

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

M. Tum et al.

markus.tum@dlr.de

Received and published: 14 October 2011

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.

P1686, line 3: We agree that in this sense BETHY/DLR is rather a SVAT than a dynamic biomass model and will check our manuscript again to make sure this aspect is described correctly.

P1690, line 26: Your suggestion to add a paragraph, which reflects on the needs to couple the energy-, water-, and carbon balance, will be considered in our revision. We believe this point is of high importance and is obviously not addressed in sufficient

C861

detail, yet.

P1694, line 16: In this model setup we used the daily soil water content taken from ECMWF data. The BETHY/DLR model can also calculate the soil water budget independently from input data, but since better results were found when using the ECMWF dataset, we choose to use this model setup.

Chapter 4: As we described, we used the level 4 product from FLUXNET, which includes calculated GPP time series. GPP here was estimated using the approach of Reichstein et al. (Global Change Biol., 11, 1424-1439, 2005) by subtracting the estimated ecosystem respiration from directly measured NEE.

P1695, line 26/27: No, the “growth increment of timber growing stocks” is given in m³ and describes the empirically derived values which were taken from the NFI. The MAI is given in tons and calculated from the “growth increment of timber growing stocks” in order to make the empirical data comparable with the MAI calculated from the BETHY/DLR results.

Chapter 6: Thank you for this recommendation. We will take this into account for our revision.

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

C862