



Marine environment data and information systems in the WIO

Environment-Fisheries Nexus Meeting

By

**Prof. Maarifa Ali Mwakumanya
Dean, School of Environmental & Earth Sciences
Pwani University, Kenya**

<https://www.pu.ac.ke>

Introduction

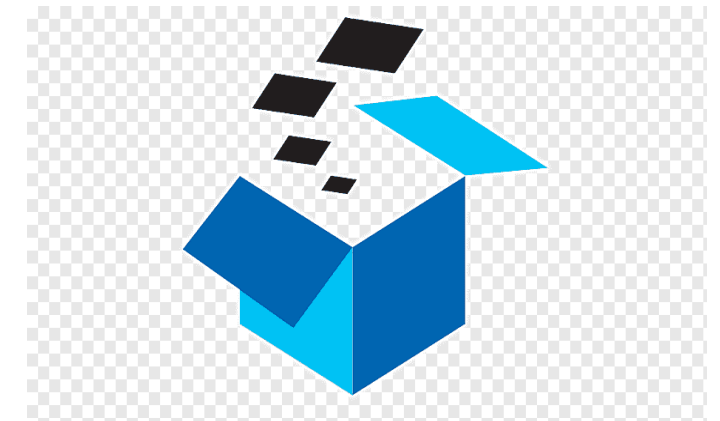
- The marine environment provides the environmental and socio-economic prosperity of countries and states with a resource base for sustainable development in the region
- Marine environment fosters the natural heritage, food security, investments, socio-cultural and ecological values and livelihoods of the people
- The marine environment has crucial functions which include,
 - regulating the climate
 - stabilizes the shoreline
 - accumulate and distribute solar energy
 - absorb carbon dioxide
 - Maintains biological and socio-economic controls.

Relevance of Marine Environment Data and Information Systems

- Provide a consolidated space (one-stop-shop) for data and information entry, storage, retrieval and analysis to support scientists, policy makers, decision-makers as well as the resource users
- Minimizes the challenges of data access and data quality on protection and management of the marine environment in the WIO region
- Helps to understand the quality and status of critical habitats in the marine environment for appropriate actions and decisions to protect them

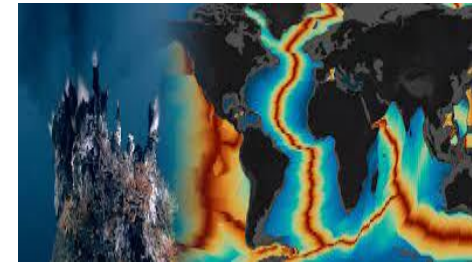


shutterstock.com • 285992342



Types of data relevant to the WIO

- **Marine experts**
 - Experience marine professionals that provide consultancy and expert opinion
- **Socio-economic activities**
 - Marine environmental quality (ocean temperatures, marine litter, pollution, habitat integrity, nutrients levels)
- **Marine geology**
 - (geophysical, geochemical, sedimentological and paleontological investigations)
- **Marine mineral resources**
 - Heavy metallic elements (barium, chromium, gold etc.) and non-metals (diamonds, lime, siliceous sand, gravel, Oil and Gas etc..)



Examples of integrated data and information sharing systems

- Nairobi Convention clearing house: A large central data repository that gathers data from several sources to help users make critical decisions.
- International Oceanographic Data and Information Exchange (IODE) data centres (**products**)
 - The African Coastal and Marine Atlas (www.africanmarineatlas.net). An atlas of geospatial datasets environmental themes
 - AquaDocs <https://aquadocs.org/>. A thematic digital repository on the natural marine, estuarine/brackish and fresh water environments
 - OceanExpert: <https://oceanexpert.org>. Directory of marine and freshwater professionals

Recommendations for priority actions

- Develop an Integrated Data and Information Sharing Strategy for the coastal and marine environment within the framework of the Fisheries- Environment nexus
- Develop an Integrated Data and Information System (IDIS) for the coastal and marine environment to take into consideration the status and quality, as well as the interdependence nature of the environment and the marine resources
- Capacity building on the development and management of the Integrated Data and Information System for the coastal and marine environmental stakeholders in the WIO region