NAP EXPO
4.1.3 COASTAL AND OCEAN ADAPTATION WORKSHOP REPORT

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NAP Expo 2025 – Lusaka, Zambia
Date: August 15, 2025
Time: 09:00 – 10:30 AM
Location: Mulungushi International Conference Centre (MICC)
Session: Parallel Session 4.1.3
Organizers: Climate Service Center Germany (GERICS – Hereon) & GEO Blue Planet
Supported by: EU4OceanObs implemented by Mercator Ocean International

1. NAP EXPO 2025 Workshop

The coastal and ocean adaptation workshop which took place as part of this year's National Adaptation Plan Expo in Lusaka, Zambia, provided an opportunity for ministerial representatives from Least Developed Countries (LDCs), Small Island Developing States (SIDS) and coastal nations to contribute a dialogue on the current state of coastal and ocean adaptation planning in their respective communities.

Additional materials:

- The agenda of the workshop is attached as Annex I.
- The presentation is attached as Annex II.
- Key take-aways and conclusion submitted to the NAP Secretariat in Annex III
- Social media posts in Annex IV

1.1 Workshop objectives

This workshop, co-organized by the Climate Services Center Germany (GERICS-Hereon) and GEO Blue Planet through support from Mercator Ocean International and the EU4OceanObs program- featured country presentations, an interactive panel discussion and technical presentations. The specific objectives were:

- Provide a platform for Least Developed Countries (LDCs) and Small Island Developing States (SIDS) to share experiences and challenges in integrating coastal and ocean adaptation into National Adaptation Plans (NAPs).
- Present and discuss the newly launched 2025 Supplementary Material on coastal and ocean adaptation.
- Address the guiding questions: "So what?" and "Now what?" following the launch of the material.

The following are high-level takeaways based on sessions, presentations and discussions that were held during the workshop on August 15th.

1.2 Session introduction

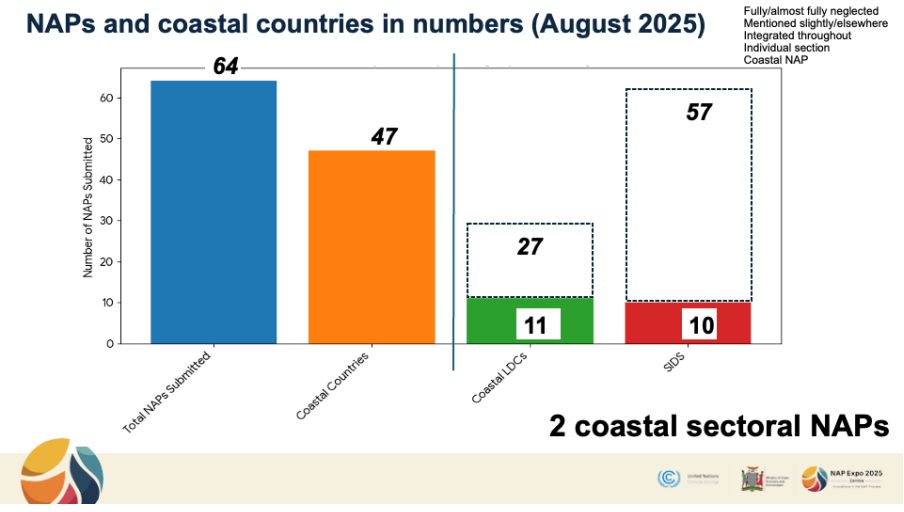
Louis Celliers, Senior Coastal Scientist at the Climate Services Center Germany, began the session by highlighting that the workshop is designed to provide a platform for the discussion of ocean and coastal adaptation within the framework of the NAP process following the recent launch of the supplementary material on oceans and coasts. He shared several statistics related to the importance of oceans and coasts to economic development, human settlement, and food security then discussed the vulnerability of coastal nations. He outlined the need for ocean and coastal inclusion in the adaptation planning process given their value to several sectors:

- Annual "gross marine product" is at least US$ 2.5 trillion, and the total "asset" base of the ocean is at least US$ 24 trillion (Hoegh-Guldberg et al., 2015).
- SIDS control 30% of the world's oceans through their exclusive economic zones (EEZ), dwarfing their mere 24,111 km² of land area (GEF, 2024).
- Almost half of the world's population lives in coastal areas.
- More than 17% of animal protein for human consumption comes from the ocean, increasing to 29% in LDCs (FAO, 2014; FAO, 2020a).
- 31 of the world's least developed countries (LDCs) with coastlines, over 87% are in the top half of the vulnerability index (Blasiak et al. 2017)

1.3 Contextualizing coastal and ocean adaptation

David Cabana, Senior Coastal Scientist at the Climate Services Center Germany, provided a presentation outlining the status of NAPs among vulnerable LDCs and SIDS. He noted that among the 27 coastal LDCs, only 11 of these countries have submitted their NAPS. He also noted that among the 57 SIDS, only 10 have submitted their NAPs. Among all submitted NAPs, there are only two countries which have included coastal and ocean sectoral NAPS (Brazil and Uruguay).

David also provided an overview of the analysis that was employed in the development of the supplementary materials, citing a lack of UNFCCC documents that support countries in developing coastal and ocean NAPs. He outlined how the supplementary materials can be used to help coastal countries at different stages of the NAP development process.



2. Country presentations on the current state of coastal and ocean adaptation in NAPs

Nikelene Mclean, Programme Officer at GEO Blue Planet, began the segment by outlining that the session will feature several presentations from LDC, SIDS and coastal nation representatives who will be outlining the current progress, challenges and priorities in integrating ocean and coastal adaptation into their NAPs.

Jauza Khaleel, Senior Climate Adaptation Expert in the Maldives, provided a presentation titled scaling up coastal adaptation in the Maldives through the NAP process. She began by stating that as low-lying islands in the Indian Ocean, there are a lot of challenges associated with climate change within the context of coastal resilience. She noted that there are several vulnerabilities owing to the existence of infrastructure (airports, ports, utilities, harbors, health facilities) in proximity to the coast and are susceptible to coastal hazards. The development of viable coastal resilience measures is essential in the Maldives given the importance of economic sectors such as fisheries and tourism but also owing to a need to preserve valuable critical infrastructure and to protect communities. Therefore, the development of viable coastal measures is crucial in the Maldives. She mentioned that between $2-4 USD billion is required for selective bespoke adaptation to sea level rise and flooding. Some of the tools being used for coastal adaptation are using sandbags (used in less severe cases of erosion) and rock boulders for coastal protection. Owing to the frequency of extreme weather events, the government is forced to adapt and invest in hard adaptation measures including the construction of seawalls, revetments, breakwaters and groins. This is however a financial burden for implementation and maintenance. Soft adaptation measures are also being used, mostly in the tourism sector, beach replenishment and preservation of coastal vegetation as is required by local land-using planning policy. Ms. Khaleel then outlined some the of the processes that are being employed in the NAP process to enhance coastal resilience including using evidence-based approaches, coastal zone management as well as the development of coastal management policies, mobilization of resources and investments to ensure long term resilience of the coastal environment in the Maldives.

Adão Soares Barbosa, Special Envoy with the category of Ambassador at large for Climate Affairs in Timor-Leste provided a presentation on the status of coastal adaptation in the overall adaptation in Timor-Leste. Mr. Barbosa began by outlining a few of the measures that were employed to support coastal resilience considering sea-level rise and coastal erosion. He noted that beginning in 2010, through the NAPA formulation, they took into consideration coastal zone management. Subsequently, when formulating NAPs in 2021, there were considerations for national adaptation policies that considered coastal resilience. They also integrated coastal adaptation into sectoral adaptation and programs as well as coastal/ marine biodiversity and blue economy related activities. Although there is currently no specific document related to ocean and coastal adaptation, it has been integrated at the sectoral level. He outlined the financial investments and grants that have been geared towards coastal and marine management. This includes a USD $7 million dollars through the GCF to address coastal and marine issues related to the rehabilitation of mangroves. They also received GCF USD $21.7 million to address flooding and cyclone related activities and other coastal adaptation activities. The government of Timor-Leste invested in the construction of sea wall and invested a further USD $2 million to safeguard coastal infrastructure in the capital city of Dili. He also shared that there were several policies being developed by the ministry of agriculture and fisheries to support MPAs and marine biodiversity and Blue Economy related activities.

Gabriel Kaparka, Deputy Director General and UNFCCC Focal Point at the Ministry of Environment and Climate Change in Sierra Leonne, then provided an intervention on the best practices in coastal zone management. He began by noting that in Sierra Leonne, there are 250 miles of coastline and 19 islands thus making the coastal environment a source of importance. Among the activities taking place along the coast, there are artisanal fishing, large scale industrial fishing, ports and shipping, tourism and recreation, sand mining, oil and gas exploration, research and conservation as well as urban development. The climate related risks in Sierra Leonne- Sea-level rise, coastal erosion, storm surge at high tide, flooding from high periods of rainfall, mangrove loss, biodiversity loss and ocean warming. Sierra Leonne pushed for robust system to respond to climate related risk such as policies (including NAPA which identified areas vulnerable to climate change in 2007 which included coasts). In 2001, they also developed their National Ocean Plan. Some of the best practices employed include the existence of institutional arrangements within the country among administrations with varying responsibilities. For example, the Ministry of Fisheries supports fisheries regulations, the Meteorological Agency provides technical expertise and delivers daily weather marine forecasts to the public (this includes information on high-tide, low-tide etc). Other best practices include segmented policies in the ministries in the place of plans, several government projects (including the GEF coastal project in 2018-2023 which was used to help to create institutional arrangements and the installation of in-situ marine weather stations), capacity building among fisherfolk among other policy measures.

Isoufa Fouad Ali, Minister responsible for Environment, Climatology and Disaster Management in Comoros provided a presentation the status and challenges associated with integration ocean and coastal adaptation into NAPs. He began by highlighting the status of coastal and ocean adaptation in Comoros. He mentioned Infrastructure strengthening. In August 2024, a joint initiative between the Global Center on Adaptation and the African Development Bank was launched to strengthen the climate resilience of port infrastructure (Moroni, Boingoma, Mutsamudu), as part of the "Maritime Corridor Development and Regional Trade Facilitation" project. A training component (masterclass) is planned to build local capacity until 2029. He also added that ecosystem-based adaptation is being employed. Projects aimed at restoring marine and terrestrial ecosystems in 15 locations across the islands have been implemented. They incorporate reforestation, integrated watershed management, anti-erosion infrastructure, rainwater harvesting, and sustainable economic activities. A GEF project, approved in December 2024, targeted climate resilience in coastal areas through sustainable ecosystem restoration. It mobilizes nearly USD 9 million in GEF grants and more than USD 44 million in cofinancing. Mr Ali continued by sharing lessons learned including the development of Multisectoral approach and national steering committee. A steering committee was established, bringing together key ministries and stakeholders (health, agriculture, environment, fisheries, local authorities), facilitating decision-making. He also noted that they conduct preliminary situational diagnosis/analysis, integration into national policies and development plans and they have also aligned the NAP with national strategies (SCA2D, CDN, PNDHD, etc.) increases policy coherence and facilitates access to national and international funding. He also noted that financial sustainability is not automatic as institutions provide guarantors to finance the NAP, but the processes are lengthy and often discouraging. Repeated changes in government and administration can also slow implementation.

2.1 Interactive discussion: Identifying needs and overcoming barriers

David Cabana began the facilitation of the following segment by inviting panellists (country representatives) and workshop participants to share insight on the challenges associated with integration of coasts into NAPs/development of sectoral NAPs.

- Jauza Khaleel, Ministerial representative from the Maldives stated that they are still in the process of developing their NAPs but one of the main challenges is the cost of building coastal

adaptation and the grey infrastructure required. She stated that the country already spends 35% of the national budget on adaptation.

- Another challenge mentioned is the lack of technical capacity when it comes to climate related science (i.e., weather forecasting). She also noted that there are insufficient monitoring tools in place to monitor sea-level rise and the pace with which it is occurring in the Maldives.
- Gabriel Kaparka, Ministerial representative from Sierra Leonne, stated that to overcome barriers that exist, the governance and coordination currently in place needs to be strengthened as there are currently overlaps in responsibilities. He also cited that another challenge in Sierra Leonne is a need for technical capacity as well as data that inform the process of adaptation in specific sites. Financing was also listed as a major need to support the process.
- The discussion continued with Mr. Adão Soares Barbosa, ministerial representative from Timor-Leste, outlining that technical agencies such as GERICS and GEO Blue Planet can provide capacity building support to SIDS. Specifically, he noted that agencies that deal with climate data and management using actionable information would be ideal collaborators. He also noted that there is a need for technical guidance in adapting to seal-level rise as well as the issue of ocean acidification> He also mentioned a need for capacity development on technologies used in coastal zone management and sea-level rise monitoring.
- Jauza Khaleel mentioned that in the Maldives, there is interest in having access to downscale data and tools for decision making. She noted that this was highlighted as an issue when carrying out their most recent climate risk assessment. She pointed out a need for fine resolution tools that are developed using island specific data rather than region specific data. Capacity development in GIS and ecosystem-based adaptation as well as guidance for the integration of data into adaptation policy would also be helpful.
- A workshop participant from WWF Africa mentioned that there should also be considerations for the role of oceans and coasts as solutions in the NAP process. It was also mentioned that there should be awareness of the existence of agencies that can provide technical guidance in the development of the NAP process.
- **Hana Hamadalla, a member of the Least Developed Countries Expert Group (LEG)** from Sudan also contributed to the discussion by outlining how the supplementary materials can be harnessed and mentioned ways in which the NAP process and the development of sectoral NAPs can be expanded upon in future.

2.2 Synthesis and next steps:

The panel discussion was followed by brief presentations on the ways in which climate sciences and Earth observations can be used to support coastal and ocean adaptation throughout the NAP process. Louis Celliers (GERICS-Hereon) and Nikelene Mclean (GEO Blue Planet) led lightning talks on the roles that GERICS and the Group on Earth Observations can play in supporting countries interested in the integration of oceans and coasts into NAPs.

Louis Celliers closed the meeting by pointing that the continued promotion of coasts and oceans as a sector of importance to NAPs remains important, and that in future NAP Expo there was an intention to increase content of this nature. There was a suggestion that at the next NAP Expo there may or should be two coastal sessions / workshops. While the supplementary material is a value resource to LDCs and SIDS, it is not intended to be a static information resources, but rather an opportunity for collaboration between in-country technical experts and coastal and ocean adaptation planners. Furthermore, the team that developed the supplementary material intends to seek and identify partners with whom to work to keep on innovating and improving the content. Ideally, there are several test cases or demonstration sites which can be used to prioritise coast and ocean adaptation actions, develop funding proposals, implement and demonstrate success. Such demonstration, included in the supplementary material will increase its utility and value, and may result in greater transferability of the recommendations.

The workshop was closed by encouraging attendees to review the recently launched supplementary material and to consider reaching out to workshop coordinators to discuss potential paths for collaboration on projects involving ocean and coastal adaptation.

Annex I. Agenda of the workshop

Parallel Session 4.1.3: Coastal and Ocean Adaptation

Date: August 15, 2025 **Time:** 09:00 AM - 10:30 AM **Location:** Mulungushi Conference Centre (MICC)
Organizers: GERICS (Climate Service Center Germany – Hereon) and GEO Blue Planet.

Session Overview

This workshop aims to provide a vital platform for Least Developed Countries (LDCs) and Small Island Developing States (SIDS) to:

1. Share their experiences, challenges, and specific needs regarding coastal and ocean adaptation within the framework of their National Adaptation Plans (NAPs).
2. How to harness the guidance offered by the 2025 supplementary material, which aims to enhance the inclusion of coastal and ocean activities in NAPs. The workshop intends to address the "So what?", and "Now what?" questions following the launch of the supplementary material at the Zambia NAP Expo.

Agenda

09:00 - 09:20 AM Welcome and Opening Remarks

- **Introduction to the Session (10'):** Objectives and expected outcomes.
  - *Speaker: Louis Celliers (GERICS) and Nikelene Mclean (GEO Blue Planet)*
- **Contextualizing Coastal and Ocean Adaptation (5'):** Brief overview of the analysis undertaken to develop the supplementary material for coastal and ocean adaptation.
  - *Speaker: David Cabana (GERICS).*

09:20 - 09:40 AM Country Presentations: Current State of Coastal and Ocean Adaptation in NAPs (5 minutes verbal feedback)

Facilitated: Nikelene Mclean (GEO Blue Planet)

This segment will feature short presentations from LDC/SIDS representatives, outlining their country's current progress, challenges, and priorities in integrating coastal and ocean adaptation into their NAPs.

What are best practices and lessons learned from NAP processes? Are there any successful approaches or innovative solutions that countries have implemented or observed to increase the uptake of coastal and ocean adaptation in NAPs?

- **Speaker #1: Juaza Khaleel. Maldives**
- **Speaker #2: Issoufa Ali Fouad. Comoros**
- **Speaker #3: Adão Soares Barbosa. Timor Leste**
- **Speaker #4: Gabriel Kpaka. Sierra Leone**

09:40 - 10:25 AM Interactive Discussion: Identifying Needs and Overcoming Barriers

Facilitated: David Cabana (GERICS)

This facilitated discussion will delve deeper into the challenges highlighted in the presentations and explore potential solutions. Key discussion points will include:

- **What are the barriers to integration?** What specific hurdles do countries face in incorporating coastal and ocean considerations into their NAPs (e.g., lack of data, limited expertise, institutional coordination, funding gaps)?
- **What is the role of international coordination?** How can organizations like GEO Blue Planet, GERICS, and other partners best support LDCs/SIDS in their coastal and ocean adaptation efforts?
- **How do we harness the supplementary material?** How can supplementary material become a key resource for implementing coastal and ocean adaptation?
    - *What advice and support can the LEG offer (input from LEG)?*

10:25 Synthesis and Next Steps

Facilitated: Louis Celliers (GERICS)

- **Pathways for Collaboration:** Discussion on how the insights from this session can inform future initiatives and collaborations to support coastal and ocean adaptation in LDCs/SIDS.
- **Contacts for collaboration**
- **Closing Remarks and Thank You.**

Annex II. Presentation at the workshop

4.1.3-Workshop-on-Ocean-and-coast-adaptation.pdf

Annex III. Key take-aways and conclusion submitted to the NAP Secretariat

Coastal and ocean adaptation is crucial as nearly half of the world's population lives in coastal areas, and the ocean's total "asset" base is at least US$24 trillion. Climate change intensifies impacts such as sea level rise, extreme weather events, and ecosystem degradation, directly threatening coastal communities, livelihoods, and critical infrastructure. Least Developed Countries (LDCs) and Small Island Developing States (SIDS) are disproportionately vulnerable. Effective adaptation strengthens adaptive capacity and resilience, protects people, livelihoods, and ecosystems, and is vital for sustainable development and the Blue Economy

Key takeaways:

1. Significant Gaps in Adaptation Planning: Many vulnerable Least Developed Countries (LDCs) and Small Island Developing States (SIDS) have not yet submitted their National Adaptation Plans (NAPs), and even fewer submitted NAPs specifically include comprehensive coastal and ocean sectoral adaptation, indicating a substantial planning gap and a need for more supportive guidance.
2. High Vulnerability and Economic Stakes: Coastal nations face severe climate change impacts, including sea-level rise, coastal erosion, and extreme weather events, which threaten critical infrastructure (e.g., airports, ports), vital economic sectors like fisheries and tourism, and the livelihoods of communities, necessitating substantial financial investment for adaptation.
3. Mixed Adaptation Approaches Underway: Countries are employing a combination of hard engineering solutions (e.g., seawalls, breakwaters) and soft, ecosystem-based measures (e.g., sandbags, beach replenishment, mangrove restoration), alongside policy integration, coastal zone management, and multi-sectoral strategies to build resilience.
4. Key Barriers to Effective Implementation: Major challenges hindering coastal adaptation include the exorbitant cost of adaptation measures (e.g., Maldives spends 35% of its national budget), a prevalent lack of technical capacity in climate science and monitoring, insufficient financing, and issues with governance and coordination among various agencies.
5. Demand for Enhanced Technical and Data Support: There is a strong need for technical guidance, capacity building (e.g., in GIS, ecosystem-based adaptation), and access to fine-resolution, island-specific data and tools for decision-making and monitoring sea-level rise, with organisations like GERICS and GEO Blue Planet identified as crucial collaborators.

Conclusion

The need for Supplementary Material was confirmed but the application of the materials remains untested. This must be explored at country level and both GERICS and GEO Blue Planet are looking for partners in LDCs and SIDS to develop coast and ocean adaptation actions. The need for coast and ocean adaptation as a thematic priority at the NAP Expo was stated. Given the potential and interest in the Blue Economy, the topic of coast and ocean adaptation should remain a priority at future Expos.

Annex IV. Social media and other publications

- https://gerics.de/about/news_and_events/news/118504/index.php.en
- https://hereon.de/communication_media/news/118549/index.php.de
- https://geoblueplanet.org/nap_sm_release/
- https://www.linkedin.com/feed/update/urn:li:activity:7361350859718303746/
- https://www.linkedin.com/feed/update/urn:li:activity:7362131530682429442/
- https://www.linkedin.com/posts/group-on-earth-observations_this-week-at-the-nap-expo-2025-in-lusaka-activity-7361698963193749505-PLHn?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAEzx-oBMX7VAclVnE_1JcatuvuGMeMDYyY
- https://www.linkedin.com/feed/update/urn:li:activity:7361331104039018498/