



OCEAN & CLIMATE
PLATFORM

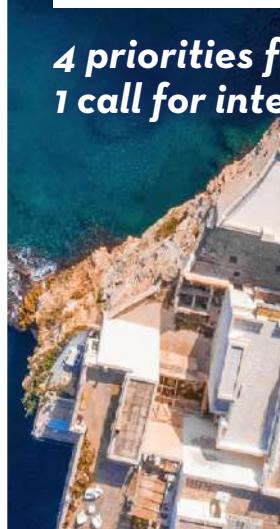


SHARING SOLUTIONS WITH COASTAL
CITIES TO TACKLE SEA LEVEL RISE



POLICY RECOMMENDATIONS FOR COASTAL CITIES TO ADAPT TO SEA LEVEL RISE

*4 priorities for cities and territories
1 call for international action*



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Citation: Ocean & Climate Platform. (2023). *Policy Recommendations for coastal cities to adapt to sea level rise*. Sea'ties Initiative. 28 pp.

We would like to sincerely thank the members of the Sea'ties Steering Committee for their assiduous presence by our side for several years and their willingness to develop constructive actions together. Our thanks go to Romain Troublé and Françoise Gaill (OCP), Jérôme Bignon (former French senator), Stéphane Blanc and Agathe Euzen (INEE-CNRS), Gérard Blanchard (Elected representative of La Rochelle), Chrystel Chanteloube, Wilfried Deri and Louis Curau (Princely Government of Monaco), Yves Henocque, Thierry Gissinger, An-Gaelle Benedic and Julie Vallat (Fondation de France), Christine Lair, Pauline Hermand and Anne-Sophie Leclerc (ANEL), Sébastien Moncorps and Nicolas Rodrigues (IUCN French Committee), Maina Sage (former MP for French Polynesia), Moussa Sall (CSE), Thierry Vandevelde and Clara Bercovici (Veolia Foundation), Agnès Vince, Fabrice Bernard and Céline Damery (Conservatoire du littoral), and Anna Zivian (Ocean Conservancy).

The drafting of this document would not have been possible without the review and sharp comments of Denis Allemand (CSM), Rafael Almar (Legos, IRD), Camille André (Région Nouvelle-Aquitaine), Habib Ben Moussa, Marc Beyeler (BEACON), Céline Cabaye (Ville de Sète), Josep Canals et Pérez Valverde (MedCities), Cade Cannedy et Violet Wulf-Saena (Climate Resilient Communities), Éric Chaumillon (LIENSs, CNRS, La Rochelle Université), Joachim Claudet (CRIODE, CNRS), Maggie Cazal (USF), Nicolas Desramaut (World Bank), Harold Diaz and Yves Soufflet (Waves'n See), Honoré Gabriel Djivo (GAIA), Teo Olga Dominique (Ville de Grand-Bassam), Virginie Duvat-Magnan (LIENSs, CNRS, La Rochelle Université), Patrícia Enet (MSP-Europe), Océane Marcone (Plymouth Marine Laboratory), Sylvie Goyet (OSCE), Julie Gattaccea and Joël Guiot (MedECC), Lina Hansson (FPAll), Bart van den Hurk (IPCC co-chair), Samuel Lefèvre (AFD), Juliette Lassman and Oriana Romano (OECD CFE), Alexandre Magnan (IDDR), Olivier Marger (DREAL PACA), Katarzyna Marini, Michael Kramer and Antoine Laffite (Plan Bleu), Michael McCormick (BayCAN), Janelle Kellman, Fred and Melinda Meitz (Center for Sea Rise Solution) Ella McDougall (Ocean Protection Council), Angélique Melet (Mercator Océan), Dharisha Mirando (CWR), Robert Nicholls (Tyndall Center), Linwood Pendleton (Ocean KAN), Joffrey Perrusel (La Rochelle Urban Community), Joanna Post (IOC-UNESCO), Daria Povh Skugor (PAP/RAC), Sandra Reverdi (FMDV), Andrea Rigal-Casta (Géo Avocats), Nicolas Rocle (SPREP), Karim Selouane (Resallience), Murray Scown (Lund University), Mark Spalding (The Ocean Foundation), Noé Swyngedauw (IFAW), Torsten Thiele (Global Ocean Trust), Sarah Thomas (Europe Jacques Delors), Frédérique Viard (ISEM, Université de Montpellier, CNRS, IRD), and Sally Yozell and Natalie Fiertz (Stimson Center).



The Ocean & Climate Platform, Who are we?

The Ocean & Climate Platform (OCP) is an international network bringing together more than 100 organisations from civil society (non-governmental organisations, research institutes, foundations, local authorities, international organisations and private sector entities). Created in the run-up to COP21 in Paris, the OCP aims to promote scientific expertise on the major role played by the ocean and its ecosystems in the climate system, and to advocate for better consideration of these interactions by national and international decision-makers. Building on the wide-ranging expertise of its members, the OCP brings light to concrete solutions to protect the ocean, its biodiversity and the climate.

The OCP's mandates in international fora

- The Ocean & Climate Platform holds the **observer status to the United Nations Framework Convention on Climate Change** (UNFCCC), along with several key roles:
 - **Focal point for “Ocean & Coastal Zones”, Marrakech Partnership for Global Climate Action** (MP-GCA), led by the High-Level Climate Champions, it mobilises non-state actors to raise ambition and accelerate climate action.
 - **Expert for “Ocean and Coastal Zones”, Nairobi Work Programme on Adaptation (NWP-Ocean)**, which provides a knowledge hub to better integrate marine and coastal issues in Parties' adaptation and resilience strategies.
 - **Taskforce lead for “Ocean and Coastal Zones”, Sharm el-Sheikh Adaptation Agenda** (SAA), which rallies both countries and non-state actors behind a shared set of adaptation actions.
 - **Expert for the “Ocean and Climate Change Dialogue”** (OCD), mandated by the COP, it convenes Parties and non-party stakeholders to strengthen ocean-based action under the UNFCCC processes.
- The OCP has been participating in the **French governmental review of the IPCC reports on the chapters relating to ocean topics**, including the Special Reports on 1.5°C, on the Ocean and Cryosphere in a Changing Climate (SROCC) and the Sixth Assessment Report (AR6).
- The OCP is an observer organisation to the **United Nations Convention on Biological Diversity** (CBD) and to the **United Nations Economic and Social Council** (ECOSOC).
- The OCP, together with the Varda Group, has been mandated by the governments of France and Costa Rica to facilitate the mobilisation of civil society for the preparation of the **3rd United Nations Ocean Conference** (UNOC) in Nice in June 2025.

SEA'TIES is an international initiative led by the Ocean & Climate Platform, seeking to support coastal cities threatened by sea level rise by facilitating the development of adaptation solutions.

MAIN OBJECTIVES

1 Compile & disseminate knowledge

by proposing a **synthesis of scientific literature** on coastal adaptation strategies thanks to the expertise of a multidisciplinary scientific network jointly led by the OCP and the French National Center of Scientific Research (CNRS).

2 Collect & share experiences

by referencing leading adaptation responses in a **Map of Solutions**, organising workshops in 5 regions of the world and sharing their conclusions in a series of regional reports.

SEA'TIES ORGANISED 5 REGIONAL WORKSHOPS

convening nearly 230 stakeholders, to share knowledge and practices, and overcome collective challenges.



3 Support political action

by mobilising +50 mayors around the **Sea'ties Declaration**, providing recommendations based on concrete experiences and scientific knowledge, and calling on the international community to accelerate adaptation action.



ACRONYMS

- CBD:** Convention on Biological Diversity
- COP:** Conference of the Parties
- ECOSOC:** Economic and Social Council
- GST:** Global Stocktake
- IPCC:** Intergovernmental Panel on Climate Change
- IPBES:** Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
- MP-GCA:** Marrakech Partnership for Global Climate Action
- NAP:** National Adaptation Plan
- NBSAP:** National Biodiversity Strategies and Action Plan
- NDC:** Nationally Determined Contribution
- NGO:** Non-Governmental Organisation
- NWP-Ocean:** Expert Group on “Ocean and Coastal Zones” of the Nairobi Work Programme
- OCD:** Ocean and Climate Change Dialogue
- OCP:** Ocean & Climate Platform
- SAA:** Sharm el-Sheikh Adaptation Agenda
- SBSTA:** Subsidiary Body for Scientific and Technological Advice
- SDG:** Sustainable Development Goal
- UN:** United Nations
- UNFCCC:** United Nations Framework Convention on Climate Change

Understanding climate change-induced sea level rise,

Sea level rise results from the melting of ice sheets and glaciers and the expansion of seawater as it warms, caused by human-induced climate change. Sea level rise accelerated during the 20th century and could exceed one metre by 2100 in a high greenhouse gas emissions scenario. The phenomenon is irreversible and set to continue for centuries to millennia.

The combination of **slow onset sea level rise** and **sudden extreme sea levels** which are especially driven by tropical cyclones, has serious implications for coastal cities, including temporary or permanent land loss, chronic tidal flooding, accelerating coastal **erosion**, soil and freshwater salinisation, as well as increased ecosystem degradation and loss.

In addition, development and human activities reinforce coastal communities' **exposure** and **vulnerability**. Urban development, along with the extraction of sand, groundwater and hydrocarbons reduce sediment deposition, while exacerbating **subsidence** and negatively impacting coastal ecosystems.

Sea level rise projections conceal many **uncertainties**: the trajectories of global greenhouse gas emissions, the evolution of the Antarctic and Greenland ice sheets, as well as regional variations caused by local factors limit our ability to precisely predict how the phenomenon will evolve. However, one thing is certain: sea level rise and associated **risks** will increase under all greenhouse gas emissions, with much lower risks if warming levels are kept below 1.5°C in 2100 compared to preindustrial levels, in line with the objective of the Paris Agreement.

a major threat to coastal cities and territories...

Coastal cities and settlements are particularly at risk of climate and ocean impacts and continue to attract an ever-growing population which could exceed one billion people by 2050. Public health, human well-being, food security, as well as the maintenance of diverse livelihoods, knowledge systems, and natural and cultural heritage are under threat, while entire communities are at risk of being forced to relocate or migrate abroad. In island nations, inhabitants are among the most exposed to the risk of being displaced by a disaster or permanently relocated due to sea level rise, which will undoubtedly lead to a sense of loss of place and belonging that is still largely overlooked.

As socioeconomic, cultural and political hubs, coastal cities gather lifeline infrastructure and high-value activities such as tourism, trade or transportation. In fact, up to USD 11,000 billion worth of infrastructures and economic assets are currently located in a **1-in-100-year floodplain** worldwide.

Sea level rise and other climate change impacts exacerbate social inequalities. It is clearly demonstrated that cities and territories with higher inequalities, lower levels of economic development and chronic political instability are more vulnerable to sea level rise. Structural factors such as gender, wealth, age, ethnicity, and location profoundly affect the capacity of individuals and communities to adapt.

Impacts of sea level rise do not abide by administrative boundaries and will be increasingly felt in inland territories that are closely connected to coastal cities. Yet, coastal cities often plan in isolation from one another. Coordination across jurisdictions and at national and international scales can ensure that the geophysical and societal continuum of the coastline is taken into account for a more cohesive **adaptation**.

... that remains under-addressed.

Although climate catastrophes such as Katrina – that caused over 1,800 deaths – or the climate-induced relocation of a part of Jakarta to the island of Borneo have hit the headlines, coastal cities and territories remain under-supported and insufficiently prepared to cope with sea level rise. In response to increased coastal erosion and flooding, cities often opt for engineering structures, such as seawalls or dykes, despite their propensity to accelerate or displace erosion.

Few cities have defined ambitious adaptation strategies, and even fewer have succeeded in securing financial, human and technical capacities to implement them. Regional authorities are not sufficiently involved in assisting and coordinating adaptation projects, while exchanges of knowledge, practices and experiences amongst practitioners and decision-makers remain too uncommon.

Admittedly, adaptation to sea level rise has only recently been defined as a clear political priority. To date, there is no international instrument specifically dedicated to the adaptation of coastal cities and capable of providing technical and financial support to the implementation of responses. Instead, existing programmes and funding mechanisms are embedded in more generalist structures. National and international governing bodies do not yet share a common transformative vision of a climate-resilient future for coastal cities.

Designing tailored and hybrid responses

The first imperative is to immediately and drastically reduce greenhouse gas emissions, by undertaking a systemic transformation of our societies. The greater the **mitigation** efforts today, the more effective the adaptation measures will be.

Adapting coastal cities will require a long-term planning approach, which integrates contrasting sea level rise scenarios and can remain flexible over time. Mixing several types of adaptation

responses and phasing them over the appropriate geographical and temporal scales is key to developing tailored solutions that significantly reduce sea level rise-related risks while generating sociocultural and economic benefits.

Various responses are available to design future adaptation pathways. Among the main responses, **protection** has up to now been prevalent in all regions to protect the coasts against climate change impacts by means of engineered structures; **ecosystem-based** adaptation, is increasingly experienced by coastal territories and aims at using or enhancing the natural buffering and adaptive capacity of marine and coastal ecosystems to mitigate climate change impacts; **planned relocation** seeks to reduce risks by moving away human assets and population from risk-prone areas; **accommodation responses** consist in increasing preparedness through urban planning, technical or architectural responses, such as flood proofing, building elevation, drainage systems upgrade, and the deployment of **early warning systems**.

Finally, the success of an adaptation strategy is also contingent on the early, sustained, and broad involvement of the population and all stakeholders concerned. Meaningful engagement is critical to help meet local needs and aspirations, and contribute to the population's adherence to an adaptation strategy.

For coastal cities and territories to adapt to sea level rise, the Ocean & Climate Platform presents a set of policy recommendations to local, national and regional decision-makers, structured around the following 4 priorities:

- 1. Solutions:** Planning long-term adaptation responses tailored to
 - the local context
- 2. Social justice:** Prioritising social imperatives in adaptation policies
- 3. Knowledge:** Developing new ways to generate and share operational adaptation knowledge
- 4. Finance:** Building a sustainable finance approach for coastal cities

PRIORITY 1: SOLUTIONS

PLANNING LONG-TERM ADAPTATION RESPONSES TAILORED TO THE LOCAL CONTEXT

Adapting coastal cities to sea level rise involves the consideration of long-term variations in sea level and other physical and societal dynamics, while harnessing local opportunities for action. Adaptation strategies must therefore be designed based on a long-term perspective, at the right spatial scales and in an integrated manner. Articulating solutions over time can allow for transitional steps to support transformational change in the long run. Achieving effective and sustainable adaptation that concretely addresses local problems and populations' needs requires to:

1 LIMIT SHORT-TERM DISRUPTION OF THE SHORELINE

- Restrict urban development and human activities (e.g., sand extraction), along shorelines and in risk-prone inland areas, that disrupt natural processes and weaken buffering ecosystems (e.g., dunes, mangroves, salt marshes).
- Prevent new development in at-risk areas; although reversible installations may be authorised on a transitional basis, provided they are removed when risks becomes too high.
- Avoid protection-based measures whenever possible, reserving these responses for sites that are already heavily urbanised presenting major urban challenges, or as a transitional response
- Prioritise ecosystem-based adaptation by protecting existing coastal ecosystems and fostering their restoration in suitable sites to harness their capacity to contain coastal erosion and reduce the impacts of **extreme climate events**.

2 CONCEIVE DYNAMIC ADAPTATION PATHWAYS

- Prepare long-term spatial planning, considering high-end sea level rise scenarios and extreme climate events.

Develop **dynamic adaptive** strategies, to deal with uncertainties associated with future climatic drivers and societal evolutions, and to articulate measures over time, based on monitored changes.
- Combine a set of different adaptation responses suited to local territorial features, capacities, and consider opportunities, to increase adaptation measures' effectiveness and provide local stakeholders with co-benefits.
- Engage in the long-term relocation of infrastructure and housing considering social, technical and financial readiness, starting, if necessary, with public facilities, economic activities, and infrastructure, before moving on to housing

3 COLLECTIVELY DESIGN CONTEXT-SPECIFIC SOLUTIONS

- Create a shared **risk culture** by raising awareness and disseminating relevant information about past, current and future coastal climate risks among different groups of stakeholders, using prospective approaches and participatory tools.
- Co-construct and integrate local communities' visions of a desirable future for their neighbourhood and city, through early, sustained, and meaningful engagement of all relevant stakeholders, including inland populations
- Adjust the scales of action and cooperate across jurisdictions, considering interconnected sediment cells to avoid transferring or increasing impacts in nearby areas, and to maximise the benefits of adaptation responses.

PRIORITY 2: SOCIAL JUSTICE

PRIORITISING SOCIAL IMPERATIVES IN ADAPTATION POLICIES

Exposure and vulnerability to sea level rise are exacerbated by socioeconomic inequalities. Therefore, adaptation choices must be made with the participation of local communities to address rather than reinforce inequalities. Meaningful and long-term community engagement is essential to design and implement appropriate adaptation strategies and foster city-wide preparedness. To this end, coastal cities should:

1 AVOID MALADAPTATION THROUGH CLIMATE-READY URBAN PLANNING

- Pay particular attention to the most marginalised areas, such as informal settlements, notably by ensuring that existing protection structures are upgraded and maintained to prevent disasters linked to their failure.
- Guarantee access to employment, mobility, lifelines, and other essential urban services, as well as the continuation of traditional livelihoods and identities, when planning for coastal adaptation, especially for planned relocation.
- Ensure that adaptation does not lead to **climate gentrification**, notably by controlling real estate and insurance market prices.

2 CENTRE SOCIAL JUSTICE AND EQUITY INTO COASTAL ADAPTATION

- Integrate social justice in local, national and international guidance for environmental impact and **feasibility** assessments, notably within [UN environmental impacts assessment](#) procedures.
- Identify local population organisations and stakeholders to ensure their voices are represented and their interests accounted for, with a specific focus on traditionally under-represented groups (e.g., women, youth, low-income households, Indigenous peoples).
- Co-define with local populations clear objectives with regard to the social benefits of adaptation measures and adaptation planning.

3 MOBILISE LOCAL COMMUNITIES THROUGHOUT THE ENTIRE ADAPTATION PROCESS

- Dedicate the time for and demonstrate tangible impacts of public engagement to build a long-term relationship of trust with local communities and stakeholders.
- Create safe and inclusive forums for representative public participation, conflict resolution and sustained community monitoring and empower local communities in the decision-making process.
- Use appropriate channels and intermediaries (e.g., local ambassadors, local NGOs, schools, local radio stations) to enable different population groups to understand climate change related issues, engage effectively in adaptation strategies, and ensure that marginalised communities are not excluded due to language or mobility barriers.

PRIORITY 3: KNOWLEDGE

DEVELOPING NEW WAYS TO GENERATE AND SHARE OPERATIONAL ADAPTATION KNOWLEDGE

Knowledge needs differ from one coastal city to another. While substantive data may be available in some regions, knowledge gaps remain to prioritise action and develop appropriate adaptation responses. The generation, sharing, and appropriation of *actionable knowledge* that is crucial to policy-makers to address societal needs require to:

1 GAIN A BETTER UNDERSTANDING OF CLIMATE RISKS

- Continue and improve satellite observation to measure global mean sea level variations and expand the tide gauge and Global positioning system (GPS) networks to evaluate relative *sea level changes* locally.
- Uncover the local dynamics at play in coastal flooding, including tides, storm surges, waves, mean sea level, and intense precipitation by downscaling global data on sea level and projected changes to a finer spatial and temporal scales.
- Enhance interdisciplinary research to develop a holistic and systemic understanding of the interactions between *hazards*, exposure and vulnerability, by incorporating disciplines such as behavioural sciences and psychology.
- Encourage the co-construction of locally relevant knowledge, by involving diverse knowledge producers, including holders of *indigenous and local knowledge*.

2 INFORM THE DESIGN AND MONITORING OF SUSTAINABLE SOLUTIONS

- Strengthen research efforts on the environmental, social, economic and legal feasibility of responses, notably regarding the conditions for their effectiveness and implementation, and for optimising risk reduction and the fair distribution of co-benefits.
- Conduct further research to assess the viability of ecosystem-based adaptation within the unique urban conditions of coastal settlements, considering specific spatial constraints, risk reduction potential and *social acceptability* of these options.
- Provide context-specific economic risk and feasibility assessments to help local authorities determine the viability of responses over different time horizons, in terms of financial costs.
- Conduct institutional and legal research to ensure alignment among the different legal domains (e.g., related to transport, housing, ocean-related activities, ecosystems, agriculture, industry) relevant to the transformation of coastal urban areas.
- Develop guidelines and share methodologies on the monitoring, report, and evaluation of solutions to track adaptation progress, avoid *maladaptation* and accordingly adjust strategies to enhance coastal *resilience*.

3 FOSTER THE APPROPRIATION OF KNOWLEDGE

- Boost experimental adaptation actions through applied research and support upscaling of successful actions, in collaboration with non-academic knowledge holders.
- Harness local understanding of historical and current risks and opportunities for action by engaging coastal communities around data collection and knowledge generation (e.g., serious games, participatory photographic observatories, citizen science projects, prospective activities).
- Ensure accessibility of scientific information and knowledge through appropriate language and by mobilising tailored data-sharing mediums (e.g. online platforms of open data), communication platforms (e.g., press, social media, events) and information tools (e.g., virtual reality, arts and culture).

PRIORITY 4: FINANCE

BUILDING A SUSTAINABLE FINANCE APPROACH FOR COASTAL CITIES

As costs of adaptation rise and dedicated investments fall far short of needs or target one-off building protection rather than comprehensive solutions, a new transformative approach is required. The resilient coastal cities of the future are those that have transitioned to a sustainable, regenerative economic model that is aligned with nature-positive and net-zero outcomes. To unlock the upfront public financing and private investments needed it is crucial to:

1 TAILOR ADAPTATION FUNDING TO THE SPECIFICITIES OF COASTAL CITIES

- Promote financial solidarity between coastal and inland territories, considering their distinctive use of and benefits from resilient coastal zones (e.g., recreational activities, shipping, food provision), by broadening the financial participation base (e.g., national solidarity fund) and improving revenue sharing and horizontal budget redistribution.
- Direct funding towards dynamic adaptation strategies, moving away from project-based and short-term financing towards long-term planning
- Encourage the financing of aggregated projects to ensure territorial coherence of cities adaptation initiatives along the coastline, while also reducing investor exposure to the specific risks associated with any single project.
- Design and streamline financing packages for small-scale projects and make them directly available to local authorities and non-state actors.

2 ESTABLISH AN ENABLING ENVIRONMENT FOR CITIES TO ACCESS AND MANAGE ADAPTATION FINANCE

- Strengthen sub-national financial engineering and capabilities to invest in community resilience and access financing, both within national, regional, and municipal administrations and within banks and insurances.
- Reinforce the integration of coastal resilience within the portfolio of key intermediaries (e.g., local development banks, chambers of commerce and industry) to strengthen collaboration on this issue among coastal cities, governments, international financial institutions, multilateral development banks and economic players.
- Earmark substantial budgets for coastal cities and develop financing tools for local authorities to buy-out assets threatened by sea level rise, in order to facilitate territorial transformation.

3 MAKE THE CASE FOR INVESTING IN SUSTAINABLE RESPONSES

- Mobilise the blue economy sectors to sustainably adapt coastal areas, while subscribing to the [Sustainable Blue Economy Finance Principles](#), the [10 principles of the United Nations Global Compact](#) and the [UN Principles for Responsible Investment](#).
- Prioritise preventive adaptation responses rather than recovery, by assessing the costs of delayed action, highlighting the non-monetary benefits of adaptation for financial institutions and incentivising private investment.
- Create tailored financial instruments with adequate returns for investors, in particular by mobilising the signatory public development banks of the [Cartagena Call to Deliver Positive Action for the Ocean](#).

CALL FOR ACTION

To ensure these policy recommendations also echo in international frameworks of governance, the Ocean & Climate Platform has developed a Call for Action for the States to:

- 1 Drastically reduce greenhouse gas emissions to **meet the 1.5°C target of the Paris Agreement**, thus limiting sea level rise-induced risks;
- 2 **Request the IPCC** to include in its Special Report on Cities and Climate Change an in-depth synthesis of the impacts of sea level rise and existing measures to effectively adapt and build resilience;
- 3 **Urge Parties to the UNFCCC** to strengthen ocean-based action in existing bodies, mechanisms and work programmes, to include issues related to sea level rise, especially by:
 - Ensuring that slow onset events, including sea level rise, are addressed in the **Loss & Damage Fund**, and supported by sources of finance that are specifically suited to address their irreversible and long-term nature;
 - Identifying and prioritising options within the **Global Goal on Adaptation** to best adapt to sea level rise, and setting specific targets and indicators to assess adaptation worldwide;
 - Establishing a direct dialogue with the “Ocean & Coastal Zones” expert group of the **Nairobi Work Programme on Adaptation** to deliver knowledge resources that are more tailored to the needs of Parties, especially Least Developed Countries;
 - Including sea level rise as one of the focal areas of the next **Ocean and Climate Change Dialogue**, to be held in 2024 during the climate inter-sessions in Bonn (SB 60), to in turn inform at COP29 on gaps and opportunities;
 - Ensuring the political outcomes of the **Global Stocktake** recognise that ambition by Parties must include adequate measures to adapt to sea level rise;
 - Strengthening ocean-based action at the national level, including in **Nationally Determined Contributions (NDCs)** and **National Adaptation Plans (NAPs)**, for cities to be able to respond to the threat of sea level rise.

- 4 **Call on Parties to the CBD** to address climate-induced sea level rise in connection with integrated marine and coastal area management, including by:
 - Considering sea level rise impacts and responses under the goals and targets of **the Global Biodiversity Framework** (GBF), in particular Targets 1 on Spatial Planning, 2 on Ecosystem Restoration, 3 on Ecosystem Conservation, 8 on Climate Change, 11 on Nature’s Contribution to People, and 12 on Urban Areas;
 - Including responses to sea level rise in the **Programme of Work on Marine and Coastal Biodiversity**, to be updated in accordance with COP15 decision ([CBD/COP/15/L.15](#));
 - Developing specific and robust indicators for the monitoring framework of the GBF to regularly review progress related to addressing the impacts of rising sea levels on coastal ecosystems, habitats and human populations;
- 5 **Strive to build synergies** across the UN conventions addressing sea level rise, especially between the UNFCCC and the CBD, to ensure coordinated responses by:
 - Including sustainable and **hybrid** coastal adaptation responses, favouring ecosystem-based adaptation where appropriate, in their updated national climate and biodiversity strategies, especially the NDCs, NAPs and National Biodiversity Strategies and Action Plans (NBSAPs);
 - Adopting common indicators to monitor the impacts of sea level rise on coastal ecosystems and communities to, in turn, implement adaptive responses;
 - Encouraging a whole-of-society approach and facilitating the involvement of cities and territories in dedicated platforms for non-state actors, i.e., the Marrakech Partnership for Global Climate Action and Action Agenda for Nature and People to showcase concrete solutions and contribute to global campaigns, such as the Cities Race to Resilience, Sharm el-Sheikh Adaptation Agenda and 2030 Breakthroughs;
- 6 **Invite the United Nations to develop a common long-term vision and strategy** to adapt to rising sea levels, supported by concrete and quantitative objectives on the short-term, and designed in collaboration with cities and territories, as part of the subsequent revisions of the 2030 Agenda for Sustainable Development, including by:
 - Supporting a multilateral instrument to assist cities and territories with adapting to sea level rise focusing on generating knowledge, building capacity, and unlocking finance;
 - Convening a high-level summit on adaptation of coastal cities and territories to sea level rise, as part of the third UN Ocean Conference (2025), and creating a coalition of coastal cities to provide a space for mayors, governors and other local representatives to share their respective challenges and best practices and develop collective responses.

Lexicon

1-in-100-year floodplain

A one-hundred-year coastal flood is a flood event that has a 1% probability of occurring, or being exceeded in a given zone, at any year.

Accommodation (responses)

All responses seeking to reduce exposure and/or vulnerability of coastal residents, activities, ecosystems and built environments while enabling continued habitation of coastal settlements and cities. Accommodation measures include elevation or flood proofing of houses and infrastructure, spatial planning, amphibious building designs, increasing water storage and drainage capacity, early warning systems and slum upgrading.

Actionable knowledge

Designates the process through which scientific evidence and knowledge systems are effectively designed and mobilised to inform decisions in order to leverage greater societal impacts.

Adaptation

The process of adjustment of human systems to actual or expected climate change and its impacts, in order to moderate harm or exploit beneficial opportunities.

Incremental adaptation

Adaptation that maintains the essence and integrity of a system by extending actions and behaviours already addressing the impacts of extreme weather events. It is often opposed to transformational adaptation.

Transformational adaptation

Adaptation characterised by system-wide changes over the long-term and in anticipation of climate change and its impacts. It is often opposed to incremental adaptation.

Advance (responses)

An advance response creates new land by building seaward, which can reduce flood risk for the hinterland and the newly elevated land. It comprises measures of land reclamation through landfilling, and polderisation through planting of vegetation to support natural land accretion.

Climate gentrification

Refers to the ways that climate impacts and adaptation measures may lead to changes in property values, thereby contributing to shifting community characteristics and potentially displacing vulnerable residents.

Community-led adaptation

Refers to adaptation that is driven by local communities. It focuses on empowering communities to build on their strength, aspirations, knowledge and agency.

Dynamic adaptation (pathways)

Seek to enable decision-making in a context of deep uncertainty associated with sea level rise. Dynamic adaptation pathways set out alternative adaptation actions over the short, medium and long-term. As environmental conditions change and socio-economic thresholds are reached, adaptation strategies are able to shift in order to comply with long-term goals.

Early warning systems

Set of technical and institutional capacities to forecast, predict, and communicate timely and meaningful warning information. Early warning systems are utilised to prepare, act promptly and appropriately to avoid or reduce harm or loss from a hazard on societies and ecosystems.

Ecosystem-based adaptation

The use of ecosystem management activities to increase the resilience and reduce the vulnerability of people and ecosystems to climate change.

Erosion

Coastal erosion occurs when a net loss of sediment or bedrock results in shoreline retreat. This process is exacerbated by human activities and climate change leading to sea level rise, stronger wave action, coastal flooding, and the degradation of coastal ecosystems.

Exposure

Presence of assets, people and ecosystems in areas prone to climate hazards.

Extreme climate event

Time and place in which weather, climate, or environmental conditions – such as temperature, precipitation, drought, or flooding – rank above a threshold value near the upper or lower ends of the range of historical measurements.

Feasibility

The degree to which adaptation goals and options are considered possible and desirable. Feasibility depends on various factors (e.g., economic, ecological, institutional, social) and can vary across time, space and among different groups.

Hazard

The potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.



Hybrid (responses)

A portfolio of hard, soft and nature-based interventions used to implement strategies to protect, accommodate, retreat and advance, individually or in combination.

Indigenous and Local Knowledge

The understandings, skills and philosophies developed by societies with long histories of interaction with their natural surroundings and specific places where they live. Indigenous and local knowledge inform decision-making about fundamental aspects of life, from day-to-day activities to longer term actions, including responses to climate change.

Knowledge co-production

Co-production underscores substantive and pluralistic interactions between producers and users of knowledge that results in knowledge that fits decisions contexts.

Loss and damage/Loss and Damage

Loss and damage (lowercase letters) refers broadly to economic and non-economic harm from observed impacts and projected risks of climate change.

Loss and Damage (capital letters) refers to the Warsaw International Mechanism for Loss and Damage under the United Nations Framework Convention on Climate Change seeking to “address loss and damage associated with impacts of climate change, including extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change”.

Maladaptation

Actions aimed at tackling climate change, although often unintentionally, can sometimes lead to negative outcomes such as increased greenhouse gas emissions, heightened vulnerabilities of ecosystems and social groups (e.g., higher inequalities, diminished welfare).

Mitigation

A human intervention to reduce emissions or enhance the sinks of greenhouse gases.

Planned relocation (responses)

Also referred as managed retreat or realignment, this response seeks to reduce exposure by moving away populations and assets from prone-risk coastal areas in a planned and coordinated manner.

Protection-based (responses)

Comprises all responses (hard protections, sediment-based interventions, advance) to stabilise the shoreline or fight against the advance of the sea to protect threatened populations and infrastructures.

Subsidence (anthropogenic)

Downward motion of the land surface induced by human activities such as loading, extraction of hydrocarbons and groundwater, drainage and mining activities, thereby leading to relative sea level rise.

Resilience

Capacity of interconnected human or natural systems to cope or reorganise in the face of events or disruptions in order to maintain their essential functions, identities and structures.

Risk

Arises from the combination of a hazard and stakes (populations, human and natural assets) prone to experience damages and losses. In the context of impacts, risks are linked with the exposure and vulnerabilities of human societies and ecosystems to climate-related hazards. In the context of responses, risks result from the potential failure of measures to achieve intended objectives, from trade-offs and negative side effects on other societal goals.

Risk culture

A set of perceptions and behaviours adopted by a society in the face of climate change risks. In the context of coastal adaptation, developing a “risk culture” based on a new set of values, understandings and behaviours, can be framed as a means for the population to prepare and act in an informed manner to coastal risks.

Sea level changes

Change to the height of sea level at seasonal, annual, or longer time scales. Global Mean Sea Level is the sum of changes (expansion of warmer waters, glaciers and ice sheets thaw) affecting ocean density and mass. The notion of Relative Sea Level highlights local variations of sea level change due to local subsidence or uplifts of land.

Social acceptability

The extent to which adaptation choices are evaluated unfavourably or favourably by a society, including the general public, politicians or governments.

Social equity

In the context of climate change, equity refers to the responsibility for and distribution of climate impacts and policies across society, generations and gender. It entails considerations over who participates and controls the processes of decision-making.

Slow and rapid onset events

Slow onset events evolve gradually from incremental changes occurring over many years or from an increased frequency or intensity of recurring events, whereas a rapid onset event may be a single, discrete event that occurs in a matter of days or even hours. Sea level rise is listed as one of the slow onset events defined by the Cancun Agreement (UNFCCC COP16).

Submersion

Temporary flood of the coastal zone by the sea due to extreme weather conditions.

Uncertainty

A state of incomplete knowledge resulting from a lack of information or disagreement about what is known or even knowable. It may have many types of sources, from imprecision in the data, concepts or terminology, incomplete understanding of critical processes, or uncertain projections of human behaviour and climate change.

Vulnerability

The propensity to be adversely affected, to cope and adapt to climatic risks. Assessing the vulnerability of societies and ecosystems implies considering a variety of and cumulative physical, structural, socio-cultural, economic, political and environmental features in relation to climate-related threats.

THE OCEAN & CLIMATE PLATFORM'S POLICY RECOMMENDATIONS FOR COASTAL CITIES TO ADAPT TO SEA LEVEL RISE ARE SUPPORTED BY:



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Endorsed by the participants of the « Ocean Rise » coalition at the
One Planet Polar Summit, Paris, on 9th November 2023



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