

## Colour Segmentation of Satellite Imagery to Estimate Total Suspended Solid at Rawa Pening Lake, Central Java, Indonesia

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**Abstract :** Water is a natural resource needed by humans and other living creatures. The territorial water of Indonesia is 81% of the country area, consisting of inland waters and the sea. The research object is inland waters in the form of lakes and reservoirs, since 90% of inland waters are in them, therefore the water quality should be monitored. One of water quality parameters is Total Suspended Solid (TSS). Most of the earlier research did direct measurement by taking the water sample to get TSS values. This method takes a long time and needs special tools, resulting in significant cost. Remote sensing technology has solved a lot of problems, such as the mapping of watershed and sedimentation, monitoring disaster area, mapping coastline change, and weather analysis. The aim of this research is to estimate TSS of Rawa Pening lake in Central Java by using the Lansat 8 image. The result shows that the proposed method successfully estimates the Rawa Pening's TSS. In situ TSS shows normal water quality range, and so does estimation result of segmentation method.

**Keywords :** total suspended solid (TSS), remote sensing, image segmentation, RGB value

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