Response to “Short Comment” by Dr. Daniela Molinari

The authors would like to thank Dr Molinari for taking the time to read our manuscript and for her constructive comments.

Response to Comments:

Dr Molinari made a number of comments, which we will summarise, as well as how we plan to respond to these through amendment/clarification of the manuscript.

1. *The Commentator refers to a recent article on the topic of evaluating forecasting uncertainty.*
We were not aware of the existence of this paper, as it was published after initial submission of the manuscript. We shall try to obtain a copy of the article and, if appropriate, add a reference to our manuscript.

2. *The Commentator notes that the use of a flood warning system may have a greater effect on intangible and/or indirect costs than on tangible, direct damage only.*
We agree that the type of damage considered is only direct, tangible damage. As indicated by Dr. Molinari the damage avoided when considering only direct damage is often found to be modest. Flood warning will indeed also allow for reduction of indirect, as well as indeed intangible damage, and that reduction may indeed be larger. Dr. Molinari suggests the method can be extended to include such reductions, which would result in changes to cost/loss ratios. However, research into how to estimate the effects of flood warning on indirect damages is required. A note shall be added to the text in section 4.3 of the Discussion to this extent, where the including of other types of damage is discussed.

3. *The Commentator notes that the costs of warning response are probably related to the severity of the event that is forecast.*
We fully agree with this comment. Indeed, in the manuscript a simple dependency was used: the cost of response is expressed as a fraction of the extend of avoidable damage (C = r * La), with the latter being expressed as a function of flood depth: La = f(flood depth). This means that the cost of warning response is also a function of the flood depth.

4. *The Commentator notes that REV is dependent on the cost-to-loss ratio.*
This is indeed the case, as is shown in equation 8.

5. *The Commentator notes that warning rules must befit the users' cost-to-loss ratios, but that the latter are difficult to estimate*.
Indeed we are aware of the difficulties here, and shall add a note to that extent to the manuscript. It was for this reason also that the full range of cost-to-loss ratios was considered. Although difficult to estimate, and probably accompanied by large uncertainties, a user may have some idea of the order of magnitude of the value of *r*, rather than an absolute value. We will add a note to this extent in the Discussion.

Delft, September 17, 2011
Jan Verkade and Micha Werner