

Review of
**“Spatial and temporal variability of mode-1 and mode-2 internal solitary waves
from MODIS/TERRA sun glint off the Amazon Shelf”**

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The paper has improved significantly. The writing is still a bit cumbersome and difficult to read in places.

Comments

1. In the first sentence of section 2.1 it is stated that 140 images were used. I suggest replacing all statements that ‘more than a hundred’ images were used with ‘140 images’ throughout the manuscript. ‘More than 100’ is not precise enough. More than 100 could mean 101, 10,000 or even more.
2. The period MAMJJ includes spring and summer months but is referred to as ‘spring’ whileASOND includes summer and fall months and is referred to as summer/fall. Seems inconsistent not to refer to MAMJJ as spring/summer.
3. Line 15. “play a role in refracting the waves towards the northeast’. Or ‘bending the waves ...’. I’d delete the ‘which gives them an extra offshore acceleration’. The meaning of this is not very clear.
4. Lines 29–30. Delete ‘internal solitary waves’ and just use the acronym as the acronym was defined on line 23.
5. Line 33. Delete ‘generate’. The hotspots aren’t generated. Internal waves are generated.
6. In the results section sub-patches are mentioned but not defined. Where in figure 2 are the subpatches? How were the distances between them, given in table 1, calculated?
7. Mention is made of wavelengths and velocities estimated from the images. The wording often implies that the propagation velocity is estimated independently of the wavelength (e.g., “mean propagation velocity/wavelength varies ...’ on line 238) but in reality the velocity is simply the distance between consecutive wave packets divided by the M_2 tidal period. So if the wavelength increases by 10% then the velocity will as well. That the velocity is computed this way was not clear enough to me. It would help if the wording was changed to something like “... the wavelength increased by $x\%$ implying a corresponding increase in the propagation speed”.
Also, I think using the term ‘wavelength’ instead of ‘inter-packet distance’ is not a great idea.
8. Line 177. What does “calling for mode-1 waves” mean?

9. Line 182. What is the simulated mode-1 mean propagation velocity?
10. Lines 184–187. This seems a bit irrelevant and begs for an explanation of why the phase speed is proportional to the surface wave elevation and why it explains the higher underestimation of the mode-1 waves.
11. Lines 197. Here it is stated that the mode-1 velocities are underestimated by 22%. What about the mode-2 velocities?
12. Line 201. What is meant by 'joining area 2'? I do not see a green rectangle in Figure 7(b).
13. Line 227. Simplify: "... waves travel in a more eastward direction"
14. Line 238. Why are higher wavelengths associated with neap tides rather than spring tides where the stronger tides would suggest larger ITs being generated with larger propagation speeds.
15. Line 344. Should 'Area A' be 'Area 2'?
16. Lines 355–356. What is meant by 'refracting the waves northeast'. It seems like everything is propagating roughly northeast. Do you mean more eastward or more northward?
17. Lines 373–374. Mention is a northwest branch is made but I can't see anything propagating northwest in any of the Figures.
18. Line 376. Mode-2 waves coming from D are mentioned here but in Figure 17 there is nothing coming from D.