This document contains our answers to the referees' and editor's comments. We would like first to thank the referee and the editor for the careful reading of the paper and their relevant remarks and comments. In the remainder, the Referee' remarks are written in black while our answers are written in blue. Moreover, cited text from the revised version of the paper is written in red.

Enclosed is the revised version of our paper.

Editor:

The new version of your paper was reviewed by one remaining reviewer. I am happy to communicate you that only some technical corrections have to be made for the publication of the manuscript.

The technical corrections suggested by the reviewer have been done.

Reviewer:

Thanks a lot for the authors' efforts to improve the clarity of this manuscript.
We thank the reviewer for this positive feedback.

I only had the following comments for further consideration:

1. "…As a matter of fact, when deeper reservoirs are switched off, water exits root zone soil layers based on the usual equations. ..." what do you mean 'usual equations'. Please be specific.

We provided further details in the paper on that respect:

"As a matter of fact, when deeper reservoirs are switched off, water exits root zone soil layers based on the usual percolation and/or subsurface flow equations (e.g., Eq. 1)."

2. Table 1 For 'Surface Energy Fluxes', in CLM, the author stated that 'Air and soil heat fluxes (Monin-Obukhov similarity)', which seems a bit confusing.

We thank the reviewer for this relevant suggestion. We improved and clarified table 1 as well as the associated terminology.

- It is understandable that MO theory was used to calculated the MO length L, which is further applied to calculate aerodynamic resistances. However, if you say surface energy fluxes, it is already referred to ground surface sensible heat flux, laten heat flux, ground heat fluxes etc. There are differences in terms of vegetated surface or bare soil and so on though. If feasible, please list the most important equations to avoid ambiguity. The Table 1 as it stands now seems not informative and not precise.

To clarify this, we separated radiative fluxes and energy fluxes in Table 1 (see below). It is clearer now that evaporation and transpiration are estimated via energy fluxes. Moreover, we separated the ground and vegetation latent heat fluxes computation in CLM for the sake of clarity, as suggested by the reviewer.

- 'Soil Heat Fluxes' are not exactly correct. Perhaps Soil Surface or Ground Surface, but then, you already mentioned surface energy fluxes

To correct this, we removed the term “soil heat flux” and only mention energy fluxes in Table 1 (see below).

- ‘air’ I understand the author would like to imply that there is a land-atmosphere interaction. However, ‘air flux’ is really not what CLM will do. Usually ‘air flux’ can be provided by atmospheric models, and still they don’t call it ‘air flux’ as such … …

We corrected this (see table 1 below) and thank the reviewer for highlighting it.

Table 1. Main processes implemented in the CLM- and SFX-based studies.

<table>
<tr><th>Main Processes</th><th colspan="2">CLM</th><th>SFX</th></tr>
<tr><td>Radiative fluxes</td><td colspan="2">Solar and long wave radiations</td><td rowspan="3">Lumped evapotranspiration (Hamon formula)</td></tr>
<tr><td rowspan="2">Evaporation & transpiration</td><td>Ground latent heat flux</td><td rowspan="2">(Monin-Obukhov similarity)</td></tr>
<tr><td>Vegetation latent heat flux</td></tr>
<tr><td>Subsurface vertical flow</td><td colspan="2">Across 10 soil layers (adapted Richards equation)</td><td>Across 2 soil layers (power low dynamics)</td></tr>
<tr><td>Subsurface lateral Flow</td><td colspan="2">Only in the saturated groundwater</td><td>-</td></tr>
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