

Dear Editor,

We thank you and the reviewer for the constructive comments and thoughtful review. In the revised MS we addressed the major comments raised by you and the reviewer as well as the three specific comments provided by the reviewer, as detailed below.

As we understood the review report, major issues raised by the Editor and the Reviewer are:

- Ignoring cumulative precipitation vs. cumulative evaporation, and its impact on water leaching out of the SEC.
- SEC sensitivity to soil physical properties and accuracy of the V.G. Alfa parameter.

In line with the comments of the Reviewer and the Editor, section 3.5 was modified to include an analysis of the impact of cumulative evaporation and precipitation on SEC thickness and potential water flow out of the SEC. Following Lehman et al. (2019) the analysis was done for monthly time intervals. However, in contrast to Lehman et al., which neglected the cumulative evaporation, our analysis includes cumulative values of both monthly evaporation and precipitation. For each month we computed expected drainage out of the SEC by the cumulative evaporation-precipitation analysis (Equation 10 in the revised MS), as well as predicted leaching values as computed by the HYDRUS simulation, for the three examined climatic scenarios. We believe this new addition further demonstrates the validity of the SEC concept in estimating water flow and consequent solute transport processes near the soil surface. The added section is in P25-26, L489-526 and includes Figure 13.

The Reviewer suggested to focus on the arid conditions and to ignore the cumulative impact. This is in contradiction to the Editor's comment as detailed above. In the revised MS we discuss the validity of the SEC model and needed assumptions for arid conditions and wetter conditions. We emphasized that Figure 12 is relevant for arid conditions, whereas the new figure (figure 13) and the cumulative precipitation/evaporation approach is more relevant to wetter conditions. We hope that by doing so we managed to address both comments.

Lastly, the reviewer was concerned about the sensitivity of the SEC model to soil physical properties, namely the Alfa parameter. Upon the reviewer request we added Figure 4 that presents the water retention curves of three soil samples. In accordance to Figure 4 we discuss the observed variations in V.G. parameters and their impact on the SEC (P10-11, L237-250, and P23, L 473-479). Moreover, Figure 11 (Figure 12 in the revised MS) includes now more data points that includes the different soil samples from the field and the modelled soil that was derived from these measurements.

Specific comments:

C1: Lines 196 and 199: don't use 'n' for porosity (line 112, van Genuchten n)

R1: Accepted, changed to \emptyset .

C2: Line 358: why is the critical water content changing when it depends only on parameter m (equation 5)?

R2: This is true. Our mistake, Changed.

C3: Table 3: bulk density unit is g/cm3

R3: Fixed.

Following these changes, we hope you will find the paper suitable for publication.

With best regards.