Remote Sensing Water Quality Determination using Multi-spectral Analysis

*Ahmad Shaqeer Mohamed Thaheer[1], Yukihiro Takahashi[1]

1. Hokkaido University

Wetlands have three distinct features which are the existence of a water body, hydric soil, and specific vegetation that thrived under those conditions as mentioned. The ecosystem provides benefits to the environment and humans as one of the significant natural resources. The contamination of the waters, especially in the river, poses a serious health and environmental risk. The destruction of the catchment area will lead to the deterioration in quality and quantity of the water resource in Malaysia. The Department of Environment (DOE) under the Ministry of Water, Land and Natural Resources (NRE) has identified that the Malaysian rivers are degraded by both point and non-point sources of pollution. The major point sources of pollution in rivers are from sewage treatment plants, agro-based industries, manufacturing industries, sullage or grey water from commercial and residential premises, and pig farms. Non-point source (or diffuse) pollution is largely due to storm runoff after a downpour. Current methods using in-situ measurements are shown to be infeasible while Remote Sensing methods helps to resolve these issues such as cost, time, accessibility, and repeatability effectively. Multi-spectral Imagery has been a useful in analyzing the spectral characteristics of wetlands.

Keywords: Multi-spectral, Remote sensing, Water quality

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