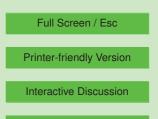**Hydrology and Earth System Sciences Discussions**

Interactive
Comment

Interactive comment on "Improved spatial mapping of leaf area index using hyperspectral remote sensing for hydrological applications with a particular focus on canopy interception" *by* H. H. Bulcock and G. P. W. Jewitt

Anonymous Referee #2

Received and published: 9 December 2009

This is a very well-written article that should be of interest to many researchers. I think it should be published in Hydrology and Earth System Sciences Discussions provided the authors address the following items. 1. I think more needs to be written about the methodology of the project. How many LAI plots were measured? This is the crux of your paper, and I think you could describe the field data collection process much more effectively. 2. A description of exactly how the models were created would be useful. 3. Where the same plots used to both create and verify the model via RMSE? Or, did

you use additional points that weren't used to create the model to verify the models. This needs to be discussed in much more detail. If you used the same points in the model creation and model verification then you probably have lower RMSE values than if you had independently verified the models. 4. I think it would be useful to have a few references of other studies that have used hyperspectral data to estimate LAI. I realize that 5. I think the Results section is too short. The authors have some very useful and profound results for this study. I would suggest that they lengthen this section. 6. I think it is very significant that the VOG1 performed better than both SAVI and NDVI. I would like to see much more discussion devoted to why this was the case. How repeatable would this be in other areas? In addition to the above items, I would also like to mention the following minor iems. âĂć P 5786, line 22. "Underrated" seems an odd choice of word here. âĂć P 5790, line 4. Change 'was' to 'were' as data are plural. âĂć P 5791, lines 22-23. A reference for this statement would be good. âĂć P 5792, lines 20-21. A reference for this statement would be good. âĂć P 5791, line 7. Remove '(growth)' from this statement.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 5783, 2009.

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Discussion Paper