

Review comments on the revised version: **“V2Karst V1.0: A parsimonious large-scale integrated vegetation-recharge model to simulate the impact of climate and land cover change in karst regions”** by F. Sarrazin, A. Hartmann, F. Pianosi, R. Rosolem, and T. Wagener.

In general, I agree with the way the authors addressed my main comments. While I am OK with the responses the authors presented in the response letter, I still do not totally agree with the general approach used for the prediction of karst recharge implemented in VarKarst/V2Karst. In my opinion (!), the repeated citation of work done by the same research group does not validate the applied approach and also does not foster discussion about pro, cons and restrictions of the model. I am aware of the need for distinguishing between diffuse and direct recharge. The applied approach in VarKarst/V2Karst and, hence, the recharge estimations is definitely a step into the right direction and an improvement to the frequently applied percentage breakdown of total precipitation. The estimation of recharge (especially direct recharge -> short-term process) by using (hydrological) budget calculation might be applicable for certain conditions (Hartmann et al, 2012: Both [experiments] highlight the presence of large water storages in the soil of the epikarst, which need to become saturated before the drips activate) but might also fail in other karstic system with different properties. Therefore, a description of typical karstic features in the study area is demanded.

Nevertheless, since the paper focuses on the enhancement of an already existing model approach (supported by several publications), the manuscript can be considered for publication.

References

Hartmann, A., Lange, J., Weiler, M., Arbel, Y. and Greenbaum, N.: A new approach to model the spatial and temporal variability of recharge to karst aquifers, *Hydrol. Earth Syst. Sci.*, 16, 2219-2231, 2012.