

## ***Interactive comment on “Long-range memory in millennium-long ESM and AOGCM experiments” by L: Østvand et al.***

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We believe the reviewer has a point in suggesting a more precise title of the paper. Thus, in the revision we have changed the title to:

“Long-range memory in internal and forced dynamics of millennium-long climate-model simulations.”

The main changes made in the revised manuscript are:

1. The data set used from the HadCM3 simulation was wrong (it only contained ocean data). We also wrote in one place that this simulation was a control run, which is not correct. We have presented analysis of the correct data, and since it is a forced run, we have also added a new figure with results from using the response model. Figure 1

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representing the forcings has been modified and extended with the forcing of HadCM3. The results are much more in line with those for the other models studied, and enforces our conclusions.

2. We have addressed the comments by dr. Henriksson and the second reviewer by plotting the power spectra with monthly time resolution when available, and estimating the spectral index beta also from these spectra. Figures have been revised accordingly, and the captions have been extended and made more precise. Table 2 has also been modified.

3. We have included a discussion of the results of Henriksson et al. on the COSMOS model.

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