coordinated framework to enhance adaptation from local to global levels and within the UNFCCC and UN processes, in order to implement a policy interface for ocean and coast zones in climate action.
5. Eliciting actionable recommendations for raising ambition and building social, environmental and economic resilience through adaptation to climate change in ocean and coastal zones, while seizing opportunities towards climate resilient communities and blue economies, with a particular focus on the LAC region.

¹ IPCC, 2018: Global warming of 1.5°C. An 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



Ocean knowledge to climate policy dialogue

The organization of the event as an ocean knowledge to climate policy dialogue was an opportunity for bringing participants from these two different worlds together, facilitating the exchanging experiences in a coherent narrative, lessons learned, identifying successes, needs and challenges between the main actors. It was a successful event, having produced recommendations towards adaptation to impacts in ocean and coastal areas and a climate resilient Blue Economy. In particular, it recalled that (adaptation on) ocean and coastal zones play a crucial role in achieving the sustainable development goals (SDGs), and the Paris Agreement global goal for enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change.

The results of the dialogue shows that the format was effective in achieving conclusions and moving forward when participants are coming from different environments, practices and languages, but need to work together for a common goal.

IPCC Special Report on 1.5°C

The Ocean knowledge to climate policy dialogue built upon the most recent scientific and empirical evidence.

The IPCC Special Report on 1.5°C provides the most updated information by the IPCC on climate change impacts, adaptation and vulnerability, with special emphasis on marine and freshwater ecosystems near the coast, such as coral reefs, mangroves, sea prairies, and the transitional ecosystems, such as estuaries, deltas, coastal lagoons, and the coastal line.

The report most important conclusions of the IPCC report were that climate warming is unequivocal and, with high confidence, attributable to human-induced greenhouse gas emissions that so far have resulted in a likely mean global warming of $1^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ since pre-industrial times. At this level of

warming the world is already experiencing the impacts of global warming, including in the ocean and coastal zones.

Major impacts on the ocean, as identified in this and previous IPCC reports,² include the following:

- a) Food Security. Fisheries and aquaculture are important to global food security. Risks of impacts and decreasing food security become greater as warming and acidification increase, with substantial losses likely for coastal livelihoods and industries. Small-scale fisheries in tropical regions, which are very dependent on habitat provided by coastal ecosystems such as coral reefs, mangroves, seagrass and kelp forests, are at a high risk at 1.5°C due to loss of habitat. The rising atmospheric CO₂ already caused changes in the ocean chemistry, including ocean acidification, with the potential to disturb food webs and fisheries.
- b) Coastal systems and low-lying areas are projected to suffer increasingly experience due to adverse impacts such as submergence, coastal flooding and coastal erosion due to sea level rise, which are partially the result of the thermal expansion of the ocean waters. Also extremely important is the increasing frequency and intensity of extreme meteorological events (cyclones), which are increasing in intensity and unpredictability: this is particularly evident in SIDS, where sea level rise, flooding and submergence, and extreme meteorological events have been increasing in recent years.

Climate Change and Ocean

The global ocean is fundamental to sustaining life on Earth. It is a major carbon sink, it absorbs over 90% of the heat produced by anthropogenic climate change, and produces half the oxygen we breathe. It sustains the lives and livelihoods of coastal and island communities in 183 coastal and island nations, and the 4 billion people who rely on its bounty to meet their nutritional needs. The global ocean is the natural highway that conveys over 90% of the world trade. The important role our ocean plays in our livelihoods, health, well-being and wealth, as recognized in the UN Sustainable Development Goal (SDG) 14 on oceans and seas. However, while oceans are key to mitigating climate change, a warming planet also places them, and the services they provide, at a great risk.

The science of climate change shows that numerous coastal and ocean resources, ecosystems and infrastructure, as well as livelihoods, are at greater risk due to the additional pressure of impacts of climate change and ocean acidification. These cover, inter alia, sea-level rise, storm surges, changes in water temperature, oxygen depletion, and coastal erosion. Comprehensive ecosystem approaches to ocean and coastal management couple the ecosystem functioning with human activities so that both ecosystems and societies, and their users and uses, can rely on ocean and coastal ecosystems in a sustainable manner. The natural features of ecosystems can be used to enhance resilience of human and natural systems as nature-based solutions. This concept can be used as an approach for adaptation; nature-based solutions can function as a cost-effective natural infra-structure for the protection of

² IPCC, 2014: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, and IPCC, 2014: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change

coastal zones, populations and the livelihoods therein, while concurrently enhancing marine and coastal biodiversity, conservation and resource management.

The impacts of GHG gases and climate change in ocean and coastal zones play a crucial role in achieving the sustainable development goals (SDGs), and the Paris Agreement global goal for 'enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change' - this goal is a priority for coastal zones, where 40% of the world's population is settled.

The Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) shared how the UN Decade of Ocean Science for Sustainable Development its new approach of science towards solutions with societal benefits, in a time that is crucial to address climate change impacts in ocean ecosystems and economic sectors. IOC demonstrated the need to raise awareness and sensitize the global dimension of the ocean, demonstrating that its functioning affects people globally and locally, at sea, on the coast, and inland, and the fundamental role of the UN Ocean Decade to encourage the scientific community, the public and policy-makers to think beyond business as usual and aspire for real change in pursuit of the five 'Ps' of the 2030 Agenda: Planet, people, prosperity, peace and partnership.

Adaptation to climate change and sustainable development

One of the findings of the 1.5°C SR is that an increase in global warming from the current 1°C to 1.5°C and beyond would increase the need for adaptation, including transformational adaptation, in parallel with the far-reaching, multilevel and cross-sectoral climate mitigation. While transformational adaptation would not be necessary everywhere in a 1.5°C, the scale of change needed would be challenging to implement, and would require additional support, such as financial assistance.

The dialogue provided an opportunity for the exchange of information on experiences in adapting to climate change in ocean and coastal areas . In particular information was provided on adaptation to climate change of fisheries and food security, and water quality. There was also a special concern, during the session, with issues related to the management of coastal cities and urban areas and the particular challenges and impacts due to GHG emissions and climate change experienced by populations leaving in these areas. These impacts are of particular importance in Latin America where urban population is growing fast and it is linked to coastal areas. These issues are also very important in the Caribbean region, given the prevalence of low lying states and the exposure to exceptional weather events.

From the perspective of social and economic development, it is urgent to identify and to address present and future impacts in the coastal zone. In adapting to climate change, there is a need for a coherent framework that should include monitoring and adapting integrated planning, especially in the coastal zone, where over 40% of the human population is settled and develops its economic activities. In the coastal zone, it is necessary to revise land planning and leave room for the sea, building resilience of transitional ecosystems (e.g. dunes, coastal lagoons, estuaries, deltas, water quality), so that these

systems function as green infrastructure, and continue providing the ecosystem services for the Blue Economy with climate co-benefits (e.g. Blue Carbon). Knowledge, monitoring and science are key to support concrete adaptation and decision-making, provided there is a governance process in place that provides the purpose and the means to adapt in the long term. The experiences shared during the dialogues on collaboration between public managers and researchers demonstrated the societal added value of coordinating research objectives with monitoring and planning adaptation actions.

Examples of challenges and ways to address the impacts of increasing GHG and climate were discussed during the dialogue. For example, Belize provided information showing that low-lying countries in the Caribbean are extremely vulnerable to hurricanes, storm surges, while sea level rise is already producing massive salt water intrusion on major rivers, effecting fresh water availability; coral reef, massive erosion on coastal lines, acidification already affecting marine biodiversity (e.g. coral reef already being affected with current 1°C rise). Some of the adaptation measures presented by Belize included moving urban areas inland because of climate change, finding reef species that are resilient to bleaching, and training fishermen to work in tourism industry. The government of Belize banned any offshore oil extraction in its waters.

Fisheries have been also subject to negative impacts in other parts of the Caribbean region, such as St. Kitts & Nevis, where ocean acidification and ocean warming have significant impacts, such as- coral bleaching and Sargasso blooms, which have been severely affecting fishing community, marine biodiversity and food security. Fishermen now need to go into deeper waters to fish. St. Kitts and Nevis provided information on successful experiences how adaptation could be achieved, including on the implementation of the FAO CC4Fish(Climate Change for Fish) project, such as:

- Strengthening ICT capacity of fishermen and their organizations, ICT stewardship, ICT-literacy;
- Supporting improved food safety standards and inclusive fish value chains;
- Supporting development of new agriculture technologies in the region: aquaponic (government agreed to include aquaponic curriculum at schools);
- Strengthening institutional capacity to implement climate change adaptation and disaster risk management coherently
- Using disaster risk management to Fisheries and Aquaculture Emergency Response training to support the implementation of these policies
- Development of regional vulnerability capacity assessment tool kit, and testing it in St. Kitts & Nevis
- Training course, business skills training to improve earnings, savings and book-keeping records necessary to get loans or insurance
- Engine repair and maintenance workshop – fishers to overcome common mechanical failures

Regarding Chile, information was provided on how the National adaptation plan of that country informs sectoral adaptation: it includes 29 actions of adaptation in fishery sector, with progressive and adaptive implementation:

- Improving the capacity of adaptation to climate change in local fisheries and aquaculture communities and leaders. Standardized concepts and language, is important:

- Strengthening of public and private institutional capacities; Inter-institutional working groups at the national level and regional level;
- Using pilot programs to strengthen and develop adaptation capacity and monitoring of adaptation;
- Increasing knowledge and raising awareness on climate change issues within fisher and aquaculture communities;
- Project on communication strategy: at the same time, design and implementation of appropriate policies and instruments, including climate finance, are important.

Expected results of the Chilean list of actions include:

- Climate change issues to be included in fisheries and aquaculture policies
- Scientific technical committees and management committees to consider climate change in their recommendations
- Strengthening public and private institutional capacities to implement/improve actions in fisheries
- Local communities and local or traditional knowledge, the fishermen themselves have always been adapting to carry out their important activities and consider this knowledge in the design of the adaptation measures that are definitely aimed at improving their adaptation.

The dialogue also explored cases where climate change impacted on other environmental issues in the LAC region. Information was provided on synergies between water pollution and climate change impacts. In LAC region, 219 mil people lack access to safely managed water services. 492 mil lack access to safely managed sanitation services. Women suffer the worst consequences because they are often responsible for water collection chores.

Nature based solutions

The Nature-based solutions (NBS) thematic block focused on the territorial continuum between land and sea: the coastal zones and the transition between fresh and marine waters: coastal lagoons, deltas, estuaries, as they are the starting point for Blue Economy. The sustainable management and restoration of coastal marine ecosystems such as mangroves, seagrasses and saltmarshes, and coral reefs is now recognized as means to support climate change mitigation and adaptation. Coined under the term “blue carbon,” these systems are very efficient in sequestering and storing carbon and they release significant amounts of carbon back into the atmosphere and ocean if destroyed or disturbed. Beyond mitigation, these systems also support climate adaptation, functioning as green infrastructure, with ecosystem benefits for local communities and business alike.

France provided specific experiences on ‘The life Adaptao program’, which contains 10 projects (of which 8 are in France two are in French territory of Guyana). It includes:

- Developing of protection against erosion of paddy fields; protection of Ramsar site;
- Re-establishing the site’s biodiversity and creating buffer zones;
- Renewing and reforming the agricultural practices on the site;
- Contribute to the development of ecotourism e.g. bird watching

The Belize experience, which prioritizes the protection of its coral reefs, also demonstrated the added value of nature conservation as source of livelihood of local communities, tourism, and as green infrastructure, where the reefs act as energy breakers to extreme meteorological events, making the shore line and its communities more resilient. As a whole, the experiences shared during the event on the use of nature-based solutions, aimed showed that:

- The solutions focus on 3 main objectives: stop biodiversity loss; prevent health risks and industrial risks;
- There is a strong need to adapt and strengthen the resilience of coastal territories.

The dialogue highlighted that nature-based solutions are a new paradigm: to adapt with a long term vision and with invaluable climate and social co-benefits. Whenever possible, these should be preferred solutions in comparison to current practices and solutions.

Climate finance

To support climate action in a sustained manner, the Inter-American Development Bank (IDB) showed ways to find innovative climate financing by mobilizing resources from international cooperation, donors and capital markets. In particular, provided information on innovative ways to direct financing to where it is most needed. IDB is committed to help countries look for solutions to accelerate National Determined Contributions (NDCs) commitments, including Sovereign bonds such as Green and blue bonds. IDB provided some examples, such as the Task Force on risk disclosure, which:

- Launched a new innovative science lab called natural capital lab to look for NBSs for ocean and water resources in the Caribbean islands and along the coast of Latin America;
- Established the Sustainable Islands Platform in the Caribbean to develop pipelines of projects to bring resources from donors and capital market at scale in order to fill the gaps with solutions at a scale necessary to achieve NDC commitments;
- Barbados – risk mitigation taxonomy, blue and green bond taxonomy to develop pipeline and pilot in Barbados;
- Peru – project via GEF resources, to bring strategy into the Amazon – new economic model for amazon 4.0
- Launching the Agenda on infrastructure and cities. Ocean and ecosystems agendas require systematic solutions not in isolation blue economy strategy of IDB – looking ways to utilize innovative financial vehicles for coastal zone marine protection

New Governance Measures and FOA's Call for Action

The Climate Panel of Salvador Panel, under the Mayor of Salvador, is a network of institutions addressing climate change working in the Salvador City. This Panel provides a shared space for governmental and non-governmental climate actors and sectors, including its local university, to find ways to address climate change following an integrated approach and, inspired by the IPCC process, based on the best scientific local knowledge. Since addressing climate goes beyond political cycles, to ensure the Panel sustainability the Mayor of Salvador is promoting that this Panel is spins off from the authority of the Municipality, so that it continues serving the city beyond political cycles.

FOA approaches adaptation to climate change and mitigation favor ecosystem-based approaches that integrate sectors with the ecosystem functioning and the communities therein. In accordance to this approach, nature-based solutions, including ‘no regrets’ approaches need to be considered under a lens of long-term national adaptation strategies and plans, which must be supported by predictable financial flows.

The integration of the IPCC SR 1.5°C and the empirical evidence collected by FOA during the facilitation of the exchanges related to nature-based solutions and adaptation, including several events organized by FOA under the work of the Marrakesh Partnership for Global Climate Action (events at COP23 and COP24 of UNFCCC, and within the European Maritime Day in May 2019), and building on the interactions with Parties, led FOA to raise a **Call for Action for ‘Creating an Ocean Knowledge to Policy Dialogue towards a Coherent and Coordinated Framework to address the impacts of anthropogenic greenhouse gas emissions and climate change on ocean and coastal zones, ensure the UN sustainable development goals and contribute to the Paris Agreement objective to limit the temperature increase to 1.5 °C.’** The Call for Action identifies the way forward, by setting objectives and a mechanism that allows to identify the scope of ocean and coastal zones Global Climate Action.

This Call for Action builds on the fact that anthropogenic impacts of GHG emissions and climate change threaten sustainable development at large, and specifically achieving the SGDs and the UN Agenda 2030, from local to global levels of implementation. In coastal zones, global change challenges achieving specifically the following SDGs: SDG14 (life underwater), SDG11 (for coastal Settlements and cities), SDG15 (transitional habitats), SDG 6 (rivers’ pollution influence the quality of coastal waters, and all sectors depending on it, including food security and health), SDG 2 (food security), and SDG 10 (Reduce Inequality, poorer coastal communities and local business are less resilient to change).



Concluding remarks

Current scientific and empirical evidence of the impacts of anthropogenic greenhouse gas (GHG) emissions and climate change in ocean and coastal zones, as described in the IPCC 1.5°C Report (IPCC, 2018), demonstrate, with a high degree of confidence, the need for further action to address the interplay between GHG emissions and climate change impacts on ocean and marine coastal zones.

Addressing these impacts requires articulating the territorial continuum between land and marine ecosystems, inclusive of shorelines, their cliffs, rocks and beaches, as well as their transitional habitats such as coastal dunes and wetlands, lagoon systems, estuaries and deltas, as well as the coastal marine habitats (e.g. coral reefs) that serve coastal communities and coastal cities. The IPCC 1.5°C Report, and the its Fifth AR, had already then demonstrated with high degree of confidence that, the blue economy, especially the activities linked to the interface land-sea and its communities are at under an increasing risk, as well as these transitional ecosystems and the services they provide to human-kind.

The Ocean is particularly susceptible to climate change and evidence of impacts shows that changes are happening fast: ocean warming; ocean acidification; ocean circulation shifting; thermal expansion; sea level rise; and change of coastal and marine ecosystems.

These changes in the ocean compound with global climate change, in an unpredictable way, and also are affected by stressors derived from human activities, such as land-based pollution and waste, algal blooms, dead zones, and threat food security, tourism, shipping and port activity, leisure, well-being and biodiversity at large. As such, food security and local blue economies are at risk.

The impacts on oceans and coastal areas, including in megacities and SIDS, show, as supported by science, that adaptation is essential as an immediate partner to complement long-term mitigation action, as in spite mitigation impacts are happening, and will continue raising with a high degree of confidence. ***There is an urgent need to adapt and strengthen the resilience of coastal territories, with a strategic approach, rather than case-by-case situations, and with a new approach to coastal zone management, inclusive of developing and sharing knowledge in order to anticipate and adapt to changes.***

The participants in this thematic block demonstrated that adaptation and the use of nature-based solutions is possible, successful, and adds-value to ecological and social-economic systems with climate co-benefits, and allows creating opportunities to a more resilient blue economy- as long as national governments sustain integrated strategies backed -up with finance flow, accountable means of monitoring and implementation. In liaising with emergencies, it is fundamental that disaster risk reduction and response also develops and implements measures with a forward looking towards adaptation. Effective coordination with cross-sectoral integration, stakeholders, and local authorities towards the custodianship of the land-sea territorial continuum, while stimulating and supporting the development of capacities to adapt, is paramount for long-term successful adaptation.

The successful experiences shared by speakers with implementation of adaptation to climate change and nature-based solutions with climate, social and economic co-benefits demonstrate the need of backing up adaptation with strategies and plans, sustained by predictable finance and based in the best available knowledge. Ocean science with societal benefits, as proposed by the UN Decade on Ocean Science, and building up on the results of other UN Decades and UN initiatives and international initiatives, are fundamental to use financial resources in a more time and cost efficient manner. At all scales of governance a new approach is needed, where integration and access to best available knowledge my decision-makers is urgent.

Acknowledging that capacity development is needed to address these new challenges by coastal communities, and recognizing that up to this moment, UN organizations and intergovernmental processes have been addressing climate change and other GHG emission impacts on ocean and coastal zones following a case-by-case and fragmented approach (ocean and coastal nature-based solutions, including Blue Carbon, are at early stages considered in National Adaptation Plans, the Nairobi Work Program, and the Warsaw International Mechanisms for Loss and Damage, as well as its interlinkages with the Sendai Framework). It is important that components to address climate change consider the impacts in ocean and coastal zones following a systematic and coordinated approach, and which needs to be articulated with the Sendai Framework, the 2030 UN Agenda, the UN Decade on Ocean Science for Sustainable Development, the UN Decade for Habitat Restoration, The UN Decade on Biodiversity, IPBES and the IPCC. This is essential to find the scope and space for oceans in the climate change process to address this, the participation of stakeholders, and Parties in a structured knowledge to policy dialogue is fundamental.

This involves ensuring that negotiations accommodate and promote this need and a more prominent role for climate change and ocean and coastal areas. Science to policy dialogues, bringing together the scientific and the negotiation communities, are the necessary mechanism that will allow to elicit the scope, needs and gaps of global ocean climate action within the UNFCCC process.

The Future Ocean Call for Action was publicly launched at the LAWCW, during the Plenary of Mayors, on the 23 of September 2019 and subscribed by the current Presidency of the COP of UNFCCC (COP24, Poland) and the Plenary of Mayors: Lisa Morris-Julian, Mayor of Arima (Tobago &Trinidad), António Carlos Magalhães Neto, Mayor of Salvador (Brazil), Bruno Covas, Mayor of São Paulo (Brazil), Arthur Virgilio Neto, Mayor of Manaus (Brazil), Jonas Donizette, Mayor of Campinas (Brazil), Rafael Grecca, Mayor of Curitiba (Brazil), Geraldo Júlio de Mello Filho, Mayor of Recife (Brazil), Adriana Campelo, Director of Resilience and Senior Advisor of the Secretariat of Sustainable City and Innovation, Municipal Government of Salvador (Brazil), and Orisia Williams, National Coordinator of CC4FISH FAO Project, St. Kitts & Nevis. The FOA Call for Action is available below and instructions for subscription can be found at www.future-ocean-alliance.org.



Call for Action

Creating an Ocean Knowledge to Policy Dialogue towards a Coherent and Coordinated Framework to address the impacts of anthropogenic greenhouse gas emissions and climate change on ocean and coastal zones, ensure the UN sustainable development goals and contribute to the Paris Agreement objective to limit the temperature increase to 1.5 °C



Contact: Isabel Torres de Noronha
itnoronha@future-ocean-alliance.org
+351 91 903 64 34
www.future-ocean-alliance.org

Ocean Climate Action Pathway to the UNFCCC COP25:

Creating an Ocean Knowledge to Policy Dialogue towards a Coherent and Coordinated Framework to address the impacts of anthropogenic greenhouse gas emissions and climate change on ocean and coastal zones, ensure the UN sustainable development goals and contribute to the Paris Agreement objective to limit the temperature increase to 1.5 °C.

Supporting this Call: UN member States, Parties to UNFCCC, and all interested Climate Action non-Party Actors, and individuals, willing to subscribe/support/adopt/endorse this Call for Action are invited to contact FOA (foa@future-ocean-alliance.org).

The Future Ocean Alliance,

Reaffirming that the Ocean and its Coastal Zones, where over 40% of the world population inhabits, are priority areas particularly susceptible to and affected by the increase of anthropogenic greenhouse gas (GHG) emissions in the atmosphere and by climate change, noting in particular, the conclusions of the 1.5°C IPCC Report; that environmental, social and, consequently, economic effects, will continue rising; and that adapting to changes with a preventive and adaptive outlook will allow economies to seize opportunities derived from global change and flourish, rather than reacting to emergencies and their costs; and

Recognizing that up to this moment, UN organizations and intergovernmental processes have been addressing climate change and other GHG emission impacts on ocean and coastal zones following an ad hoc, case-by-case and fragmented approach, across institutions and scales of governance – from global to local levels, and

Highlighting that two major processes delivering climate action, the United Nations Framework for Climate Change (UNFCCC) and the Sustainable Development Goals (SDG), need to deliver climate action on ocean and coastal zones with a holistic, multidisciplinary and cross-sectoral approach.

Urges the UN, its Secretary-General, and the Parties to the UNFCCC and the Paris Agreement (PA) to:

- *Recognize the fundamental role and value of ocean and coastal ecosystem services in climate processes, sustainable development and survival of human kind, and that it is urgent to identify gaps, and find cross-cutting ways to consider these issues towards developing a coordinated, coherent and crosscutting framework that addresses impacts of climate change in ocean and coastal zones within the processes under the UNFCCC and the PA*
- *Prioritize ocean and coastal areas and the interaction of climate change and other impacts of GHG anthropogenic emissions, and give priority, in the context of the Global Climate Action agenda, to the consideration of the impacts and interactions of climate change on ocean and coastal areas during the next COP (COP25)*

Invites the Parties to the UNFCCC and Paris Agreement to establish an Ocean Knowledge to Policy Dialogue at the COP25 of UNFCCC. This Dialogue could build upon the Marrakesh Partnership for Global Climate Action, and with the support of the UNFCCC Global Climate Action Team. The Dialogue would mainstream the development of a forward looking, coherent and coordinated framework to address the impacts of anthropogenic GHGs emissions and climate change on ocean and coastal zones, including actions towards sustainable development, and a sustainable blue economy that is climate resilient and low in GHGs emissions. The Dialogue would bring together Parties, the scientific community and other stakeholders to engage in cooperative action to identify needs and vulnerabilities and to deliver forward-looking adaptation and mitigation in ocean, coastal ecosystems.

Invites the UN Secretary General to create an Ocean-Climate Knowledge to Policy Dialogue to deliver a multidisciplinary and cross-sectoral framework and programme that addresses sustainable development pathways to 1.5°C of global warming in ocean and coastal zones, mindful of transitional ecosystems and human settlements therein, in industrialized and developing nations, with particular emphasis on Low-Lying States¹ and Small Island Developing States coastal cities and communities, in order to promote a coherent action framework between SDGs 14 and 13 with the SDGs 6, 11, 15, 2, 10 and 12. Building on the 1.5°C IPCC Report and the forthcoming IPCC report on the Ocean and Cryosphere, the Dialogue should ensure the integration of key UN initiatives, including:

- *(1) The UN Decade on Ocean Sciences, to incite the ocean scientific community to answer ‘What kind of monitoring and knowledge is necessary to specifically address the impacts of global change in ocean and coastal zones under the UNFCCC process?’*
- *(2) The UN Decade on Habitat Restoration and (3) the UN Decade on Biodiversity, and (4) the Sendai Framework for Disaster Risk Reduction to further develop climate resilient plans and responses (adaptation and mitigation), under the lens of ecosystem-based approaches, inclusive of their local communities and blue carbon.*

Call for Action

Creating an Ocean Knowledge to Policy Dialogue towards a Coherent and Coordinated Framework to address the impacts of anthropogenic greenhouse gas emissions and climate change on ocean and coastal zones, ensure the UN sustainable development goals and contribute to the Paris Agreement objective to limit the temperature increase to 1.5 °C



Contact: Isabel Torres de Noronha
Inoronha@future-ocean-alliance.org
+351 91 903 64 34
www.future-ocean-alliance.org

Basis for Action: Background

Current scientific and empirical evidence of the impacts of anthropogenic greenhouse gas (GHG) emissions and climate change in ocean and coastal zones, as described in the IPCC 1.5°C Report (IPCC, 2018),¹ demonstrate, with a high degree of confidence, the need for further action to address the interplay between GHG emissions and climate change impacts on ocean and marine coastal zones. Addressing these impacts requires articulating the territorial continuum between land and marine ecosystems, inclusive of shorelines, their cliffs, rocks and beaches, as well as their transitional habitats such as coastal dunes and wetlands, lagoon systems, estuaries and deltas, as well as the coastal marine habitats (e.g. coral reefs) that serve coastal communities and coastal cities.

Coastal ecosystems provide natural protection and livelihoods to coastal communities; providing resources, leisure and a higher quality of life, and providing ecosystem services for numerous economic activities, inter alia tourism, navigational recreation, trade, and ports for shipping and fisheries. Coastal and transitional habitats are a center point for economic, social, and cultural development and they are a fundamental nursery and source of replenishment of ocean living resources. They are also the lands' receiver for 80% of land-based pollution: from diffuse to point pollution, and waste, such as plastics. Small scale fisheries supply almost half of the world's seafood stock, and are the source of 70% of the animal protein intake for coastal communities. In addition, approximately 50% of all international tourists travel to coastal areas. Ocean, coastal and marine resources are very important for people living in coastal communities: in some developing countries, notably Small Island Development States (SIDS), tourism accounts for over 25 per cent of GDP.

More than 600 million people (around 10 per cent of the world's population) live in coastal areas that are less than 10 meters above sea level. Cities in developing countries are particularly vulnerable, in particular to increasing extreme weather events and the due to existing poverty and environmental stresses. Especially vulnerable to climate events are low-lying coastal areas where many of the world's largest cities are located. In spite the increase of the severity impacts of climate change in coastal land and marine areas, the trend is for coastal settlements and coastal urbanisation to continue increasing. Over 40% of the world's population (2.4 billion people) live within 100 km of the coast. In SIDS, 59% of residents live in coastal urban settlements.² Urban areas present specific challenges, particularly in SIDS, low-lying areas, and megacities. Megacities in the coastal zone (MCCZ) are expected to increase to 301.7 million people by 2025. Today, the number of megacities has tripled to 33 (529 million, 13 per cent of the world's urban dwellers),³ and this number is expected to growth to 43 by 2030.⁴

The results of Global Climate Action under the Marrakesh Partnership of the UNFCCC in particular, during COP24, which were based on exchanges of scientific knowledge (IPCC, 2018) and experiences of empirical nature, among Parties and non-Parties, provide solid evidence, including through the Talanoa Dialogues, that countries are being impacted and are already addressing impacts in ocean and coastal zones.

The next Conference of the Parties (COP25) of the UNFCCC and the Secretary General's UN Climate Summit are historical opportunities to prompt the UN governance system and the Agenda 2030 to bring addressing ocean and coastal zones with climate change into its [proper] place: raising the ambition of climate action (SDG13) in ocean and coastal zones towards sustainable pathways to the target of 1.5°C as the limit of global warming.

1. 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, with special emphasis on chapters 3 and 4. <https://www.ipcc.ch/r15/>

2. UN-Habitat, 2015. Urbanization and Climate Change in Small Island Developing States'. UN-Habitat Cities and Climate Change Series (HS/004/15E). 43 p.

3. UN Habitat, 2017. <http://www.unhabitat.org/wp-content/uploads/sites/16/2016/05/Chapter-1-WCR-2016.pdf>

4. UN DESA, 2018. The World's Cities in 2018. Data booklet. United Nations, Department of Economic and Social Affairs, Population Division (2018). (ST/ESA/SER.A/417).

5. von Glawie R, Jickells TD, Baklanov A, et al., 2013. Megacities and large urban agglomerations in the coastal zone: Interactions between atmosphere, land, and marine ecosystems. *Ambio*. 2013;42(1):13–28. doi:10.1007/s13280-012-0363-9

6. UNDESA, 2017. UN Ocean Conference, Fact Sheet: Factsheet: People and Oceans 2017.

Annex- List of Speakers

<p>Opening of the Thematic Block (10 mins)</p>	<p><u>Speakers:</u></p> <ul style="list-style-type: none"> • Bruno Reis, Vice-Mayor of Salvador, City of Salvador • Tomasz Chruszczow, High-Level Champion of the Marrakesh Partnership for Global Climate Action (MPGCA) of the UNFCCC, Poland • Isabel Torres de Noronha, President, Future Ocean Alliance
<p>Session 1: The Basis for Ocean and Coastal Climate Action: Projected Impacts of 1.5°C of Global Warming in the Latin-America and Caribbean Region (66 mins with debate)</p>	<p><u>Moderator:</u></p> <ul style="list-style-type: none"> • Frederico Saraiva Nogueira (Vice-President, IOC/UNESCO) <p><u>Speakers:</u></p> <ul style="list-style-type: none"> • 1. Thelma Krug (Keynote Speech, 25 minutes), Vice-Chair, IPCC. <i>IPCC Special Report on 1.5°C. The Basis for Ocean and Coastal Climate Action: Projected Impacts of 1.5°C of Global Warming in the Latin-America and Caribbean Region. Opening the Dialogue Knowledge to Policy on Adaptation and the Use of Nature-Based Solutions in the LAC Region and Across Scales of Governance</i> • 2. André Fraga, Secretary, Salvador Resilience Panel, City of Salvador, Brazil. <i>The Salvador Panel: building resilience through a collaborative process inclusive of stakeholders, and the local community, and local academia</i> • 3. Carlos Fuller, Chair and Lead negotiator for AOSIS, Belize. <i>Adaptation in ocean and coasts of Belize</i> • 4. Isabel Torres de Noronha, President, FOA. <i>Future Directions towards climate resilient ocean and coasts: Call for Action</i>
<p>Session 2: Experiences on Adaptation and the Use of Nature-Based Solutions in the LAC Region and Across Scales of Governance. (66 mins with debate)</p>	<p><u>Moderator:</u></p> <ul style="list-style-type: none"> • Carlos Fuller (Chair and Lead negotiator for AOSIS, Belize) <p><u>Speakers:</u></p> <ul style="list-style-type: none"> • 1. Telma Rocha, Coordinator, Fundación Avina. <i>Synergies between water pollution and climate change impacts from the hills to the sea: food and water security of communities.</i> • 2. Orisia Williams, National Project Coordinator of the FAO Project CC4Fish, FAO, St. Kitts & Nevis, <i>St. Kitts & Nevis implementation of the Climate Change Adaptation of the Eastern Caribbean Fisheries Sector Project (CC4Fish)</i> • 3. Olivier Robinet, Head, Department of International Affairs, Ministry of Ecological and Inclusive Transition, France. <i>Promotion by France of Nature Based Solutions in the Latin American and Caribbean French territories.</i> • 4. Gustavo San Martin, Head of Climate Change, Undersecretariat for Fisheries and Aquaculture, Ministry for the Economy, Development, and Tourism, Chile, <i>Building resilience of artisanal fisheries communities: experience on adaptation in coastal zones, and institutional arrangements</i> • 5. Frederico Saraiva Nogueira, Vice-President, IOC/UNESCO. <i>The UN Decade of Ocean Science for Sustainable Development: Concept and Strategic Objectives. The Role of IOC/UNESCO</i> • 6. Barbara Brakarz, Senior Climate and Sustainability Specialist, IDB, <i>Financing approaches for innovative ocean programming: The Sustainable Islands Platform</i>
<p>Closing the Dialogue and Take-Away Messages (15 mins)</p>	<p><u>Closing the Dialogue and Take-Away Messages: Conclusions and Messages by the Co-chairs and</u></p> <ul style="list-style-type: none"> • Tomasz Chruszczow, High-Level Champion of the MPGCA of the UNFCCC, Poland • Julio Cordano, Head of the Climate Change Department, Coordinator of Negotiations Team, COP25 Presidency, Ministry of Foreign Affairs, Chile
<p>10:30-12:30 Public Gathering</p>	<p><u>Public Launch and Opening for Public Subscription of the</u></p> <ul style="list-style-type: none"> • Call for Action: Ocean Knowledge to Policy Dialogue, by the Future Ocean Alliance