**Reviewer's Comments**
Manuscript #
"Evapotranspiration seasonality across the Amazon basin"
by Eduardo Eiji Maeda, Xuanlong Ma, Fabien Wagner, Hyungjun Kim, Taikan Oki, Derek Eamus, Alfredo Huete

**Summary:**
This study employs a water budget residual approach to estimating evapotranspiration in five sub-basins of the Amazon River basin, and uses the results to describe the seasonal cycles of ET in each basin and their relationships with precipitation, solar radiation, and vegetation indices. Overall this is a well written and interesting paper that will be a valuable addition to the literature. However, there is a significant error in one of the equations, as detailed next. Once that error is fixed, the analyses, figures, and discussions will have to be revised accordingly. While this will require a major revision, I believe it is fairly straightforward, and once it is completed, along with an error analysis, the paper should be accepted readily.
Interdisciplinary scope: very good
Scientific merits: very good
Technical quality: fair/good

**Major Comments:**
• Equation 2 is incorrect. It should be
$dS_n = (TWSA_{n+1} - TWSA_{n-1})/((n+1) - (n-1))$, or equivalently,
$dS_n = (TWSA_{n+1} - TWSA_{n-1})/2$,
as shown in equation 13 in Swenson and Wahr (2006). This error leads to dS, and consequently monthly/seasonal ET, being inaccurately estimated throughout the manuscript. Consequently, analysis and discussion of the results, including the Budyko analysis, relationship with vegetation greenness, and comparison with models, must be revised after the estimates have been fixed.
• There is no uncertainty analysis provided for the water budget ET estimates. It should be included, and could be accomplished by computing the square root of the sum of the squares of the P, R, and dS errors. See, for example, Rodell et al. (2011).
Rodell, M., E.B. McWilliams, J.S. Famiglietti, H.K. Beaudoing, and J. Nigro, Estimating evapotranspiration using an observation based terrestrial water budget, Hydrol. Proc., 25, 4082-4092, doi:10.1002/hyp.8369, 2011.

**Minor Comments:**
• Page 2, line 30 – Add to the literature review that Rodell et al. (2011) applied the water balance approach (with observed precipitation, runoff, and GRACE terrestrial water storage) to ET estimation over the Tocantins River basin (among others) and found that the seasonal cycle of ET in that basin is weak.

**Technical Corrections**
• Page 7, line 6 – "are" should be "is" (the subject is "analysis").