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Reply on RC1

Dorothea Wabbels and Gian Reto Bezzola

Author comment on "Invited Perspectives: "Small country, big challenges – Switzerland's hazard prevention research"" by Dorothea Wabbels and Gian Reto Bezzola, Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2021-190-AC1>, 2021

- The list of research topics provides a rough overview. However, this part of the paper would gain a lot if 3-4 of these topics were dealt with more soundly and in more detail. Thus, I suggest that you pick 3-4 topics as examples and describe the state of the art of this research topic and what innovations are expected via this research plan within the next 4 years. Clear examples of ongoing research projects to improve knowledge in these areas would be very helpful.

We do agree and will add some examples. The research concept itself is adjusted every 4 years, but our measures and research goals are only adjusted if new knowledge gaps are identified or existing ones are closed.

- The paragraph "What concerns everyone can only be resolved by everyone" is too general to provide any interesting information. Please describe the integrated risk management approach in Switzerland in more detail. How is it organized? How well does it work? What are remaining challenges and ideas how to solve current problems. The concept, that all actors need to work together to achieve an effective risk management is good, but what is done to achieve this vision? For instance, in Germany, according to § 5 of the German Federal Water Resource Act that was enacted in 2009, every person that could be affected by a flood is obliged to undertake appropriate actions that are reasonable and within one's means to reduce flood impacts and damage. Does a similar law exist in Switzerland? What incentives are provided to motivate private precaution?

We will add a short description of the integrated risk management approach. Going into detail answering all the questions concerning IRM would be beyond the topic of this article (research). In Switzerland, the municipalities and cantons are primarily responsible for protection against natural hazards. The Confederation assumes its strategic leadership role and supports the cantons financially and technically. Other important tasks for protection against natural hazards are assumed by the insurance companies in accordance with their legal mandate. They provide financial cover for potential damage. By promoting preventive measures and providing information and advice to customers, they make a significant contribution to protection against natural hazards. With the help of their standards, professional associations provide a basis that serves as a planning aid for construction that is suitable for natural hazards. Private actors and those directly affected are required to ensure protection against natural hazards as far as possible in accordance with the principle of Art. 6 of the Federal Constitution, according to which each person assumes responsibility for him or herself and contributes to the

accomplishment of tasks in the state and society to the best of his/her ability. Incentives and cooperative forms can be considered for this purpose, e.g. insurance premium incentives for property protection measures, inclusion of insurance companies in the preliminary review of communal land use planning or in building permit procedures. Research takes place about nudging - the aim is to find out which "nudges" the insurer has to use to persuade the relevant actors in the loss and reassessment situations to increase the protection of their building. As this is not part of FOEN's research concept, we will not add this information in the article.

- Line 17: No "seashore" in Switzerland. Better "along rivers and lakes".
Yes, we do agree and will change it to "along rivers and lakes".
- Fig 1 Do you have the right to publish this figure? Please provide evidence of this, e.g. written consent from WSL.
Yes, we do have the rights. Since 1972 the Swiss Federal Research Institute WSL has been systematically collecting (based on newspapers) and analysed this damage on behalf of us, the Federal Office for the Environment FOEN (Swiss flood and landslide damage database - WSL).