

## ***Interactive comment on “Overview of the Coupled Model Intercomparison Project Phase 6 (CMIP6) experimental design and organisation” by V. Eyring et al.***

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### **Reply to Helene Hewitt**

The comments below reflect the views of the CLIVAR Ocean Model Development Panel (OMDP). There is general agreement among the panel that spin-up is an issue which requires further attention. While analysis of spin-up does not usually appear in peer-reviewed publications, being able to analyse the spin-up enables a deeper understanding of the simulations and may lead to improved guidance on spin-up for the future. Archiving the model spin-up could

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also be important for comparison with HighResMIP where control and transient experiments are likely to be run close to the model initial conditions.

The paper states (p10549, line 5) that the spin-up ‘is usually performed and discarded’. In the discussion of *piControl* (p10561, line 7), it is stated that ‘the length of the spin-up period should be documented’. OMDP suggest that:

-Text on p10549 is modified to read ‘is usually performed, with the length of this ‘spinup’ period being model and resource-dependent. It is recommended that the spin-up length and procedures are documented and the spin-up archived as far as possible.’

-Text on p10561 is amended to read ‘This spin-up period can be as long as several hundred years. Spin-up length and procedures (coupling/forced, bug corrections, retuning, etc) should be documented and the spin-up archived as far as possible’

Regarding archiving requirements, we suggest that the spin-up should be archived with decadal means of 3D ocean temperature, salinity, carbon-related quantities, 2D surface fluxes and zonally integrated ocean heat and freshwater transports. Archiving these fields would be sufficient to enable a better understanding of climate drift.

**Helene Hewitt on behalf of CLIVAR OMDP**

Thanks Helene and Ocean Model Development Panel for the helpful comments. We have changed the text accordingly and the WIP will define specific names that clearly mark this.

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