

**An Application of Non-Parametric Method and Simple Linear Regression in Rainfall
Partitioning in Tropical Lowland Forest of Sepilok Forest Reserve, Sabah**

ABSTRACT

This study was conducted in the alluvial forest and heath forest in the lowland tropical forest of Sepilok Forest Reserve, Sabah, Malaysia. The main objective was to assess how forest structure regulates rainfall partitioning in both forests. Field monitoring involved a series of forest inventory work to determine the forest stand characteristics. Mann Whitney U test was performed to compare physical characteristics between the two forests. Meanwhile rainfall partitioning was quantified by measuring the throughfall (Tf) for a period of 12 months in ten (15 x 15 m) Tf plots and a simple linear regression was conducted to obtain a regression model to estimate Tf. In terms of stand structure characteristics, data in the alluvial forest indicates wider variation. Percentage of Tf as of gross rainfall (Pg) is higher in the heath forest than in alluvial forest with the value of 89.5 % and 76.8 %, respectively. Representative trees were selected for stemflow (Sf) estimation at each forest type. The estimated Sf is 0.2 % in alluvial forest and 0.5 % in heath forest. In this study, tree diameter at breast height (Dbh) and height as well as aboveground biomass were identified to have some influence in Tf and Sf production.