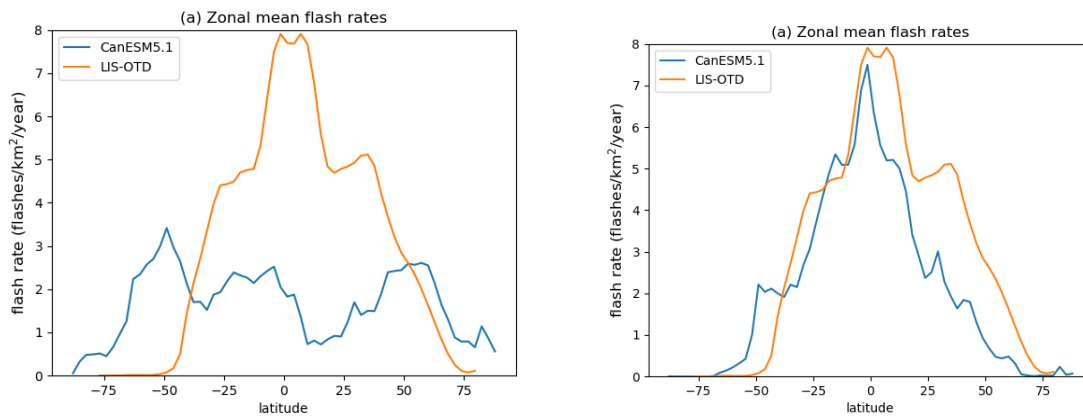


**Fig 1:** (left) CanAM simulation with adaptive entrainment and detrainment deep convection scheme for a 1-year simulation for 2003. (right) CanESM simulation with default deep convection scheme for a 3-year simulation for 2017-2019 (Fig S1 in original manuscript's supplement).



**Fig 2:** Zonal evaluation of lightning flash rates. (left) Figure 5a from the original manuscript, (right) after the CAPE standardisation correction.