Geosci. Model Dev. Discuss.,
doi:10.5194/gmd-2015-270-RC2, 2016

Geoscientific Model Development Discussions
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Interactive comment on "Randomly correcting model errors in the ARPEGE-Climate v6.1 component of CNRM-CM: applications for seasonal forecasts" *by* Lauriane Batté and Michel Déqué

Anonymous Referee #2

Received and published: 15 March 2016

The manuscript applies an earlier introduced stochastic dynamics technique in a seasonal forecast system, using a comprehensive set of ensemble re-forecast simulations. These re-forecasts are assed to which extent the stochastic dynamics technique improves predictive skill and ensemble spread.

The manuscript presents novel results that are of interest to a large community. The results are presented very well, and I very much enjoyed reading the manuscript. Hence, I recommend the manuscript to be published, and I only have a few minor points which could improve the manuscript.

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Discussion paper

1. I commend the authors for being clear about the limitations of their technique and not overselling their results. Yet, I think the manuscript would benefit from establishing clear expectations of the technique – and the abstract, the introduction and the conclusions are not very coherent. The abstract summarizes the results mostly with respect to predictive skill. The introduction formulates (p. 3, para around line 5) poses two somewhat different aims, while the conclusions (p. 17, para around line 10) suggest some disappointment because the author's originally wanted to improve the ensemble generation.

I suggest that the authors a. formulate a coherent goal for the manuscript b. include (in addition the limitations discussion in the last section of the manuscript) a discussion where they see the further potential of the technique (based on the presented results.

Also, as a comment, I think the differences/improvements in figure 6 are not small.

2. The split up of the model (experiment) description between section 2.1 and 4.1 was not entirely intuitive to me. Could the two section be combined within section 2? Also, is the horizontal resolution mentioned anywhere? 3. I think section 4.5.1 could do with a mentioning of the recent results of NAO skill (e.g. Scaife et al., Butler et al.; including Weisheimer et al, if the authors wish to question the results). 4. This will be take care of later anyway, but I noticed that (in an otherwise very carefully wriiten manuscript) the references to figures are sometimes with 'Fig.' and sometimes with 'figure'. Also, are all supplementary figures cited (in the right order)? Maybe I overlooked it, but where is figure S2 cited?

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