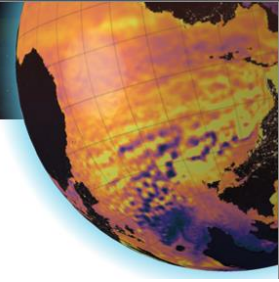




The South African National Oceans and Coastal Information Management System's Co-Designed Path from Data Production to Actionable Insights

The expansive South African maritime domain presents both opportunities for economic growth and challenges for preservation and protection. To tackle these challenges, the South African government has developed the National Oceans and Coastal Information Management System (OCIMS). This system provides an easily accessible platform for sharing ocean data and knowledge across public and private sectors. Its goal is to enhance ocean protection, management, and the development of an environmentally conscious ocean economy. OCIMS improves monitoring of illegal activities at sea, enhances search and rescue efforts, and tracks water quality and harmful algal blooms. Additionally, it supports Marine Spatial Planning and bolsters preparedness against coastal hazards. Information is disseminated through a web portal, with targeted stakeholder groups receiving alerts during high-risk periods, increasing awareness. Government departments, industry stakeholders, and non-profit organizations utilize OCIMS daily. Supported by the Marine Information Management System, OCIMS boasts a dedicated IT infrastructure for data management and analytics. Its strength lies in its user-centric design, shaped by extensive stakeholder engagements to ensure relevance and effectiveness. Major users are also partners who contribute data and expertise. OCIMS integrates and adds value to these various data sources, that include in situ observations, AIS (automatic identification system) vessel-tracking data, satellite information and global forecast models. While freely available, and suitable for the regional scale, the global models used cannot be relied upon for nearshore and coastal processes, where most of the stakeholder activity takes place. To fill this gap, the SOMISANA (Sustainable Ocean Modelling Initiative: a South African Approach) initiative at SAEON have developed locally optimized, downscaled operational ocean forecast systems (OFSs) for high-use regions of the South African coastline. These will soon be directly integrated into OCIMS to support various stakeholder needs including the mitigation of oil spills and marine pollution, search and rescue operations, harmful algal bloom tracking as well as monitoring long term changes and scenario testing. The OFS includes a capability that allows for the tracking of oil spills, plastics, sewage, oil drums, containers and various other floating objects and seamlessly connects the high-resolution, regional OFS with the global forecast product so that South Africa's entire mainland exclusive



economic zone is supported. OCIMS is a unique regional offering tailored to South Africa's specific needs for integrated ocean governance, including sustainability, compliance, and promotion of the ocean economy. Its success underscores the importance of collaborative partnerships, stakeholder engagement, and sustained funding in advancing effective ocean governance strategies

Jennifer Veitch (SAEON), Marjolaine Krug (Department of Forestry, Fisheries and the Environment), Lauren Williams (Department of Forestry, Fisheries and the Environment)