

ASSESSMENT OF AGRICULTURAL LAND DAMAGE BY FLOOD IN LAGOON REGION OF THUA THIEN HUE PROVINCE BASED ON RADAR REMOTE SENSING TECHNOLOGY AND GIS

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Summary

The lagoon region of Thua Thien - Hue province has the low-lying terrain and is frequently facing with severe flooding in recent years, as a result, there are many negative influences effect to living conditions of local people as well as for land use situation. In this study, the Sentinal 2A image taken in 2017 was used to map the land use status at the time of flood in Quang Dien district. Images are processed in an object-oriented classification with specific interpretation parameters: spectral brightness value, average brightness value, vegetation index. This study also indicated the flooded area by some indicators such as Land Surface Water Index (LSWI), Enhanced Vegetation Index (EVI) and Difference Index (DVEL) from Sentinel 2 images. The results show the flooded area of Quang Dien district in the year of 2017 is 807.47 hectares and the deepest flooding was in September and November. The most affected communes included Quang An, Quang Phuoc and Quang Thanh. In terms of land use, paddy land type is most affected followed by annual cropland. Based on the analysis, this study also suggest some measures to improve the efficiency of agricultural land use in response to flooding in local.

Keywords: *Agriculture land, flooding, lagoon region, remote sensing.*