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Interactive comment on "Isca, v1.0: A Framework for the Global Modelling of the Atmospheres of Earth and Other Planets at Varying Levels of Complexity" *by* Geoffrey K. Vallis et al.

Anonymous Referee #2

Received and published: 18 December 2017

Various concerns have already been raised by the other two referees, so I will not repeat them here. However, I will ask that the authors properly give credit to past studies that are relevant. As it stands, the manuscript reads like the idea of a flexible climate modelling suite to study Solar System bodies and exoplanets is a completely novel idea, when in fact workers in the various communities have toiled for years.

Merlis & Schneider (2010, Journal of Advances in Modeling Earth Systems): these authors perform a rather comprehensive suite of simulations of Earth-like aquaplanets, exploring the differences between an Earth-like rotation rate and a tidally-locked configuration.

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Discussion paper

Heng, Menou & Phillipps (2011, MNRAS, 413, 2380): these authors use the FMS and build on the Held & Suarez (1994) model, extending it to a tidally-locked, Earth-like configuration as well as hot-Jupiter-like configurations.

Showman & Kaspi (2013, Astrophysical Journal, 776, 85): these authors explore GCMs for brown dwarfs and directly imaged exoplanets, which are close cousins of our Jupiter.

Kaspi & Showman (2015, Astrophysical Journal, 804, 60): these authors explore a suite of GCMs for what they call “terrestrial exoplanets”, e.g., varying rotation rate, insolation.

Mendonca et al. (2016, Astrophysical Journal, 829, 115): these authors implement the Satoh+ HEVI scheme and an icosahedral grid on GPUs to construct a flexible GCM from scratch, not unlike what the present study wishes to do.

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