Fig. S1. Global surface downward shortwave radiation for 24 hours since the start of the nighttime lighting experiment at 12:00 am January 1st 2015 (UTC time) under 200W/m^2 nighttime lighting power.

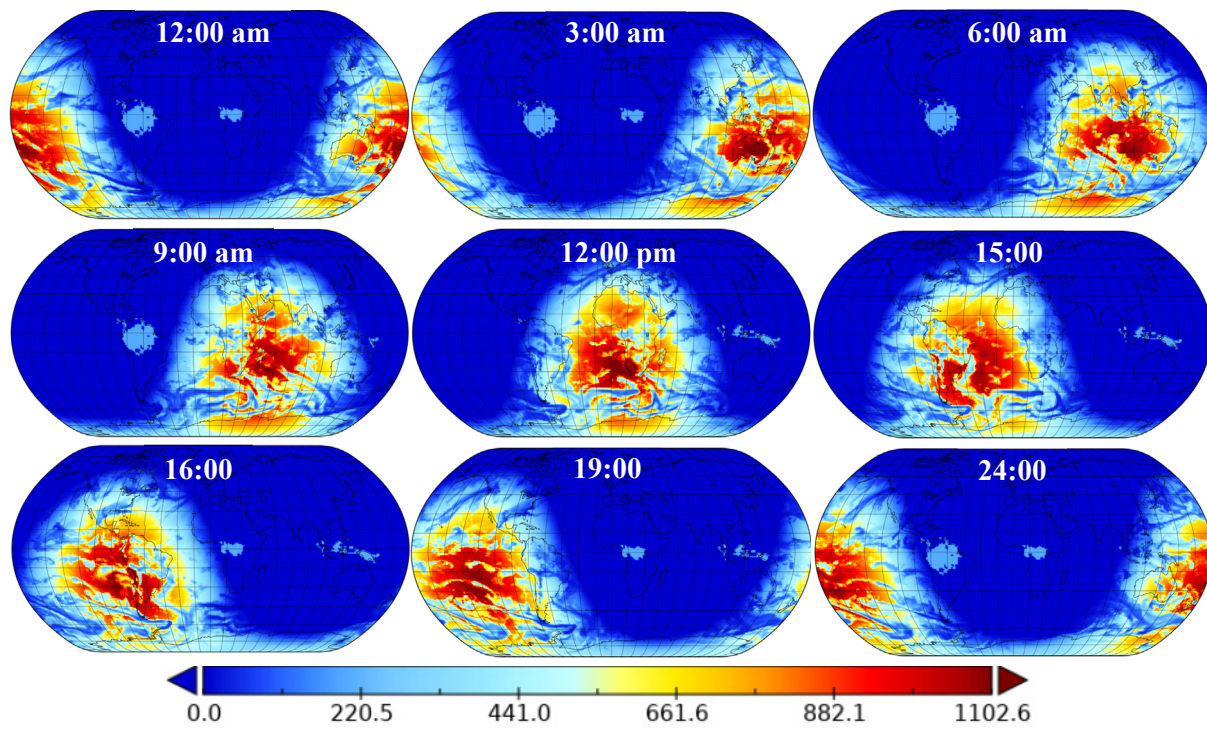



Fig. S2. 24-hour African Tropical Forest Responses

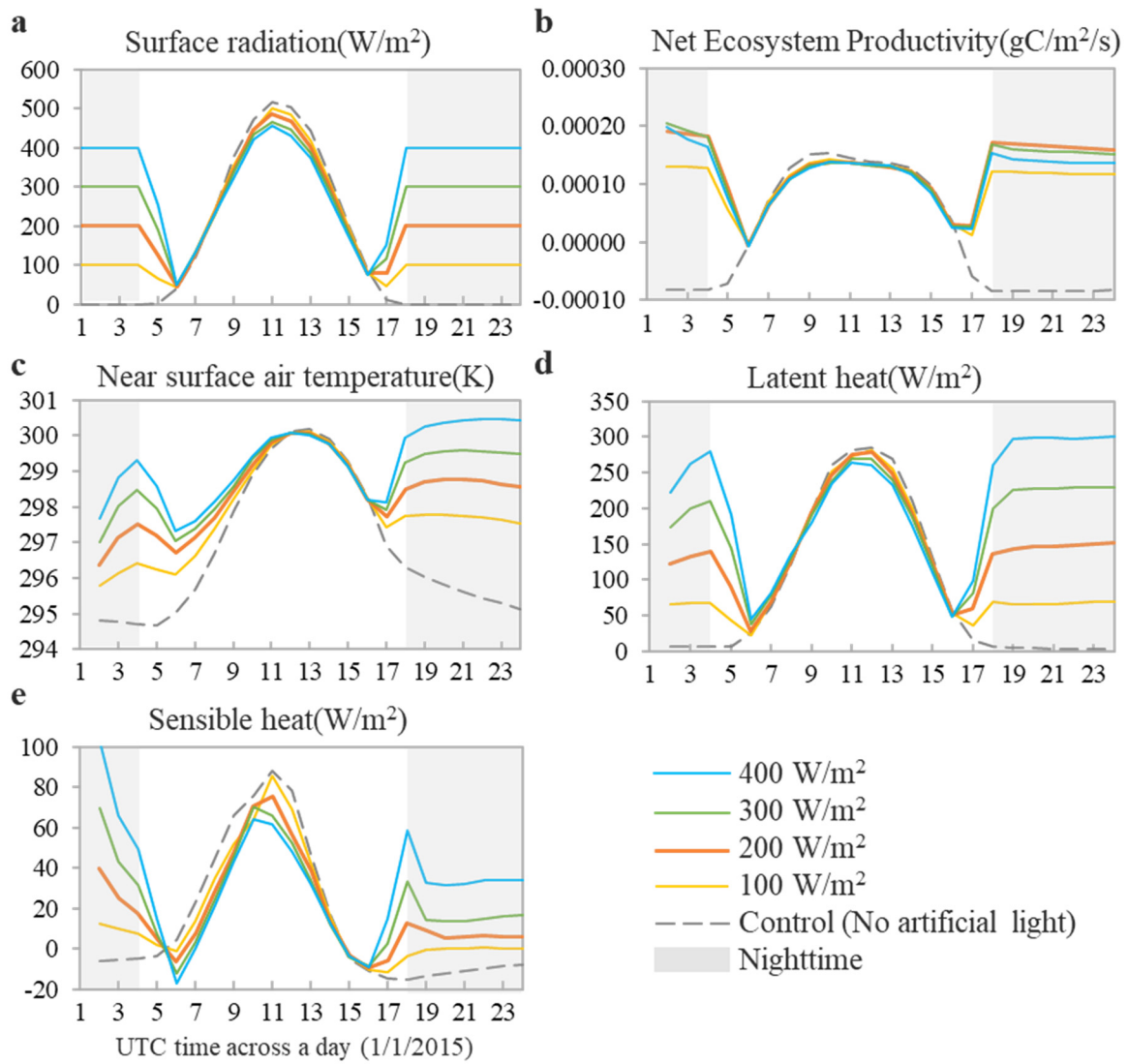



Fig. S3. 24-hour Asian Tropical Forest Responses

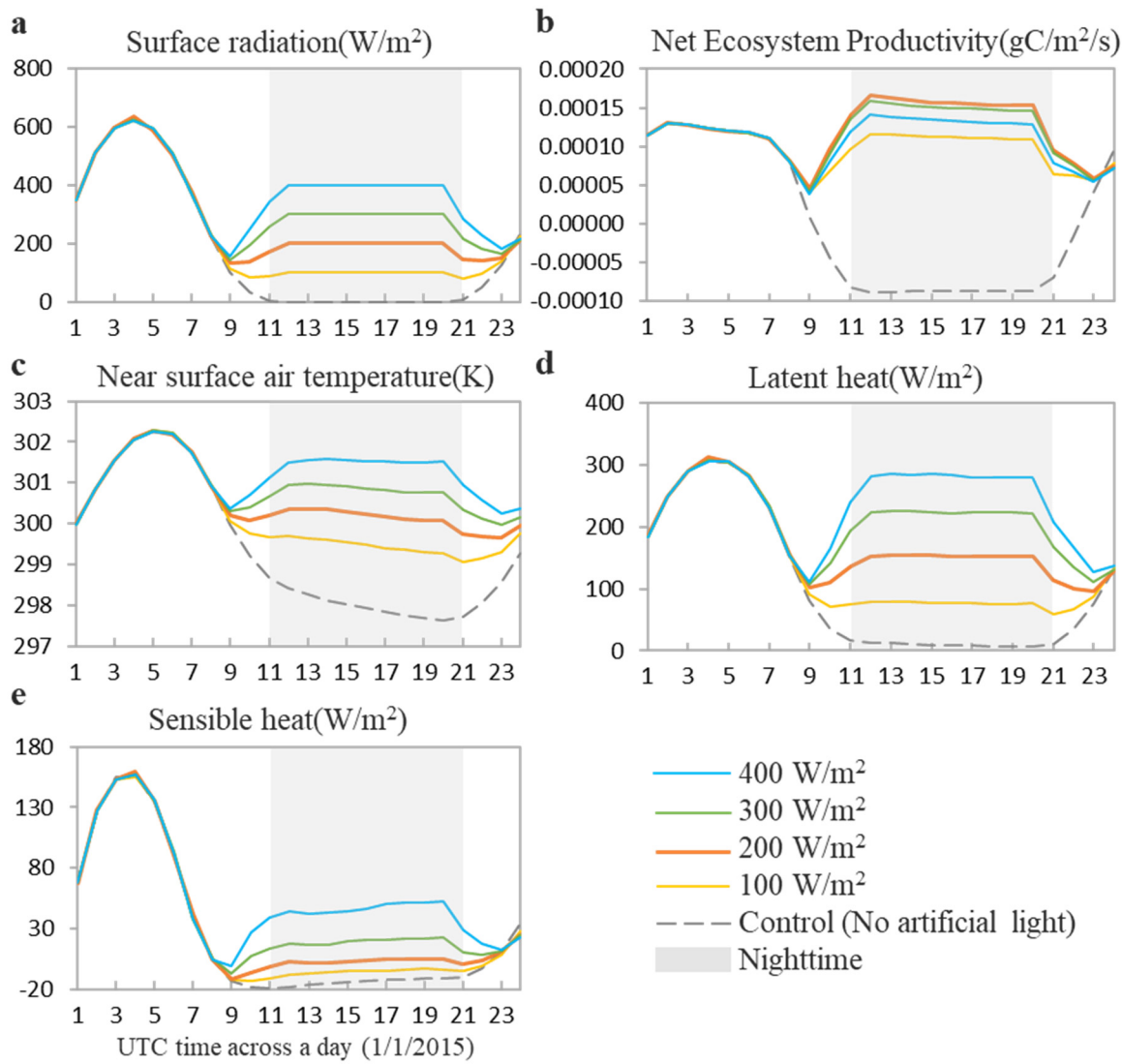



Fig. S4. Seasonal pattern of tropical forests air temperature and precipitation increase under the lighting experiment.

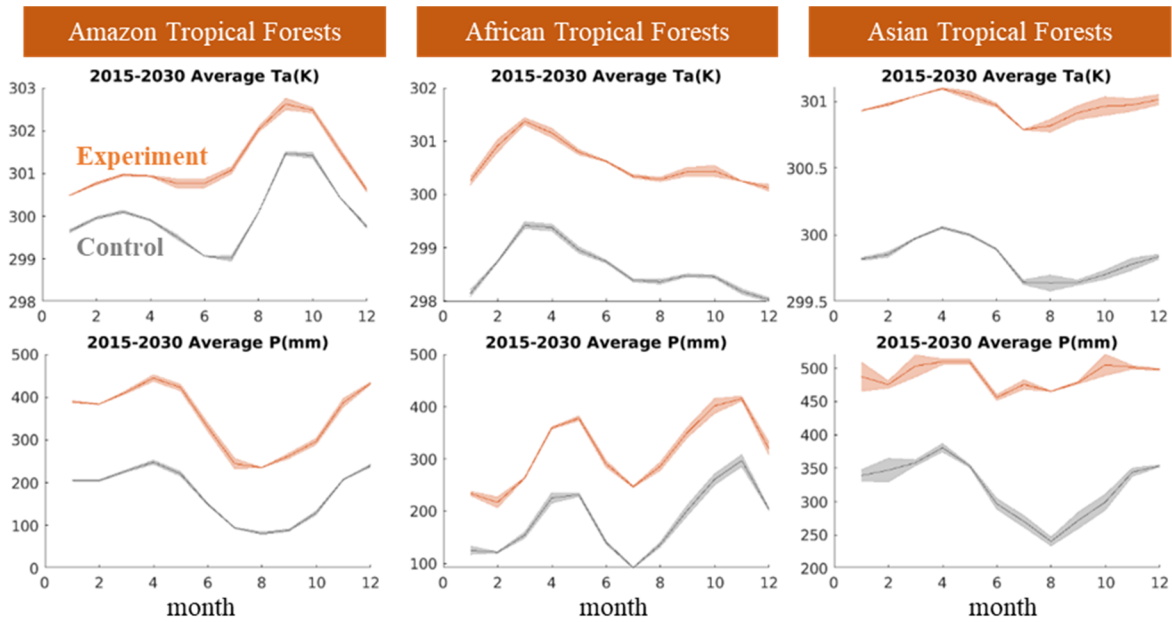



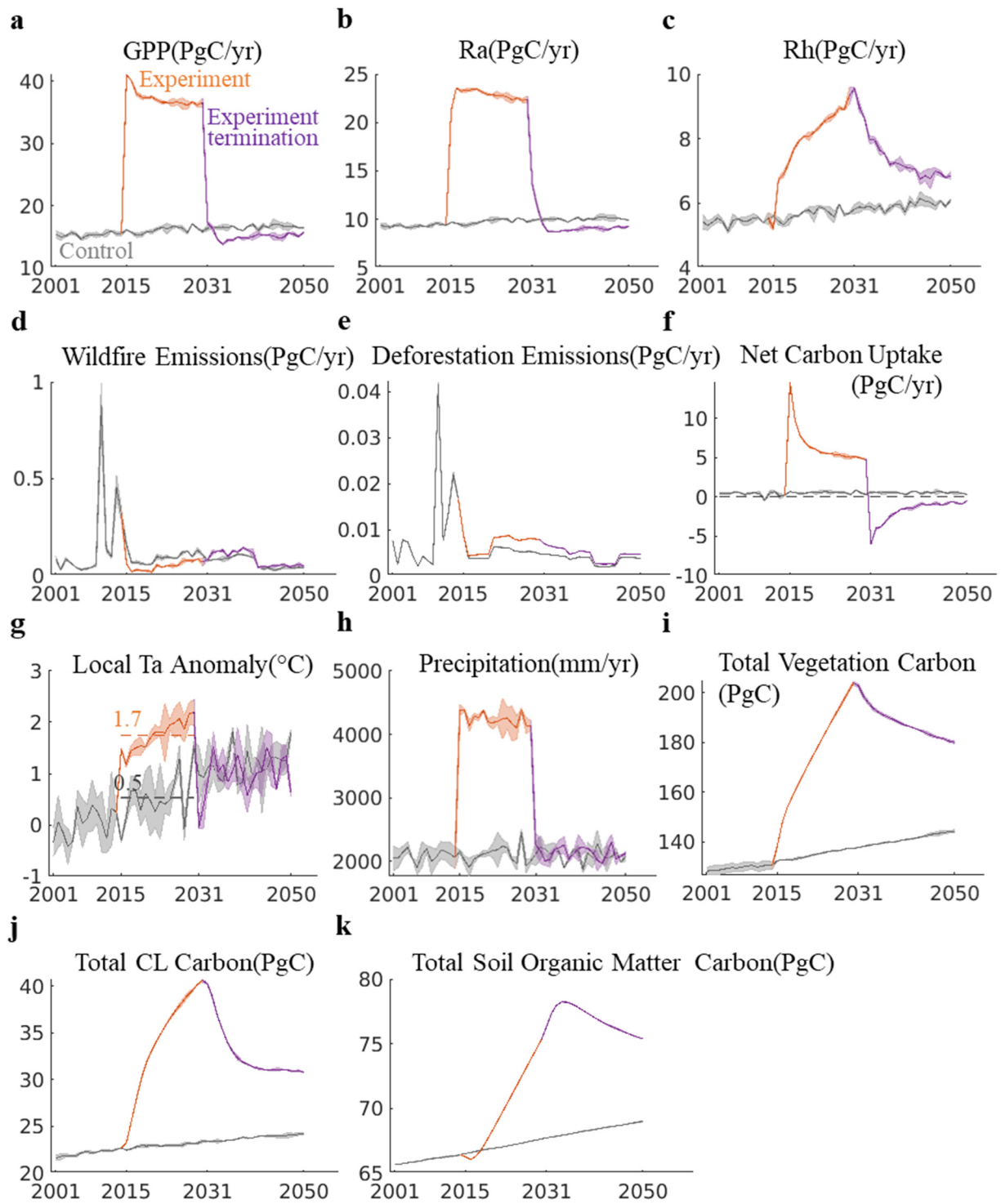
Fig. S5. Amazonian Tropical Forest Carbon Flux, Carbon Amount, and Climate Responses. CL in panel (j): coarse woody debris and litter.

20   **Fig. S6.** African Tropical Forest Carbon Flux, Carbon Amount, and Climate Responses. CL in panel (j): coarse woody debris and litter.

Fig. S7. Asian Tropical Forest Carbon Flux, Carbon Amount, and Climate Responses. CL in panel (j): coarse woody debris and litter.