

Status of Ocean Observation Activities along Kenyan Coastal Waters

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Overview

- ❖ Current state of Kenya's national ocean observing programme
Key activities and infrastructure
- ❖ Benefits and end-users of ocean data
- ❖ National and international partnerships
- ❖ Future directions for enhanced ocean observation

National Ocean Observing Programme



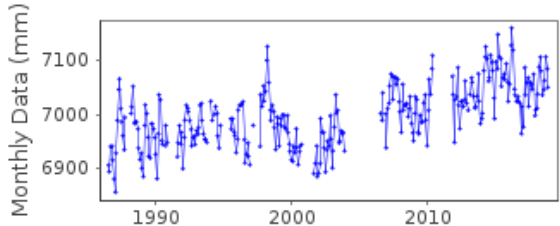
National Ocean Observing Programme

Key Components

- Tide gauges: Real time sea level Monitoring
- Bathymetry: Single-beam data collection
- Hydrodynamics: ADCP and current meters
- Water sampling: Nutrients, pollutants, suspended sediments, plastics
- sediment Sampling: Benthos, nutrients, pollutants

Mombasa Tide Gauges

- Critical for monitoring sea level changes
- Supports coastal management and flood forecasting
- 2 stations operated by KMFRI and KMD



Benefits of Ocean Observation

- **Data Products:** Support for national agencies and research
- **Blue Economy:** Valorisation through sustainable resource management
- **Improved Forecasting:** Enhanced weather, marine mammal, and fisheries research
- **Ecosystem Assessment:** Monitoring coral reefs and coastal health
- **Decision Making:** Evidence-based policies for marine conservation
- **Collaboration:** Multi-sectoral and multi-institutional partnerships

Benefits of Ocean Observation

- ❑ Science: Research relying on sustained ocean measurements
- ❑ Operational: Safety, economic efficiency, environmental protection
- ❑ Policy: Formulation, compliance, and effectiveness monitoring
- ❑ Public: Leisure, recreation, and general interest

National Partner Institutions

- ❑ Survey of Kenya
- ❑ Kenya Meteorology Department
- ❑ Kenya Ports Authority
- ❑ Kenya Maritime Authority
- ❑ Regional Centre for Mapping and Development
- ❑ Security agencies (KCGS, KDF)

Regional and Global Partners

- Permanent Service for Mean Sea Level (PSMSL)
- Global Sea Level Observing System (GLOSS)
- Western Indian Ocean Marine Science Association (WIOMSA)
- IOC/UNESCO
- IODE
- Seabed2030
Atlantic & Indian
Ocean Regional
Center
- Flanders Marine
Institute (VLIZ)
- Ocean Decade
- United Nations
Environment Programme
(UNEP)

Future Directions

- Expand ocean observation network for enhanced coverage
- Integrate advanced sensors for real-time data
- Strengthen regional and global collaborations
- Enhance capacity building through training and workshops
- Promote public access to ocean data for research and applications

Conclusion

Key Takeaways

- Kenya's ocean observation programme is multi-institutional
- Data supports science, operations, policy, and public engagement
- Partnerships enhance capacity and global integration
- Continued investment in ocean observation is critical for Blue Economy and sustainability