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“The Bridging of Multidisciplinary Trend Between Social and Life Science on
Tropical Studies Beyond Covid-19 Pandemic.”

Samarinda, 6th October 2021




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the 5th ICTROPS

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Between Social and Life Science
on Tropical Studies: Beyond Covid-19 Pandemic”**

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TEE-417

Changes Detection of The Surface Coal Mining in Samarinda Using Time Series Landsat Imageries

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Abstract

Coal mining and reclamation are the main drivers for land use land cover (LULC) change in Samarinda City, East Kalimantan Province of Indonesia. Understanding LULC change has become a requirement in managing and restoring natural resources. Analysing spatio-temporal characteristics of LULC change is essential for understanding and assessing the ecological consequences of coal mining and other anthropogenic activities. In this study, we used a visual interpretation of the time series Landsat imageries in combination with existing land cover maps to create a set of annual maps and to analyze their changes for the Samarinda City from 1990 to 2020. The Landsat data used, were L1T standard data products which were radiometrically calibrated and orthorectified. Our results reveal the acceleration of LULC changes in Samarinda since 1990. The area of surface coal mining has increased from year to year, while the post-coal mining areas have not been restored and managed optimally. This study helps to quantify the post-coal mining area and will provide the supporting analysis for decision making in formulating the strategic environmental plans for managing and restoring the post-coal mining areas in Samarinda.

Keywords: Change Detection, Coal Mining, Landsat Imageries

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