

## ***Interactive comment on “Forecast-based financing: an approach for catalyzing humanitarian action based on extreme weather and climate forecasts” by E. Coughlan de Perez et al.***

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I enjoyed reading the paper, which discussed an important issue with potentially large benefits for affected population.

I think it makes the point very clearly.

I have a few comments:

- At first, I did not understand the definition of your “percent of actions that were worth-

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while”. I find it confusing because of one warning, you will have many actions (e.g., evacuation plus pre-positioning of supplies) and your phrasing suggests that some of them will be worthwhile and others won't. In fact, you're thinking about a repeated exercise and the  $R$  is the average over many events. I would change the label and use the classical words (correct alarm ratio).

- In Eq (2) and later, you introduce a “ $n$ ”, assuming that  $a$  and  $b$  are number of cases, while you referred to them as probabilities before. I would use the probability always, and remove the  $n$ .

- I think the text would benefit from more example of actions, to make it more concrete (it is just bringing some of the examples from Fig 1 to the text – it's especially needed because the journal has the figure at the end and not in the text. . .).

- If your budget is too low, you assume that you do less of everything. I was curious whether – in practice – we use this strategy, or if we focus on the cases with higher probabilities. (e.g., you do nothing is the probability if lower than 50%, but you do everything (like without budget constraint) when the probability is higher than 50%). How could we compare the efficiency of the two approaches?

- Finally, you're looking at your budget constraint like if the realized losses will be equal to the expected losses. But there is a lot of variance. I'm wondering whether you do not want to say instead that you want your budget to be sufficient 90% of the years, and use the variance to calculate how much precautionary investments you want to make (you can also use a more sophisticated approach in which you're careful at the beginning of the year when many things could happen, and because less careful when the year's end approaches – it's clearly not optimal in general, but it is the best approach if you have annual budget without the option of “borrowing” on next-year budget.).

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