

A review of applied GIS based in sustainable water resources management in Malacca River case study: an observation perspective

ABSTRACT

Water resources have become an issue in supplying freshwater for human to carry out daily activities. The reasons for this problem water pollution occurring in rivers. Among the methods to overcome this problem is the adoption of the concept of sustainability in water resources management in Malacca River. Practicing this concept will require a technology to help in planning as a whole, namely Geographical Information System or GIS. GIS is a tool widely used in determining the quality and quantity of water resources, especially at the river basin scale, to manage water resources. The site selection for observation in this review paper is Malacca River, which have a wide river basin and suitable for study. As a result, GIS has the ability to combine various data and provide an answer for decision making in sustainable water resources management in Malacca River, such as physical perspective data (elevation and slope boundary, land use data, meteorological data, hydrological data, etc.) and human perspective data (demographic and population data, stakeholders and businesses data, etc.). GIS helps users to develop a new model (for example water quality model) which become a main point in saving and protecting the environment and the human society.

Keyword: Water pollution; Sustainability; Management; GIS; Protecting