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Interactive comment on "Effects of ozone-vegetation coupling on surface ozone air quality via biogeochemical and meteorological feedbacks" *by* Mehliyar Sadiq et al.

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I would like to give credits to the work done in this paper. A relatively complete modeling framework for global ozone levels is presented, including important feedbacks related to ozone damage. This work would be a nice addition to existing literature. However, I would like to share two small comments.

On lines 88-92 the authors summarize several important feedbacks of ozone damage on the ozone concentration itself. One of the feedbacks is that a decrease in stomatal conductance increases the boundary layer height, therefore reducing the in-situ ozone concentration. I would like to add that another consequence is the increase of entrainment, which can have either a positive or negative impact on surface ozone

concentrations.

Moreover, in the 'Model experiments' section the authors describe their different simulations. If I understand correctly, the PHT+COND run includes ozone impact factors for both the stomatal conductance and photosynthetic rate. Moreover, the photosynthetic rate affected by ozone uptake is used to calculate the stomatal conductance. So in principle there is a double impact on the stomatal conductance. In addition, the authors have chosen to do a simulation which includes an ozone impact factor for the photosynthetic rate, while calculating the stomatal conductance without such impact factor and with an intact photosynthetic rate. And vice versa for stomatal conductance (lines 184-188). I wonder why they use an intact photosynthetic rate as this simulation then has no physical meaning. I would rather suggest to use the photosynthetic rate corrected for ozone uptake, but setting the ozone impact factor for the stomatal conductance to 'no impact'. This would give a more realistic idea of the impact of the two separate pathways.

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