

## Authors' responses to interactive comment SC1 from Linda Speight

This paper provides a detailed overview of the role of FWDOs and MFDOs within the EA which as far as I'm aware isn't currently available within the academic literature. It also provides a timely discussion on the practical perspectives of transitioning to probabilistic fluvial forecasts within the EA supported by rich interview evidence. The combination of these two aspects provides a valuable contribution to the field in a well presented paper.

We thank Linda Speight for her valuable comments which will help improve this manuscript for its final publication.

On reading the paper there are a couple of areas that I think could be clearer, particularly around the definitions of lead times and decision makers.

1. Firstly the importance of timings/lead time is confusing as the focus changes throughout the paper from the 2-6 hour window for issuing flood warnings to the 2-5 day window for more strategic planning decision making. The relative value, and expected use of probabilistic forecasts will be different at these two timescales. The quote on line 270 is key to this discussion. It would be helpful to have a clearer focus on what lead time is being discussed at different points in the paper. A specific example is line 234 talking about waiting for the forecast to be confident – I expect there is also a balance of confidence and lead time here

This is a very good point and we will clarify throughout the paper (where relevant) the lead times- decision types being referred to (from strategic planning up to warning). In fact, we think that this warrants further discussion and distinction in the Discussion and for the recommendations. There is a value to probabilistic forecasts for both strategic planning and warning.

2. Largely the paper considers the FWDOs as the decision makers as they are the ones issuing flood warnings. The latter part of the paper also introduced external stakeholders as decision makers, making decisions on the EA flood warnings. It would improve clarity to make it clearer when you are talking about internal and external decision makings. In particular this applies to the discussion around lines 500 and 540. Maybe also consider adding a definition of 'decision maker' to the glossary and recognising that decisions are made at various points during the forecasting chain.

We will introduce the internal (FWDOs and to some extent MFDOs) and external decision-makers when presenting Fig. 1, making it clear that these interviews and paper focus on internal decision-makers but that external decision-makers also exist. Thereafter in the text we will make sure to clarify which decision-makers we are referring to (such as around lines 500 and 540). We will also add decision-makers to the Glossary.

3. Similarly it is not clear who makes the decisions re increasing control room staffing or increasing field resources (e.g. for putting up flood defences). Is this the FWDO, the MFDO or someone else? And what time scale are these decisions made on/how will the change to probabilistic forecasts affect them?

Decisions regarding an area's response to and preparation for a flood event are made higher up the chain, at the top of the Area Response Unit on Fig. 1. This will be clarified in Section 4.1, when discussing the MFDO and FWDO roles. More information about the timescales of preparations and

actions will be added to Section 4.1 as well. Timescales and how this transition will affect them will be explored in the Discussion and recommendations (as per our response to comment 2. above).

4. I know it is beyond the scope of the paper but there is limited consideration of how the change to probabilistic forecasts might affect external decision makers although it is raised as a concern by FWDOs. A useful extension to the work would be to see what information those receiving flood warnings actually want, to understand if it is a perceived or real concern about the lack of binary forecast information and the pushing of decision making further down the chain. This is also relevant to recommendation 1 – as well as communicating that there will be a change, should the EA also have some responsibility for preparing external decision makers on how this might change their practices?

Although beyond the scope of this paper, this is indeed a very interesting and important point. We will discuss this point more thoroughly in the Discussion, incorporating it into a recommendation and suggesting this as future work.

The following are some minor text edits:

We will include these minor edits.

Line 19 – I would remove ‘alternative’, I’m not sure why these two areas are alternative.

Lines 130:134 – this is largely a repeat of lines 76:81.

Line 224 – increase/ change of 200%?

Personally figure 5 (the wordcloud) doesn’t add much to the paper for me.

We will consider removing the wordclouds from this paper.

Given the quotes listed in the appendix, I think the wording of table 1 could be stronger.

Table 1 will be adapted into text (following a similar format to the other Results sections) and reworded, as per comments from the other reviewers.