Practicality Study of Adding NDVI to Monitor the Turbidity in Reservoirs

王泰盛,陳莉,譚智宏,葉惠中
Civil Engineering
Architecture
lichen@chu.edu.tw

Abstract

Turbidity (TB), one of the important water quality parameters, can affect the quality of water supply from reservoirs. The main purpose of this study is to employ remote sensing (RS) technology to monitor the TB variations of water body in reservoirs. Generally, most of previous studies were focus on establishing relationships among several single-spectrum bands and in situ data. In this study, the Normalized Difference Vegetation Index (NDVI) was included to the TB monitoring in reservoirs, and its feasibility was investigated. The imageries of Landsat-7 ETM+ satellite were used to monitor several important reservoirs in northern Taiwan by using multiple linear regression (MLR). The results showed that the NDVI vs. TB has negative correlation. After adding the NDVI to the model, it increased 11.2 % explainable ability and 8.72 % improvable rate. Therefore, NDVI offered additional reflective information as well as improved the accuracy of model.

Keyword：remote sensing ; normalized difference vegetation index; multiple linear regression