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Interactive comment on "Estimating the carbon dynamics of South Korean forests from 1954 to 2012" *by* J. Lee et al.

Anonymous Referee #1

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Perhaps fewer abbreviations would be helpful; DOM, for example, is typically dissolved organic matter, so readers might benefit from simply using the entire phrase of "dead organic matter" rather than try to follow acronyms. Paragraph 2.2.1 is also full of acronyms that make it difficult to understand the pools and fluxes that are being described.

Line 18 – delete "respectively" as the sentence structure is already clear.

The present study uses the 5th NFI, and a model. It will be interesting to readers to know how this new estimate substantially differed from (or not) the best estimates from earlier assessments.

Pg 5033 Line 8: might be useful to stress that 1.3 Tg C for dead matter compares with

7.0 Tg for live biomass (if I have the numbers correct) – do failure to account for dead matter would result in an error of -20% in estimating live+dead C. Ah, I see Figure 6 does this.

Pg. 5033 Line 20, Jeju Andisols. It's true that andic soils accumulate large stores of C, but the presence of a very old, recalcitrant pool of C should not be confused with a low rate of decomposition (or high rate of humification) for modern C substrates. These two are likely to be completely unrelated. I may not follow how the Andisols are filled up with C during the spin up of the model, so this might be an artifact. And as noted in the manuscript, Jeju is a small part of the area of Korea, so this is not a major point.

The paper might stress the importance and potential impact of ambitious, large programs to promote forestation. Many countries around the world consider forestation as a means of sequestering C; the Korean story provides a strong empirical example of this potential.

Interactive comment on Biogeosciences Discuss., 11, 5023, 2014.