

Interactive comment on “An integrated assessment modelling framework for uncertainty studies in global and regional climate change: the MIT IGSM-CAM (version 1.0)” by E. Monier et al.

Anonymous Referee #2

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This paper describes a modelling framework for modelling regional climate change which has the very attractive feature of including a human activity model. The model is well described and its results well illustrated. A significant concern I have with the approach is that the regional uncertainty may be underestimated because only one climate model is used to add three dimensionality (i.e., regional detail) to the results. This issue is recognised by the authors and they quite rightly compare their regional results to the CMIP5 ensemble results. I recommend the paper for publication, but I think the paper understates the significance and implications of the differences identified with CMIP5. Most of my specific comments (which should be addressed before publication) relate to this point.

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Specific points

P2214, L19-23: The abstract needs to refer to the severe limitation of the method for projections of regional rainfall change, until it is developed to include regional patterns from more models.

P2219, L4: I think there is a missing ‘to’ before ‘CAM’.

P2226, L5-6: Notably these decrease areas are not entirely typical of the CMIP5 ensemble. The strong decrease in rainfall in SW Australia is not present.

P2226, L10-11: The differences in these regions are not all that marked (and certainly much less than in CMIP5). Could these differences be just due to natural variability?

P2227, L20-29: These rainfall differences are very marked indeed, and severely limits its practical application in its current form

P2231, L5-7: The discussion here about the difference with CMIP5 in regional precipitation change is important. It needs to be reflected in the abstract

Interactive comment on Geosci. Model Dev. Discuss., 6, 2213, 2013.

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