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Geoscientific Model Development Discussions

Interactive comment on "High resolution global climate modelling; the UPSCALE project, a large simulation campaign" *by* M. S. Mizielinski et al.

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We thank the referee for their review, for their positive comments regarding the value of this paper and their suggestions for improvements. The suggested revisions and corrections are responded to below.

Suggested revisions

1. We fully recognise the place of the Japanese Earth Simulator as the first facility to permit high resolution climate modelling to take place, indeed several of my co-authors worked there as part of the UK-Japan Climate Collaboration. The

introduction will be amended to include some of the references suggested, and others (on data issues) will be noted in section 2.2.2.

2. A table describing the different HPC facilities used along with their operational parameters will be added as an appendix.

3. The number of cores used by our production configurations, ≈4600, is mentioned in section 2.2.4, along with rates of simulation progress, ≈4.5 simulated months per running day in production phase. The use of floating point operations as a measure of simulation speed is not a quantity that we feel is particularly useful for our models as the constraining factors in production configurations are I/O load, MPI communication rates and memory bandwidth. The number of flops used per simulated model year can be calculated from the simulation progress rate, the number of processors used, and parameters of the processors (clock speed and number of flops per clock cycle), but there is no guarantee that a different system would perform in a similar manner.

Suggested corrections

1. We are happy with the wording we have.

2. I can confirm that Williamson (2013) is the correct reference.

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