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Mapping of vulnerable areas based on GIS analysis: An effective response to restoration of coastal environments impacted by spills and hazardous substance releases in West African coastline case of Republic of Côte d'Ivoire

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The major oil production carried out in the Gulf of Guinea, and the frequent transportation of petroleum products in the maritime area creates a significant risk of pollution on the West African coast. The primary objectives of this study are to outline the strategic approach to synthesize the data, and define the data structure for compiling maps of Cote d'ivoire shoreline at a scale of 1:25,000 using GIS technology. In this paper, three types of data were used: (i) Environmental Sensitivity Index (ESI), which allowed shoreline classification; (ii) Biological Resources, including oil-sensitive animals and rare plants, and habitats, which are used by oil-sensitive species (or) are themselves sensitive to oil spills, such as submersed aquatic vegetation; (iii) Human-Use Resources means specific areas that have added sensitivity and value because of their use, such as local fisherman village, hotels, industries, airport, port, parks, water intakes, etc. By crossing The ESI Data Layer, Biological Map Layer and Human-Use Data Tables, we were able to generate maps of sensitive areas that might be affected by pollution in the coastal area of Côte d'Ivoire. This mapping of coastal vulnerability to pollution is a necessary step for the development of the emergency response plan. It provides decision makers with the appropriate information for identification of the most sensitive sites before an incident and enables them to provide an appropriate strategy for the protection and control (particularly for sensitive sites), and implement an adequate means to implement the strategy.

Biography

Kouadio Affian is a Vice President of University Felix Houphouet-Boigny in charge of Training and research Centre Universitaire de Recherche et d'Application en Télédétection (CURAT) • Océanography.Done his PhD in Remote sensing and marine geology.Having upto 35 international publications.

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