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Rubber Tree Distribution Mapping in Northeast Thailand

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Author(s)

Zhe Li, Jefferson M. Fox

ABSTRACT

In many parts of mainland Southeast Asia rubber plantations are expanding rapidly in areas where the crop was not historically found. Monitoring and mapping the distribution of rubber trees in the region is necessary for developing a better understanding of the consequences of land-cover and land-use change on carbon and water cycles. In this study, we conducted rubber tree growth mapping in Northeast Thailand using Landsat 5 TM data. A Mahalanobis typicality method was used to identify different age rubber trees. Landsat 5 TM 30 m non-thermal reflective bands, NDVI and tasseled cap transformation components were selected as the model input metrics. The validation was carried out using provincial level agricultural statistical data on the rubber tree growth area. At regional (Northeast Thailand) and provincial scales, the estimates of mature and middle-age rubber stands produced from 30 m Landsat 5 TM data compared well (high statistical significance) with the provincial rubber tree growth statistical data.

KEYWORDS

Northeast Thailand, Rubber Tree Mapping, Land-Use and land-Cover Change, Mahalanobis Typicality, Kauth-Thomas Transformation, Landsat 5 TM

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