

Interactive comment on “The Met Office Unified Model Global Atmosphere 3.0/3.1 and JULES Global Land 3.0/3.1 configurations” by D. N. Walters et al.

L. Rikus (Referee)

l.rikus@bom.gov.au

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This paper is an attempt to cope with need to balance the relentless march of model development with its associated variations in the parameterizations etc with the need to produce traceable results from the model. The process in the case of the UM is complicated by the requirement to have the same model for climate and NWP applications with minimal resolution dependence but on the whole the paper meets its aims.

It is comprehensive in its description of the GA3.0/3.1 parameterization schemes and appears to provide sufficient detail for a MetUM user at least to reproduce the model settings. It represents an advance in modelling protocol in the sense that it represents

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an attempt to logically arrange and document the specifications of a seamless prediction system and thus is suitable for GMD.

The references are comprehensive, complete and appropriate. The layout I found a little strange in that the latest versions are described in detail and then the differences from the current climate model versions are described afterwards. The discussions on model performance are brief but, given the aim of the paper, sufficient. I found only minor issues which I have mentioned below.

In summary, I feel that this paper satisfies a definite need in the modelling (and model user) community by laying down the specifications for a model version, labelling it and publishing the specifications so that they can be referenced accordingly.

Minor modifications: Section 2.1,

page 1218, lines 13- Although this section is deliberately concise I feel that the abbreviation yr for year and years is a step too far! Especially as months and days are spelt out in the previous paragraphs.

Section 3.1.

page 1222, line 7. It seems strange to single out cloud liquid water when there are a number of prognostic cloud condensate and cloud fraction variables. I would suggest replacing 'cloud liquid water' with 'cloud condensate fields'.

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