Geosci. Model Dev. Discuss.,
doi:10.5194/gmd-2016-59-RC2, 2016


Geoscientific Model Development Discussions

# *Interactive comment on* "A Modular Arbitrary-Order Ocean-Atmosphere Model: MAOOAM v1.0" *by* Lesley De Cruz et al.

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Received and published: 2 June 2016

The paper presents a new reduced order quasi-geostrophic ocean-atmosphere model MAOOAM. The model is obtained from the quasi-geostrophic model by projecting onto the a finite dimensional space of suitably chosen basis functions.

The MAOOAM model is a generalisation of the VDDG model. The main advantages of this model to VDDG are two-fold: First, its flexibility in allowing any number of modes, second, its modularity in allowing independent selection of ocean/atmosphere modes in the zonal/meridional directions.

After the derivation of the model, the paper studies the impact of the resolution (number of modes) of the model to the properties of the attractors and the variance distributions in both the oceanic and atmospheric components.



I found the paper to be well-written and up to point. I believe the model proposed might be very useful for researchers studying the coupled ocean-atmosphere system in mid-latitude climate.

Interactive comment on Geosci. Model Dev. Discuss., doi:10.5194/gmd-2016-59, 2016.