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Geoscientific
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Discussions

Interactive comment on "Addressing the impact of environmental uncertainty in plankton model calibration with a dedicated software system: the Marine Model Optimization Testbed (MarMOT)" *by* J. C. P. Hemmings and P. G. Challenor

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We thank the reviewer for their valuable comments, in particular for the constructive advice with regard to restructuring of the manuscript. Our response to specific points is described below.

(1) In the revised manuscript we have, as suggested, given greater emphasis to the experimental work than to describing the MarMOT software features. The main text now includes only features relevant to the experiments presented, with the excep-

tion of a relatively short self-contained sub-section in the discussion entitled “role of the MarMOT facility” to indicate its more generic role in model assessment and inter-comparison. Much of the MarMOT-related description has been moved to the appendices.

(2) The text has been reorganized so that only the details of the experiment comprise Section 3 (including both method and results). A new Section 2 has been added that focuses on cost function design and includes the background material in one sub-section. The new Section 2 replaces the original section describing the MarMOT system.

(3) A summary section has been added as suggested.

(4) A paragraph about over-fitting has been added at the beginning of the discussion to emphasize and explain the key result that the new scheme appears to reduce the over-fitting problem. The discussion of the MarMOT software has been shortened and placed in a separate sub-section rather than moved to the appendices as we feel that it is important in the overall context of the paper.

(5) The abstract has been clarified and re-arranged following the reviewer’s suggestions and text has been added to emphasize the unique aspect of the work that is the treatment of uncertainty in the physical forcing fields.

Interactive comment on Geosci. Model Dev. Discuss., 4, 1941, 2011.

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