

Nat. Hazards Earth Syst. Sci. Discuss., community comment CC2  
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## Comment on nhess-2021-293

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Community comment on "Invited perspectives: Challenges and future directions in improving bridge flood resilience" by Enrico Tubaldi et al., Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-293-CC2>, 2021

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The paper aims at exploring gaps around the robustness of bridges to the flood hazard on the basis of an expert workshop that took place in April 2021 with the participation of academics, consultants and decision makers operating in the United Kingdom. The topic is urgent and timely.

I understand that the paper sections are stated to be derived from a "workshop and subsequent meetings". However, the "workshop dimension" cannot be seen in the paper. For example, I was expecting to be told how the workshop was run and which information was sought (and how), how the participants were chosen and which expertise they were bringing to the table. The obvious reference here is Lamb et al. (2017) (<https://nhess.copernicus.org/articles/17/1393/2017/nhess-17-1393-2017.pdf>) . The paper reads more as an interesting review, since it does miss to link the outputs, techniques and discussion of the workshop to what is presented in the paper. It is not evidenced how Table 1 was obtained through the workshop and co-working, to give another example. Perhaps, it is worth to consider re-framing the paper within a "review" structure/perspective – or to report how the workshop was structured and how the paper's information was obtained. Finally, the paper would have benefitted by discussing topics that were left out of the workshop (and could act as "future research"), such as netzero.

Minor comments below.

L47: "to be of the order of 160,000 in total with the Highways Agency ..." may need rephrasing

L47-50: what about all the other (non HA- or NR-owned) bridges?

L64: used "£" for pounds before

L66: "this" what?

L75: "the" Univ of Strathclyde (and also "the" for Surrey's and Southampton's)

L133: used "and" instead of & before and after

L13: used "formulae" instead of formulas before

L144, 243, 344, 431, 482, 493: "this" what?

L318: authors may want to refer to the updated version of BD97/12

L460-3: how can "Satellite imagery, aerial photography and UAVs technology (Figure 5) can also be very useful...?"

L487-489: I think Digital twins are just an example of technology for this paper, rather than a conclusion of it (since there is no evidence before leading to it in this section).

Table 1: what about the lack of flood damage models/curves for bridges at risk of flooding. What about resilience or restoration models? If these topics did not come out during the workshop, perhaps discuss anything that was left out during the event but worth to be mentioned? Also, maybe "data integration" rather than fusion?