We thank the referee for carefully reading our manuscript, and for their constructive comments. In the following we will respond to the various comments and point out any changes we made to the paper based on them. Line numbers and figure references in the reviewer's comments refer to the original manuscript. The comments of the referees are in black italics; our responses are in blue.

This paper describes an idealized model of the Asian monsoon anticyclone using a dry dynamical core model, to analyze the interactions of localized monsoon forcing and midlatitude baroclinic eddies. The paper focuses on understanding the model sensitivity to monsoon strength and imposed background circulation, and the results nicely highlight the region of active dynamics on the poleward side of the anticyclone. The key points include that the midlatitude eddy interactions lead to a zonal localization of the monsoon circulation, and eastward/westward eddy shedding occurs spontaneously in the model depending on parameter settings. The zonal localization from eddy interactions helps address the issue of overly strong dissipation required in previous idealized models, and the sensitivity of the model eddy shedding to model parameters helps identify the underlying processes in a simplified setting. The paper does a good job of placing this work in contest of previous modeling work and observations. The results are interesting and novel and the paper is well written; I enjoyed reading it very much. I have only minor comments for the authors to consider in revision.

I suggest including a few additional recent references and related discussions:

Sui and Bowman (2019) regarding monsoon modeling DOI:10.1175/JAS-D-18-0340.1
Siu and Bowman (2020) for analysis of sub-vortices and eddy shedding 10.1175/JASD-19-0349.1
Honomichl and Pan (2020) for analysis of eddy shedding 10.1029/2019JD032094

We thank the referee for pointing out these recent studies related to the monsoon anticyclone. We added corresponding references to the manuscript.

Line 353: Fig. 5 should be Fig. 6

This was corrected.

The sensitivity to anticyclone forcing demonstrated in Fig. 11 is nice. What controls the westward phase speed of the eddies for the Q=5 K/day case? Are these Rossby waves?

The structures seen at 20° latitude in Figures 11b and d are distinct vortices and correspond to closed PV contours. Within the framework of single-layer beta-plane models it has been shown that isolated vortices propagate to leading order with the long Rossby wave speed, which (in a barotropic and quasi-geostrophic system) is given by $c=\beta R_D^2$, where β is the meridional gradient of planetary vorticity and R_D is the Rossby radius of deformation. For our system (subtropical upper troposphere with $\beta \approx 2*10^{-11} s^{-1}$, $R_D \approx 10^6 m$) we find $c \approx 20 m/s$, which is of the same order as the eddy velocity shown in Fig. 11d. We added a corresponding statement to the figure description including a reference to the Rupp PhD thesis with a more detailed discussion of the problem. We further added a note to emphasise that these structures are indeed coherent vortices and not Rossby waves, as they correspond to closed contours in the full PV field.

What is going on with the traveling eddies centered near 15 S (also in Fig. 12)?

These structures do not correspond to closed contours in the full PV field and are likely to be essentially a Rossby wave response forced by the eddy shedding and eddy propagation process. We added a corresponding note to the discussion of Figure 11.

Line 525 and following: it is useful to cite the more recent analyses of Siu and Bowman (2020) and Honomichl and Pan (2020) regarding observations of sub-vortices, eddy shedding and ‘bi-modality’.

We added a corresponding reference to the paragraph.