

KNOWLEDGE SHEET 2

Improving Data and Information for Decision Making

Making evidence-based decisions regarding coastal environments, infrastructure, and natural resources and their interaction with people requires accurate data. Because of the nature of coastal phenomena and their impacts on livelihoods and the environment, integrated systems that collect and share data regionally and focus on coastal areas and marine conditions, land use, climate patterns, and natural hazards are needed.

People and assets in West Africa’s coastal zone are exposed to a variety of natural hazards, including floods, cyclones, coastal erosion, increases in precipitation, and sea surges (map 1). Monitoring the coastline in an integrated way can

increase the capacity to prepare for, prevent, and respond to coastal hazards, strengthening the region’s resilience to climate change.

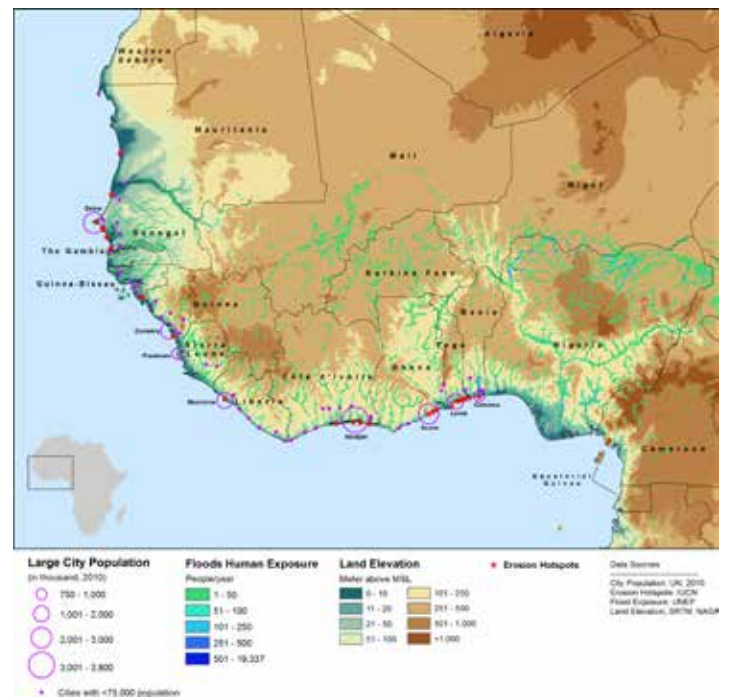
Challenges

Threats to West Africa’s coastal areas require constant surveillance and monitoring. Doing so effectively requires strengthening and consolidating national and international systems, in order to improve communication and the exchange of knowledge and data between regional and national platforms.

In 2010, a management scheme for the West African coastal area was established in response to the findings of an extended diagnostic study commissioned by the West African Economic and Monetary Union (WAEMU) and implemented by the International Union for Conservation of Nature (IUCN). The study identified the populations and ecosystems at risk from coastal erosion along the shoreline of West Africa and raised awareness of the region’s limited capacity for monitoring the coastline and sharing scientific information. It also highlighted the need to establish coastal management information systems for surveillance, protection, and decision making.

Some coastal nations in West Africa have since begun to establish such systems, tracking field measurements and considering the use of geospatial analysis and modelling

MAP 1 Exposure to natural hazards in West Africa’s coastal zone



Source: World Bank.

while initiating research and other knowledge activities. Current efforts are, however, not sufficiently standardized to ensure interoperability within and across countries and not all information is being shared.

Several attempts were made to establish a mechanism for regional cooperation for monitoring of the coastline and reducing coastal risks in West Africa, and some data sets

and information have since been produced and shared. Still needed are better, continuous, and standardized collection of data, information-sharing platforms, and advanced knowledge management systems at both the national and regional levels, in order to ensure harmonized, steady, and sustainable monitoring in the region. The issue of data availability and accessibility remains critically important.

Solutions

A series of actions could help countries improve and integrate their systems:

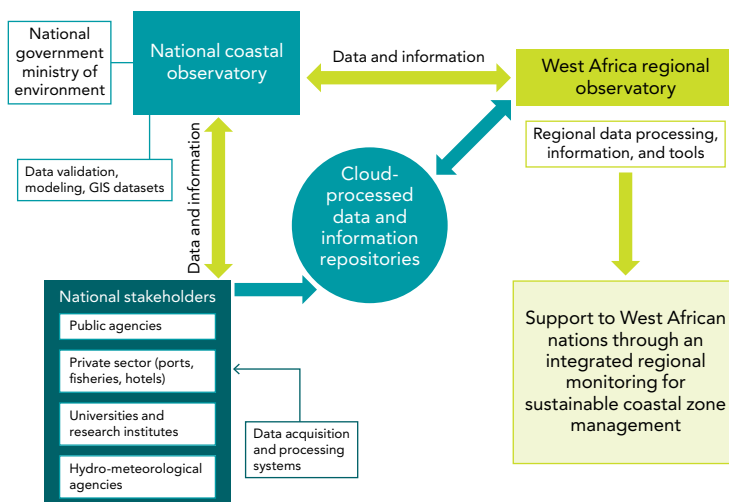
- Modernizing monitoring systems: Automated real-time monitoring of coastal and meteorological conditions, advanced geophysical surveys, and increasingly powerful earth observation systems can provide a comprehensive picture of the spatial and temporal status of coastal resources and identify trends affecting them.
- Enhancing analytical tools: Advances in GIS, hydrologic modeling, and planning and operational decision support system approaches can improve hydrologic

forecasting, flood inundation forecasting, the measurement of erosion, the operation of water infrastructure, investment planning, and budgeting support.

- Increasing and transforming access to knowledge: Communication tools (including social media and other web-based tools) can help modernize the manner in which monitoring information and analytical results are presented to and accessed by various stakeholders, from individuals to regional decision-making bodies.
- Modernizing institutions: Investments in people and institutional capability at the regional and national levels are critical. Together with innovative approaches to learning, capacity development, interactions with academia, partnerships with private and public stakeholders, outreach, and modernization of offices and equipment to enable more streamlined workflows, such investments can leverage investments in new technology.

Monitoring coastal areas requires scientific input, public-private partnerships, and an interconnected effort among national and regional actors (figure 1). A harmonized monitoring system would increase the visibility and efficiency of data and information systems, facilitate decision making, promote best regional coastal management practices, and increase the resilience of coastal environments.

FIGURE 1 Ideal data and information-sharing scheme for West Africa coastal areas



The West Africa Coastal Areas Management Program (WACA) is a convening platform that aims to assist West African countries to sustainably manage their coastal areas and enhance socio-economic resilience to the effects of climate change. The program also seeks to facilitate access to technical expertise and financial resources for participating countries.

