

The paper provides a use case for web-based high-level hydraulic analysis tool, designed to conduct numerical simulation from the data provided by user himself in order to access the outcomes of severe flooding. The case study suggests such assessment with the dataset on severe flooding event happened in February 2016 in the Agura River in Portugal.

The paper is a significant leap in shifting towards a new paradigm in hydrology (see e.g. (Rigon et al., 2022)): from Models as an Application (MaaA), e.g. installed on one's desktop, to Model as a Service (MaaS) – high-level environment designed for numerical experiments and results' visualization, located on the remote server and using graphical or API interface for user interaction (e.g. data handling and model setup).

The paper is well-organized and provides key features of the work motivation and the basic concept of the RiverCure portal, the data used for the numerical experiments and how the dataset is organized. Furthermore, apart from the input data the authors included the model output into the dataset as an instance of how the initial data could be utilized.

Authors: We thank the reviewer for the positive assessment of our article. We will do our best to further improve the work, accommodating the valuable suggestions. We also thank the Rigon et al., (2022) reference suggestion; indeed, our efforts/concerns related to RiverCure Portal are fully aligned with the DARTs paradigm.

Having said that, I see several drawbacks in the dataset and the describing paper.

The paper structure could be improved. Section 2.2 Input data that describes only the spatial data is followed by Section 2.3 Output data, next Section 3 is called Data records and contains Section 3.1 Input data and Section 3.2 Output data again, which is very confusing. I suggest the authors combine the two sections to describe the data consistently – for input and output, spatial and temporal data separately.

Authors: We thank the reviewer for the suggestion. We agree with the suggestions of the reviewer. Unless other reviewers or the editor provide strong arguments to do differently, we will change the structure to grant a straightforward understanding of the dataset and the software tools employed. That includes merging subsections 2.2 and 3.1 and the subsections 2.3 and 3.2. The details regarding the software tools will be provided in a dedicated section.

The dataset handling should be improved. It took me a while to understand how I could download the data from the hydroshare.org website. The download process might be better documented for users not familiar with hydroshare.org or Bagit download tool. I suggest the authors prompt the download in Section 5 Data and code availability.

Authors: We thank the author for the suggestion. We will document the download process in Section 5.

The dataset contents should also be improved. The listed spreadsheets Agueda_hydrometric_PonteRedonda.xlsx and Agueda_hydrometric_Ribeiro.xlsx contain only the streamflow discharge timeseries, contrary to what is stated on lines 159 – 167. The data spans for 16 days of hourly records at two gauges for streamflow discharge for the entire flooding event in February 2016

Authors: We will improve the dataset regarding this input data and the manuscript regarding data processing. The data measured in the two gauges was precipitation that was converted into discharge, which is the input data for the numerical model HiSTAV. The revised version of the manuscript includes further details on the discharge computation.

The river discharge and rain gauges locations could have been provided as a spatial coverage as well (e.g. geojson).

Authors: Thank you for the suggestion. We will add those locations as recommended.

As of May 8th, 2023, an attempt to load the layers to QGIS desktop 3.28.3 (Windows 10) via the provided links ended up as a failure (Web Map Service <https://geoserver.hydroshare.org/geoserver/HS-937927473a3a4e66a07a2e2fdd9d581e/wms?request=GetCapabilities>, Web Coverage Service <https://geoserver.hydroshare.org/geoserver/HS-937927473a3a4e66a07a2e2fdd9d581e/wcs?request=GetCapabilities>). Please check the data availability.

Authors: We are sorry about the experienced difficulty accessing the data. We have carefully checked the data availability on Hydroshare. The download ran in the background without any progress feedback and took several minutes, but no failure was detected.

The <http://rivercure.inesc-id.pt/> portal is a well-designed but not very useful tool unless you get an instant guest access. Several days after I requested the access to DemoOrganization it is still pending. Without the access visiting the portal narrows to browsing some satellite maps. However, the RiverCure portal functionality may not be the main aim of the dataset and paper.

Authors: Over the last months, we have been working on improving the efficiency of the RiverCure Portal, including a host server transfer. The portal was temporarily unavailable. and some changes have been introduced. That was the main reason for the pending request. To avoid any issue related to confidentiality and for the reviewers' ease, we propose to provide login details to the reviewers by sending them to the Editor. Although the RCP functionality is not the main aim of this paper, we believe it has the potential to become an important tool for hydrologic and hydraulic applications; therefore, we want to ensure the reviewers can access it.

I suggest the authors address the mentioned issues, revise the dataset and the manuscript accordingly, and both could be accepted for publication after consistently improved.

Line-wise and figure-wise technical comments:

L157: special – spatial

Fig. 4: Please round the values in the map legend

Authors: The typo and the map legend will be fixed. We thank, again, the positive feedback and all the suggestions provided by the reviewer that certainly contributed to an improved version of our paper.

References:

Rigon, R., Formetta, G., Bancheri, M., Tubini, N., D'amato, C., David, O., and Massari, C.: HESS Opinions: Participatory Digital eARth Twin Hydrology systems (DARTHS) for everyone - a blueprint for hydrologists, Hydrol. Earth Syst. Sci., 26, 4773–4800, <https://doi.org/10.5194/hess-26-4773-2022>, 2022.