

**Referee #2 Comments:  
November 11, 2011**

**Thank you for the comments on our manuscript, please find our responses in bold font below.**

**Ben Poulter**

This study addresses a critical step in dynamical vegetation modelling: global validation of plant functional types with land cover data sets from remote sensing. They highlight the uncertainty associated with the land cover classification in combination with DGVM results. The text is well written and scientifically sound. I thus support the publication of this paper in GMD.

p2091, l20: Was fire frequency area area burnt prescribed as well by the remote sensing data sets, or calculated by the DGVM? Please clarify.

**Fire was simulated prognostically by the LPJ DGVM. We clarify this is the text and reference the paper describing the fire module (Thonicke et al., 2001).**

p2096, l6: Legend of Figure 9 has no a or b.

**We have fixed this in the text.**

p2097, l8: Would a simulation with calculated dynamical PFT distribution fall within the range of the presented simulations with respect to global GPP and transpiration?

**Yes, the results from a dynamic vegetation simulation are within this range and is specified in the text on page 18 (i.e., the prognostic simulation).**

Figures: It is hard to see differences in Figure 2. and 3. with the uniform green colour. Additional colours would help. For Figure 3. a selection of 2-3 PFTs would be sufficient to highlight the most remarkable differences between the 4 different products.

**We have kept all the PFT data in the subplots so that the reader can clearly see the differences for all combinations.**

Thonicke, K., Venevsky, S., Sitch, S., and Cramer, W.: The role of fire disturbance for global vegetation dynamics: coupling fire into a Dynamic Global Vegetation Model, *Global Ecology and Biogeography*, 10, 661-677, 2001.