

Referee#3 Report #2 "Line 258: Note that the Day and Hodges (2018) paper does not actually show an increasing trend in U250 in the Arctic frontal Jet region over the period of the reanalysis, rather a high correlation between inter-annual JJA U250 and  $dT/dy$  in the region. So this sentence needs a slight revision. For info: climate models do show an increase in U250 under e.g. RCP8.5 (see references in the paper)."

Thanks to the reviewer for spotting this error. Indeed, Day and Hodges demonstrate a trend in the temperature gradient but not in the zonal winds. We have adjusted the sentence to fix this, as suggested. We have also taken the opportunity to add a reference to a paper showing a stationary wave analysis of this region, that we should probably have been aware of.

"Climatological stationary wavenumbers of 6-8 are seen along the Arctic coast, with some potential for waveguiding there (Hoskins and Woollings, 2015, Figure 2). The Arctic land-sea temperature contrast has strengthened over the reanalysis period (Day and Hodges, 2018) and under continued anthropogenic warming this is expected to lead to a strengthening of the Arctic frontal jet, further increasing the potential for wave propagation. These changes have recently been implicated in the occurrence of persistent Rossby waves and associated heatwave events over Europe (Rousi et al., 2022)."