

Second response to reviewer 3

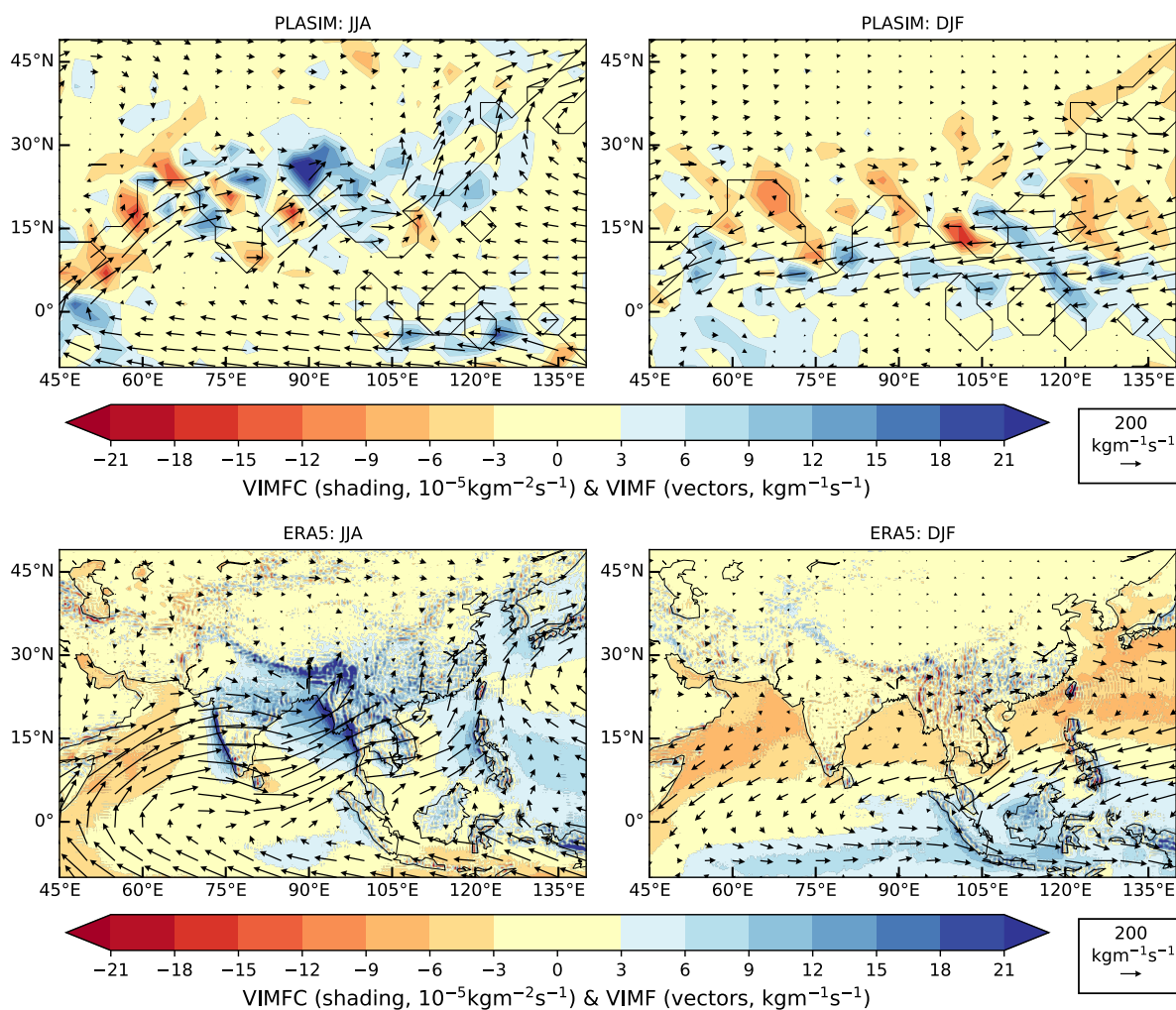
Format of responses: (1) comments from referees/public, (2) author's response, and (3) author's changes in the manuscript."

Minor comments:

(1) In one of my comments, I meant vertically-integrated moisture transport, which is a lat-lon quantity, not vertical transport.

(2) Following on from the original comment regarding figure 3, which shows the 200 hPa relative humidity and circulation for the PLASIM model and the ERA5 reanalysis dataset, we have included another figure in the supplementary material to show the vertically integrated moisture flux (& vertically integrated moisture flux convergence) of both PLASIM and ERA5 for summer and winter seasons.

(3) Included supplementary figure (S1 – shown below) of the vertically integrated moisture flux (& vertically integrated moisture flux convergence) for PLASIM and ERA5, for summer and winter seasons. Updated text in section 2.1 Model Validation to include reference to the new figure.



(1) It looks like the choice of 109E to plot meridional cross sections is not optimal, considering the vicinity to the TP topography (I see some of the effects in the horizontal maps). Also, generally one plots averages over a longitudinal band.

(2) We agree with the reviewer and have updated all sections taken at 109°E to 115°E. Moving much farther east would mean that the section is mostly taken over ocean points, where no aerosol forcing is applied, and hence wouldn't be as relevant. Sections have been considered in the range 105-120°E but they are sufficiently similar that only one longitudinal section per variable is shown as an example.

(3) Sections (supplementary figures S5-7 & S10-12) changed from 109°E to 115°E.