

Interactive comment on “The Joint UK Land Environment Simulator (JULES), Model description – Part 2: Carbon fluxes and vegetation” by D. B. Clark et al.

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Missing second review, here substituted by a short editor’s review and overall comments.

On the whole this paper is highly suitable for publication in GMD.

p3 l19-20: Why not name the MIP?

p5 l19-20 "The performance of JULES is assessed in Blyth et al. (2010)." Is this assessed version of JULES identical to that presented here? If not then differences should be stated.

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Section 2: Model description Should the title of this section be "Model Overview"? The entire paper is, after all, model description, in particular Section 3 onwards.

This section needs to be expanded to include the context of the wider modelling community. Why was this way of constructing the model chosen, and what would have been the alternatives? For example, how does the choice of 5 PFTs compare with other state of the art models? Both the practical and scientific factors that come into making the basic decisions should be stated.

p12-16 I like the discussion of the different options and inclusion of advice for which to use in which circumstances.

On p16 a particular configuration is recommended because it is most realistic, but it "is likely to require specific parameterisations for each PFT". Perhaps you could explain why this is problematical. Is it a matter of the parameterisation being generally unknown, or a computational problem?

p25 l2 Is the TRIFFID code unchanged since 2001? If not, some explanation is required here.

p25 bottom. It is stated that TRIFFID may only use 5 PFTs. Is this likely to present a serious constraint on the usefulness of the model in the future?

The code and documentation:

The code was not included as supplementary information but does seem to be available to all researchers upon agreeing to the terms of the license. The webpage for obtaining the code has been improved, and it is now clear that there is just one contact person for the model. When I downloaded and compiled the code, I found out that this same person is also the only technical support.

I see that version 3.0 is now the most recent version. Presumably version 2.2 will remain on the ftp server, but GMD would prefer the exact model version to be submitted as supplementary information. You are, however, welcome to submit a paper to GMD

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outlining the changes to version 3, which can be linked to this paper through a Special Issue format. Below, notes about version 3.0 are included in brackets, just for your information, and are not part of the review of this paper.

Astonishingly, with just one email exchange with the guru, over 2 days, requiring only about 2 hours work on my part, I was easily able to install and run a test case of version 2.2 (and version 3.0) of the model on our SGI Xenon linux supercomputer running intel v10. On a MacPro running 10.6.7 and intel v12 I was similarly able to compile and run the test case for version 2.2 (version 3.0 does not compile - problems with "imogen"). From what little I have seen of the code during this little exercise it looks relatively well organised, and documented.

The user manual appears to be of a high standard. Please include this as supplementary information to the revised manuscript. (Version 3.0 user guide does not seem to have the nice imbedded links that are included in version 2.2, making it much more difficult to navigate).

What I found to be missing in the download is a README file. This should contain some orientation for the new user. Users need to know where to start, how to find the instructions for compiling and using the code, that there are test cases available, and information on how to get help should also be included.

Interactive comment on Geosci. Model Dev. Discuss., 4, 641, 2011.

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