BLUE AFRICA

Unlocking the Potential of Africa's Marine Ecosystems for Climate, Biodiversity, and People

PROJECT OVERVIEW

Despite their critical role in maintaining a thriving Earth system, Africa's marine ecosystems are poorly represented in climate and biodiversity policy. This is partly due to a significant lack of easily accessible and publicly available data specific to Africa. By synthesising or collating multi-disciplinary data, Blue Africa seeks to ensure carbon storage and conservation efforts in African coastal and marine ecosystems are aligned with the needs of African people and the sustainability of African marine ecosystems.

THE CHALLENGE

Africa's diverse marine ecosystems have significant potential to contribute to global climate, biodiversity, and sustainable development goals, but critical knowledge gaps exist:

- While carbon sequestration in terrestrial ecosystems is well-studied, sequestration potential by Africa's marine ecosystems ("blue carbon sinks") remains poorly researched compared to terrestrial counterparts.
- Despite the presence of datasets across the continent, existing data are fragmented, and there is currently no comprehensive, accessible, or publicly available dataset that maps Africa's blue carbon potential at a continental and ecosystem scale.
- Climate, biodiversity, and human wellbeing are often considered separately, resulting in siloed interventions and missed co-benefits.
- Carbon offset initiatives may undervalue local socio-economic realities and ecological specificities by prioritising carbon sequestration as a singular route for achieving global mitigation goals.

OUR APPROACH

Blue Africa aims to synthesise existing knowledge on Africa's marine ecosystems and collaborates with African experts and stakeholders to provide an evidence-base to guide ocean-based climate actions that benefit ecosystems and people. We will do this by bringing together different expertise from across the continent to co-develop and identify key data to be synthesised, made relevant and communicated to diverse stakeholders.

Four Focus Areas:

- Carbon Sequestration: Mapping blue carbon ecosystems and assessing potential
- Livelihoods and Wellbeing: Evaluating how different mitigation and conservation interventions impact coastal communities in the context of global drivers of change

- Biodiversity: Establishing marine biodiversity baselines and evaluating conservation approaches to achieve global climate, biodiversity and human-wellbeing goals
- Action Pathways: Identifying co-benefits and trade-offs between climate, biodiversity, and human development goals

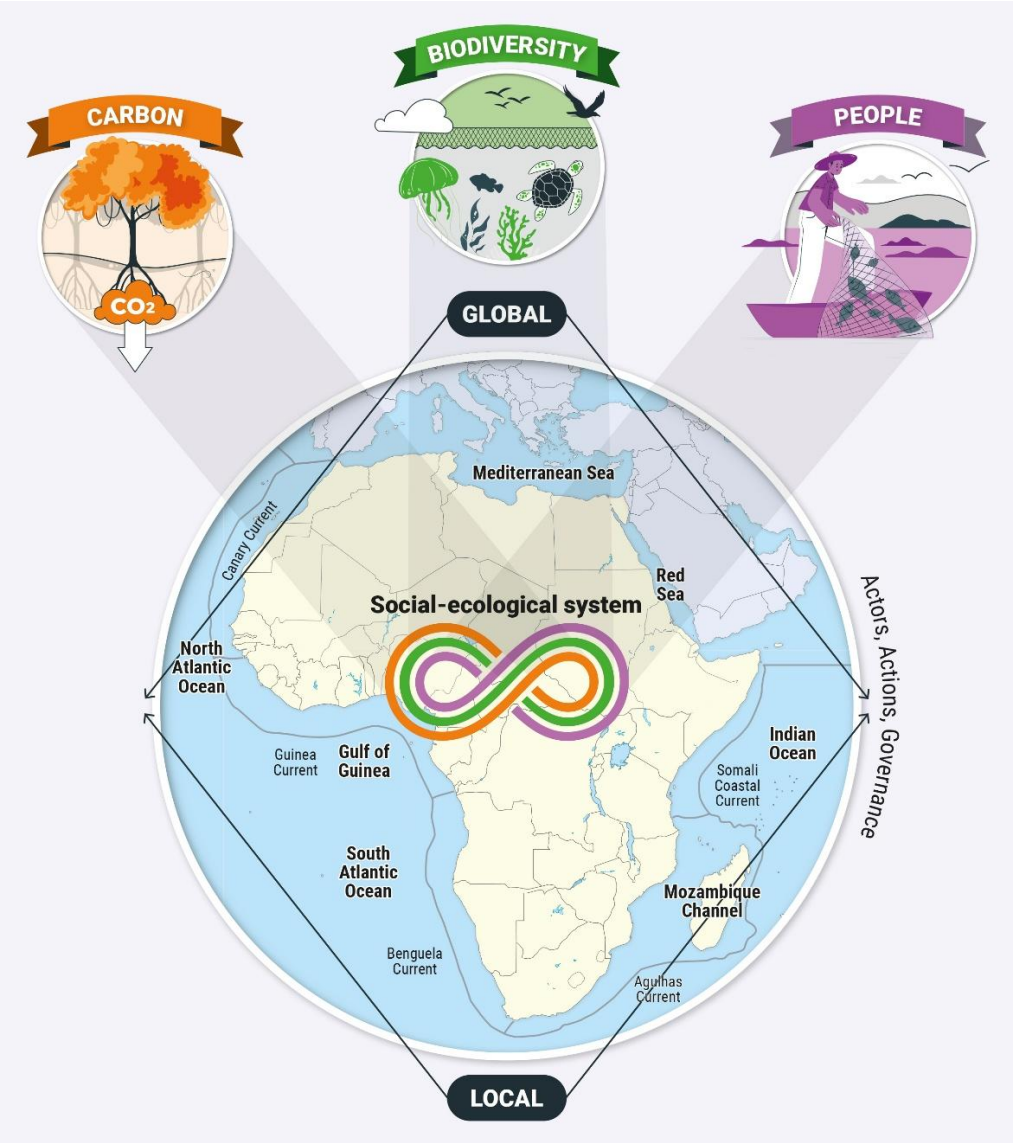

Fig 1. Conceptual approach of Blue Africa. The figure illustrates how we are assessing ocean systems in Africa through three interconnected lenses: carbon, biodiversity, and people. We are drawing on local data where available and downscaling global data where appropriate. These lenses are being assessed through a holistic, social-ecological perspective that can inform decision-making, actions, and governance across scales.

SYNTHESIS OUTPUTS

The project will deliver:

- Continental-scale maps of coastal marine ecosystem spatial distribution
- Open-access database featuring sequestration potential per coastal marine ecosystem and projected per intervention outcome

- Scientific publications presenting key findings and research gaps
- Policy briefs for UNFCCC and CBD COP negotiations

EXPECTED OUTCOMES

Policy Outcomes:

- Evidence-based inputs for UNFCCC and CBD negotiations
- Guidance for NDCs, NBSAPs, and Global Goal on Adaptation implementation
- Potential recognition of additional ecosystems (e.g., kelp forests) in UNFCCC processes

Impact:

- Enhanced understanding of Africa-specific coastal marine ecosystem characteristics
- Tools for assessing co-benefits and trade-offs of climate- and biodiversity-directed interventions
- Support for science-based advocacy by NGOs and communities
- Identification of critical knowledge gaps for future research

WHY THIS MATTERS

This research synthesis will support evidence-based policymaking that aligns coastal marine ecosystem health, biodiversity, and human well-being with global climate goals, as well as a focus on African ownership and equity in ocean governance. It will provide inputs for UNFCCC and CBD negotiations, guidance for NDCs, NBSAPs, and the Global Goal on Adaptation. It also aims to elevate under-recognised marine ecosystems like kelp forests within international frameworks. Moreover, this synthesis will help pinpoint priority areas where more research and investment are needed. Through the ASCEND programme, this synthesis approach demonstrates how strategic coordination of existing African knowledge can maximise research impact while positioning African researchers as thought leaders in global climate science. Rather than conducting new primary research, the synthesis process transforms fragmented datasets and findings into coherent, policy-relevant outputs that ensure African marine ecosystems are adequately represented in international climate frameworks.

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