Interactive comment on “Synthesizing long-term sea level rise projections – the MAGICC sea level model” by Alexander Nauels et al.

Anonymous Referee #1

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In this paper, the authors describe the first version of the MAGICC sea level model, a set of sea-level emulators linked to versions 6 and 7 of the MAGICC climate model. They provide a clear description of the algorithms for the different sea-level components and of the model calibration. Accordingly, I believe the paper is worth publishing and have only minor comments regarding the paper itself.

I suggest the authors add some discussion placing the MAGICC sea level model in the context of other similar tools, such as the BRICK model, also currently in review at GMD (http://dx.doi.org/10.5194/gmd-2016-303). A comparison of the model results to that of other simple sea-level models (e.g., Kopp et al., 2016, and Mengel et al., 2016) under similar forcing would be helpful – prima facie, the projections for 2100 seem to align well with these simpler models.
Line 28: I believe the citation here should be to Levermann et al. (2014), not Levermann et al. (2013).


I also note that the code for the sea level model, while available at the gitlab link provided, does not run without the MAGICC model, for which code is not available. I further note that GMD policy states: "If the authors cannot or do not wish to make the code and/or data public (e.g. copyright or licensing restrictions), the reasons must be clearly stated. Note that, for the purpose of the review, the code and/or data must still be made available to the editor. Access must also be granted to the reviewers whilst preserving their anonymity, if this is legally possible." I am not sure whether the current code availability – dependent upon code that was not available for the review process, and for whose non-availability no explanation was provided – satisfies this policy.

Interactive comment on Geosci. Model Dev. Discuss., doi:10.5194/gmd-2016-233, 2016.