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Discussions

Interactive comment on "Going beyond the Flood Insurance Rate Map: insights from flood hazard map co-production" *by* Adam Luke et al.

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Comment 1: On page 2, lines 2 ff. the authors state that "Insured losses from natural disasters have been increasing globally (Munich Re, 2005), largely from the growing exposure and value of vulnerable assets (Bouwer, 2011)." – The authors should be aware that this is generally undoubtable, however, exposure (and associated vulnerability) is subject to considerable spatial (and temporal) variation, as for example shown for European mountain regions by Fuchs et al. (2015; 2017) [and please be aware that I am not providing these sources to press you for more citations, which would be against good scientific practice and is not in line with the rules of NHESS]. From my point of view it is just important to be a bit careful with these general statements since the question of growing exposure is a tricky one in areas with limited development

space, and given certain political incentives for land development.

Author's Response: Thank you for your perspective on the complex issue of growing losses from natural disasters. In the revised version, we acknowledge that the cause of growing exposure is not simple:

Author's changes to manuscript: Insured losses from natural disasters have increased globally (Munich Re, 2005), and while the causes of growing losses are complex and debatable, the increasing exposure and value of capital at risk has undoubtedly played a major role (Bouwer, 2011). Exposure to flooding is particularly acute in the United States (US), where a combination of subsidized flood insurance and homeowner tax incentive has actually encouraged risky development in floodplains and coastal zones (Bagstad et al. 2007).

Comment 2: - The authors may wish to access the EU flood directive in more detail. As stated on page 2, lines 20 ff., they argue that "In the European Union (EU), member countries are under a mandate to develop national flood hazard maps, and general guidelines for meeting enduser needs have been developed based on participatory processes". In contrast, the EU Floods Directive explicitly focuses on flood RISK maps (on various scales and focusing on different hazard scenarios), leading finally to flood risk management plans. Therefore, it is not only the hazard information that should be communicated, but information on risk. The Directive is attached as a supplement.

Author's response: Thank you for providing the Directive – we will address the purpose of the Directive more explicitly in the revised version:

Author's changes to manuscript: Flood hazard maps are the most commonly used tool for flood risk communication and management. In the European Union (EU), member countries are under a mandate to develop national flood hazard maps, flood risk maps, and FRM plans based upon the mapped information (Council of the European Union, 2007).

Comment 3: - Authors should carefully check their reference list; multiple-author sources are cited differently Author's Response

Bibliography has been updated to remove multiple entries of " Flood maps in Europe-methods, availability, and use".

Author's References:

Munich Re: Topics Geo Annual review: natural catastrophes 2005, Munich Re, Munich, 15, 2005.

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