

Annual litter fall in an intact mixed dipterocarp forest of Brunei Darussalam

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Estimating litter dynamics in an intact tropical forests is important for understanding tropical forests. Litter fall varies with seasonality, forest type or species composition, forest age, soil water retention, and soil fertility. These parameters are known to be strongly affected by elevation. The objective of this study was to estimate annual litter fall along a relative elevation in an intact mixed dipterocarp forest of Brunei Darussalam. This study was conducted in the Kuala Belalong lowland MDF, which is part of the Ulu Tembulong National Park, Brunei Darussalam. Five 0.36 ha plots were established within the permanent 25 ha UBD-CTFS plot. The plots were divided into three groups by relative elevation of the site: 1) high ($N = 1$), 2) middle ($N = 2$) and 3) low ($N = 2$). In January 2015, nine litter traps were installed in each plot and falling litter was collected every month from February to November, 2015. The collected litter was separated into leaves and other materials, and then weighed after drying at 80°C. The average annual litter fall in this site was 8.70 ± 0.16 Mg ha⁻¹ yr⁻¹, and this was within the range reported in previous studies which were conducted in tropical forests. Litter fall at high, middle and low plots was 9.09 ± 0.46 , 8.90 ± 0.29 and 8.06 ± 0.29 Mg ha⁻¹ yr⁻¹, respectively. Litter fall was not significantly different among the groups ($P > 0.05$). The results of regression analysis showed that litter fall was not significantly increased with altitude. We suppose that litter fall may be relatively constant in this site.

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