

**Referee #3 Comments:
November 11, 2011**

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

Ben Poulter

This paper describes the methodology used to create four different realizations of plant functional types at 0.5 deg resolution, useful for Earth system models, from different data sources. In addition, LPJmL was used to test the sensitivity of biogeochemical cycles to these land-cover maps. The research is significant for global modeling and highlights the uncertainties and difficulties in obtaining land-cover maps for modeling purposes. The paper is well written and the methods are clearly described.

Specific suggestions are listed below.

Page 2082, Line 10: The words "just several classes" might be more clear and quantitative as "usually only 10 to 20 classes".

Made change

Page 2084, Line 1: "plant functional types" could be abbreviated as "PFTs".

Made change

Page 2084, Line 2: "ESM models" could be "ESMs".

Made change

Page 2084, Lines 11, 16-22: For completeness, the authors may wish to additionally cite the modifications to Bonan et al. (2002) for CLM land-cover described in Lawrence and Chase (2007; doi:10.1029/2006JG000168), particularly for C3/C4 grass distributions.

Page 2084, Line 21: "the one" should be "one".

Made change

Page 2095, Lines 22-24: Something is wrong with this sentence.

Sentence is now fixed.

Page 2098, Line 7: "of ensembles land-cover" should be "of ensembles of land-cover"?

Made change

Page 2098, Line 12: Should "i.e." be "e.g."?

Made change