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Web based information system to support sustainable development of Mangalore coast using EO images and GIS

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Coastal zone is the main region of civilization and has been more exploited in recent years and the Mangalore Coast is not an exception to this. Its easy availability of resources has attracted the human beings but it has been misused and abused it without understanding its complexity. In this study, GIS based Coastal Zone Information System has been designed in the Mangalore coast (Gateway of Karnataka). The study proposes enhanced methods in order to ensure the sustainable development in Mangalore. Analysis of population in Mangalore reveals an increasing trend in urban sprawl. LULC detection is carried out by cutting edge technologies such as Remote Sensing and GIS. The analysis shows that agriculture land is depleted by urbanization and ecological sensitive area such as mangrove and mudflat were reduced. The various spatial and non-spatial data involving the study area were used to establish computer based information system for Mangalore. The system includes several kind of information such as census, climate variables, bathymetry, etc. It is a mobile free responsive website which contains all the information about Mangalore with Web-GIS development and interactive functionality. The system allows users to perform spatial data analysis, submitting spatial queries, identifying and retrieving attribute information as well as sharing data by different level of users such as planners and decision makers. This paper highlights the methods and results of using EO data and GIS that have helped in monitoring the land use and ecological sensitive area along the Mangalore.

Biography

Rahisha Thottolil has completed her MTech (Geo-Informatics) with thesis work titled Integrated Coastal Zone Management of Mangalore Coast, India. Currently she is interacting and working with CSIR-CMMACS/KSRSAC on the various aspects of climate change and its impact studies in coastal Zone. She has clear understanding of atmospheric science, particularly global climate modeling, multi-source and multi-format data handling, remote sensing and GIS. She has handled large datasets from global climate model simulations and multi-source observation data. She works with ease on HPC systems using UNIX/LINUX, GIS and GrADS. She possesses strong analytical abilities and is self-critical in analysis of the results. Her ability to pick up new concepts, master necessary techniques and carry out careful interpretation makes her a researcher with great potential. She is particularly good at quantitative modeling of processes using remote sensing and GIS models.

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