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Hydrology and Earth System Sciences
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Interactive comment on "Minimum forest cover for sustainable water flow regulation in a watershed under rapid expansion of oil palm and rubber plantations" *by* Suria Tarigan et al.

Suria Tarigan et al.

suriatarigan2014@gmail.com

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To obtain representative variability of land cover and land-use type in different watersheds, in our study, we selected two watersheds with different distributions of land cover (Figure 1 and 2), but with relatively similar soil types (Figure 3).

Concerning the suggestion to apply the SWAT model also in other areas, we believe that our study area is representative for most areas with oil palm development in terms of soil types, topography, and rainfall variability (please see our comment to Mr Ginting). Similar un-published studies in other watersheds using the SWAT model have been conducted by other researchers and they show trends similar to our findings.

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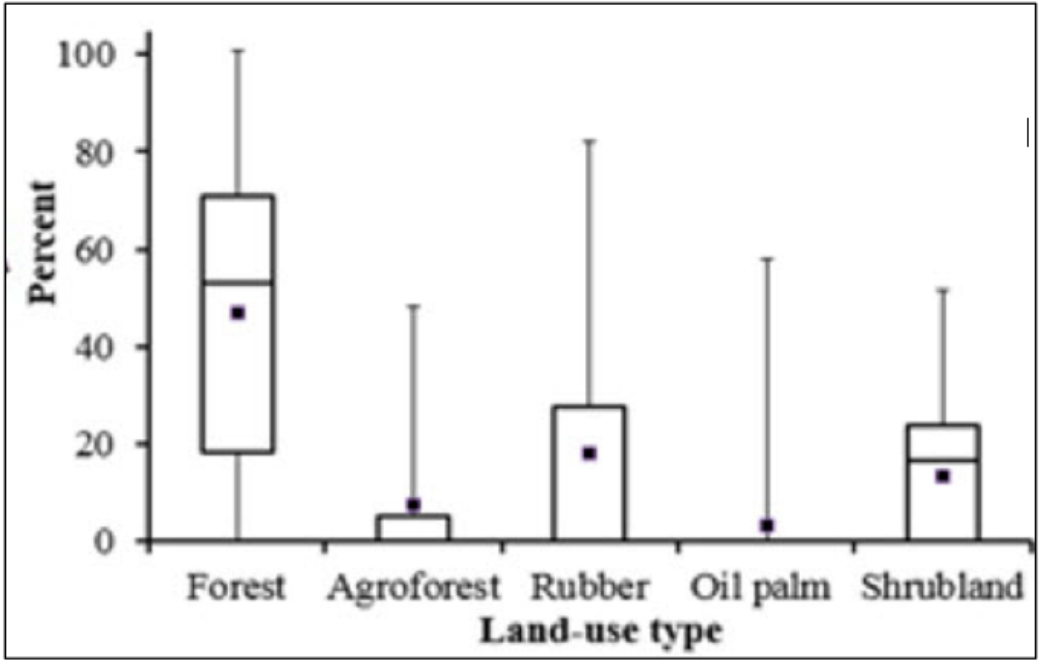

Figure 1. Land cover in BH watershed (copied from Figure 3 of the manuscript)

Fig. 1.

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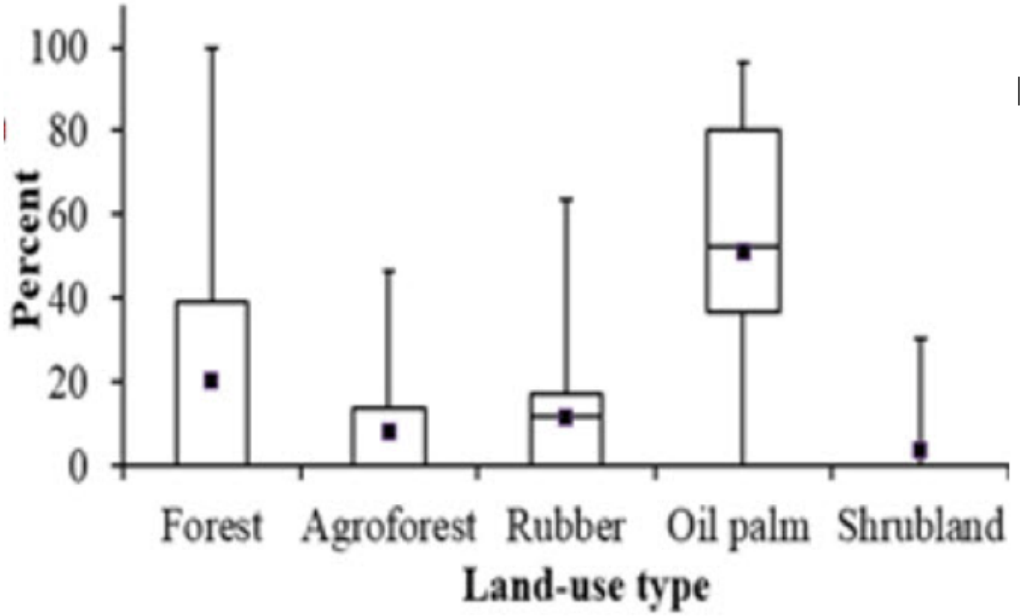

Figure 2. Land cover in MT watershed (copied from Figure 3 of the manuscript)

Fig. 2.

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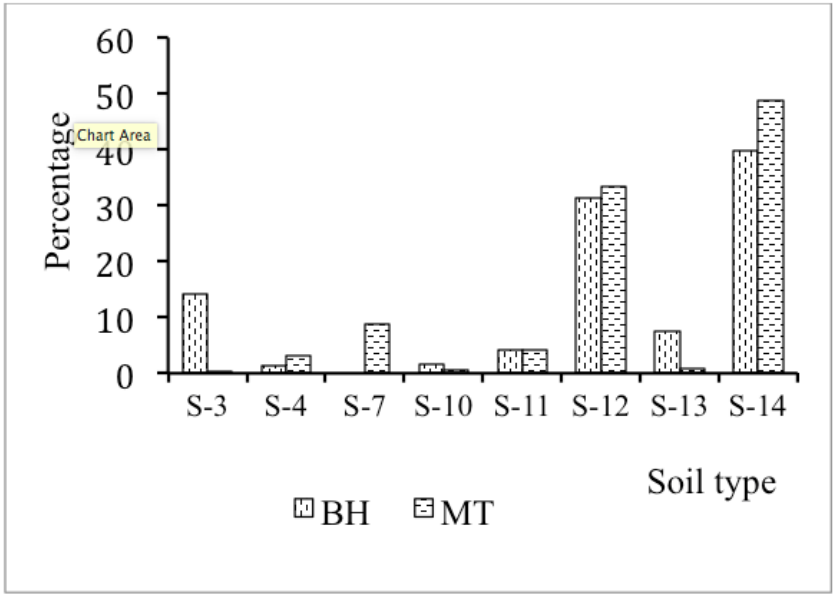

Figure 3. Soil type in BH and MT watersheds. Soil types respresent Fluvaquents (S-3), Humitropepts (S-4), Paleudults (S-7), Tropofluvents (S-10), Troposaprist (S-11), Tropodults (S-12), Dystrandepts (S-13), Dystropepts (S-14).

Fig. 3.

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