Nat. Hazards Earth Syst. Sci. Discuss., 3, C592–C595, 2015
www.nat-hazards-earth-syst-sci-discuss.net/3/C592/2015/

Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "Application of flood risk modelling in a web-based geospatial decision support tool for coastal adaptation to climate change" *by* P. J. Knight et al.

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Received and published: 5 May 2015

Dear Referee (#2)

Many thanks for reviewing our paper, providing comments and identifying technical corrections.

"Specific comments: The paper is not focused on flood modelling but on the development of the web-based tool, so it refers to a very recently published paper (Prime et al., 2015) for details about the modelling procedure. Even so, it would be convenient to include in this paper some information regarding the flood model steps and the proce-

dure for calculating the associated economic cost. Additionally, some comments about the expectations on future applicability of the tool would also be interesting: are there any public institutions or private companies interested in the development of the tool for other areas? Finally, some changes should be made in the maps, as the location of some features and landmarks in not clear from current figures. I would suggest including insets in Fig. 1b and 1c to show the main features in both areas, which now can only be seen in the Results figures."

I will address this by including more information about the inundation model, modelling processes and the associated methods of calculating the economic costs.

I will also add a paragraph about stakeholder and project partner engagement describing future funding opportunities, and routes to transfer the responsibility of running and maintaining the finalised DST to governmental agencies. For example, one partner has asked us to adapt the tool to reflect their concern about flooding around electricity pylon foundations; this may lead to future funding.

As part addressing figure clarity I will try and add insets into Fig 1b and 1c as suggested.

"Technical corrections:" "1- Introduction Page 2, line 8: Change "we've entered" to "we have entered". Page 2, lines 25-32: The difference between SDSS and EDSS is not clear from the explanation. It is better to define SDSS first, and then include the example with the reference of Shim et al. (2002). Page 2, line 31: Change "graphical" to "geographical". Page 3, line 17: Change "have developed" to "has developed"."

These will be corrected.

"3- Case studies Page 5, lines 15-17: The position of River Wyre, Morecambe Bay and The Mount should be indicated in the location map (see specific comment above). Page 6, lines 9-10: The position of the pumping station and the river Oldbury Pill should be indicated in the location map (see specific comment above). Page 6, line 10: Fig. 3

should not be cited before Fig. 2."

I will add these to the figures. I will sort out the figure citation order.

"4- Flood modelling Page 7, line 11: Better change"return level" to "return period". Page 9, line 2: Change "wave overtopping in reduced" to "wave overtopping is reduced". Fig. 3a and 3b: It would be better to use a colour other than blue for depicting the electricity pylon routes, to avoid confusion with water courses. Page 10, line 22: Change to "as indicated in Fig. 3b by A and B, respectively"."

These will be amended, corrected and figures altered.

"5- Discussion Page 11, lines 25-28: This is a nice statement, but it does not have any relation with the paper. It would be good to add some comments on how the DST developed in this paper accounts for this "overarching" fact."

We will revisit this sentence with a view to clarify what we intended to say and to expand on the statement.

"Page 12, lines 5-7: This is repeated from the Introduction. Page 13, line 4: Change "the DST also helps to user to identify" to "the DST helps users to identify".Page 13, lines 8-10: This is repeated from the Introduction."

I will change and amend.

Page 13, line 23: Flood depth and duration are not so clear from Fig. 3a and 3b.

It is much clearer on the 'online version' of the tool – also there is also a colour legend option on the online tool. I will make the text clearer to reflect the difference between a full screen web site experience as opposed to a journal paper representation of a web page.

"6- Conclusions Page 15, line 7: Change "combinations therefore" to "combinations thereof". age 15, lines 13-14: Change "The DST also offers to capability to undertake"to "The DST also offers the capability to undertake". Figure captions: Caption

in Fig. 3b should include the explanation of the points indicated by the A and B red squares." "

I will change

References: Page 22, lines 11-12: The reference by Van Koningsveld et al. is missing the paper title.

Thanks for pointing this out – we will rectify.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 1615, 2015.