Geospatial analysis of lake water quality parameters in Selangor, Malaysia using GIS

ABSTRACT

Geospatial analysis of eight water quality parameters was applied for the assessment of the water quality of Serumpun lake located in Universiti Putra Malaysia (UPM), Selangor. The Interim Water Quality Standard Malaysia (INWQS), Malaysian water quality index (WQI) and the Canadian water quality standards were applied for classification of the lake water. The spatial distribution of the water quality parameters was achieved by interpolation using inverse distance weighting (IDW) method. The result of the investigation indicated that the lake was polluted according to the Malaysian WQI having a value of 22.4. The three sub-index parameters were also classified as polluted according to the Department of Environment (DOE), Malaysia. The Canadian Council of Ministers of the Environment Water Quality Index (CCME-WQI) was used for further classification of the lake. The result of CCME-WQI showed that the lake was polluted with a value of 25.91.

Keyword: Water quality; Inverse distance weighting (IDW); Water quality index (WQI); GIS; Lake water