

## **An assessment of coastal resources of the Mahatma Gandhi marine national park in Andaman and Nicobar islands using geospatial technologies**

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### **Abstract**

Coastal resources are diverse habitats that make up the coastal ecosystems like mangroves, coral reefs and sandy beaches provide us with invaluable benefits to the environment, human and marine life. Coastal areas are facing threats from both natural and anthropogenic disturbances such as coastal erosion, sea level variations, tourism and many other activities. Geospatial techniques are very much useful to provide practical and cost-efficient solutions and information for the environmental protection and planning. The present study was made to map and to delineate the areal distribution, and percentage change occurred due to coastal resources and shoreline from 2006 to 2014 in Mahatma Gandhi Marine National Park (MGMNP), Wandoor in Andaman and Nicobar Islands using satellite data LISS-III, Landsat 5 TM and Landsat 8 OLI\_TIRS. The MGMNP depicts a unique combination of forest and marine ecosystems in the form of tropical evergreen and moist deciduous forests occurring on the islands. The result of remote sensing based observation reveals that there is a continuous decrease in the area of mangrove forest and meanwhile there is a substantial increase in the extent of healthy coral reefs after the efforts taken by the government to protect these places from anthropogenic activities. A careful assessment of aerial distribution and percentage change in the area of the coastal resources that occurred in the coastal ecosystems of the marine national park were identified using digital image processing techniques, and few suggestions were given for the conservation and management of these precious and productive resources.

**Keywords:** *Andaman and Nicobar, Coastal resources, Ecosystem, Geospatial technologies*

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