

A CASE STUDY OF MANGROVE FOREST MONITORING IN CAN GIO DISTRICT, SOUTHERN VIETNAM

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Abstract:

ABSTRACT The purpose of this study is to detect environmental changes in mangrove forests of Can Gio Biosphere Reserve using satellite data. Mangrove forests are very important for coastal environments and ecosystems because they can protect the coastline from erosion and provide foods and fuel woods for local communities. Can Gio mangrove forest is located 50km south of Ho Chi Minh City in Southern Vietnam. Before the Vietnam War, Can Gio mangrove forest covered an area of approximately 40,000ha. During the War, it was almost destroyed by bombing and defoliant sprays. As a result, the land was severely eroded and the mangrove ecosystem was destroyed. After the War, restoration of the mangrove ecosystem was implemented by Ho Chi Minh City Forestry Department and many other organizations. With great efforts of reforestation, Can Gio mangroves have been recovered and is now covering around 40,000ha of dense forests. Early 2000, Can Gio mangrove forest was registered as the first biosphere reserve in Vietnam by the United Nations Educational Scientific and Cultural Organization (UNESCO). In recent years, however, Can Gio mangrove has been threatened by many environmental changes: erosion, sedimentation along the coastal area and also human induced issues such as shrimp farming, sewage pollution, oil spill, etc. In order to grasp those changes, existing information and satellite data such as Landsat, JERS-1 and ASTER are applied in this study. Comparing satellite data acquired between 1973 and 2001 reveals that the whole Can Gio area was immensely changed. Especially, on the imageries taken between 1973 and 1989, mangrove reforestation can be detected all over Can Gio District. Extension of mangrove along the rivers is clearly identified, and so are changes of sedimentation areas to find a newly deposited sediment that is a potential for regeneration of natural mangroves.