

Title: Benefits of Remote Sensing in Science and Management – Case Study of Eddies and Productivity of Kenyan Coast.

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The Government of Kenya successfully launched the Blue Economy in 2018 and aquatic scientists are excited as this is a platform to make a difference in marine science and Management. Satellite Oceanography such as Remote Sensing and Geographic Information Systems can revolutionize and be a key role in understanding the dynamics and complementing Marine Science and Management. Researchers at Kenya Marine and Fisheries Research Institute have been collecting baseline data on pelagic fish resources in the 0-100m depth through fish hydro-acoustics. NetCDF formatted data is routinely downloaded from the USGS OceanColor site to complement the on-going work undertaken on the RV Mtafiti. The data collected by the SeaWiFS, MODIS and other sensors is used to inform the Sea Surface conditions. The data is processed by converting the NetCDF data into GeoTIFF through the GDAL/OGR module in SAGA GIS software once the necessary georeferencing and resampling of the data is carried out. The resulting raster data is analyzed to isolate the necessary contrasts for identification of eddies and productivity patterns. The hydro-acoustics biomass data collected through the month of November-December 2016 gave fish biomass estimate of 5.5 ton/km² with SS chlorophyll maximum of 7 mgm⁻³. Depiction of sea surface heights in the surveyed block indicates minimal upwelling. These satellite products will therefore be useful in understanding the fisheries resource potential and associated oceanic variables when the surveys for NEM and SEM seasons are completed , thus assisting in fisheries resource allocation and exploitation in Kenya.