

## ***Interactive comment on “Communicating Disaster Risk? An Evaluation of the Availability and Quality of Flood Maps” by Daniel Henstra et al.***

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We are pleased to respond to the helpful and constructive comments of Referee 2 (Fuchs), which were posted on the NHES Discussion page on November 15, 2018. The Referee’s comments and our responses are presented below.

1. Page 3, lines 25 ff.: Quoting the paper of de Moel et al. the authors state that 29 European countries already have flood maps but only very few have produced flood risk maps that include information on the consequences of flooding. It may be worth to add here some sentences on the European Flood Directive and its implementation: Increasing flood losses throughout Europe have led the European Commission to issue the Directive on the Assessment and Management of Flood Risks (Commission of the

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European Communities, 2007) as one of the three components of the European Action Program on Flood Risk Management (Commission of the European Communities, 2004). This directive, defining flood hazard in the broadest terms as “the temporary covering by water of land not normally covered by water” requires the member states to establish flood risk maps and flood risk management plans based on a nationwide evaluation of hazard, exposure, and vulnerability (e.g., Fuchs et al., 2017). While in the early 21st century considerable efforts have been made toward flood risk maps (Meyer et al., 2012), less information is available so far on respective management plans (Hartmann and Spit, 2016). Moreover, there is a particular gap in risk maps and management plans for mountain hazards other than those of hydrological origin. Of particular importance seems to be the paradigm of public participation and societal adaptation in assessing local risks, and the legal and institutional settings necessary therefore (Hartmann and Driessen, 2017; Thaler et al., 2018).

RESPONSE: We agree with Referee 2 that it is important to highlight the EU Floods Directive as a key catalyst for flood risk mapping and flood risk management plans in Europe. The revised manuscript will be submitted after the Discussion Period will contain a few sentences to explain the Directive and, drawing on the sources recommended by Referee 2, provide a more recent assessment of progress toward its implementation, including outstanding challenges.

2. Figure 2: Please think about enlarging the Figure so that the readers can follow your arguments regarding “bad practice” and “good practice” – alternatively, you may wish to insert one “best practice” example in section 5.2.

RESPONSE: In the revised manuscript, we will expand Figure 2 to better illustrate the differences in quality between the various maps. We will also include an example of a “best practice” map scoring 78% (7/9), which was the highest assigned score among the dataset.

3. Page 14, lines 24 ff.: The mentioned shift towards more self-responsibility in miti-

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gation and adaptation decisions is also because of a decreasing budget available for technical mitigation – you may wish to check (again with a focus on the European Alps) Holub and Fuchs (2009) how these issues can be put together so that the overall societal resilience is increased.

RESPONSE: In the revised manuscript, we will note that risk transfer policies that shift responsibility to individuals are often motivated by declining budgets for structural protections, and that increasing risk awareness through information is an essential prerequisite for their success.

4. Moreover, to show property-level flood risk publicly has been heavily debated in Europe because of protection of data privacy. As such, some European websites restrict the zoom function to a certain scale so that not everybody can precisely assess the hazard extent and match this information with the real estate extent (for an example of limited zoom possibilities, see <https://www.hora.gv.at/>).

RESPONSE: This is an important point, and we are grateful to Referee 2 for raising it. Whether and how releasing flood maps could affect property values or data privacy is a real concern, and one that has not been addressed fully in the Canadian context. Although this discussion is outside the scope of our current paper, we will make note of this issue as we continue with this project based on feedback from policy-makers and practitioners.

5. References mentioned (for illustration purpose only, please note that it is up to the authors whether or not they wish to include them into their revised manuscript)

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RESPONSE: We are grateful to Referee 2 for suggesting these resources, most of which we have incorporated into the revised paper.

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