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Accuracy Assessment of the Coral Reef Mapping Using Landsat-8 Imagery- Case Study: Persian Gulf

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Abstract

In this paper, coral reef mapping for the Persian Gulf using medium resolution LANDSAT 8 was investigated. The research was accomplished on data collected from diving in Queshm and Larak Islands, Persian Gulf. After image pre-processing, the Maximum Likelihood algorithm was implemented for satellite image classification. The research presents correspondent results with similar researches on coral reefs around the world. It also showed that medium resolution satellite images were capable of mapping 2 to 4 classes with the accuracy of 70% on coral reefs in the area. The best mapping level was determined with 3 and 4 classes. Results showed that increase in number of classes will cause average mapping accuracy to be decreased fewer than 50%.

Keywords: *Coral reef, Sattelite images, Landsat 8, Classification, Persian Gulf.*