ASSESSMENT OF CONCENTRATION OF IRON IN WATER USING REMOTE SENSING TECHNIQUES

Peerapon Kamonrat[1]*, Rasamee Suwanwerakamtorn[1, 2]

[1]*Remote Sensing and Geographic Information System Program, Dept. of Computer Science, Faculty of Science Khon Kaen University*

[2]*Geo-Informatics Center for Development of Northeast Thailand*
123 Computer center Khonkaen University Mittraphap Road, Maung Khonkaen 40002
Tel: 0 4320 2742 Fax: 0 4320 2743/E-mail: gecnet@kku.ac.th

**Corresponding author. E-mail : peeraponkung@hotmail.com*

Abstract

City expansion and population growth have led to an increase in demand for clean water, which also led to the need to find more raw water source to be used in water supply production. The cost of water resource survey is not cheap and the process can take a long time. Fortunately, Remote Sensing technology and tools have been developed and improved over the years. With the right method, it can help us locate and assess the quality of raw water effectively. This study aimed to assess and monitor water quality in Khon Kaen province by using SMMS satellite's remotely sensed data from 24th September 2013 to analyze relationship of iron concentration in water. Water samples were collected from each sites to be analyzed for color, Turbidity (NTU), Fe mg/L, Total suspend solid (TSS) mg/L, Total dissolve solid (TDS) mg/L ,Total Solid (TS) mg/L and secchidisk. A positive relationship is observed from trend analysis between the concentration of iron in water and the reflectance of SMMS Data. When Multiple Regression analysis was used, the result showed a very strong positive relationship of R = 0.742 at a significant level of 0.01. Thus, it can be concluded that satellite remotely sensed data can be used effectively to assess and to monitor water quality.

Keywords: Remote sensing, water quality, SMMS