Evaluation of inunduated area by satellite remote sensing in Asian Monsoon Area - A Case in Hue Lagoon, Vietnam .

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Ponding in rainy season is a climate for people in monsoon region, but sometimes innundation becomes hazard. With lowland's life peoples, inundation can be supported by mircro topography. However, such services are rarely available in the developing countries.

Added, recent urbanization, agricultural development, aquafarming in the capabilty flood inundation area is the main cause of flooding damage now. The topographic map or geomorphological map can help us to understand the flood hazard area if they are existence.

For creating flood topographic map for Hue Lagoon, central of Viet Nam, we tried to use many satellite images as JERS 1 SAR and SRTM-3. We extracted ponding area by using JERS 1 SAR images, inspected the performance if SRTM-3 DEM for detecting lowland topography, and verification of the results by available geomorphological map, are made to confirm satellite-based creation of flood topographic map.

At first, classification of lowland to i) perennial water area, ii) water area in rainy season but land in dry season, iii) perennial land area is made by multi date SAR images. Area ii) is considered to be vulunarable for flooding.

Then the results are compared to SRTM-3 DEM, and reveal SRTM-3 well represent the lowland micro-topography and can be used to flood topography classification.

Finally, the results of interpretation of innundation map and DEM are verified by existent topographic map which represent landform classification map. The results show that satellite remote sensing data and released secondary products, such as SRTM-3 DEM can be used to draw landform classification maps anywhere in Asian deltas or lagoon areas.