

## ***Interactive comment on “DCMIP2016: A Review of Non-hydrostatic Dynamical Core Design and Intercomparison of Participating Models” by Paul A. Ullrich et al.***

**J. C. Hargreaves (Editor)**

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I reopened the online peer review a few weeks ago as I had not yet gained access to all of the three not-publicly-accessible codes (ACME, GEM and FVM), and I was also hoping for input from the third reviewer who had agreed to look at the manuscript. I have now been given access to all three codes. This required some effort on the part of the authors, for which I am grateful. This manuscript is not in the model description paper type, and is much closer to being a review article, and I do not see reason to be critical over anything related to the code - I will just say that I enjoyed seeing how the different developers have approached the design of their modelling infrastructure.

C1

Before submitting a revision, I would appreciate it if the lead author of the paper would test the veracity of the links to (or other ways of accessing) the other models included in the code accessibility table. In my experience there are often small issues that need to be resolved to make sure the information is accurate and that the code is really accessible to all.

I have received some comments from a third reviewer, who did not like the paper at all, but declined to give a full review. I will pass on a paraphrased version of their comments as, particularly in relation to the organisation of the paper, I do see where they are coming from. Please consider their complaints seriously, respond to each point, and revise the structure of the paper to make it more logically organised and readable. It is possible that this reviewer did not take the time to consider the nature of a GMD paper. I am encouraged in this thinking by the fact that one of the other reviewers is a former GMD editor, and they gave a very encouraging review. In that context I am still considering this to be a minor revision despite this negative review.

Paraphrased comments from anonymous 3rd reviewer.

The reviewer commented to the effect that. . .

The purpose of the paper is not clear.

There is nothing of interest or importance to the modelling community in the paper.

The paper is too long, has too many equations and all of it is already published in the literature.

The material is presented in a highly confusing manner, “for instance, Section 2 is subdivided by model (with 11 sections, 1 per model), but Section 3 only has 8 subsections (why not 11?), and Section 4 only 2 subsections, the second of which only has 4 sub-subsection (yet, when you look at Table 4, last column, I only see 3 different methods, so I have no idea where there are 4 sub-subsections for 3 methods); then Section 5 is again subsectioned by model (why this back and forth), but instead of 11 I only see 8

C2

subsections: why are 3 models missing?”

[editor's note: GMD papers are allowed to be long and may contain many equations, but because of this, an easy to navigate logical and readable structure is even more important than it is for regular science papers.]

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