

INTEGRATION OF REMOTE SENSING AND GIS IN MAPPING AREAS OF FLOOD INUNDATION RISK IN THUA THIEN HUE, VIETNAM

Trinh Thi Thanh Duyen

Science Graduate Course, Chiba University

Email: thanhduyen@graduate.chiba-u.jp

ABSTRACT

Coastal lowland is suffering from the risk of flooding and subsequently lead to many social and environmental effects. Risk analysis is therefore necessary to minimize those effects. This paper presents an integration approach of remote sensing and GIS in risk analysis of flood inundation in a lowland area of Hue province, Vietnam. We use time series JERS-1 SAR data (between 1992 and 1998) to delineate annual inundation and flooding areas. Using supervised classification approach of Spot 5 (2005, 2006 year), we create land cover of the study area. Using hydrologic Tool in ArcGIS 9.1 for DEM, we derive many tributary stream and flow attributes at 1m, 2m, and 3m high of confluent of the main stream. Using these datasets and multi-criteria analysis the map showing areas of flood inundation is created. Visualization of areas of flood inundation is also discussed.