

The authors present a product of downscaled monthly global net ecosystem exchange from 15 terrestrial biosphere models, which I think is a timely and valuable contribution to the carbon-cycle modelling community, not just for atmospheric modelling community that they mentioned in their paper, but also for land surface modeling community. This paper is well structured as a technical note, but in some sections I could not quite quickly follow how the downscaling was done. While the whole processing appear robust, there are several minor points could be improved and that would be useful for helping understand some of processing in their product.

- In the calculation of NEP, the authors use subtracting *GPP* from *Re*. This is quite different from the definition in terrestrial ecosystem models that they use equation of $NPP - Re$. The assumption in this paper is improved compared to Olsen and Randerson (2004), but is still not close to the assumption in terrestrial ecosystem models.

- The authors have taken the other fluxes from disturbances (e.g. fires) into consideration by balancing their downscaled NEE with fluxes from terrestrial ecosystem models, which spread the difference equally within months. This could work fine at monthly step but I could imagine it would smooth the temporal pattern of NEE for product at hourly time step if there are fires occurred.

- The authors have validated their results with FLUXNET observations. What I'm interesting is if they have compared their results with independent estimates using aircraft datasets which represent the fluxes at large scale. Because we notice the resolution of this product (>0.5 degree) doesn't really match the resolution of FLUXNET ($\sim 1\text{km}$).