Reply on RC1
Mari R. Tye et al.

Author comment on "Indices of Extremes: Geographic patterns of change in extremes and associated vegetation impacts under climate intervention" by Mari R. Tye et al., EGUsphere, https://doi.org/10.5194/egusphere-2022-1-AC2, 2022

Thank you for this suggestion. There is a substantial body of literature devoted to the analysis of the GLENS experiments, one of the conclusions of our analysis of the ETCDDI is that by and large the extremes of daily maximum and minimum temperature and extreme precipitation respond in the same manner as the means of the same variables. This was also demonstrated for other injection strategies It is reasonable to assume that there will be a similar relationship to the mean temperature changes for equatorial simulations, based on similar analyses carried out with different model experiments (Ji et al., 2018).

As an example, we have carried out the analysis for the coldest night (TNn) using the three member ensemble for the equatorial only injections (Kravitz et al., 2019). As you can see in the figure below comparing TNn (GLENS EC and RCP 8.5 EC) to the mean temperature anomaly (Equatorial minus Baseline from Kravitz et al., 2019, Figure 6), there is little difference in the spatial pattern and magnitude of projected changes of TNn compared to the changes in mean temperature.

Excerpt from Kravitz et al., (2019) Figure 6
Comparisons carried out for Coldest night (TNn) in the GLENS-equator only injections attached.

Please also note the supplement to this comment: https://egusphere.copernicus.org/preprints/egusphere-2022-1/egusphere-2022-1-AC2-supplement.pdf