

EVALUATE MEKONG DELTA'S RICE CROP CHANGES DURING FIFTEEN YEARS BY USING HIGH TEMPORAL RESOLUTION SATELLITE DATA

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ABSTRACT

Rice is the most important staple food and occupies a main part of agricultural land in Vietnam like in most Asian countries. According publish from General Statistics Office of Vietnam, in 2016 the paddy planted area is nearly 7.9 million ha, accounted for almost 87 percent of total planted area, in Mekong Delta (MD) alone account for more than 50 percent of the paddy planted whole country. Mekong Delta (MD) which is the Vietnam's "rice bowl" is the major rice – producing region in Vietnam, half of production and 70 percent of exported rice on whole country come from MD. However, in recent years the MD's paddy area and its production is decrease is due to the effects of climate change, as drought and salt intrusion as well as water quality and water supply change. Therefore, rice crop monitoring is needed and important for optimizing food security, environmental sustainability and more other related issues. Recent advances on the resolutions (i.e., spectral, spatial, radiometric, and temporal) and availability of satellite imagery have allowed us timely collection of accurate information on the growth and development stages of the rice crop, rice growth conditions as well as to estimate rice crop area and its production. The aim of this paper was to review and evaluate MD's rice crop changes during more over fifteen years by using high temporal resolution satellite imagery data.

AGRICULTURAL WATER USED ASSESSMENT IN DROUGHT SEASON WITH SWAT MODEL: A CASE STUDY OF YOM RIVER BASIN

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ABSTRACT

Yom river basin is crucial intensive agricultural area in lower north of Thailand, in drought season also continue planting process. This study use the Soil and Water Assessment Tool (SWAT) as call QSWAT in QGIS, to evaluate Water efficiency index (WEI) associated with land use, soil type, climatic data, river tributaries, and DEM, all applicants ready stand in drought time (January - April) of 10 years (2007-2017). Conclusively, initiate 11 sub Basins of Yom River and being shown as I) sub basin 5 (middle Yom basin area) has highest WEI belong to hilly zone, while II) sub basin 11 (lower Yom basin area) has lowest WEI, according to intensive agricultural land use in this area. All these results as relevance issues for take care about stream water quantity reservation in similar river basin factors of any tropical countries, with GIS application ideas.