

# ***Interactive comment on “Modelling African biomass burning emissions and the effect of spatial resolution” by Dave van Wees and Guido R. van der Werf***

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General comments: This work assesses the effects of spatial resolution on the estimates of biomass burning in Africa, showing that the differences on estimates when modelling is performed at different resolutions is mainly due to parametrization errors and to input aggregation errors. The results are very relevant for the community dealing with pyrogenic emissions and for other areas where modelling is dependent on spatial inputs. The manuscript is very well structured and clear. Assumptions are clear and modelling is based on a simplified version of a very well established model (GFED).

Specific comments: In the Model Description section, model parametrization (e.g. light-

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use efficiency, turnover rates) is defined according to biome-specific values. However, in the Input Datasets section it is said that “The classification of biomes was based on the MODIS MCD12Q1 land cover type product”. A biome and a land cover type have different meanings. I understand and agree with the approach of using an input of land cover type with a relatively high spatial resolution, instead of biomes. I just suggest to acknowledge in this part of the manuscript the difference between biome and land cover type.

“Fire return times”, used several times in the manuscript, should be replaced with “fire return interval”, the terminology usually followed when describing fire regimes.

FireMIP should be defined and a reference added.

In the Fire Emissions section, it is mentioned that “The spatial distribution of emissions was dictated by burned area (Fig. 4a).” It would be very useful to add a map of burned area in Africa to figure 4.

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