Suggested topic: Remote sensing application in water resources, agriculture & crops

Actual Evapotranspiration Estimation Using Sebal Alogarithm and Multitemporal Modis Data (A Case Study Of Tea Plantations In West Java, Indonesia)

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Abstract: Water scarcity is increasingly becoming a problem highlighted in the agricultural world in Indonesia . The number of crop failures caused by the irrigation system which is not effective and efficient. Actual evapotranspiration becomes a key determinant in predicting crop water requirements. Monitoring daily and seasonal actual evapotranspiration can give rigorous value of the water consumption of the agricultural area. The method used in determining the daily and seasonal actual evapotranspiration is SEBAL (Surface Energy Balance Alogarithm on Land). This method utilizes remote sensing technology combined with weather data field observations. MODIS land products acquired in 2012 are used in this study. Study area is tea plantations located in West Java, Indonesia. This method is able to describe spatial variability of actual evapotranspiration for period of May until October 2014. From the results of this study, the average value of seasonal actual evapotranspiration is 270 mm/season with a standard deviation of ± 42 mm/season.

(results are still in assumption values due to the currently ongoing research)

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Preference: oral presentation