

## **Characterizing infiltration of a tropical watershed from ALOSPALSAR data using the Green-Ampt infiltration model**

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**Abstract** Land uses are known to influence hydrological processes such as infiltration within a watershed. This paper focuses on characterizing infiltration of a tropical watershed using ALOSPALSAR data based on four land-use types: grass, oil palm, shrub and rubber trees. The inversion of backscattering regression combined with a Green-Ampt infiltration model was applied to estimate soil moisture from ALOSPALSAR data and cumulative infiltration, respectively. The estimated soil moisture agreed with the observed data. The infiltration characteristics show the grass land use contributing the highest infiltration followed by oil palm, shrub and rubber land uses. Combined ALOSPALSAR data and the Green-Ampt infiltration model was a useful technique to characterize the temporal variability of infiltration.

**Keywords** soil moisture; infiltration; ALOSPALSAR data; Green-Ampt model