

Interactive comment on “‘Climate Response Functions’ for the Arctic Ocean: a proposed coordinated modeling experiment” by John Marshall et al.

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Georgy's comment #1 (and #6) reverberates in particular with me, and we will definitely make this point. There is clearly a need for models with high levels of skill in the community, but at the end of the day we also need to do good hypothesis-testing based science. These objectives are not completely independent but we need to have a clear strategy on observables for both.

Georgy has helpful comments and insights about the BG FWC results, and adding additional science discussion here will strengthen the paper, using this question as an example of hypotheses to explore. However I might suggest we probably cannot go into as much specific detail as the reviewer might desire, but this might make for an

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interesting side paper. Hopefully this intercomparison project will spawn exploration of many additional science-based ideas and published results.

John mentioned linearity; to be more explicit, we indeed tested a larger wind anomaly, but it strongly affected the large-scale circulation in the Arctic in an unrealistic manner. I think our choice is reasonably well motivated by observations (we will make this clearer) and results appear mostly linear for many observables. While we plan to tackle what defines “mostly”, it is beyond the scope and purpose of this submission.

Finally, yes, for point #5 we plan to augment our official CRF ‘protocol’ with details on model output, and agree that we need to maintain a database of specific model details and parameters.

Interactive comment on Geosci. Model Dev. Discuss., doi:10.5194/gmd-2016-316, 2017.