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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 #2

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This paper describes differences in a range of satellite derived global land cover products for the Siberia region and then describes a new plant functional type map derived from these data for the same region. The final product is designed for use with the OR-CHIDEE model. The paper makes a valuable contribution to the literature because (a) such sources of uncertainty in modelling are often ignored and (b) the final map produced will presumably be used in modelling exercises with an important land surface model. The paper is very well written and easy to follow.

The manuscript has a few weakness and omissions which I feel need to be addressed prior to publication.

My main concern is that despite having obtained two land cover maps based on photo-

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interpretation no quantitative analysis of the differences against the various satellite products has been provided. Even qualitative analysis is largely absent. On line 17, page 267 the authors say "The comparison with the CAVM product strengthens..." But I am unable to find these results in the paper. A similar comment applies to the Fedorov data also: "The comparison presented in Fig. 2, indicates clearly..." but I don't see any quantification of this statement. To me it is not obvious that Fig 2. shows this.

Before this paper is published the authors should add quantitative analysis of the comparison between the various satellite products and the two photo-interpretation products. Whilst this isn't an absolute quantification of uncertainty (because the photo-interpretation will also contain errors) it will provide a much stronger means of backing up the claims that one satellite product is better than another. In addition this information will be useful for other communities wishing to use satellite land cover products hence increase the overall impact of the paper.

I also think some discussion of existing uncertainty analysis in the satellite products should be included. The GLC2000 and the GlobCover products have associated confusion matrices which are based on the analysis of large amounts of higher resolution data. These matrices contain valuable information on which land cover classes are most likely to be erroneously classified as another class. Does the information in these matrices agree with your findings?

Minor comments and typos:

p263,l24: "products" -> to "product"

p264,l20: "sensible on" -> "sensitive to"

p267,l12: "present some discrepancies." ... I think this is downplayed somewhat. The fact that the agreement on shrubs is worse between the two GlobCover products than it is between GlobCover 2005 and MODIS is quite surprising. I think you should bring this out in the main text and, if possible, suggest a reason it.

p268,l24: "technic" -> "technique"

p268,l25: "more performing" -> "better performing"

p269,l6: "like" -> "similar to"

p269,l7: "naturally" -> delete this word.

p270,l12: "since the most important" -> "since the main objective"

p271,l8: "have been slightly modified" -> please provide some brief details on how they have been modified (one or two sentences).

Table 2. I couldn't find this referenced in the main text.

Fig 8. It is difficult to read the colourbar scale against the black background.

Fig 8. Caption is incorrect. It should be 0 for full agreement (etc).

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

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