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Interactive comment on "Difficulties in explaining complex issues with maps. Evaluating seismic hazard communication — the Swiss case" *by* Michèle Marti et al.

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The supplement to this comment is the final revision of the paper. It includes some very minor amendments to the latest version submitted (2 revision).

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Difficulties in explaining complex issues with maps.
Evaluating seismic hazard communication – the Swiss case

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Abstract

2.7 billion people live in areas where earthquakes causing at least slight damage have to be expected regularly. Providing information can potentially save lives and improve the resilience of a society. Maps are an established way to illustrate natural hazard. Despite of being mainly tailored to the requirements of professional users, they are often the only accessible information to help the public deciding about mitigation measures. There is evidence that hazard maps are frequently misconceived. Visual and textual characteristics as well as the manner of presentation have been shown to influence their comprehensibility. Using a real case reflecting current practices, the material to communicate the updated seismic hazard model for Switzerland was analyzed in a representative online survey of the population (N = 491) and in two workshops involving architects and engineers not specializing in seismic retrofitting (N = 23). Although many best practice recommendations have been followed, the understanding of seismic hazard information remains challenging. Whereas most participants were able to distinguish hazardous from less hazardous areas, correctly interpreting detailed results and identifying the most suitable set of information for answering a given question proved demanding. We suggest scrutinizing current natural hazard communication strategies, ~~and~~ empirically testing new products, and exploring alternatives to raise awareness and enhance preparedness~~.~~

1 Introduction

Many of the 2.7 billion people living in areas where earthquakes causing at least slight damage have to be expected regularly[1] (Pesaresi et al., 2017) are unaware of this threat or underestimate it. Earthquake hazard is invisible as the processes of relevance occur deep underground. In addition, earthquakes are characterized as low-probability, high-impact events allowing for no warning. Currently, seismic hazard maps are the most commonly used means to visualize and communicate this danger (see a selection in Fig. 1) ~~The preferred means of communicating complex natural hazard calculations are currently maps~~ (Bostrom et al., 2008; Gaspar-Escribano and Iturrioz, 2011; Kunz and Hurni, 2011).

[1] The global seismic hazard map (EMMI-GSHAP) defines areas as hazardous if there is a 10 % chance of exceedance in 50 years for earthquakes with a minimal intensity of V on the Mercalli scale.

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Fig. 1.