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Interactive comment on "Use of various remote sensing land cover products for PFT mapping over Siberia" *by* C. Ottlé et al.

Anonymous Referee #1

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General comments The paper presents a methodology to compare global LC maps over Siberia with the further aim of PFT mapping. To my knowledge, this question is very rare while being critical. Indeed, it is not so common to pay so much attention to the input data (knowing their strengths and weaknesses, understanding their thematic content, etc.) even if the impact of the input data on the whole experiments is obvious. I would therefore recommend publishing this paper. Nevertheless, I would also encourage the authors to address with more emphasis the issue of uncertainty/validation and to widen a little bit the discussion (see specific comments). Specific comments - page 260, line 24: the authors indicate that the results explicitly address the uncertainties. I don't have the feeling that this uncertainty analysis is so much visible throughout the manuscript. - page 262 (lines 12-13): the authors mention that the GlobCover map

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used GLC2000 for training pixels. This is correct that GLC2000 is the main auxiliary dataset for the classification of the Siberian region, but not as training pixel. Indeed, the classification algorithm is unsupervised and thus does not rely on any training dataset. This is a key difference in terms of methodology with regard to all other products. - section 2.3: could the authors explain how they interpreted the mixed classes of the different products? - when comparint the products, did the authors account for their accuracy? Indeed, there are published validation figures which have been obtained using independent reference data at least for GLC2000 and GlobCover. These figures exist for the whole product (overall accuracy) but also on a per-class basis. - page 268, lines 23-24: I would also say that the difficulty to identify croplands comes from the fact that the seasonality is not taken into account in the current classification methodology. This is a different topic that the use of only 1 year of data. - section 3.5: the authors mention that some ecosystem properties can be / are derived from LAI. Were the different global products compared to the LAI products? Would it be more important to select the "best product" or the product which is the "most consistent" with the LAI data? - page 270, lines 17-19: please note that the GlobCover regional legend is not spatially consistent. This level of detail was reached where auxiliary data were available but it is not ensured at the global/regional scale. Even in the regional products, the "global classes" coexist with the regional ones. - section 4.2, page 272: the MODIS VCF are not validated products. Can they serve as a basis to adjust vegetation percentages? - the authors mention in the introduction that there were already several studies about global products comparison. The authors mention that these comparisons were not carried out with a PFT mapping objective and can thus not be useful. I agree that they cannot directly help in identifying the correct LC map and LC class interpretation. Yet, it would be interesting to know if the approach followed by the authors results in the same kind of outcomes. - could the author discuss their approach in terms of generalization? I find their approach highly valuable to ensure a correct utilisation of global LC maps and thus improve the ecosystems modelling. What would be their recommendations to do the same job in other regions of the globe? Technical corrections: -

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page 261: the paper mentions that Table 1 includes the classification legend while this information seems to be presented in Table 2. And there is no reference to Table 2 in the text. Should be clarified - Table 1 contains both "global LC products" and "auxiliary datasets" (according to the structure of the paper). It should help the readers to find a way to separate these 2 kinds of products in the table. - page 263: Table 1 includes the CAVM and the MODIS VCF, but neither the Fedorov's LC map nor the Simard's forest canopy height. Is there a reason? Logically, all products should be listed in the Table. - typo error in Table 1: for the GlobCover maps, the "WGS84" is in the wrong column - Could the Table 1 include the validation figures of the different maps? - figure 4: using the same extent for the studies global LC maps and the LIDAR product would help the comparison. Same comment could be done for Fig. 2 but to a lesser extent. - specific attention could be paid to acronyms (1 definition before using it and using all the time the same acronym)

Interactive comment on Earth Syst. Sci. Data Discuss., 6, 255, 2013.