



EGUsphere, referee comment RC1

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unable to review scientific content of manuscript due to non-compliance with Copernicus data policy

Rolf Hut (Referee)

Referee comment on "Adjoint-based spatially distributed calibration of a grid GR-based parsimonious hydrological model over 312 French catchments with SMASH platform" by François Colleoni et al., EGU sphere, <https://doi.org/10.5194/egusphere-2022-506-RC1>, 2022

The topic of the paper "Adjoint-based spatially distributed calibration of a grid GR-based parsimonious hydrological model over 312 French catchments with SMASH platform" seemed interesting to me since the abstract mentioned use of a new data assimilation scheme (VDA) and a platform for running hydrological models with greater ease.

On reading the paper though, I believe that it does not comply with the Copernicus data policy and should therefore not be published in HESS (in its current form). The points in which I believe the paper does not comply with the Copernicus data policy include (but may not be limited to):

- The paper does not contain a 'data availability' section. This is a required section. Copernicus requires authors to state where the data used in / generated by their work can be obtained. Data should ideally be published in openly available repositories with a valid persistent identifier (preferably DOI).
- The paper does not include any link to the software generated and used in this work, whilst it heavily relies on it for its results. The authors introduce a platform for running the SMASH model integrated with data assimilation, but fail to provide that platform to the hydrological community. The only link I could find was a reference to a poster (Jay-Allemand et. al. 2022) which does not have a DOI and upon finding that poster (at <https://hal.archives-ouvertes.fr/hal-03683657>) I discovered that the software mentioned is hosted at the ISTREA gitlab page which is only accessible to ISTREA employees. (gitlab.irstea.fr). The software that contains the main point the authors want to make, and that is used to generate the hydrological analyses they present in the paper, should be openly available to the hydrological community in general and to reviewers of the paper in particular.

If I'm wrong and I misread the paper I deeply apologise and I owe the authors a round of drinks (at least). After reading the paper twice I have failed to locate either the data generated by the experiments described, or the model code or experiment code used to generate the results presented in the paper.

While the authors are first and foremost responsible for making sure that their submission complies with journal regulations I also like to stress that it is the responsibility of the editorial (support) team at the publisher to make sure that any submission complies with journal regulations and guidelines before sending manuscripts out to reviewers. When I get a request to review a paper I expect that checks against journal regulations such as reference style, but more importantly: open science requirements, have been conducted by the editorial (support) team.

I ask the editorial team of HESS to make agreements on procedures with the editorial support staff to make sure that in the future these checks are done before a manuscript gets send out for review.

Looking forward to reviewing a new manuscript by the authors that does comply with Copernicus Data Policy.

Rolf Hut

PS after spotting the above mentioned issues in the manuscript I did not execute a further detailed review. I did read it through twice and if the authors decide to amend the above mentioned issues I do have some further first suggestions to improve the manuscript: in its current form the manuscript tries to do too many things: introduce the SMASH model, introduce a new data assimilation method into hydrology and introduce a new platform to do hydrological research. I suggest to turn this into separate manuscripts to allow for focus in each one of them. The introduction of the model maybe fits better in GMD than in HESS, the study of the improvement in predictions when using the new data assimilation scheme would be (in my opinion) suited for HESS.