

MEETING SUMMARY & KEY TAKEAWAYS



UNITED NATIONS
**OCEAN
CONFERENCE**

LISBON
27 JUNE -
1 JULY
2022



INTERNATIONAL ALLIANCE TO
COMBAT OCEAN ACIDIFICATION

CLIMATE FINANCE FOR OCEAN ADAPTATION & RESILIENCE MEASURES

- WORKING BREAKFAST MEETING -



Monday 27th June 2022



08:00-10:00am GMT+1



Olisippo Oriente Hotel. Av. Dom João II 32,
1900-083m Lisbon, Portugal (2 blocks Altice Arena)



INTERNATIONAL ALLIANCE TO
COMBAT OCEAN ACIDIFICATION



The Commonwealth
Blue Charter

Co-organized by:



Intergovernmental
Oceanographic
Commission



Global Ocean Acidification
Observing Network

In partnership with:



MEETING OVERVIEW

On June 27th 2022, the first day of the United Nations Ocean Conference in Lisbon, Portugal, the International Alliance to Combat Ocean Acidification (OA Alliance) and co-hosts convened a meeting titled, “Climate Financing for Ocean Adaptation and Resilience.” The meeting brought together international and regional ocean acidification science and policy coordinating bodies, national government representatives, and major international climate finance regimes with charges to support countries in developing and implementing climate adaptation and resilience strategies that advance goals of the Paris Agreement and the UN Sustainable Development 2030 Agenda.

Outcomes included a deepened understanding of the eligibility requirements of climate financing for ocean acidification adaptation and community resiliency strategies.

Invited participants included leaders from:

- UN Environment Programme (UNEP)
- Green Climate Fund (GCF)
- Global Environment Facility (GEF)
- Commonwealth Blue Charter
- UN Foundation
- Intergovernmental Oceanographic Commission UNESCO
- National governments with emergent monitoring programs: Samoa, Fiji, Kiribati, Costa Rica, Peru, Argentina, Ghana, Tanzania, Mozambique, Seychelles and Kenya
- Secretariat of the Pacific Regional Environment Programme (SPREP)
- Western Indian Ocean Marine Science Association (WIOMSA)
- Partners across the community of practice implementing Sustainable Development Goal 14.3, “to minimize and address ocean acidification, including through scientific cooperation at all levels.”

The meeting co-hosts convened a dialogue about pathways and strategies for expanding traditional climate adaptation projects to better reflect climate-ocean change monitoring, research, coastal adaptation, and community resiliency.

The meeting showcased specific examples of regional climate-ocean monitoring programs across developing countries, particularly programs that—with aligned policy and targeted funding support—could be leveraged to inform tailored ocean adaptation efforts in Exclusive Economic Zones (EEZs) and across coastlines.



KEY TAKEAWAYS

Urgency for Connecting Science to Policy Response

Despite the IPCC report's dire warnings, the impacts of ongoing ocean warming, acidification, and deoxygenation are often under-recognized by policy and decision-makers, misunderstood, or excluded from mainstream climate mitigation or adaptation priorities.

The disconnect between the scientific evidence and policy response poses a substantial risk to coastal community resources and seafood economies that humans depend upon. It also undermines the effectiveness of more mainstream ocean conservation and management tools like marine protected areas, ecosystem and habitat restoration efforts, nature-based solutions, and climate-resilient fisheries/ aquaculture.

Taking action on ocean warming, acidification, and deoxygenation must move beyond enhancing ocean observing and monitoring; it is about ensuring more adequate and equitable climate preparedness and adaptation.

Climate Financing Not Currently Meeting Ocean Needs

At present, climate financing for ocean adaptation is inadequate and does not reflect the level of severity or harm that climate change is posing to ocean resources and human communities, especially those that rely on the ocean the most.

Less than 2% of international climate adaptation funding is applied towards ocean and coastal adaptation projects. Only 1.6% of official development assistance supports the ocean economy. SDG 14 is the least funded of the UN Sustainable Development Goals. Internationally, approximately 70% of the knowledge generated about ocean acidification comes from research conducted across North American and European countries.

This lack of funding for ocean and coastal adaptation projects and disparity in where investment occurs, demonstrates the vastly unequal distribution of climate-ocean change knowledge and science funding. This results in limited capacity where it's needed most and further exacerbates knowledge gaps related to regional vulnerabilities and implementation of local adaptation strategies.

Opportunities to Leverage Climate Finance for Ocean Adaptation

Climate financial mechanisms have existing frameworks, projects and coastal priorities that increased investments in targeted climate-ocean change science and research could further support and enhance. Examples include projects focused on developing the blue economy, coastal adaptation, sustainable aquaculture, and ecosystem restoration.

Climate finance mechanisms must serve as incubators for projects that build technological capacity for short-term and long-term observations of local conditions and risk assessments, as well as evaluations of potential interventions.

Taking a holistic approach to climate adaptation financing must ultimately inform a broad range ocean and coastal adaptation strategies including coral reef restoration, fisheries and aquaculture resilience strategies, innovative nature-based projects, local carbon removal strategies, land-based pollution controls, and climate responsive marine spatial planning and conservation efforts.



INFORMATION NEEDS FOR INCREASING OCEAN ADAPTATION ACROSS DEVELOPING REGIONS

There are multiple impacts of climate change to our ocean including ocean warming, acidification, deoxygenation, sea-level rise, more frequent and intense storms, marine heat waves, loss of marine life and habitat, and changing circulation. In unprecedented terms, the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report emphasizes irreversible climate impacts, adaptation needs, and vulnerabilities of marine ecosystems and coastal communities.

However, despite the IPCC report's dire warnings, the impacts of ongoing ocean warming, acidification, and deoxygenation are often under-recognized by policy and decision-makers, misunderstood, or excluded from mainstream climate mitigation or adaptation priorities.

The disconnect between the scientific evidence and policy response poses a substantial risk to coastal community resources and seafood economies that humans depend upon. It also undermines the effectiveness of more mainstream ocean conservation and management tools like marine protected areas, ecosystem and habitat restoration efforts, nature-based solutions, and climate-resilient fisheries/ aquaculture.

The IPCC suggests that strong adaptation measures can be achieved by establishing: (a) political commitment and follow-through; (2) institutional frameworks, policies, and instruments with clear goals and priorities; (3) enhanced knowledge of impacts and solutions; and (4) mobilization of and access to adequate financial resources, monitoring, and evaluation with inclusive processes.

Mechanisms are being established now to strengthen ocean mitigation and adaptation measures across relevant UN conventions; notwithstanding, capacity for generating tailored information for local management, policy response, and preparedness remains a significant barrier to advancing necessary adaptation efforts.

At the meeting, speakers from the Global Ocean Acidification Observing Network (GOA-ON) and the Commonwealth Blue Charter Secretariat outlined the current state of global monitoring, setting context for needs and opportunities to increase regional and local information across developing regions.

Directors of regional monitoring networks in Latin and North America, alongside Secretaries of intergovernmental science and policy coordinating bodies from the Pacific Islands and Africa, shared brief case studies of monitoring and research projects. These projects, when aligned with policy goals and management applications, have an increasing ability to inform community adaptation priorities and strategies. Table 1 shows key takeaways from speakers, including projects to date, future priorities, and needs arising from regional case studies.

Specific activities showcased across presentations included:

- Building baselines to measure coastal variability and climate-ocean change trends;
- Enhancing climate response and preparedness and strengthening early warning systems to include warming, acidification, and deoxygenation;
- Conducting research to determine the vulnerability and adaptation potential of important marine species/ ecosystems, whether economically or culturally;
- Deploying and evaluating nature-based solutions—including shell dissolution techniques and restoration of mangrove, seagrass, salt marsh, and kelp forest—that remediate coastal acidification and improve local water quality;
- Exploring aquaculture techniques that aim to predict and mitigate corrosive conditions; and
- Reducing land-based pollution that exacerbates coastal acidification and deoxygenation, including nitrogen and wastewater inputs.



OVERVIEW OF REGIONAL PROJECTS AND CASE STUDIES PUT FORWARD AT THE MEETING

SPEAKER/INSTITUTION	PROJECTS TO DATE	POTENTIAL APPLICATIONS & NEEDS
<p>Mr. Sefanaia Nawadra</p> <p>Secretariat of the Pacific Regional Environment Programm (SPREP)</p>	<ul style="list-style-type: none"> Supported the NZ Pacific Partnership on Ocean Acidification which is helping to advance regional monitoring taking shape in Pacific Islands. Monitoring occurring in four areas including Fiji, Kiribati, Samoa and Tokelau. Regional partnerships accelerated with Pacific Community, Samoa MET, KIOSK, The Ocean Foundation and U.S. NOAA. Developing coastal adaptation resilience priorities are outcomes the project; emphasis on village and community led priorities. The project specifically commissioned (completed) a regional vulnerability assessment and a handbook to streamline policy and management needs. 	<ul style="list-style-type: none"> Regional centers and regional investments—in the Pacific this is already in place especially with university support—we need ongoing financial support to maintain this work. Engagement of communities to keep targeting and piloting adaptation strategies. Long Standing partnership for tidal and storm forecasting/monitoring –would like to develop this for climate changes and impacts. Investments in regionally based climate science (and capacity building) for adaptation.
<p>Dr. Arthur Tuda</p> <p>Executive Secretary, Western Indian Ocean Marine Science Association (WIOMSA)</p>	<ul style="list-style-type: none"> WIOMSA led ocean acidification monitoring pilot sites in Kenya, Mauritius, Mozambique, Tanzania, Seychelles and South Africa with the goal of creating a regional network to: (1) establish a regional baseline for climate and ocean change information, and (2) contribute for socially relevant information for marine resource management. The project has helped set a community of practice for scientists and policymakers to work together. 	<ul style="list-style-type: none"> A regional workshop in October 2022 will refine priorities and seek increased engagement of governments in the region. Would like to see expanded learning exchanges with other regions to support streamlined processes, lessons learned, and to leverage existing infrastructure as feasible.

SPEAKER/INSTITUTION	PROJECTS TO DATE	POTENTIAL APPLICATIONS & NEEDS
<p>Dra. Carla Berghoff</p> <p>Co-chair of the Latin American OA Network (LAOCA), National Fisheries Institute, Argentina</p>	<ul style="list-style-type: none"> • LAOCA leads science collaborations across 11 countries • The mission is to strengthen the observation and respond to potential impacts of climate ocean change In Latin America. • To date, LAOCA has organized training courses to build regional science capacity including outreach and awareness efforts through webinars and social media. 	<ul style="list-style-type: none"> • The aim of LAOCA is to create an interactive data portal/ regional HUB that is responsive to the needs of governments, stakeholders, policymakers, and small-scale to large-scale shellfish aquaculture and fisheries. • Would like to advance not only in monitoring but focus on targeted research to answer clear questions that are most relevant to regional and government needs.
<p>Dr. Jan Newton</p> <p>Co-chair of GOA-ON; Co-PI for the Pacific Coast Regional OA Vulnerability Assessment Team</p>	<ul style="list-style-type: none"> • Pacific Coast Regional Vulnerability Assessment is partnering with Tribal indigenous communities to explore socio-economic vulnerabilities and explicit impacts of climate ocean change on sovereign rights to harvest shellfish, income, traditions and practices. • Project is exploring how can targeted research can be most responsive to local needs in the context of socio-economic risk and relevant adaptation. 	<ul style="list-style-type: none"> • A regional vulnerability assessment is ongoing to look at time periods/ seasons when key species are most vulnerable to climate related changing conditions. • Emphasis will be placed on species that are important to Tribal and indigenous rights, economies and traditions. Including social science inputs will be critical to process for informing adaptation priorities.



REFLECTIONS OFFERED FROM CLIMATE FINANCE REGIMES

Climate science and ocean program leaders from GEF, GCF, UNEP, and the Asian Development Bank shared reflections and suggestions for embedding relevant climate-ocean activities across broader adaptation projects that, in some cases, may already have secured more traditional pathways for funding.

Speakers acknowledged that, at present, ocean warming, acidification, and deoxygenation are not coming through as key focus areas within project applications, nor as supplementary elements for projects that aim to increase local climate information or amplify the co-benefit of marine projects.

However, the gathered financial institutions believe there is an established framework of related projects/priorities that increased investments in targeted climate-ocean change science and research could further support. These include projects focused on blue economy development, coastal adaptation, sustainable aquaculture, and ecosystem restoration.

It was also suggested by meeting participants that actions to understand the impacts of ocean warming, acidification, and deoxygenation are not just methods to address emergent environmental challenges, but also methods to evaluate economic threats and assess risk-management strategies.

Priorities for GCF programming between 2020–2023 aligned with developing countries' priorities per their Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), adaptation communications, Technology Needs Assessments, Technology Plans, and other national climate strategies.

Current ocean projects at GCF include those with an emphasis on coral reef health, with \$125 million invested in the Global Fund for Coral Reef (GFCR), which will support coastal resilience and explore blue carbon opportunities across 17 different countries. The GFCR has established a grant fund and an investment fund alongside a priority list of revenue-generating projects. Grant funding is made available for technical assistance, capacity development, policy creation, and background research. The list of priority revenue-generating projects includes sustainable fisheries and aquaculture and water quality improvements.

GCF has also recently developed a Readiness Programme, which funds explicit requests put forward in national adaptation planning processes made by GCF-accredited Direct Access Entities (DAEs). Currently, 57 national governments and 15 regional entities are certified as DAEs, which means they have easier access to some application processes and may take advantage of a Simplified Approval Process, which is meant to streamline approvals of certain small-scale projects.

Addressing climate change has been a priority for GEF, including through the creation of the Special Climate Change Fund (SCCF) and the Adaptation Fund (AF), which currently focuses on ties to community engagement in response to severe weather events and flooding. Specific focus areas for funding currently include: (1) assessing coastal resilience; (2) nature-based solutions, such as coastal habitat restoration; and (3) strengthening early warning systems in response to natural hazards.

The Asian Development Bank (ADB) works with 68 member countries in Asia and across the Pacific to support the national implementation of UN Sustainable Development Goals and to alleviate poverty. ADB supports the Paris Agreement's climate finance goals of securing \$100 billion from 2019–2020, including \$34 billion for adaptation and mitigation. Project priorities at ADB are traditionally holistic in approach and regionally driven. They include: (1) supporting countries in accessing data to understand the full extent of threats; (2) supporting country-driven resilience pathways and investments that address the root causes of vulnerability; and (3) emphasizing adaptation or nature-based solutions to climate change.

Examples of emerging project investments at ADB include the deployment of large-scale mangrove restoration in Pakistan; development of coral reef insurance for the Pacific Island States; support for atoll management planning for the Marshall Islands; and restoring wetlands. Additionally, ABD will continue to support countries in pursuing international ocean finance with partners like GEF and GCF.

UNEP and its Global Financial Sector have been holding informal discussions across UNFCCC COPs and SDG 14 meetings to explore why and how ocean financing will be increasingly important to the finance sector. This exploration is in part based on the understanding that climate-related changing ocean conditions pose a large threat to community livelihoods but also to the global economy. Potential declines in coral reef tourism is one example.

UNEP and its Global Financial Sector have been holding informal discussions across UNFCCC COPS and SDG 14 meetings to explore why and how ocean financing will be increasingly important to the finance sector. This is in part based on the understanding that climate related changing ocean conditions pose a large threat to community livelihoods, but also to the global economy—citing potential declines in coral reef tourism as an example.

The Global Finance Sector at UNEP was created to support financing of climate mitigation and adaptation projects—with an emphasis on developing offshore renewable energy and decarbonizing the shipping industry. An additional framing device for consideration climate-ocean adaptation was offered: ensuring that actions to understand the impacts of ocean warming, acidification and deoxygenation are posed not just as methods to address emergent environmental challenges, but also methods to evaluate economic threats and therefore, assess risk management strategies.

CHALLENGES FACING OCEAN ADAPTATION PROJECTS UNDER CLIMATE FINANCE REGIMES

With high-risk issues like climate-related changing ocean conditions, it was suggested by all finance partners that alignment with the UN Sustainable Development Goal 2030 Agenda was politically valuable, as was leveraging domestic finance through public and private partnerships.

Across the board, it was made clear that a key to securing funding was strong support from national governments, in addition to significantly improving ocean literacy of climate financial institutions. Finally, it was revealed that while UNFCCC finance mechanisms like GEF and GCF are primarily designed to respond to national applications that demonstrate strong Party support, climate finance regimes also tend to support regionally coordinated projects and initiatives.

Metrics for measuring and evaluating project successes were cited as pervasive obstacles to unlocking climate adaptation financing for ocean-based projects. For example, much of the criteria for receiving existing grant funds is based upon prior knowledge—either a baseline of coastal conditions or a clear metric (e.g., water quality indicator, sequestration potential value) to demonstrate the potential for adaptation or improved conditions.

In terms of metrics to measure or evaluate coastal interventions to ocean warming, acidification, and deoxygenation, it is problematic that many regions around the globe do not have the resources, developed infrastructure, or institutional capacity to build such a robust data and information set. Paradoxically, doing so requires a significant investment in highly targeted coastal observation for over a decade or more. In the context of climate-related multiple ocean stressors, it is very difficult to evaluate the overall effectiveness of discrete coastal interventions. Though, cumulatively, identifying refugia or hotspots and alleviating discrete pressures can improve overall ecosystem health and enhance species' population resilience.

OPPORTUNITIES FOR ENHANCING OCEAN ADAPTATION UNDER CLIMATE FINANCE REGIMES

Financing for technical capacity will help Parties and regions identify, evaluate, and advance national adaptation strategies.

Climate financial mechanisms—such as those funds established by the UNFCCC to help countries adapt to impacts of climate change and build resilience—must be leveraged in this work. Specifically, the SCCF, AF, and Least Developed Countries Fund (LDCF) should be harnessed.

With proper direction, these financial mechanisms can serve as significant incubators of projects that aim to build technological capacity for long-term observation of climate-ocean change and risks, which ultimately should inform a broad range of ocean and coastal adaptation strategies. These include coral reef restoration, fisheries and aquaculture resilience strategies, innovative nature-based projects, local carbon removal strategies, land-based pollution controls, and climate responsive marine spatial planning and conservation efforts.

The list below outlines examples of targeted monitoring and research projects that could be incubated through initial support by GCF or GEF with the primary goal of informing larger adaptation projects over time.

- Measure local variability by establishing trends in coastal carbon chemistry, temperature, salinity, and dissolved oxygen content;
- Contribute to global monitoring networks that are supporting the ocean acidification-specific indicator as established by UN Sustainable Development Goal 14.3.1, “Average marine acidity (pH) measured at agreed suite of representative sampling stations”;
- Conduct a nationwide or regional vulnerability assessment to identify the risks that ocean warming, acidification, and loss of oxygen together pose to coastal and marine resources and economies. This should include improving knowledge of biological impacts to marine species and ecosystem services within the region, along with recommendations for unique adaptation actions or interventions;
- Support the development and incorporation of climate-ocean change indicators and thresholds to guide adaptive marine management or regulate terrestrial pollutants;
- Evaluate the ongoing deployment of coastal and marine nature-based solutions, blue carbon projects, or ocean-based carbon dioxide removal strategies;
- Explore aquaculture and mariculture techniques that aim to predict and mitigate corrosive conditions; and
- Enhance climate early-warning systems to include forecasting of marine heat waves, harmful algal blooms, and low oxygen content zones.

While regional case studies put forward in the meeting were discrete, cumulatively they help to demonstrate that efforts are underway to support national governments in charting priorities that are responsive to regional climate-ocean change information.

Further, this information can—and must—guide successful coral reef restoration, fisheries and aquaculture resilience strategies, innovative nature-based projects, carbon removal strategies, land-based pollution controls, and climate responsive marine spatial planning and conservation efforts.

Dr. Jan Newton spoke to the importance of incorporating relevant climate change information across ocean adaptation strategies saying, “We don’t want to think about any of these [monitoring and science projects] as standalone activities; instead, we would like to know how we can build projects that encompass and respond to the multiple stressors the oceans face.”

Throughout the meeting, presenters reiterated a resounding message: taking action on ocean warming, acidification, and deoxygenation must move beyond enhancing ocean observing and monitoring; it is about ensuring more adequate and equitable climate preparedness and adaptation.