Improving the accuracy of mangrove forest mapping using sentinel image and developed classification algorithm based on machine learning

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Abstract	The national mangrove rehabilitation required mangrove spatial information with very high accuracy. This study successfully developed the classification algorithm measurable for mapping mangrove forest change based on machine learning. We also modified the recursive feature elimination (RFE) method to obtain the most optimal feature importance (FI). The results showed that the developed classification algorithm was built based on the five most important features including digital elevation model (DEM), near-infrared (NIR), normalized difference moisture index (NDMI), normalized difference water index (NDWI), and distances from brackish water river (DBWR). The developed algorithm increased overall and kappa accuracy by 0.48% and 0.01, respectively.
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