

## ***Interactive comment on “The HadGEM2-ES implementation of CMIP5 centennial simulations” by C. D. Jones et al.***

### **Anonymous Referee #2**

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The manuscript presents a very comprehensive description of the Hadley Centre contribution to the CMIP 5 centennial (including AMIP and PMIP) simulations. The authors have chosen to let free more feedbacks than usual in their model, which leads to a scientifically original climate simulation. The price to pay to this originality is the need to describe much more than the CMIP5 standards available at PCMDI. This paper succeeds greatly to fulfill this need and thus is worth publishing in GMD. My minor remarks are:

1) Section 2.1.1 first paragraph. The design of the two methodologies is not clear for me. Does the first experiment consist of a standalone run of the carbon model with atmosphere/ocean forcing and the second one of a GCM run with imposed CO<sub>2</sub> ? I presume reading Gregory et al (2009) helps a lot, but please have mercy on the quick

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2) Section 8.2 last paragraph. How are generated these river routing data ? I assume that above the present sea level, the rivers are unchanged. Under this level, do you use the present bathymetry to reach the sea level of the palaeo period ? Automatically or manually ?

3) Section 9.2. There is a rumor in CMIP5 that for AMIP simulations some AGCMs have been slightly re-tuned wrt the version in the coupled runs. Can you confirm the AGCM is identical or which changes did you make ?

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Interactive comment on Geosci. Model Dev. Discuss., 4, 689, 2011.

**GMDD**

4, C302–C303, 2011

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