HKV

UNESCO · IHE DELFT

Proposed Innovation for 'WACA Call for Innovation: Impacts of Port Development on West Africa's Coastal Areas'

St Louis

Lekki

Legend
— New coastline
— Old coastline

Nourishment

New structure

WAC-App
Explore impacts of coastal interventions

WAC-App is an open-access, easy-to-use, interactive online application that gives insight into the effects of coastal interventions. It combines the predictions of the new coastline evolution model **ShorelineS** with the computational and data options of **Google Earth Engine.** WAC-App allows for easy impact assessments of coastal measures and supports decision making at different spatial and temporal scales. WAC-App allows users to get more insight in long-term coastal development and thereby facilitates communication between decision makers, technical experts and other stakeholders.

Key features of WAC-App

Easy-to-use
WAC-App provides clear visualizations of impact of coastal interventions, and it can be applied by users without technical background in flow dynamics or coastal morphology.

Innovative
WAC-App combines the new coastal evolution model ShorelineS, which has been thoroughly tested and validated, with an online graphical user interface that allows easy operation and interpretation of results.

Practical
WAC-App gives insight into the impacts of coastal interventions and allows users to compare coastal intervention options. Thereby, WAC-App can help in public engagement and decision-making processes related to coastal erosion, development and planning.

Flexible
The application will be set up in a flexible way such that future expansions can be easily implemented. These extensions could include additional intervention types (including Nature Based Solutions), other geographical areas, climate scenarios and socio-economic impacts.

Implementation
Key components of WAC-App are already available. A version of WAC-App with basic functionalities requires 3 months of development and costs around $50.000. A further investment of $160.000 allows development of expanded functionalities, which can be ready after another 9 months.

Open Course Ware
WAC-App will be accompanied by an online Open Course Ware, demonstrating its use for a case in Nigeria or Senegal.

Adaptable to local expertise
WAC-App makes use of predefined coastal conditions for the entire WACA-region. However, local adjustment of the baseline conditions are possible.

Cloud computing and open access
WAC-App is open-access, has no licensing costs and operates entirely in the cloud.