GCD

Interactive comment

Interactive comment on "STAGE 2.0: Sensitivity Transfer Analysis of Greenhouse Emissions" *by* Peter O. Passenier

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Thank you very much for your very useful and constructive comments to my manuscript.

Although you recognize the potential importance of the issues addressed in the study, considerable modifications and development are foreseen to make it fit for publication in Geoscience Communication. An important factor in this is to have a clear set of objectives for both readers of the article and possible (end)users the work is intended for. I agree that on both parts a lot has to be gained in the manuscript, thus avoiding possible confusion or (even worse) total loss of interest during the reading process. Hence, before specifically responding to your very valuable suggestions for improve-

ment (provided in the supplement of this comment), it's maybe better to first provide some short background regarding my thoughts on the what's and the why's of the research reported here.

The basic idea was to develop a simple, but multi-scale, simulation model (in the paper perhaps somewhat confusingly referred to as the 'simulation tool'), which because of its simplicity is suitable for 'sensitivity experiments' (basically 'what-if' analyses) in the field of (university-level) climate-change education. Because of this multi-scale aspect, possible long-term cryosphere influences on climate sensitivity may be assessed, albeit in a more qualitative way, which nowadays already seem to become more and more dominant in the Earth system response to GHG forcings. To achieve this, the 'different worlds' of paleoclimatic observations and contemporary (complex) climate models had to be united, which is what the different sections of the manuscript are about. So, indeed, the study at first sight seems to focus on climate-model scaling and validation issues, but as a result actually a multi-scale simulation core is realized which because of its simplicity is directly suitable to be integrated in an educational setting.

Hence, in terms of objectives of the simulation, typical 'users' are courseware (e.g. TEL, CAI, MOOC, etc.) developers in the field of climate-change education, which can enrich their available climate-model software libraries with an innovative module geared towards a more effective communication of the complexity of the functioning of the Earth climate system to the 'student'.

In terms of potential readers of the article, besides the aforementioned educational software developers, the 'public horizon' may be extended to other actors (teachers, (post)graduate students, etc.) in some way involved in the climate-change curriculum development process. My basic assumption was that these 'different types' of potential readers all might appreciate the goals and topics covered by the new Geoscience Communication Journal, as laid down in the editorial by Illingworth et al. Thus, by increasing public outreach this way, my hope is to raise potential interest in the climate-change educational community ('Building bridges'), possibly to a level were the model

presented here may be integrated and tested with end users in an actual educational setting.

Please find my more detailed response to the necessary or highly desirable changes as proposed by you in the supplement to this comment.

Please also note the supplement to this comment:
https://www.geosci-commun-discuss.net/gc-2018-5/gc-2018-5-AC1-supplement.pdf

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