MAPPING SEAGRASS BED IN THUY TRIEU LAGOON (VIETNAM) BY USING LANDSAT8 IMAGE

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ABSTRACT: Seagrass play critical roles on the coastal zone ecosystem which are direct food for endangered species including dugong, turtles and other marine organisms. The seagrass bed can protect the sea floor from coastal erosion, absorb nutrients from coastal run-off and stabilize sediment, act as biofilter and provide a habitat for marine animals. Mapping seagrass bed is an importance task for management, conservation and protection seagrass ecosystem. Seagrass beds in Thuy Trieu lagoon was considered as high species biodiversity and forming the huge stands in Vietnam. However, under impacts of socioeconomic development, this area faces to disturbance and reduction of seagrass bed cover area in the recent years. Mapping seagrass bed in this area therefore is coming necessary for environmental management. Remote sensing approached for mapping in this situation being the best choice. It provides the whole map at the same time, overcome the time difference error from traditional mapping by ground survey. In the present study, Landsat 8 OLI image, a free of charge image resource was used to demonstrate mapping the seagrass bed. The selected image is in dry season in 2013. The water column correction is using depth invariance index (DII) and bottom reflectance index (BRI) technique and extracting the seagrass bed is using maximum likelihood classification method. The results were validated by ground trust data with the overall accuracy of 70-80%. The results promise ability of monitoring seagrass bed in time of month or season for Thuy Trieu lagoon.