Review of HESS manuscript #hess-2021-549

Title: Evaporation from a large lowland reservoir – observed dynamics during a warm summer

The manuscript analyses evaporation measurements by EC towers and provides simple regression models based on the routine observations to describe evaporation dynamics in Lake IJsell (Netherlands). It is well written and organized. However, there are some aspects in the study that need clarification or should be addressed by the authors.

- There are many studies showing that evaporation dynamics vary between different parts of inland water bodies arising from, for example, spatial variability of water depth or meteorological inputs (boundary conditions). Considering this, it is fine to have two different measurement stations at the middle of the water body (Trintelhaven) and at the border (Stavoren). However, a discussion on the effect of EC towers location on the observed evaporation dynamics from the water body is missing (not its comparison with terrestrial evaporation as mentioned in section 2.2).

- Vapor pressure at the air-water interface was estimated based on the surface temperature obtained from satellite imagery that often show biases. Was this checked?

- From our own measurements of vertical water temperature in a shallow basin with 2 m depth, I can say water temperature at the surface, where evaporation takes place, is completely different with even 10 cm below. Thus I am not sure how water temperature at depth of 1.2 or 1.5 m could help for evaporation analysis, unless you have a temperature model to reproduce surface temperature.

- It is not surprising that neglecting thermal inertia of the water body (indicating the effect of radiation adsorption in depth) could make such considerable bias in the performance of models such as Penman's (see Friedrich et al. 2018: DOI:10.1175/BAMS-D-15-00224.1). Please see Section 2.4 of Zhao et al. 2020 (https://doi.org/10.1016/j.rse.2020.112104) accounting for the impact of *G* on evaporation estimates by Penman-type approaches.

- Why air temperature is not included in the analysis of section 3.4?

- I believe radiation is a key component in shaping surface temperature that, in turn, defines vapor pressure gradient at the core of your simple regression model. In application of Eq. 10, how surface temperature is obtained? From measurements at depth of 1.5 m, satellite imagery, or solving for energy equation? Dalton-type models may look simple in representation but have difficulties associated with obtaining reliable surface temperatures, and of course wind function (especially in the context of the projected climate change).