

## ***Interactive comment on “Mapping Congo Basin forest types from 300 m and 1 km multi-sensor time series for carbon stocks and forest areas estimation” by A. Verhegghen et al.***

**K. Tansey**

kjt7@le.ac.uk

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Dear authors, The paper is an interesting and timely contribution to this mapping problem. I have the following comments that you may wish to take into account when revising the paper:

1. I am confused by what the main research findings of the research work underpinning the paper are. Perhaps you could make these more explicit. I really want to understand what the current limitations of the existing data sets are. This is especially of relevance because there are some higher resolution products available. Is your new map regional or continental? This needs to be made clearer because the use of MODIS is not across

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the whole of the Congo Basin? Tell us what the shortcomings of the GLOBCOVER product is (and others you mention).

2. In Section 2.3, the first section is rather confusing. Are you mapping mapping the forest that has been typed as humid evergreen mixed species? Later on you mention savannas, and then you go onto mention other land cover descriptors.

3. The spatial resolution of the SPOT VGT data needs mention in Section 3.1. This is critical because you go onto discuss the application of this new forest map to the context of REDD+ and Carbon. From my understanding of the requirements of the REDD MRV system the minimum spatial mapping requirement is around Landsat scale. If this is the case, I would place a stronger focus in the qualities and improvements of this new map rather than spinning it out to REDD+. In a way the paper tells too many stories which dilutes the message.

4. The argument that cloud cover has been a prohibitive factor in previous studies needs to be developed and emphasised.

5. Check English on line 14-15 of page 7507.

6. How are the complementary data sets described on page 7507 really used. They are quite a lot of them.

7. How do savannas fit into the picture. Are they important. I am not sure they are part of REDD+

8. What does 'most important' mean on line 3 on page 7510.

9. It is difficult to establish in this paper what existing products and research have been relied on (and to what extent). An example is line 19-20 on page 7510. This seems like a critical input and it has been published before.

10. In sections 4.4 and 4.5 you go onto talk about REDD forest definition and carbon stocks. Particularly with the latter section, there are no error bars associated with your

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estimates and this is a weakness.

11. What are the '...' on line 21 on page 7523.

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