

Interactive comment on “Measuring forest floor interception in a beech forest in Luxembourg” by A. M. J. Gerrits et al.

Anonymous Referee #2

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General comments

This paper addresses an important aspect in rainfall interception studies, i.e. the measurement of forest floor interception. There is little information available on the measurement of this flux. Then, in my opinion, the topic of the study falls within the scope of HESS. In my opinion, the main criticism is that this contribution, in the present form, is more a technical note than a research paper, as it presents a new device to measure forest floor interception but not enough results. Then I don't recommend to publish the paper, as a research paper, in the present form.

Specific comments

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Section 1.2. Description of other published papers measuring forest floor interception should be simplified (p. 2327, l5-20). Moreover, in this section there is superfluous information about the use of the described device in a site not considered in the paper.

Section 2. This section includes also materials and methods (p.2328, l10-15). In the site description section there is not enough information on the characteristics of the forest studied, i.e., species studied (*Fagus sylvatica*?), canopy characteristics, litter characteristics, etc

As net rainfall over the device is calculated from 1 throughfall gutter and 4 pluviometers (eq. 2) the description of these devices should be improved, i.e., which is their surface?. Owing to this indirect evaluation of the net rainfall input to the described device, and to the low forest density (168 trees/ha) it is necessary to evaluate and take into account the error in throughfall (net rainfall) measurements.

Paragraphs 5-10 in page 2330 should be clarified. Is it possible to calculate a water balance verification using the information from both basins or not?.

Is it plausible to have a 34% of net rainfall (40mm), that represents in mean 0.45mm/day evaporated from the litter? Specially in November with air temperatures between 0 and 10°C?. How do you explain this rate? particularly considering that this is a quite high value compared to literature.

The variations of measured weight with temperature are an important issue. You should explain clearly the problem and the possible solutions.

There is a need of a more complete discussion of advantages, technical problems and disadvantages of the device presented.

Technical comments

p. 2328: Change the title of the section by Materials and methods.

p. 2329: Try to omit sentences as: "In Fig. 4 the first results of the interception device

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of ϵ ”.

p. 2330, l10-13: This paragraph should be clarified.

p. 2337: This figure is not necessary in this paper.

p. 2331: clarify section 4.1. modifying paragraph 20. You should omit sentences as: “It appears that a linear regression exist, ϵ ”. Please, include the regression parameters in table 1. Clarify also why there is a time lag, and present some data (graph) showing that.

p.2332: All the terms in equation 5 are not described in the text.

p.2332: Modify, in the conclusions, the sentence “the obtained results for the evaporation from beech litter interception (34% of the net precipitation) in the ϵ ”, as this conclusion is a result of only one month of data.

p. 2333: Omit paragraphs (l 5 to 10) in the conclusions that are not directly related to your results. These paragraphs are generally used in the introduction.

Table 1: Modify including all the information of the regressions.

Fig 1: This graph is not necessary for this work.

Fig 3: (b) Include bulk rainfall. (c) verify axis.

Fig 4: Verify axis. Why storage is negative?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 3, 2323, 2006.

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