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**Geoscientific
Model Development
Discussions**

# *Interactive comment on* "Validation of modelled forest biomass in Germany using BETHY/DLR" *by* M. Tum et al.

**M. Tum et al.**

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Thank you for your detailed review of our article. We have reworded the text of our article following your recommendations. Apart from these changes in the text, please find below our responses to your remarks and suggestions.

Specific comment 1:

The empirically derived data are given as growth increment of timber growing stocks. This is not to be mixed with MAI of AGB which was calculated using these values. We agree on the issue that we were slightly inconsistent in the used terminology and will fix this for our revision. The way how the NFI data were conducted is described on page 1695/96. MAI is not reported directly but had to be calculated using values of the



growth increment of timber growing stocks. MAI here is representative not on a stand level but for the whole NUTS-1 region, taking into account the age distribution of the individual species.

Specific comment 2:

Thank you for your suggestions to improve our validation method. We like the idea of normalizing the two compared datasets to AGB increment in tons per $km^2$. We see potential in this method to add value to our manuscript. However we don't expect the results to be as good as our already presented method. As you mention, your second method to justify our validation method, would include a further aspect, but would be off topic for our presented research aim. Therefore it will not be performed in the revision process.

Specific comment 3:

We agree that optimally the validation resolution should be on model resolution level. Since the NFI data is only available at NUTS-1 resolution the error in downscaling the NFI data is seen as higher as the potential uncertainty which occurs when up scaling the model results. Since no other validation data, besides FLUXNET measurements were available, we chose to additionally quality control our results on a point scale using FLUXNET data, as presented in the manuscript.

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Interactive comment on Geosci. Model Dev. Discuss., 4, 1685, 2011.