



Princeton University

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March 31, 2017

Re: Submission of manuscript for consideration by Journal of Advances in Modeling Earth Systems

Dear Editors,

Attached is a manuscript we wish to submit to Journal of Advances in Modeling Earth Systems. The manuscript presents a novel framework for modeling icebergs, with a particularly focus on modeling large tabular icebergs. This new framework allows us to model tabular iceberg drifting in the ocean, where the iceberg is explicitly resolved in the ocean. We demonstrate the capabilities of this model by simulating a tabular iceberg calving away from an idealized ice shelf and drifting into the open ocean. To our knowledge, the model presented in this study is the first model to explicitly resolve drifting tabular icebergs in an ocean model that can be used for climate studies.

The manuscript presents many technical elements involved in setting up the model. Idealized simulations of a calving tabular iceberg, its drift, and its breakup, demonstrate capabilities of the developed framework.

Please don't hesitate to contact me if there is any problem with our submission.

Best Regards

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