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Climate change, the oceans and Africa¹

Backdrop

Climate change, as a growing security risk, continues to lag behind more traditional threats such as the war in Ukraine, attacks on Iran’s nuclear facilities, and even the ongoing Houthi assaults on shipping in the Red Sea. In Africa, conflicts in the Great Lakes Region, the Sahel, Sudan and Mozambique dominate headlines, while climate-related threats—particularly those affecting the oceans—remain largely neglected when considering actions. Yet the climate-oceans nexus is a mounting danger, especially to Africa and its populations, who are acutely vulnerable to its consequences. Elevating awareness of the climate-maritime security intersection, particularly in the African context, is urgent and necessary. If left unattended, non-traditional climate security risks that impact the oceans become hidden or simmering catalysts for further strife and armed conflict within and between African countries.

Discussion

In the late 20th century, the widening of what security entails and its sectoral architectures increased recognition of environmental and climate risks as integral to a comprehensive understanding of security—particularly within the context of [human security](#) and “freedom from fear and want.” However, even in this expanded framing, environmental security and climate nexus too often remained a secondary concern. A harbinger of this risk is found in the outcomes of the [environmental and climate related risks](#) perceptions of experts surveyed by the World Economic Forum in 2024 that flagged climate and environmental risks as the most prominent drivers of the future security landscape.

¹ This Brief stems from a paper read at the 15th International Maritime Security Conference held at the NMIOCT in Crete (Greece) 4-5 June 2025.

A further dimension of environmental security concerns the oceans, which are central to not only climate regulation but also to [other sectors](#) such as food security, biodiversity, and economic livelihoods. The oceans' role in climate dynamics has grown in prominence through global gatherings such as the [Rio Conventions](#) and in academic circles—where, for example, [Bueger and Mallin \(2023\)](#) highlight, how communities of practice have emerged to address this long-neglected maritime sector.

At the 2025 maritime security conference in [Souda Bay, Crete](#), the intersection between climate security and ocean dynamics was brought to the fore. European naval operations and shipbuilding industries are increasingly sensitive to environmental factors. In contrast, Africa's concern leans less towards the impact and legacies of naval operations and more towards matters of ocean health and their implications for Africa's livelihoods and resilience.

To address this, Africa has developed [continental, regional, and national frameworks](#) aimed at directing and regulating practices in its oceanic environment. But the challenges remain vast, especially given [Africa's greater exposure to non-traditional maritime threats](#)—such as pollution, illegal fishing, robberies, smuggling and food insecurity. Straddling these threats, one finds climate related risks that increasingly impact the health and productivity of the continent's seas.

The [Ocean Health Index 2024](#) paints a somewhat troubling picture. Countries like Somalia and Mozambique rank among the most vulnerable globally. Food security indicators are especially concerning, with the ocean territories off several African coastal red flagged as high risk areas. Simultaneously, these countries also score low in climate resilience as noted by the [Notre Dame Global Adaptation Index](#). Coastal nations such as Guinea-Bissau, Sudan, Somalia, Sierra Leone, and Eritrea rank as the least climate resilient. Others, the DR Congo, and Equatorial Guinea for example score low on preparedness. In governance and institutional readiness, 13 African countries—including littoral countries like Nigeria, Madagascar, and DR Congo—fall into the lowest category of resilience to climate change.

The Ibrahim Index of African Governance² echoes these hazards, highlighting weak landward governance indicators for Somalia, Eritrea, Sudan, and others. Environmental sustainability also shows alarming trends in Tunisia, Ghana, Congo, and Liberia, among others. As these governance indicators combine with vulnerability to climate risks, Africa's exposure to climate change could be catastrophic if its marine environments remain neglected and their degradation begin to reinforce terrestrial risks and weak governance. Four key issues illustrate the threat if Africa's oceans degradation are left unattended:

Food security becomes compromised. Oceans play a critical role in feeding millions of Africans – proteins in particular. From fishing and aquaculture to subsistence economies, sustainable and stable marine resources are indispensable. Employment and coastal development come under threat. Ports, tourism, and marine industries provide jobs and are pivotal for infrastructure development and sustaining national economies. Dead and polluted oceans stunt employment and development. The continent's operating and latent blue economic potential thus risks decline. Furthermore, [Africa's vast Combined Exclusive Maritime Zone](#) houses untapped sources of minerals, energy, and sustainable industries, potentially driving what is now termed blue acceleration. Each of the four clusters are even more at risk if climate related threats are allowed to proliferate and impact ocean landscapes

² Mo Ibrahim Foundation, 2024 Ibrahim Index of African Governance: Index Report, October 2024.

unmitigated. Maintaining healthy ocean ecosystems is essential as climate-resilient seas off Africa will support and maintain food systems, biodiversity, and blue economic development, whereas deteriorating marine health undermines all of these with the disturbing potential to set in motion a chain reaction of systems collapse.

Africa's oceans face five critical threats, that intersect with human activity and climate change: Rising seas increase the risk of flooding, habitat loss, and human migration along vulnerable coastlines. Acidification undermines the survival of key marine species and coral reefs, affecting fisheries and biodiversity. Rising sea surface temperatures disrupt ecosystems, alters species distribution, and causes coral bleaching. Extreme weather events manifesting as storms and unpredictable or unseasonal weather damage coastal infrastructure, ecosystems, and settlements. Cumulative human engendered impacts on ocean health and sustainability also play out. Overfishing, marine pollution, increased shipping numbers at sea, unregulated seabed mining combine and build upon the oceans existing climate vulnerabilities if not well-regulated.

In combination, the above stressors hold real potential to destabilize coastal communities. As economic and livelihood opportunities shrink, communities turn to [maritime crime](#)—including piracy, illegal fishing, smuggling, and environmental crimes by smuggling live marine species. These crimes not only threaten the sustainability and profitability of legal maritime activities and opportunities but also deplete marine living and non-living resources and further erode governance and security. Environmental crimes—such as illegal fishing, pollution, unauthorized seabed mining, and the destruction of cultural marine heritage sites —often coincide with areas suffering from climate vulnerability and weak governance, compounding risks and reducing resilience.

Seventeen of the world's 20 most climate-vulnerable countries are in Africa, ten of which are coastal. Around 186 million Africans live within 100 km of the coast, heightening their dependency on the oceans for survival, employment, and food. The Mo Ibrahim Index shows how these ten countries also suffer from low governance scores and institutional capacity, while the Notre Dame Index reveals poor resilience metrics. These governance weaknesses (when they combine) further hamper Africa's ability to prepare for or respond to marine-related climate impacts. In 2025, the UN for example reported record ocean temperatures around Africa's coasts, reinforcing concerns about future food production, marine biodiversity, and rising social instability. The response must focus on climate mitigation, early action, and future-proofing Africa's coastal development. The [IPCC's Ocean and Cryosphere Report: What's in it for Africa?](#) highlights several necessary actions to implement or consider.

First, strengthening early warning systems and coastal adaptation plans augmented by investing in education and capacity-building to improve climate literacy and marine governance. Secondly, the promotion of sustainable ocean economies and low-carbon marine industries as well as protecting marine ecosystems and reducing human-driven degradation. Collectively such measures serve to tone down the latent conflict potential of climate change and its oceans connections. This optimism rests upon Africa's regions and governments heeding the regulatory ways and means the continent's authorities and organisation have put in place, ascribed to, but failed to ratify in a comprehensive manner.

Conclusion

Africa's climate-ocean risk nexus is an oft opaque but dangerous 21st century threat. The continent's oceans are both a frontline domain of climate impact and a frontier of untapped opportunity and

resources. Without targeted, integrated responses, the compounding effects of environmental degradation, maritime insecurity, and weak governance interactions are driving Africans away from the human security ideals of freedom from fear and want. However, if properly managed, Africa's ocean spaces could help promote climate resilience, food security, and sustainable development for generations to come. Africa's regulatory architecture is quite well developed and embedded in documentation and other publications. What is much needed is continental, regional and national level political will to move it from paper and declarations to capacity building programmes and implementation practices. A determined shift in this regard goes some way to prevent the oceans-climate change interface from heightening tensions between African countries and between communities directly or indirectly dependent upon productive and healthy ocean environments.

Further reading: Germond, B. & A. Mazaris, "Climate change and maritime security." **Marine Policy**, Vol 99. (2019).

