

Research on simple approximation process of mangrove distribution region

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The objective of this study is to propose the estimation method of mangrove area on Mekong delta and Ishigaki island. Global warming and sea-level rise are projected to affect seriously on low-land area. Therefore, recently, the mangrove forest is important to decrease the damage which is received from storm surge and sea-level rise. However, because of the mangrove forest distribution area decreases, it is thought that the monitoring becomes important to confirm the area. Then, we proposed that the estimation method of mangrove area that was able to analyze the large area simply by using satellite image. However, it is guessed that there is a limit in the extraction accuracy by the influence of the cropland and the waters in the use only of the satellite image. Then, the correction method of taking the tide level difference into consideration was introduced by using an existing bathymetric chart and the tide level observation data. According the examination, it was found that the accuracy of mangrove area division is good by using the short wavelength infrared. Additionally, if the condition for the mangrove growth was arranged, and classified again, it was found that the accuracy goes up.

Keywords: satellite image, mangrove, sea-level rise, Mekong delta, Ishigaki island