

Interactive comment on “Enhancing reproducibility of numerical simulation result on the C-Coupler platform” by L. Liu et al.

Anonymous Referee #1

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General comment :

Very interesting topic. More tests on different platform still required.

Scientific significance :

This paper describes very well how C-Coupler1 could help to check regularly reproducibility. First they describe C Coupler platform. Second they describe informations required for reproducibility. Third they describe how C Coupler could record such informations. Fourth they describe experiment and suggestions to keep relevant informations. Fifth they give empirical results on 2 models and 3 different platforms.

Scientific quality :

C1499

Reproducibility is very important for a climate model. This article describes how to verify bit-reproducibility with the C-Coupler platform and how they do that. From my point of view, this is one important step in the development of a model/platform, related to quality control and this has to be included in a more general technical report: coding rules and quality evaluation of C-Coupler platform. I appreciate how they encourage scientist to describe and record their experiments. I suggest to link the point with CV initiative : Moine et al <http://www.geosci-model-dev.net/7/479/2014/gmd-7-479-2014.html>

Scientific reproducibility :

Length and detail of experiment done are missing. They said that access to C Coupler is possible but I couldn't find any practical information. No detail in the C Coupler user guide found on the web. Experiments show bit-reproducibility for 3 versions of Intel compilers on 3 different platforms. These platforms are all based on Xeon processor. Good point for the C-Coupler. It should be useful to test on a larger set of different architecture. I'm sure they will find differences. The question will change into : how to be sure to simulate the same climate on different platforms. See also this article : <http://journals.ametsoc.org/doi/pdf/10.1175/MWR-D-12-00352.1>

Presentation quality :

P6 L 30 put 'run case' in Italic

P5 L32 Second

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C1500