In their manuscript "Flood simulation with the RiverCure approach: The open dataset of the Águeda 2016 flood event", Ricardo and colleagues present a web platform designed to integrate hydrodynamic and morphodynamic modelling tools and input data, together with an exemplary application in the context of a hydrodynamic simulation of the Águeda river flood in 2016. For this purpose, the authors provide both the input data (DEM, surface roughness, model domain) and the model output (water level, flow velocity, etc.).

The manuscript is fairly well written and organised. I appreciate the effort of the River Cure Portal (RCP) as a platform to allow for the web-based integration of data and models in the context of hydrodynamic simulations. The data is accessible via https://www.hydroshare.org which I was not aware of before, but which appears to adhere to FAIR principles. The dataset itself, though, is insufficiently documented in some parts, and the presentation of the data in the manuscript appears partly incorrect (see below under technical comments).

Authors: We are thankful for the reviewer comments that we fully addressed. Those have, certainly, contributed to the improvement of our paper. We are carrying on efforts to improve the dataset documentation. In the revised version of the manuscript, a clarification on the hydrological data is added as well as the description of the conversion of precipitation into discharge data.

The main issue of this contribution is, however, that the presented dataset does not at all meet the review criterion of "significance", neither with respect to the aspects of "uniqueness" nor "usefulness". As for "uniqueness", the model input data for the case of the Águeda river flood largely consists of data which is available to the public via other channels (the global ASTER-DEM, public land use and land cover data from which Manning-Strickler's friction coefficient is derived, public rain gauge (or discharge?) records). The usage and pre-processing of these data to produce the case study input is undemanding. The output data, in turn, cannot be considered unique either, as it can be re-produced by any hydrodynamic model at moderate computational cost. In fact, the existence of RCP makes it even easier to produce the published model output. The criterion of "usefulness" is of course more subjective, but I do not see that the published dataset allows for any new approaches to address pressing research questions in the field. The authors themselves do not highlight any specific research questions or application cases for the data except that it "[..] can be used as a starting point to design other experiments and tools, and to explore the RiverCure Portal".

Authors: We thank the reviewer's comments and we will do our best to further improve the manuscript. We are confident that the input dataset is relevant from both uniqueness and usefulness point of view. At the same time, we accept that we did not elaborate enough on the significance of the proposed dataset.

Flooding is a recurrent problem of Águeda city. However, there are no curated dataset that allows for the description of its flooding events. The 2016 flood event is of particular interest due to the large media coverage allowing to gather informal but accurate data regarding water depth and extent of flooded areas – in this event, the water depth in the river, near the bridge was, at its peak, from 10 to 20 cm below the protection wall crest. This has been observed by local authorities and registered in photos and videos between 4 and 6 PM on the 12th February.

The city was flooded not because of overtopping the protection walls but because of vulnerabilities in these walls. These vulnerabilities have been investigated by us and incorporated in the DEM. We do not know of other dataset that incorporates these features – in that sense this is unique. It should be noticed, at this point, that the hydrometric station placed at River Águeda bridge was malfunctioning during the February 2016 event. Thus, this is the only set of data that describes this event and it requires the numerically produced data, from the calibrated hydrodynamic tool, to complete the flood description, providing discharges and flow

velocities. This effort synthetizes topo-bathymetric and numerically produced data and is very relevant locally as we are documenting an event relevant for River Águeda stakeholders.

But it is also relevant for a wider community of flood modellers. Since we have time series of discharges in upstream reaches and a rather accurate estimate of the peak water elevation in Águeda bridge, this data set configures a well-documented validation event for flood models, particularly, shallow-water models. This is our main aim – to provide the flood modelling with a well-documented flood event to validate flood models meant to operate in similar conditions.

One last note regarding the effort involved in producing the data. The DEM was based on the global ASTER-DEM. Still, a relatively demanding work was carried out to obtain the final DEM included in the dataset to ensure an adequate resolution for the river bathymetry. We conducted field-work to detect non-evident vulnerabilities, thus avoiding errors that other topographic models might have. This involved collecting and updating data regarding the elevation of the protective walls of the riverfront of Águeda city and reproducing the geometry of the under-passages of Águeda bridge. Extra details will be updated on the dataset with the revised version of the manuscript.

I would like to emphasise, again, that I welcome the concept and implementation of the RCP (although I cannot say how it compares to alternatives frameworks). However, neither the design of the RCP nor the included HiSTAV model are within the scope of ESSD which is about the publication of unique and useful data. I therefore recommend rejecting the manuscript.

Authors: We are not attempting to publish the RCP design or HiSTAV features in this paper. We have been doing that in other papers. We intent to publish a unique and relevant dataset, to be used by modellers as a well-documented and trusted validation event. Per the Journal's rules, we must to include details on all software tools to ensure that numerical data is reproducible. Attempting to address the reviewer's concerns, the revised manuscript will further highlight the features of the dataset and correct any unreasonable descriptions of software tools, including RCP and HiSTAV.

Apart from that, I have a few technical comments which are, however, not to be considered comprehensive:

- *The data in the data repository is insufficiently documented. Not all files contain metadata, and there is no document that provides an overarching overview of the dataset as an entrypoint to users.*

Authors: We are working on the documentation of the dataset. Following the reviewer suggestion, an overview of the dataset will be provided.

- *Section 3.1 (3): this subset of data is desribed as precipitation data (the term "udometric" is highly uncommon), but the actual data files appear to contain discharge data - quite confusing. None of these files contain any metadata.*

Authors: The data measured in the two gauges was precipitation that was converted into discharge. For clarity, the revised version of the manuscript includes further details on this type of input data. We will also replace the term 'udometric'.

- *Appendix: The RSL-based "Context"-definition of the data might be interesting within the RCP, but I think it is irrelevant in the context of the data presentation.*

Authors: We understand the reviewer observation. Nevertheless, we consider that a rigorous specification of that data model could be relevant to some readers, who may be interested in further analyse such details.

l. 68: "included in the above input data list" - where is that?

Authors: The sentence is corrected.

- *l. 71: "altimetry" - do you mean DEM?*

Authors: Yes, we meant DEM. The sentence is improved.

- *l. 136: "periodicity"? Do you mean "interval"?*

Authors: We meant to state that the RCP users can define the simulated time interval between results writing. The sentence is changed to improve readability.

- *l. 208: the reference Ricardo et al. (2022) is missing in the reference list*

Authors: This reference refers to the dataset published in Hydroshare. The reference list will be carefully checked in the revised manuscript.