

## ***Interactive comment on “New insights into flood warning and emergency response from the perspective of affected parties” by H. Kreibich et al.***

**H. Kreibich et al.**

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Dear Referee, thank you very much for your work. We thank you very much for your very valuable critique and very helpful suggestions how to improve our manuscript. The following comments discuss how we will respond to each of your comments. Our answers are marked with an “R”.

Best regards Heidi Kreibich on behalf of all co-authors

Response to the referee comments: Referee #1:

This paper compares the August 2002 and June 2013 floods in Germany in regard to improvements related to early warning and protective actions taken by private house-

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holds and businesses. This is highly informative study regarding improvements in flood early warning in Germany in recent years and offers a significant contribution to disaster risk research where temporal, comparative research is sparse. The author conducted telephone surveys with about 1700 households and 400-500 businesses. The reported results are largely descriptive (x% of respondents did y). There is a lack of more advanced statistics (e.g., ANOVA, cluster analysis) that would identify differences between groups or spatial differences. Perhaps the authors have conducted such analysis but without significant results. If so, it is highly recommended to state that.

R: We agree, that particularly more detailed spatial analyses are interesting, thus, we will divide the research area, i.e. affected areas where interviews have been undertaken in probably three sub-regions in analogy to the analyses undertaken by Thielen et al. 2007 (HSJ 52(5), 1016-1037): A) the River Elbe; B) Elbe tributaries; and C) the Danube catchment.

Overall, the methodology section should be expanded to discuss sampling strategy, analytical steps (e.g., number of complete surveys, imputation of missing values, etc.) and most importantly provide a confidence interval. There is also no mentioning if questions were largely open-ended or closed.

R: The methodology section will be expanded as requested.

For readers unfamiliar with the history of both flood events, it is highly recommended to include more background information on both flood events (e.g., location, duration, number of affected, EU damage, etc.) given that the authors frequently refer the hydrological differences between both events. Perhaps a study area section would improve the manuscript.

R: We will include a study area section with two maps for the two flood events indicating the municipalities where interviews have been undertaken. Additionally, short descriptions of both flood events will be provided.

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Furthermore, it is recommended to expand and update the literature review section with more recent research as well as general risk communication/warning research (e.g., Mileti) beyond flood early warning since many of the issues highlighted by the authors apply to other hazards as well.

R: As suggested we will add a separate background section, where we expand and update the literature review. We will move some parts of the introduction to this section.

The manuscript needs editing to remove awkward phrasing (e.g., "long known" instead of "long time known"; "direct tangible" change to "direct" or "tangible").

R: We will improve the English. Additionally, we will use the English Editing service provided by the journal NHES.

Specific comments: The first two paragraphs of the introduction read like a literature review. It is recommended to move these paragraphs into a separate literature review/ background section. The introduction should be shortened and more clearly (and earlier) communicate the key points of the study (problem, objectives, importance, etc.) could start directly at line 56. 63: did DWD add more gauges or upgrade the gauges? what exactly were those gauge improvements? 64: why were centers restructured? What did they fail to do or what was the purpose of restructuring?

R: As suggested we will add a separate background section, where we expand and update the literature review. Information will be added which answers the questions stated above. However, the early warning systems have not been investigated in this study, information about changes in the system are only provided as background information. The study in contrast focuses on how and when people and companies received flood warning and how they responded. The introduction will be shortened and written in a more focused way also to clarify the focus of the study.

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-133,

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