

## ***Interactive comment on “Assessing the impact of different sources of topographic data on 1-D hydraulic modelling of floods” by A. Md Ali et al.***

**Anonymous Referee #2**

Received and published: 15 September 2014

The paper addresses an important topic in the field of the flood propagation modelling, i.e. the influence of the topographic data on model results. Now, although the problem studied is definitively interesting and the paper is well written and structured I have some doubts on the model used. In fact, the paper is entirely devoted to the evaluation of DEMs resolution and accuracy on the modelling flood inundation. The case study presented is a floodplain in the lower part of a river in Malaysia. Now, despite the fact the study area is flat and wide (a typical floodplain) the authors used a simple 1D model to carry out all the analyses. Correctly, the model is calibrated using the discharges measured in the river but the sensitivity and uncertainty analysis are conducted using distributed information (water surface elevation) in the floodplain. I'm not sure HEC-RAS stand-alone can give a reliable and robust distributed information in the floodplain

C3817

useful for a so detailed analysis. It is well known how the Inundated area in HEC-RAS is not the result of water propagation but a simple enlargement of river cross-sections. Are the authors confident with the results of HEC-RAS. Do they think there is not a large difference between the results coming out from a 2D model and the above results. Of course, I don't want to suggest the authors to redo all the analyses using a two-dimensional model, but one possible strategy to implement is to compare the results from a 2D model with the HEC-RAS and see if there any (or too large) discrepancies. If yes, please consider how to include this new source of uncertainty in the general uncertainty analysis.

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 7375, 2014.

C3818