Reviewer: The authors stated that they used Lombardozzi et al. (2013)'s parameterizations for their study (L209). I am confused from where in Lombardozzi et al. (2013) the authors obtained their ap, ac, bp, and bc for the 6 vegetation types in their Table 2. In their results from "the exposed to charcoal-filtered air with medium or high confidence in cumulative O3 uptake (CUO) calculations", Lomdardozzi et al. (2013) showed no significance in the linearly regressed equations of photosynthesis in % of control vs. CUO for all plant types except crops and showed no significance in the linearly regressed equations of conductance in % control vs. CUS for all plant types except temperate evergreen trees (L2013's Tables 2&3). In their results from "ambient air" data, Lomdardozzi et al. (2013) showed no significance in the linearly regressed equations of photosynthesis in % of control vs. CUO and conductance in % control vs. CUO for all plant types except "temperature deciduous trees" (L2013's Tables B1&B2).

The values the authors used that I recognized, albeit not the ones intended for their purposes in this reviewer's opinion, were 2 orders of magnitude smaller than those in Lombardozzi et al. (2013). This reviewer was taken by surprise by the authors' statement that most of their plant types had "time-independent" sensitivity to CUO since ac and ap values were zero. First, I did not see zero values for ac and ap in Lombardozzi et al. (2013); instead, L2013 showed no significance in regression for most plants as stated above. Second, if what the authors stated were true, it'd totally defeat the purpose of that epic study of Lombardozzi et al. (2013)'s. In short, it was very confusing how and where the authors got the values in their Table 2 from.

Response: We are sorry for the confusion. The parameters we employed for L2013 scheme in our paper were originally adopted from Lombardozzi et al. (2013), which were provided in the unit of percentage but converted to the fraction in our study. As a result, the values in our paper are 2 orders of magnitude smaller than those in Lombardozzi et al. (2013). The specific values of ac and ap were set to zero in the Table 1 of Lombardozzi et al. (2015) based on the conclusions of Lombardozzi et al. (2013), as we presented below.

To clarify the source of parameter settings, we added a footnote to Table 2: "[a] The data source is Lombardozzi et al. (2015). Due to the data limit, we apply the same sensitivity parameters for EBF, DBF, and SHR."

This reviewer found the difference between Lombardozzi et al. (2013) and Lombardozzi et al. (2015) to be confusing, since the latter simply presented a table of coefficients "based on Lombardozzi et al. (2013)" without pointing out and reconciling the differences. The present study's authors may believe that it should not be their responsibility to reconcile such differences, and they simply applied Lombardozzi et al. (2015)'s values. The fact that previous studies applied those values without questioning does not justify the inconsistencies. Notwithstanding, I believe that the authors' making it perfectly clear that those ac, ap, bc, bp values were actually from Lombardozzi et al. (2015) could probably help draw the community's attention to such confusing discrepancies. Therefore, I appreciate the authors' addition of such information.

Further, Lombardozzi et al. (2013) emphasized "chronic ozone exposure" throughout their work, and thus they included the studies that used experimental periods longer than 7 days. That means that the parameterizations derived from L2013 would be only applicable for calculations over periods > 7 days. Hence, the question is: how could the authors' calculations for times shorter than that be valid?

Response: As mentioned by the reviewer, L2013 would only be applicable for calculations over periods > 7 days. In this study, we conducted four consecutive months of simulations with the first month excluded from the analysis as the spin-up. Hence, all of our simulations were longer than periods > 7 days and valid for the further analyses.

The authors did not understand my comment. In their response to my 1st round of review, they stated, "The leaf-level CUO (mmol m^{-2}) is calculated by accumulating stomatal O_3 fluxes of Equation 4 from the start of the growing season to the specific time step". That means that the authors integrated Eq. 4 from the very first timestep, which I assume would be about 160 seconds, up to each ensuing timestep. Logically, all the simulations before the 8th simulation day should not be using Eqs. 5 and 6 to calculate O_3 damage ratios, simply because the duration was too short for the equations to be applicable. This logically led to the fact that the integrated stomatal ozone flux amounts > 7 days were in fact built upon erroneous initial values. That is why I've been skeptical of the applicability of L2013 in their modeling coupling exercise from the very beginning.

Since S2007 calculated instantaneous effects while L2013 the effect of CUO, it is critical to know what exactly was presented in Figures 2 and 3. The author just stated "O3 damage", but they had 3 months simulations. The two figures must be showing post processed values. So, what exactly was shown in those figures? This question points to the comparability of those two figures and consequently their main findings.

Response: Figures 2 and 3 showed the three-month averages of O_3 vegetation damage. In the revised paper, we added month-to-month variations of O_3 vegetation damage in Figure S1 and S2 to clarify. For L2013 scheme, the O_3 damage to photosynthesis of sunlit and shaded leaves increases month by month with the increase of CUO, reaching a maximum in August. In contrast, For S2007 scheme, the O_3 damage peaks in July due to the highest O_3 concentrations. We modified the sentence as follows: "The S2007 scheme is dependent on instantaneous O_3 uptake, which peaks in July when both O_3 concentrations and stomatal conductance are high (Figures S1 and S2)."(Lines 300-302). For L2013: "The O_3 damage to photosynthesis of sunlit and shaded leaves increases month by month, reaching the maximum in August (Figures S1 and S2)." (Lines 307-309).

Comparing the three-month averages of O_3 damage using S2007 and L2013 does not make sense to me. S2007 calculates instantaneous values, while L2013 simulates incremental ozone damage. The three-month average of S2007-calculated ozone damage shows the average ozone damage resulting from the amount of ozone exposure within that hour. The three-month average of L2013-calculated ozone damage shows the ozone damage due to ozone exposure averaged from over time periods from one week to three months. In this reviewer's opinion, they're comparing two completely different parameters!