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Interactive comment on “Floods and climate: emerging perspectives for flood risk assessment and management” by B. Merz et al.

Anonymous Referee #1

Received and published: 30 March 2014

General comments: In general, the article is well written in terms of language and formal aspects - but, purpose and aim of this article are not clear: The title suggests that the paper highlights "emerging perspectives for flood risk assessment and management". To achieve this objective the recent developments in flood risk assessment and management would have to be reviewed. However, the paper of Merz et al. is not a review article in a proper sense, but summarizes the EGU Topical Meeting “Floods and Climate, understanding and exploiting the link between floods and climate” held in Potsdam in fall 2013. Whether this is in line with the policy and scope of NHESS has to be decided by the Editor:

A. If the article is accepted as a summary of the Potsdam meeting, I have only minor concerns: Most statements are correct and point to the relevant and common chal-

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lenges in flood hydrology. This is textbook style and nicely written. The article would benefit from a discussion on the applicability of the ideas in practice as flood risk assessment is of highest relevance for practitioners. In this case, the title should be in line with this purpose. Moreover, I have some remarks concerning the subtitle “Emerging perspectives for flood risk assessment and management” (these remarks are valid for point B, too): The climate - flood linkages are relevant for risk assessment because in a methodological point of view risk assessment has to include the dynamics of the system. For risk management, the consideration of dynamics is restricted by a) the actual legislation/standards with its long planning horizons and b) inter-linkages with economic/land use planning policies with its long time horizon for implementation and impact payoff. As long as risk management is subdued to the dogma of the design event (e.g. a flood event with a certain return period for the planning of structural protection measures or the elaboration of hazard maps), the implementation of every dynamic approach in risk management strategies will fail. Therefore, it is suggested to either change the title by focusing only on risk assessment or to be absolutely aware of the different time scales in dynamic risk assessment and management. The latter imposes to differentiate clearly between short-term (time span of a flood event itself including early warning and recovery phase) aspects, mid-term aspects and long-term aspects (planning and implementation of structural protection measures and their life-cycle) of risk management. In general the important aspect of management is given much less attention than for assessment.

B. If the article is meant to be a review that elucidated the promised "emerging perspectives", the article needs considerable, major revisions: Assuming the authors aimed to write a review article, the manuscript is still in a draft version giving a list of relevant aspects in “flood risk assessment” and “flood management”. Most statements are correct, but not well framed in a methodological context, i.e. a framework is missing that helps classifying the different statements and case studies – although these are basically interesting. One cannot evade the impression that almost every author from the workshop summarizes his/her contribution and wanted to cite his/her articles (only 6

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out of 29 authors are not cited). Table 1 summarizes all the different aspects mentioned in this manuscript and contrasts “old” and “new” perspectives: But these new perspectives are not new as research has been done during the last 10 years on these topics – as also cited by the authors. So, what is really new and emerging? Moreover, the reader is sometimes confused as the term flood is used in its widest sense and the presented case studies are situated on different scales without discussing these different approaches. In its current form the article is far from any practitioner’s reality. How can one justify the consideration of the global dimension for flood risk assessment at the local scale? Some discussion is needed, how the mentioned “perspectives” can be of any help to improve flood risk assessment and particularly management in practice. Finally, the manuscript suggests a solution for the different challenges by establishing a common data-platform for floods. Do we really need a further database? Is this really the most constructive solution for all the problems mentioned? I doubt that, but if the authors really think so, they should be much more precise here. Up to now, it seems that this flood-platform is the only synthesis one can draw from all the different case studies summarized in this study.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 1559, 2014.

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