

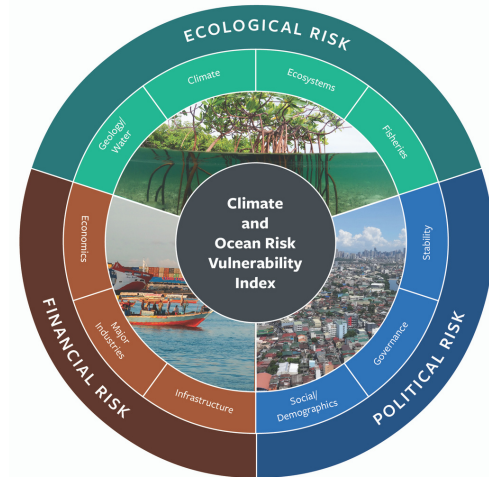
Coastal cities are at the forefront of the climate emergency. Rising sea levels, extreme weather events, and warming temperatures are amplifying the vulnerability of city residents. At the same time, many coastal cities are grappling with underlying economic and social issues such as inequality, employment in vulnerable industries, outdated infrastructure, and governance gaps. Today, an estimated 40% of the world's population live within 100 km of the coast. By 2050, 580 cities, home to 800 million residents, are expected to be at risk from rising seas and storm surges.

These interconnected issues have profound consequences for the social, political, and ecological health of coastal areas. Climate risks undermine the economic, food, and environmental security of cities, have the potential to increase tension and unrest, and hamper efforts to adapt. To prioritize further resilience actions, decision-makers need access to data which integrate complex climate threats across the land and seascape.

In response, the Stimson Center has developed **CORVI: The Climate and Ocean Risk Vulnerability Index**, a decision support tool which compares a diverse range of risks, connected to climate risk, to produce a **coastal city risk profile**. With this information decision makers can make climate-smart investments to **build resilience where it matters most**.

The Urgent Need to Build Resilience in East Africa's Coastal Cities

As the world gathers for COP26, much of the focus is on meeting new targets to reduce global emissions. Yet for many African coastal nations and Small Island Developing States who emit a fraction of the world's greenhouse gases, the climate emergency is posing an urgent danger to the safety and security of city residents and businesses. Equally important to the mitigation efforts needed to curb emissions is the urgent need for climate adaptation and resilience for coastal communities. To design and implement resilient solutions, decision makers need a comprehensive understanding of how climate change interacts with urbanization across the land and seascape. To address this need, Stimson completed a CORVI assessment in East Africa.



Using CORVI, research teams in Kenya, Tanzania, and the U.S. collected data and conducted over 100 surveys and 70 expert interviews to provide decision makers with the complete risk picture of their coastal cities. At COP26, after over a year of work, Stimson is excited to announce the launch of the CORVI report, "Measuring Multidimensional Climate Risks in East Africa's Coastal Cities," with case studies in Dar es Salaam, Tanzania and Mombasa, Kenya.



Measuring Multidimensional Climate Risks in East Africa's Coastal Cities

Report Findings from Dar es Salaam, Tanzania

Dar es Salaam is the fifth largest city in Africa, with a population of 6.4 million. This dramatic growth poses challenges that are being intensified by climate change.

Challenges identified include:

- **High reliance on climate-vulnerable industries** such as shipping, tourism, agriculture, and fishing heightens economic vulnerability.
- **Unplanned coastal development** is harming the terrestrial and ocean environment, contributing to coastal erosion, freshwater shortages, and degraded fish stocks and ecosystems.
- **Vulnerability to flooding** increases risk to human capital and key infrastructure and can hamper economic development. These risks are driven by extensive unplanned settlements and inadequate infrastructure.

Priority Recommendations:

- Establish a permanent coordination structure to explicitly integrate ocean risks and marine spatial planning into the city master plan.
- Expand flood adaptation programs, with a focus on meeting the needs of vulnerable neighborhoods by expanding community-based savings schemes and strengthening waste management systems.
- Enhance climate adaptability in port, tourism, and urban agricultural sectors.

Report Findings from Mombasa, Kenya

Centered on an island and with the largest international seaport in East Africa, Mombasa is critical to the economic security of Kenya and landlocked nations in East and Central Africa. Home to 1.2 million people, Mombasa has seen its population almost double over the past 20 years, posing challenges to urban planning and the natural environment. **Notable risks include:**

- **Growing climate risks to key blue economy sectors** including fishing, tourism, and shipping increase vulnerability, particularly for poor residents who depend on these sectors for economic security.
- **Marine pollution from coastal hotels, industrial shipping, and dredging** is degrading marine ecosystems and fish stocks, which underpin the blue economy.
- **Low-lying coastal neighborhoods face growing flood risks** from sea-level rise, storm surge, and increasingly erratic rainfall. This vulnerability is heightened by infrastructure and housing deficits, with informal housing proliferating across the city.

Priority Recommendations:

- Integrate urban resilience into coastal and marine spatial planning.
- Increase investment to build resilience to climate risks across key sectors, including tourism, shipping, and fishing.
- Improve urban planning by investing in climate-smart infrastructure and housing in vulnerable neighborhoods.

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About the Stimson Center

The Stimson Center is a nonpartisan policy research center working to protect people, preserve the planet, and promote security and prosperity. Please contact Sally Yozell for more details (syozell@stimson.org).