Reviewer #2

Comment: This is a straightforward paper with a clear structure and presentation. The highlights of this paper appear "(a) quantifying the impact of disasters in a detailed and timely manner and (b) incorporating infrastructure damages into the assessment of losses in employment and value-added", as written in the conclusion section. As for (a), it may be the first model/paper utilizing the multiregional Australian input-output table with 19 regions and 34 industries, while the process for producing such detailed input-output tables were described in other papers (page 11). So, what's new in this regard seems to be the use of the superior economic data (in sub-section 3.4.1) written in one paragraph and table 3. It seems to me if this is one of the main contributions of the paper, it should be discussed more thoroughly, if such contents are available.

Response: Regarding primary (superior) economic data we have added information in Section 2.5.1. including wider referencing of key information sources eg (Queensland Treasury and Trade, 2013, and Wilkinson, J., 2014) which contain full details of data used as constraints. We have not included these data as supplementary information as we did not want to double-up with the original authors' work, however key information could be appended if that is necessary.

Comment: In terms of (b), it is described in sub-section 3.3.2, in which they indicated that their method for this is similar to Hallegatte (2008), as written in page 8. There have been more sophisticated and/or complicated modeling frameworks to incorporate infrastructure damages with input-output analysis for disaster impact analysis, such as Tsuchiya et al. (2007) referred in this paper. So, again, this is not completely new here, either.

Moreover, their detailed multiregional input-output table is used in the rather standard way, as described in pages 6-7, with the Steenge and Bockarjova (2007) approach. There seems no new trick here, either. At the same time, the issues of input-output analysis for disaster impact analysis have been discussed and were summarized well in Oosterhaven (2017), in which he claimed six aspects of disaster impact and argued that input-output analysis covers only a subset of those six aspects. Since this paper also use the standard input-output analysis, the results of this paper should cover only the limited extent of the disaster impacts. At least, this should be discussed, and hopefully would be incorporated in the revised version.

Furthermore, since this paper focuses on the changes in consumption and value-added, the Miyazawa's enlarged input-output framework should be also discussed and would be included for the comparison of the results.

Oosterhaven, J. (2017) On the limited usability of the inoperability IO model. Economic Systems Research, 29: 452-461.

Response: We have cited the references that the reviewer lists, and we have added additional clarification to section 2.4.2, broadening our referencing to the work of others, and helping to clarify the key contribution of this work. In particular, we draw attention to recent acknowledgement of several authors that the preferred method for inclusion of infrastructure in disaster impact analysis is a continuing question.

In response to the comments, we have added the following text in the manuscript:

In compiling the gamma matrices, damages were only considered where we could find empirical monetary information. With respect to modelling the effect of capital infrastructure damages on production, we were bound by the gamma-matrix formalism of the Steenge-Bočkarjova method. We note that other more detailed and sophisticated modelling frameworks have been used, such as Tsuchiya et al. (2007).

Finally, beneficial effects can result from natural disasters. In Queensland for example, the replacement or repairs to damaged buildings and infrastructure, or any other demand for commodities required especially for post-disaster recovery, is likely to have created additional employment and value added and may have spawned technology updates. In addition, above-average rainfall may have been beneficial for pastures and water supply, and increased freshwater run-off and turbidity could have increased catches of prawn trawling. As no data were available for quantifying such repercussions, these effects are not accounted for in our study.

Steenge and Bočkarjova (2007) remarks that a preferred method for disaster impact analysis does currently not exist, due to (a) many possible research questions, and (b) many relevant items of information surrounding disasters being unknown. Steenge and Bočkarjova (2007) also clarify the strengths and weaknesses of static input-output analysis against dynamic CGE modelling. In this context, they warn against overly optimistic assumptions regarding market flexibility and substitution. Oosterhaven (2017) summarises the shortcomings of input-output-based disaster analysis approaches in their attempt to estimate real-world consequences of disasters.