

Response to Reviewers

Many thanks for your comments, we apologise for missing these points in your original review. We address these as follows, with the comments in blue and our comments in black.

L119-20: Please briefly summarize how crop and pasture burning differ from natural grasslands; don't just refer to Burton et al. (2019). (I think you missed this in my original review.)

Apologies, we did miss it. Pasture burns at the same rate as the natural grass PFT, and we have adapted this sentence to read:

C3 Pasture and C4 Pasture burn at the same rate as natural grasses as per Burton et al. (2019), which reflects observational constraints that show an increase in burnt area in pasture areas (Kelley et al., 2019; Bistinas et al., 2014).

Thanks for the rework of Fig. 4. However, the caption needs to be updated to match.

Many thanks for pointing this out. The caption now reads:

Figure 4: Observed vegetation fractional cover. First column is derived from ESACCI Land Cover (v2.0.7) for 2010 (Harper et al., 2022). The second column is the difference between the observations and the simulated ensemble mean. Top to bottom show tree, shrub, grass and unvegetated (bare) fraction.

While I was looking through your revisions, I also noted the following

- L41: "10-20k" by itself is unclear. Please revise that bit of the sentence to read "without these feedbacks JULES-ES is 10,000 to 20,000 times more computationally efficient..."

L172-3: "historical period" should be "the historical period"

We have made these changes as suggested