

CHANGE DETECTION OF LAND COVER ENVIRONMENT IN THE HAMPYEONG-BAY, KOREA USING LANDSAT DATA

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ABSTRACT:

The purpose of this study is to analyze the land cover environment changes of tidal flat in the Hampyeong Bay. Especially, it centers on the changes in the sedimentary environment using remote sensing data. Multi-temporal Landsat data (Path-Row: 116-034) were used in this study. Remote sensing data can be effectively applied for quantitative analysis of geological environment changes in the Hampyeong-bay.

KEY WORDS: Hampyeong, Landsat, Sedimentary environment, Tidal flat

The earth surface is constantly changed by natural factors and human activities, same time we being is adapted to various environmental changes. So we need many researches to process and analyze various data such as geological, geographical, statistical information and so on. The multi-spectral satellite(like Landsat TM & ETM+) images are acquired repeatedly and applied various research parts by characteristic of wave-length such as terrain classification, land-use mapping, change detection, mineralized zone analysis, geological environment analysis etc.

The surface sediments of Hampyeong Bay, the south-western coast of Korea, show several distribution patterns in accordance with areal characteristics, widely ranging pebble to clay in grain size. The coarse sediments are distributed on the subtidal zone along the main tidal channel and on the bay-head intertidal zone which is broadly developed on the frontal region of the main tidal channel. On the other hand, the fine sediments are dominated in both sides of the intertidal zone of the main tidal channel. Most pebbles are relict sediments derived from nearshore and fluvial sediments which were deposited at the time of low stand of sea level. The pebbles may be derived from the weathering of granitic gneiss and volcanic rocks distributed in the coastal area of Hampyeong Bay. The coarse sediments, granule to fine sand derived from weathered granitic gneisses and gneissose granites around the study area, and the muddy sediments are transported from the seafloor of shelf and nearshore area. Therefore, in this study, we tried to analyze the land cover environment changes of tidal flat in the Hampyeong-bay using Landsat TM and Lantsat ETM+.

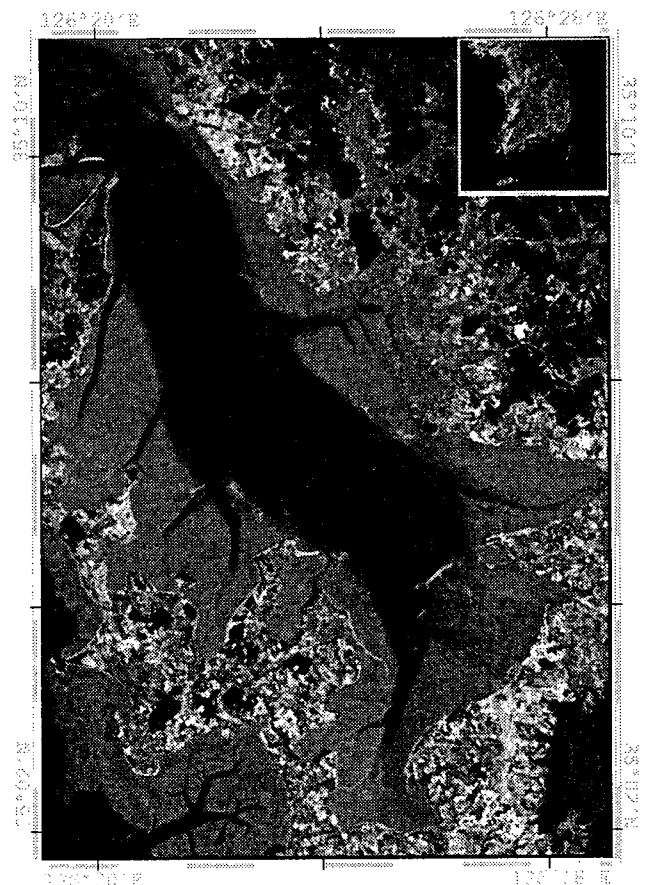


Figure 1. False color composite image (Landsat-5 TM band 4/3/2) of the study area.