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SYNTHETIC APERTURE RADAR (SAR) AND OPTICAL IMAGERY DATA FUSION: CROP YIELD ANALYSIS IN SOUTHEAST ASIA

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Abstract. With the expanding energy crisis and rising food prices, crop yield analysis in Southeast Asia is an increasingly important topic in this region. Rice is the most important food crop in Southeast Asia and the ability to accurately predict crop yields during a growing season is useful for decision-makers, aid providers, and commercial trade organizations. The use of optical satellite image data by itself is difficult due to the almost constant cloud cover in many parts of Southeast Asia. However, Synthetic Aperture Radar (SAR), or SAR data, which can image the Earth's surface through cloud cover is suitable for many agricultural purposes, such as the detection of rice fields, and the identification of different crop species. Crop yield analysis is difficult in this region due to many factors. Rice cropping systems are often characterized by the type of rice planted, the size of rice field, the sowing dates for different fields, different types of rice cropping systems from one area to another, as well as cultural practices such as sowing and transplanting. This paper will discuss the use of SAR data fused with optical imagery to improve the ability to perform crop yield analysis on rice crops in Southeast Asia.

[Conference Paper](#) (PDF, 1050 KB)

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