

## SPATIAL AND TEMPORAL VARIABILITY OF RAINFALL PARTITIONING, FOLLOWING TWO SECONDARY VEGETATIONS IN NORTHEASTERN PARÁ, BRAZIL

### VARIAÇÃO SPACIAL E TEMPORAL DA PARTIÇÃO DA CHUVA EM DUAS ÁREAS DE VEGETAÇÃO SECUNDÁRIA NO NORDESTE PARAENSE, BRASIL

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In secondary vegetation characterised by its heterogeneity and dynamic composition it is particularly important the understanding of spatial and temporal variability of rainfall partitioning due to the role it plays in hydrological and nutrient balances. To assess rainfall partitioning variables for secondary vegetation grown during different fallow periods in *slash-and-burn* agriculture areas, measurements of throughfall ( $T$ ) and stemflow ( $S$ ) were carried out over a period of 995 days in two fields left as fallow, respectively, for 2 through 4 years ( $A$ ) and 8 through 10 years ( $B$ ), in a small holder farm, in Igarapé-Açu, Northeastern Pará State, Brazil. In each site,  $T$  was sampled by 15 gauges randomly reallocated in rectangular plots and  $S$  was measured through gauges fixed in alive plants. Gross rainfall reaching the top of the canopy was measured in a nearby clearing. Considering the whole period, the averages for  $T$  values were 73.2% and 49.4%, respectively, for the sites  $A$  and  $B$ . Larger variation over time was found in site  $B$  because of many individuals of the commonly found species *Phenakospermum guianense* Endl. had fallen down, causing a drastic change in the canopy structure. After that, the average  $T$  value was 60.0% against 43.9% for the earlier period. In site  $A$ , where the canopy modification did not occur, average values were, respectively, 75.1% and 72.2%. The canopy modification also contributed to enlarge the in spatial variability of  $T$  within the older secondary succession. The  $S$  values were most of the time considerably high for *Phenakospermum guianense* Endl. and *Banara guianensis* Aubl., with seasonal changes in flowing capacity associated to plant phenology.

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