

SALINITY MAPPING USING REMOTE SENSING AND GIS: THE CASE OF CUNG HAU AND DINH AN ESTUARY, TRA VINH PROVINCE, VIETNAM

Nguyen Nguyen Vu, Le Van Trung, Tran Thi Van

Ho Chi Minh City University of Technology, Vietnam National University Ho Chi Minh City

ABSTRACT

This paper presents the methodology for mapping of salt intrusion in Cung Hau and Dinh An estuary (Tra Vinh province, Vietnam) based on the integration of satellite imagery and GIS. We used Landsat 8 satellite data to establish the relationship between the planetary reflectance and the ground measured data in dry season 2014. The three spectral bands (Blue, Green, Red) and the principal component band were used to obtain the most suitable statistical model. The selected model showed a good correlation with the exponential function of the principal component band and the ground measured data ($R^2 > 0.8$). The salinity map shows that the intrusion of 4g/l salt boundary from Cung Hau and Dinh An estuary to the inner field more than 30km. The salinity map will be an active contribution, providing managers with adaptation and response solutions suitable for intrusion in the estuary as well as the inner field of the Mekong Delta of Vietnam.

CONSTRUCTION AND EVALUATION OF 3-D GEOLOGICAL MODEL FOR URBAN GEOSPATIAL ANALYSIS

**Go YONEZAWA, Susumu NONOGAKI, Muneki MITAMURA,
Kenichi SAKURAI, Luan Xuan TRUONG, Shinji MASUMOTO,
Tatsuya NEMOTO, Venkatesh RAGHAVAN**

Osaka City University

ABSTRACT

In Southeast Asian area, the environmental problems such as land subsidence, flooding occurs by heavy rain, traffic problem and groundwater pollution have been increasing in recent years. This main reason is rapid urbanization and population increase. Regarding the mitigation and prevention of the environmental issues of urban area, it is important to prepare and analyze with the geospatial information. For the solution of these issues, it is necessary to provide the geological information accurately and effectively. The 3-D (three-dimensional) geological model are the geological information generated as a result of geological analysis based on the fundamental field survey data. However, the quantity and quality of the basic data, theory and assumption of geological process are not known for the user of these models. Therefore, it is important to actively provide the basic elements of the 3D geological model in addition to the geological information. The providing of this information can be realized by the construction of geological model as the logical model. The 3D geological model is important to consider the urban sustainability as in improvement of urban infrastructure and disaster prevention.