

Change Detection in Water Body Areas Through Optimization Algorithm Using High- and Low-Resolution Satellite Images

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Abstract

The Earth's surface has changed significantly as a result of human activity on the land expanding agriculture and population. To fulfil the growing demand for fundamental human necessities and wellbeing, it is crucial to have correct information on land use and land cover (LULC) and the best methods of using it. Large geographic regions can be found in sufficient detail in satellite photos, both qualitatively and quantitatively. The most effective methods for detecting together static and dynamic biophysical modules on the Earth's surface, which are regularly introduced for mapping LULC, are satellite depending remote sensing (RS) methods. In order to classify RS images into change/nochange classes, image pre-processing is done in this study, and the information content of the satellite images is assessed. In this work, a change detection method for identifying land cover and water bodies is proposed utilizing a stacked ensemble classifier with mean weight residual neural network (MWRResNet) and entropy.

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