Hydrology and Earth System Sciences Discussions

Interactive comment on "Do probabilistic forecasts lead to better decisions?" *by* M. H. Ramos et al.

M. H. Ramos et al.

maria-helena.ramos@irstea.fr

We would like to thank K. Mylne for his positive review and constructive comments, which were addressed as explained below.

Referee general comment #1: "(. . .) The authors should at the least acknowledge the fact that they are sampling from a very expert set of decision-makers."

Answer: The application of the game in a conference like EGU Assembly implies indeed that participants are pre-selected. The EGU 2011 survey (http://www.egu2012.eu/egu2011_survey_results.pdf) indicated that the majority of participants on that year were from universities and research institutes, followed by

other public and private sectors, with about 30% being students. It is therefore expected that EGU participants are characterized by a variety of professional experiences. Unfortunately, we have no means of verifying the background of the participants of the game, but we think that professors, students or scientists who attended the session were not necessarily expert decision-makers. However, to clarify this issue, we propose to change the sentence on the discussion section (page 13589, lines 24-26 and page 13590, lines 1-2), in the revised paper as following: "Several limitations to our game can be pointed out: e.g. the reduced number of cases played during the games, the time constraints (15 min to carry out the whole experiment), the absence of training rounds to make sure that participants understood correctly the game and its rules, the limited sample size (98 participants), the fact that sampling was selective, and predominantly consisting of research scientists and professionals in hydrological forecasting and related fields, etc." (see also our response to a similar comment given by referee #3).

Referee general comment #2: "Another general problem with the paper is that, despite trying to design an experiment which could be run in 15 minutes with a small sample, the authors nevertheless attempted to put in several different tests and I feel that the end result is that none of the experiments were properly "clean". (. . .) many of the more detailed analyses of results in section 3.4 are over-analysed and there are too many competing influences to justify some of the conclusions drawn. (. . .) Similarly the effect of how much money they had left would require a much larger sample with different orders of questions. I also think they over-complicated the analysis by providing uncertainty in two of the cases in Game 2."

Answer: The choice of what to put in the game was indeed a difficult one: we had a short time to raise awareness, as mentioned by the referee in his review, bring people to be interested in the game and take active part in it (which is not easy when, by the time of the session, most of the participants had already attended several other oral presentations), and, by the end, convey a message, as we were in a conference and

participants were expecting it. We thus chose to restrict the number of rounds, but play two games to make people feel what it is like to decide with all information available, then abruptly without, and then gently with some uncertainty information back, so we could end the game with a more encouraging perspective. This indeed complicates the analysis of the results, but we believe it was the best choice given the constraints. The results shown in the paper indicate that general conclusions could be drawn after all and contribute to address the main question in the title of the paper. We hope our contribution will encourage future works from the community towards improved game design to sustain more broad conclusions.

Referee general comment #3: "Thus overall I think this was a useful awareness-raising exercise, both in the conference and as a published paper, but I would suggest that the authors shorten the analysis and concentrate on the key overall results rather than trying to squeeze out too many conclusions from a very limited dataset. Finally, I applaud the authors for making the game materials available for use in training activities. It would be worth considering whether they also might invite trainers to return the results to a central database, so that they could build up a much larger dataset of results from which more statistically signiïïňĄcant results might be drawn"

Answer: We thank again the referee for his positive comment towards our work and paper. Since the submission of this paper, we have applied the game to other groups (students, participants in other conferences) and in general the results obtained are in accordance with the ones presented in the paper (for more details, see our response to referee #2). According to the editor's decision, given all referee comments and our responses, we will consider shortening the analysis in section 3.4 in the revised paper. We hope to keep on increasing the number of cases studied and improving the game design to contribute to more in-depth investigations on the use of probabilistic forecasts in decision-making.

Referee specific comments:

1. "rounds" refers to positions in the games and "cases" to the forecasts as shown in Table 1. This will be made clearer in the revised paper and all the suggestions made to improve Fig. 3 will be taken into account.

2. The lines mentioned on page 13580 will be revised to correct and clarify the distinction between "rounds" and "cases".

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 13569, 2012.