

We thank the reviewers for their attention to detail and helpful comments that have improved the quality of this manuscript.

Response to Referee 1

- Fig. 9 : Could you please check the colorbar ?

In the figure, the zero contours seem to be placed between the white and the lightest blue shading. Also, the place of the $r = 1$ label below the colorbar seems to be inconsistent with what the figure shows: this would have been placed between the most and second most dark red colors, and it might be the reason why the most dark red shading does not appear in the figure even at 30 km, 80N where $r = 1$.

(By the way, it is nice to see this consistency in the time variations from this new figure !)

Thank you for noticing this detail. The colorbar was removed since all contour lines are labeled. Solid (dashed) black contours that represent positive (negative) correlations are labeled every 0.2 and this is indicated in the caption. Black filled symbols have been added to denote where $r=1$ at 80N and 30km (one gridpoint); this is also indicated in the caption.

- Fig. 18 caption : Please exchange the names in (b) and (c) in the caption too.

Thank you for catching this error! Done.

- Fig. 21 : The magnitudes of the standard deviations (SDs) in this new figure seem to be largely different from those shown in Fig. 20 of the previous manuscript. For example, for DW1 at the equator, the SDs have magnitudes of 1 or 2 K in the new figure, whereas they were much larger in the previous figure (up to 5 K).

(I assume the difference between the solid and dashed lines indicates the SD.)

Thus, could you please confirm whether the result in the new figure is correct ?

In Fig 21, the values of the standard deviations for the mean amplitudes of DW1, SW2, and DE3 are indeed different from the values plotted in the original Fig 20. In the new Figure 21, the mean and standard deviations are computed for the SSW period only (21 Jan – 4 Feb 2010, marked as red vertical lines), as suggested by the reviewers. In the original Figure 20, the standard deviations were plotted for the entire Jan-Feb-March 2010 period. In the case of DW1, the standard deviations are in fact larger as a result of increasing variability in the tides approaching the equinox.

- L749 : “at 5-15N ... of 6-8 K”

Done.

- L752 : “in amplitude”

Done.

- L753 : “larger ... not found” → “larger ... than” ?

Done.

Response to Referee 2

L27: "5 day" --> "5-day"

Done.

L548: The quotation is better placed after "Eswaraiah et al., 2017" (L423 in the submitted version) and it should also appear in the list of references.

We are puzzled by this comment. The reference to Eswaraiah et al. (2017) appears on line 443 and does not (and should not) have quotes around it. This reference already appears in the reference list.