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Suitability analysis of multispectral satellite sensors for mapping coral reefs in indonesia case study: wakatobi marine national park / Arif Seno Adji

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Abstrak

ABSTRACT
Providing accurate information on suitable multispectral satellite sensors for mapping coral reefs in Indonesia is a challenge for coastal remote-sensing experts. As coral reefs vary in spatial extent, shape, length, perimeter and/
or distance to shore, the mapping of coral reefs will need different satellite sensors depending on the objectives and the kind of information required. This work compares the suitability of two kinds of multispectral satellite sensors for mapping coral reefs in Indonesia, high and moderate spatial resolution. This was done through a case study of Wakatobi Marine National Park since that represents many types of coral reef in Indonesia (fringing, barrier, atoll, and patch). Indonesian coral reef shapefile data 2010 was downloaded from UNEP (United Nations Environment Programme) website, and Landsat 7 ETM + images, path/row 112/064 was used to determine the terrestrial area of Wakatobi Islands. Both high and moderate spatial resolution sensors are suitable for mapping the benthic communities and geomorphic zones on coral reefs. The former are more accurate but they are also much less cost-effective, especially over large areas.