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Geoscientific Model Development Discussions

Interactive comment on "A new dataset for systematic assessments of climate change impacts as a function of global warming" *by* J. Heinke et al.

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We thank referee #2 for the very positive overall evaluation and the constructive comments. The comments will certainly contribute to an improved manuscript. We specifically appreciate that the reviewer agrees with our view that despite limited novelty of the pattern scaling approach itself there are very few examples of its application documented in peer-reviewed literature. To fill this gap and to promote further application of the pattern scaling approach is among the main ends of this paper.

Replies to specific comments from referee #2:

(1) We will add definitions for relative and absolute change in the revised manuscript.

(2) This has also been criticized in a similar form in the other referee's comment 2. During writing we initially considered full use of parameters also throughout equations 4-11. But we eventually decided to omit them for improved layout and readability as equations would become very long and had to be broken into more than one line otherwise. However, we see that omitting parameters hampers readability more than we expected and will address this problem either by explicitly describing the meaning of the terms in the main text or by adding appropriate definitions to the equations.

(3) The vast majority of the code deals with pre-processing of data, IO handling, parallelization etc. and involves a number of different tools and programming languages. We therefore believe that a complete publication of the code without further documentation would create more confusion than transparency. Instead, we will make the core algorithms behind the pattern extraction and the application procedures available to the public.

(4) Although the equations behind Figs. 3–6 would make the figures more accessible we do not think that it is necessary to have them in the main text. Instead we will document them in the supplement together with the additional maps requested by referee #1. We acknowledge that the captions are hard to understand and will improve them in the revised manuscript.

Technical correction (1) and (2) will be addressed in the revised manuscript

Interactive comment on Geosci. Model Dev. Discuss., 5, 3533, 2012.