Interactive comment on "Reviews and Syntheses: Carbonyl Sulfide as a Multi-scale Tracer for Carbon and Water Cycles" *by* Mary E. Whelan et al.

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Clarification of Leaf Relative Uptake

Many previous groups have calculated the leaf relative uptake (LRU) of OCS to CO2. This parameter is helpful in estimating CO2 gross uptake from the one-way OCS uptake and concentrations of OCS and CO2. On page 7 lines 5-7, we stated "It should be noted that the LRUs compiled in Sandoval-Soto et al., (2005) were calculated incorrectly and re-presented in Seibt et al. (2010)." This wording is inaccurate. There are two approaches for calculating LRU with this data. In Sandoval-Soto et al., (2005), a twin cuvette system was used to correct for the effects of the cuvette itself on the fluxes. One cuvette was empty while the other contained a branch or leaf. LRU was

calculated using the OCS concentration in the empty cuvette. These LRUs were partly re-calculated in Seibt et al. (2010) using the OCS concentration in the outlet air of the plant cuvette as the OCS concentration experienced by the leaf. Accounting for the lower gas concentrations in the sample cuvette instead of the reference cuvette led to an increase of the recalculated LRU values by 10-15 %.

Error in Figure 5

In the figure summarizing all reported field soil fluxes, the flux plotted for Sun et al., (2017) should be negative, not positive. The corrected figure is included here.
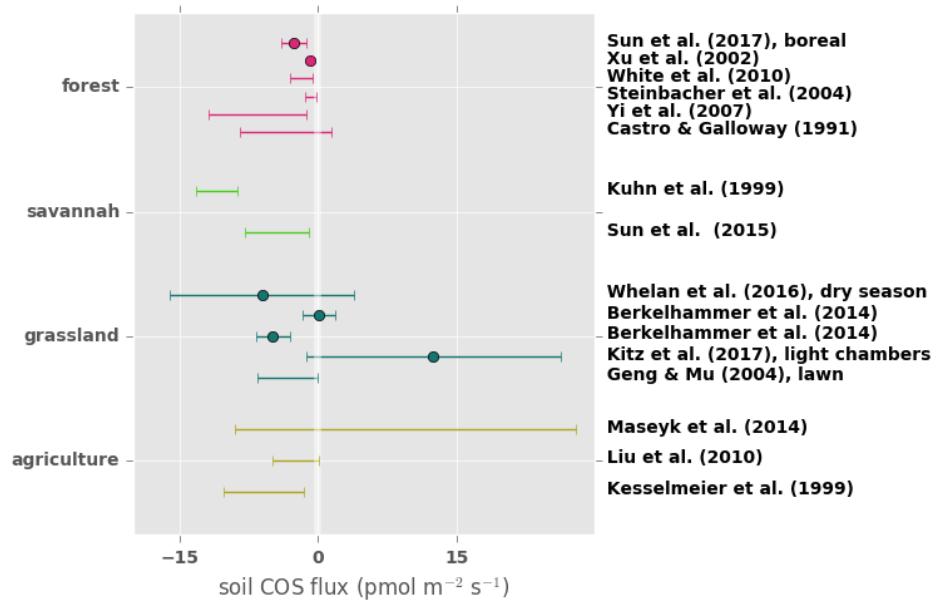
Fig. 1. Field observations of OCS fluxes from soils.