The authors have addressed most of my previous comments. I still have a few points to improve:

Author response: We thank the reviewer for the final thoughtful comments. All three remaining minor concerns had to do with potential numerical implementation impacts. In all three cases, we ran tests to alleviate the final concerns and conclude that our findings are not impacted. Please find a more detailed response to each individual points below:

- The boundary layer conductance used in the model could be estimated using a canopy model. There are estimates for fields and forest that would be more representative of the reality. At least can the authors compare the value of the Licor to those of such a canopy model to see if it is in the same order of magnitude?

Author response: The daytime mean 10m wind speed at our site is 3.6 ± 2 m s^{-1}. According to Bonan (2019), p.161 (screenshots below), the typical boundary layer conductance at this wind speed is around 1.0 to 2.2 mol m^{-2} s^{-1} for 5cm-wide leaves, which is in the same order of magnitude as the g_{bw} assumed in our simulations at the canopy scale (3 mol m^{-2} s^{-1}).

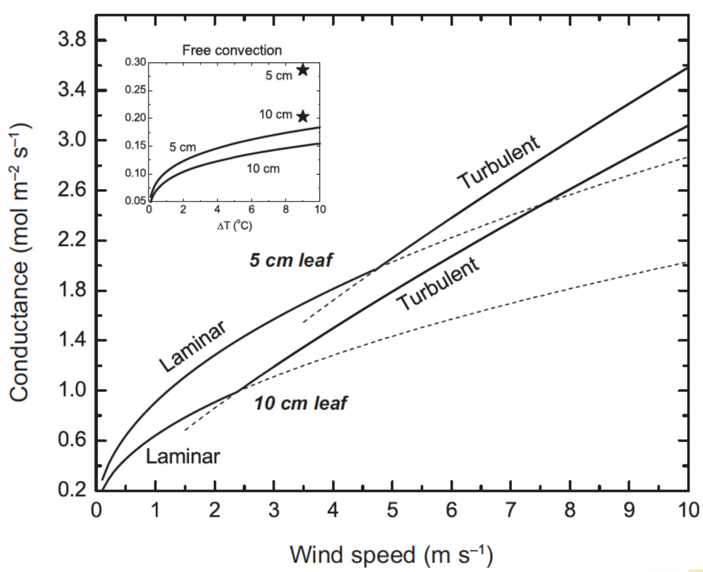

Figure 10.4 Leaf boundary layer conductance for heat g_{bh} in relation to wind speed for a 5 cm leaf and a 10 cm leaf. Shown are the laminar and turbulent conductance for each leaf. The turbulent conductance exceeds the laminar conductance for Re > 16,248. Dashed lines show laminar and turbulent conductance beyond this threshold. The inset panel shows conductance with laminar free convection. For comparison, the symbols show forced convection conductance with a wind speed of 0.1 m s^{-1}. Calculations are at STP (15°C and 1013.25 hPa).

vary with temperature and pressure (Table A.3). At 15°C, the conductance for H_2O relative to heat is $g_{bw} = 1.10 g_{bh}$ and relative to CO_2 is $g_{bw} = 1.36 g_{bc}$. More commonly, it is assumed that $g_{bw} = g_{bh}$ and $g_{bw} = 1.4 g_{bc}$.

As the total conductance is $(g_{bw}^{-1} + g_{sw}^{-1})^{-1}$, and the mean g_{sw} ranges from 0 to 0.3 mol m^{-2} s^{-1}, the total conductance is mostly constrained by g_{sw}. Thus, boundary conductance at moderate wind speeds will have limited impacts on total conductance, and it does not affect the interpretation of our results. We have also tested that, even a relatively low prescribed gbw (0.4 mol m^{-2} s^{-1}) does not affect the magnitude nor the direction of our flux comparison between the NSS and SS scheme (relative differences), despite changes in absolute fluxes.

- Using a simple euler method is prone to errors (and dependent of the time step) that are not controlled here. Did the authors test that the simple method gives the same results as methods such as rk45 or BDF?

Author response: We assessed the stability of our explicit forward-Euler method by comparing the results to simulations with much finer time steps and found negligible differences, underlining that our time step was small enough and the solution stable. In the future, more advanced solvers such as higher-order Runge Kutta solvers could be applied, but here we focused on the concept, not the numerical details.

We have clarified the stability concern in the revised SI as follows: *"We also tested that our method provides similar results with a much finer time step (1s, 1/60 of the 1min time step used for the comparison), the relative difference is minimal, 0.2 ± 0.1 %, indicating the time step we chose is sufficient for our simulations and comparison."*

- In the original model, splines are fitted over environmental variables and used in the solver to solve the temporal response. This simulates a continuous environment variation and its impact on gs, not a stepwise variation (constant within each time step) as it seems the case here. Did the authors test how much it would impact their results?

Author response: Thanks for the suggestion. We used linear interpolation for continuous environmental variations, which can have fluctuations in the derivatives. The impacts of the variation within our time steps can be assessed by comparing the results with finer time-step simulations, as mentioned in the response above, this does not change our results. We also tested the impact of different fitting methods for environmental variables, and the relative differences between the simulation with spline-fitted environmental variables (at 6s resolution) and the linear interpolation is 0.01 ± 0.1%, which is also minimal and does not impact our findings.

Reference:
Bonan, G.: Climate Change and Terrestrial Ecosystem Modeling, Cambridge University Press, 459 pp., 2019.