



Remote Sensing & GIS for Site Identification and Monitoring

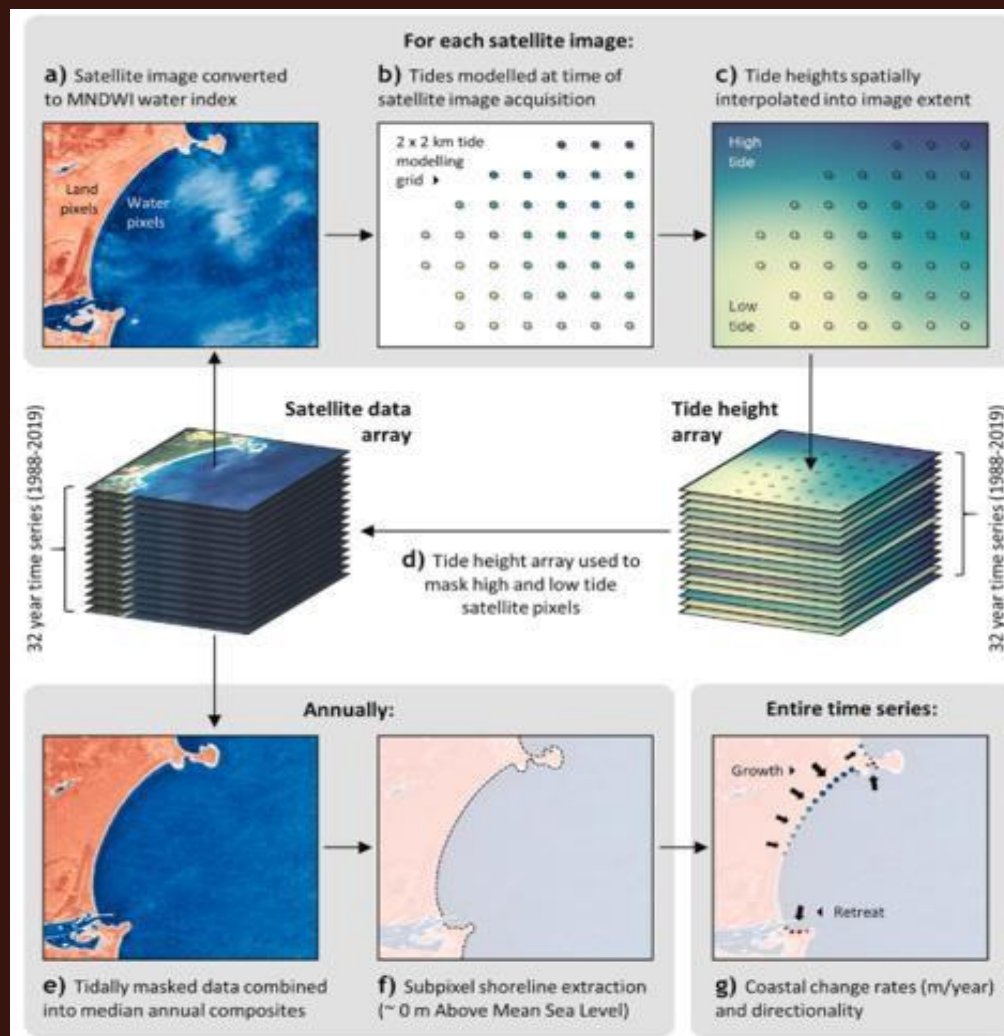
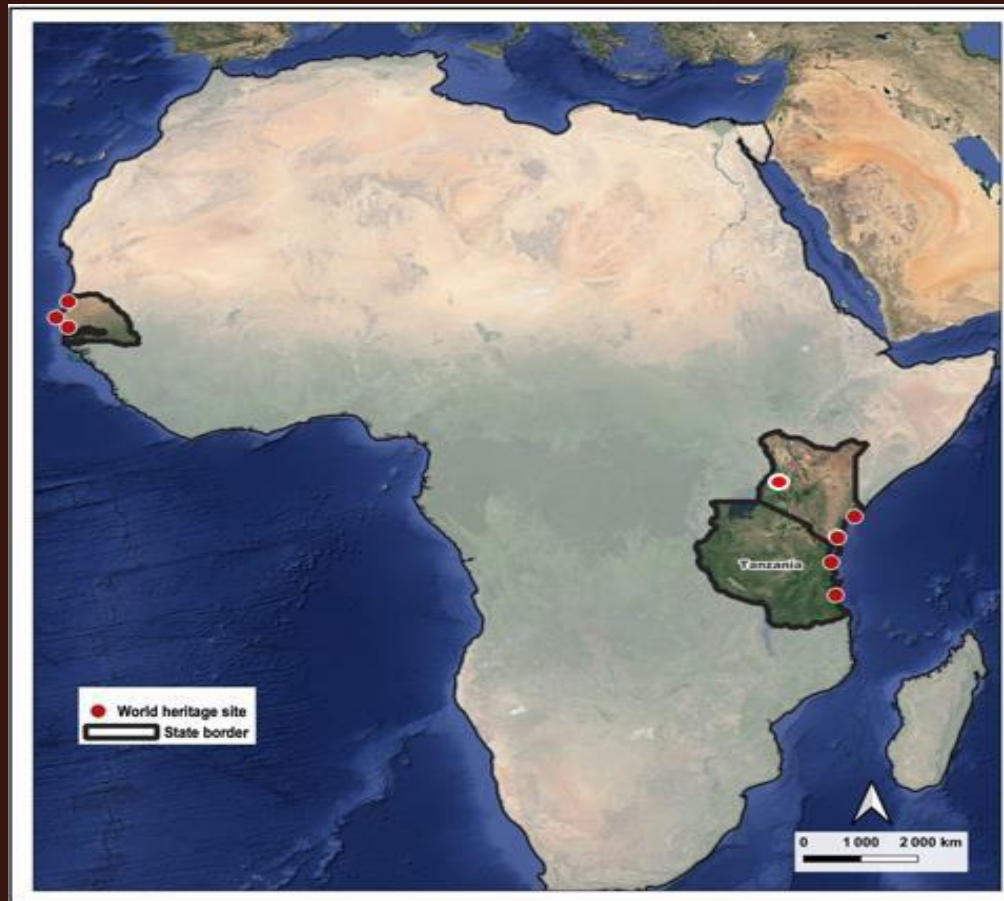


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Coastal areas in Africa are vital for settlement, livelihoods, and socio-economic development, and they house diverse heritage sites from the early Stone Age to the present. These heritage sites, however, face significant threats from climate change, coastal erosion, and increasing development pressures. Recent studies have begun addressing these challenges by utilizing digital datasets and remote sensing methods to map archaeological sites and assess changes in coastal areas over time. In addition to coastal threats, inland sites, such as rock outcrops that may harbor caves and rock shelters, are being identified using Digital Elevation Model (DEM) data and slope analysis techniques. These methods help detect steep slopes indicative of potential rock outcrops, contributing to the discovery and preservation of hidden archaeological features. Together, these approaches provide essential insights and tools for the adaptive management and preservation of Africa's rich cultural heritage in the face of environmental and developmental pressures.

Coastal Erosion Modelling

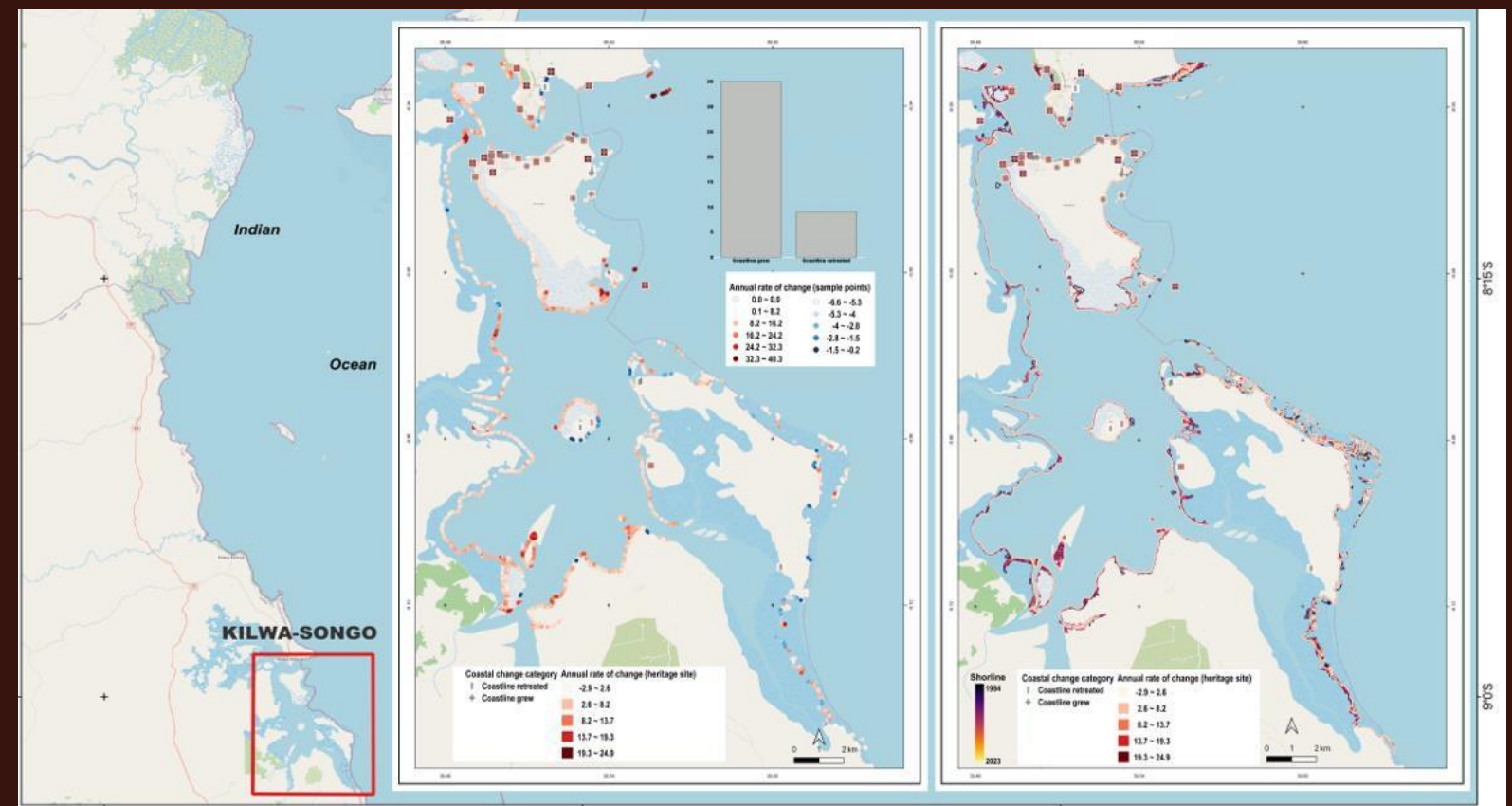
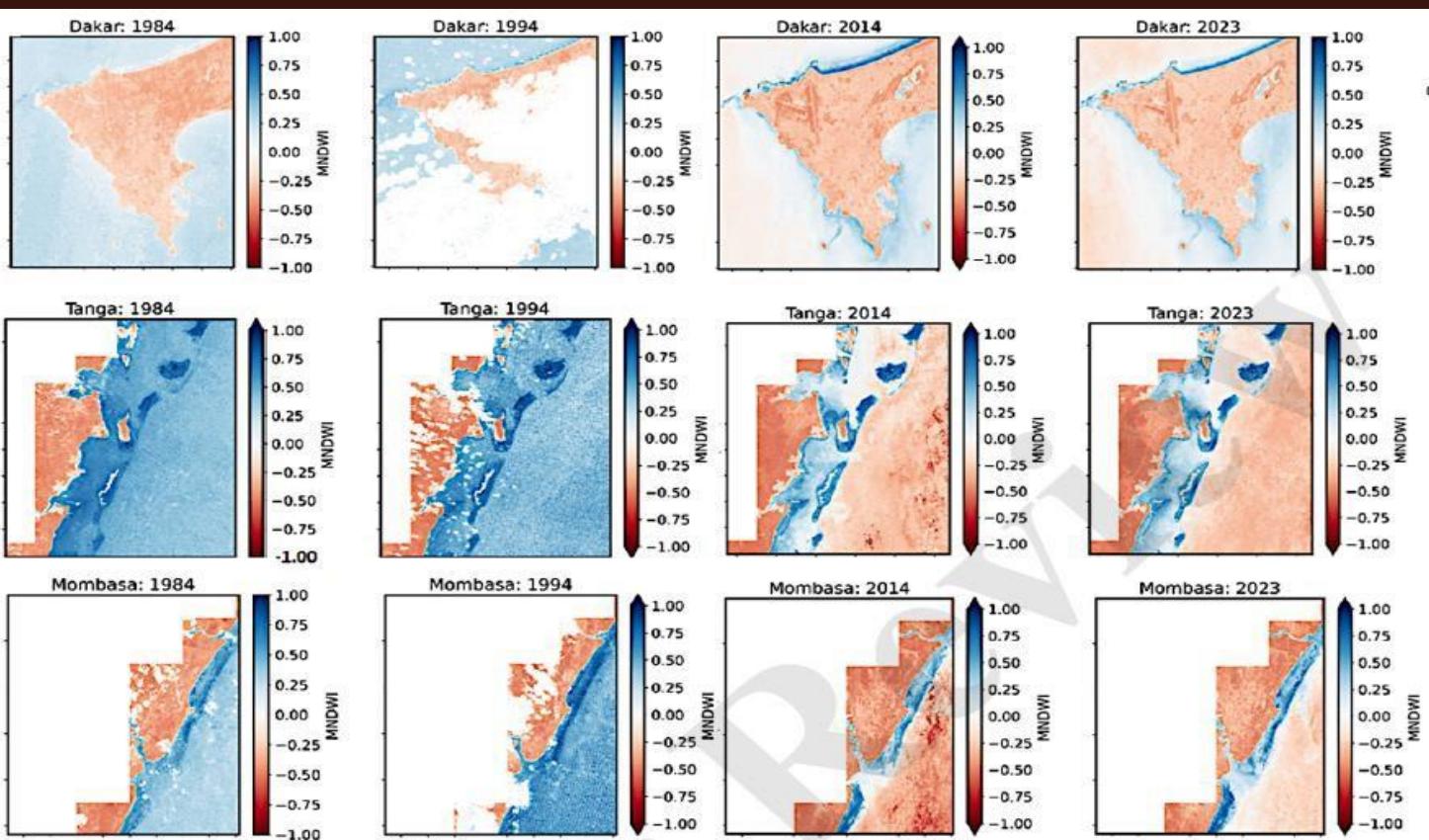
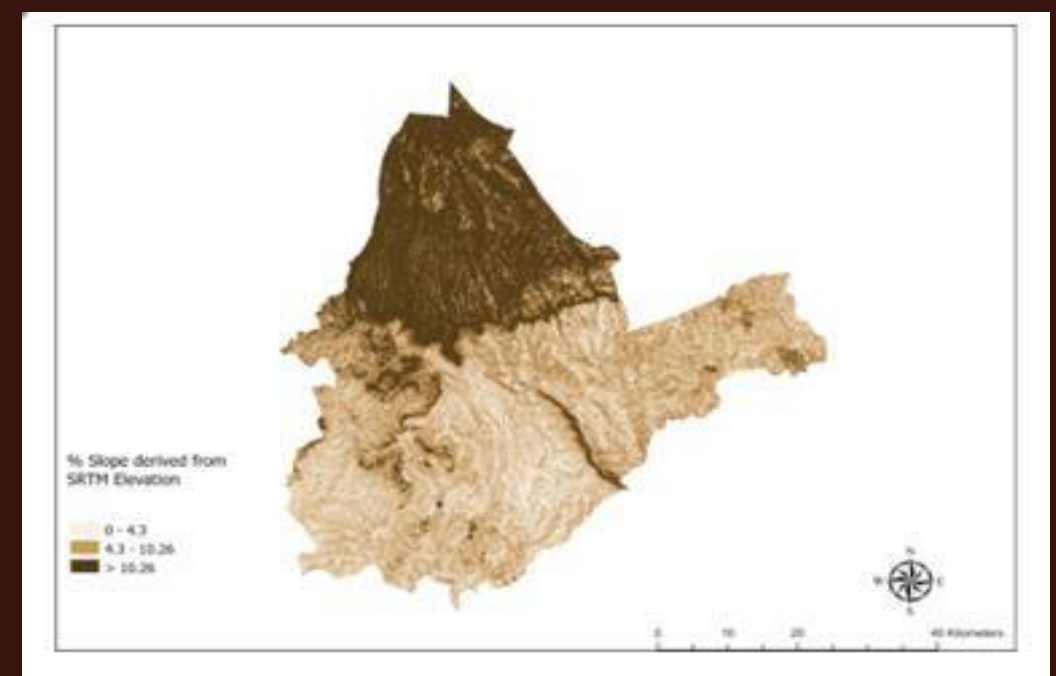
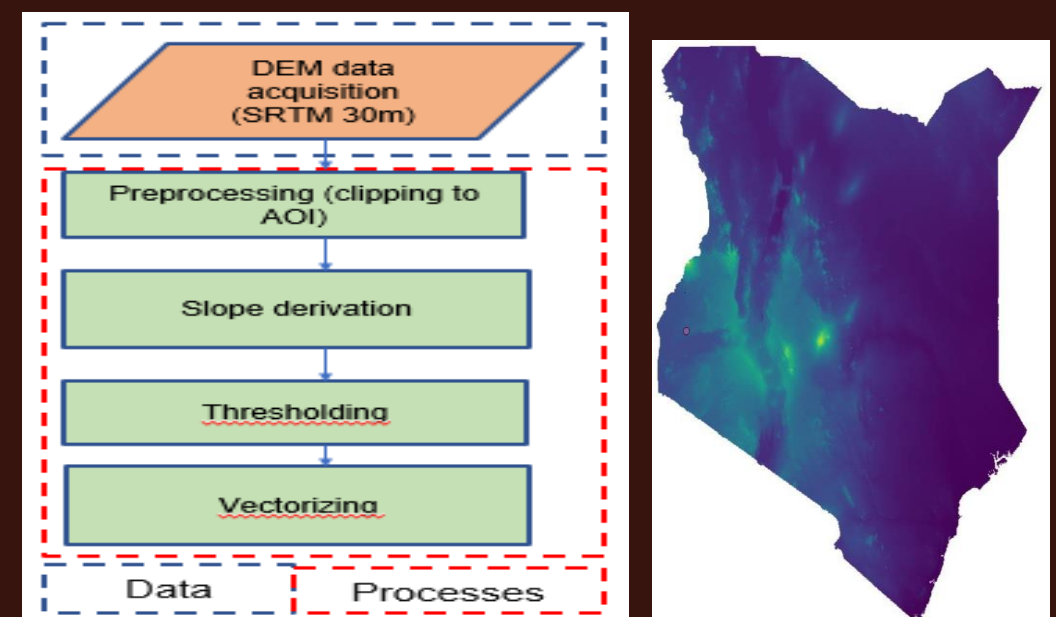
The coastal regions of Africa are not only vital for settlement and socio-economic development but also host a wide range of heritage sites dating from the early Stone Age to the present. These areas, however, face growing threats from climate change and development pressures, worsened by the lack of detailed regional sea-level models and digitized records of archaeological sites. A recent study addresses these gaps by creating a digital dataset mapping archaeological sites across Kenya, Tanzania, and Senegal, while performing a diachronic analysis of coastal changes from 1985 to 2022.



Source: Bishop-Taylor et al. 2021

Rock outcrops mapping

Inland sites, such as rock outcrops that may harbor caves and rock shelters, are being identified using Digital Elevation Model (DEM) data and slope analysis techniques. These methods help detect steep slopes indicative of potential rock outcrops, contributing to the discovery and preservation of hidden archaeological features.



References
1. Shoreline Dynamics and Cultural Heritage Sites in Kenya, Tanzania, and Senegal: integrating remote sensing and archaeological knowledge - Under review Pamela Ochungo, Nicolas Sagna, Akinbowale Akintayo, Adama Athie, Angela Kabiru, Assane Ndiaye, Elias Michaut, Stefania Merlo, Victoria Neema, Paul Lane
2. Source of images: National Authorities of Kenya, Tanzania and Senegal; MAEASaM team
3. Kenya DEM extracted from SRTM DEM data (2000)

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