

## Organic matter cycling along geochemical, geomorphic and disturbance gradients in vegetation and soils of African tropical forests and cropland - Project TropSOC DATABASE\_v1.0

### 2.1.5. Forest – Vegetation – Litter fall

When using these data, please cite the original publication:

Doetterl S., Asifiwe R.K., Baert G., Bamba F., Bauters M., Boeckx P., Bukombe B., Cadisch G., Cizungu L.N., Cooper M., Hoyt A., Kabaseke C., Kalbitz K., Kidinda L., Maier A., Mainka M., Mayrock J., Muhindo D., Mujinya B.B., Mukotanyi, S.M., Nabahungu L., Reichenbach M., Rewald B., Six J., Stegmann A., Summerauer L., Unseld R., Vanlauwe B., Van Oost K., Verheyen K. Vogel C., Wilken F., Fiener P. Organic matter cycling along geochemical, geomorphic and disturbance gradients in forests and cropland of the African Tropics - Project TropSOC Database Version 1.0. *Earth System Science Data* XXX, DOI XXX, 2021.

#### Introduction

The dataset comprises a unique plot identifier, followed by 5 variables that describe results of litterfall monitoring in TropSOC's forest plots.

#### Data structure

No.	Variable	Explanation	Unit
1	plotID	unique identifier of each plot and point where data were collected	-
2	no_traps	number of litter traps per plot	-
3	duration	time of litter accumulation before litter traps are emptied	dd
4	sampling_date	date of emptying of litter traps	dd.mm.yyyy
5	litter	dry weight of litterfall aggregate at the plot level	g m <sup>-2</sup>
6	litter_2	dry weight of litterfall aggregate at the plot level	g m <sup>-2</sup> d <sup>-1</sup>

#### Methods

**Litterfall sampling:** For all forest plots (for details regarding plots and plot design see *2\_forest.pdf*), litterfall was assessed following a standardized protocol to measure tropical forest carbon allocation and cycling (Matthews et al., 2012). At each of our 36 forest plots, 10 litter traps were installed and distributed evenly and systematically per plot. Each litter trap had a diameter of 60 cm and were installed at a height of 1.0 m above-ground. Litter samples were collected approximately every two weeks between August 2018 and February 2020. Collected litter includes all organic residues collected by the traps, with the exception of not sampling biomass from larger animals' bodies and woody material > 2 cm. After sampling, material from all 10 traps per plot was mixed to obtain a composite sample that is representative of each plot. These composite samples were then taken to the laboratory on the day of sampling. There they were oven-dried at 70 °C for 72 hours and subsequently weighed (dry weight).

#### Acknowledgment

TropSOC was funded via the Emmy-Noether-Program of the German Research Foundation (project ID 387472333).

## **References**

Matthews, T. R., Metcalfe, D., Malhi, Y., Phillips, O., Huasco, H.W., Riutta, T., Ruiz Jaén, M., Girardin, C., Urrutia, R., Butt, N., Cain, R., Menor, O., and colleagues from the RAINFOR and GEM networks: Measuring tropical forest carbon allocation and cycling: a RAINFOR-GEM field manual for intensive census plots (v2.2), 104p. Manual, Global Ecosystems Monitoring network, <http://gem.tropicalforests.ox.ac.uk>, 2012.