

Interactive comment on “Enhancing local action planning through quantitative flood risk analysis: a case study in Spain” by Jesica T. Castillo-Rodríguez et al.

Anonymous Referee #2

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In this paper a method for flood risk assessment at the local level is presented and tested in a municipality in Spain. The method includes all relevant parts of flood risk assessment (from hazard modelling to modelling different social and economic consequences), is able to show the impacts of different flood risk management measures and is tailored to the local needs and data availabilities. Therefore it is a valuable contribution to research on flood risk assessment & management in particular for the local level. However, the paper still needs to be improved substantially (I have read the comments from reviewer 1, and I agree to almost all of them – so I will not repeat all of them). My major comments are the following:

Objective of the paper: Currently there seem to be different aims of the paper: 1) To

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present a framework for flood risk analysis and apply it to a city as an example for enhanced local flood risk management (p.1). I would agree to this objective. 2) “. . . to find answers to the following questions: (i) how local flood risk management strategies may benefit from risk analysis; and (ii) which are the current barriers to standardized local flood risk analysis?” (p.3). This would be more an institutional analysis, but I think the paper does not really address these questions, so I would revise these research questions and concentrate on the objective mentioned on page 1.

The statement on p 16: (“It is proposed as a standardized framework for enhancing local flood risk analysis at regional, national and pan-European scale.”) is for me definitely too ambitious. Proposing a standardized framework would require to carry out a detailed review of other flood risk assessment frameworks so far (e.g. DEFRA’s FCD-PAG, recommendations from the Floodsite project, other national approach such as the damage scanner or the Planning Kit DPRD in the Netherlands, FLEMO in Germany, . . .) and to make clear how the new approach differs from these. But from my point of view it is not really the objective of the paper to propose a standardized framework for Europe, it is more to present a framework for Spain and to adjust it to local conditions (see point above). I would nevertheless recommend to add some more citations to other approaches.

Why is standardization necessary? My experience is that standardization in Europe is hardly possible due to different kind of available data, different regional circumstances etc. Isn’t it more important to adjust FRA to local conditions (as you did in your study)? Please discuss why you think that standardization is required.

Own innovations: You are using and combining many already existing tools and approaches, but at least as far as I know two elements of your approach are quite novel: a) consideration of seasonality and b) FRA in highly regulated river systems. Unfortunately the latter is not applied in the case study, but nevertheless I would recommend to make more clear what your own new contributions to flood risk assessment are.

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Risk assessment framework: The framework described in section 2 has many phases and there seem to be some redundancies (e.g. review of data and input data) so I would recommend to check if the steps of the framework could be simplified a little bit more. Furthermore, even the authors seem to have problems to follow these steps when they conduct the case study, i.e. in section 3 the structure is a little bit different. I would recommend to harmonize this with the steps in section 2 (or to merge both sections, as recommended by reviewer 1).

The final (and for decision support probably most important) phase, the evaluation and comparison of different risk management options seems to be a little bit under-developed so far. I would recommend to mention at least briefly decisions support approaches such as CBA and MCA. Furthermore it would be interesting for the reader to know what the current practice in Spain is regarding such approaches. Are they required by law as in the UK?

Please consider also my comments in the attached PDF-file.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2016-65/nhess-2016-65-RC2-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-65, 2016.