and Information Generation for Aquatic Resources Management: GIS and Remote Sensing Approach

A.B.A.K. Gunaratne

Information Division
National Aquatic Resources Research and Development Agency (NARA)
Colombo -15, Sri Lanka

Abstract

Aquatic resources management and planning has many spatial components and many serious issues like habitat loss and environmental degradation which have spatial dimensions. Aquatic resource managers and decision makers in developing countries have to address issues of great complexity. Solution to these problems often requires data generation, data exchange and analysis of spatial data at local, national, and global levels.

Information generation is more important in the context of lack of required spatial data for management and planning initiatives. Remotely sensed data provides information obtained by more conventional means to be extrapolated over wide areas with relative ease. Remote sensing can play a role both in the initial mapping of resources and their conditions and in the provision of data showing trends over time with the repetitive acquisition of coverages for the same area..

Resource inventories, mapping activities are frequently undertaken as a part of early data and information collection activities prior to the onset of active management. Periodic mapping of sensitive resources is performed to identify trend and changes. GIS can play a very useful role in this regard as a computer based tool to aid in the display and analysis of geographically based information. Spatial and attribute data can easily be overlaid to help identify and asses the effects of human activities on resource systems. Used together, remote sensing and GIS techniques are powerful tools managing problems on aquatic resources.