

Interactive comment on “The contribution of trees and grasses to productivity of an Australian tropical savanna” by C. E. Moore et al.

Anonymous Referee #1

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This paper describes the use of an understory eddy flux system to partition ecosystem fluxes between understory and overstory components in a savanna. Savannas are important ecosystems in the global context, and this study addresses an interesting, important, and novel question. The study is carefully conducted, and the paper is well written.

I have only minor suggestions for improvement:

1. Section 2.2- Please specify the location of the understory tower relative to the main tower, and also describe how it sits in relation to canopy openings.
2. How does the fetch of the understory tower compare to that of the overstory tower? How does the vegetation composition compare between these two fetch areas?

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3. Results- The comparison of wet/dry season fluxes in units of season-1 is confusing if readers don't catch the fact that dry & wet season are each defined as 6 months. It would be helpful to remind readers of this definition at the point where this is presented in the text, and also probably in the figure legends.

4. p. 19326, lines 1-2: Stem expansion is not a direct indicator of C allocation to woody growth. Stem expansion can be driven far more by water status than by C (Zweifel, 2006). In addition, there is a lag between tree stem expansion and woody biomass production (Cuny et al., 2015). Please modify this statement accordingly.

Cuny HE, Rathgeber CBK, Frank D et al. (2015) Woody biomass production lags stem-girth increase by over one month in coniferous forests. *Nature Plants*, 1, 15160.

Zweifel R (2006) Intra-annual radial growth and water relations of trees: implications towards a growth mechanism. *Journal of Experimental Botany*, 57, 1445–1459.

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