

We thank Shizhu Wang for another round of constructive reviews. The revisions are provided below.

The authors of Winkelbauer et al. present a thoroughly revised version of their manuscript. Their responses to my comments on the first version are both comprehensive and considerate. They have addressed all my key concerns. In particular, adding figures on dealing with overlapping cyclic boundary points is very helpful. I agree that this manuscript be published after some minor modification.

Line134: in a final step we divide WHAT by ...

*Then, we multiply them with the respective vertical cell thicknesses at the u/v points and interpolate those orthogonal “transports” bilinearly onto the closest points on the reference line (black crosses in Fig. 2b, called Tproj henceforth). In a final step we divide **the interpolated “transports”** by the vertical thickness of the cells on the reference line to obtain velocities again.*

Line187, and according to your response to my minor comment 4 and 9: it would be better to place the first and last points over land to prevent water from “escaping”. What do you mean by “escaping” here? To my understanding, if I put the starting point over land and the last point in the middle of a strait, then the code should compute the results of half of the strait. Am I right?

Yes, it would calculate transport for half of the strait. However, as positions of currents are not the same for different models/reanalyses, it’s possible that significant parts of the currents pass the strait for some models, while they are integrated for others. This may yield to significantly different results when looking at integrated transports, which might be prevented when placing the strait from land to land. However, we admit that calculation of pure oceanic straits may still be useful, especially when considering cross-sections. Therefore, we changed the wording a bit:

*This is done for all points on the reference line and results in a closed sequence of grid cells along the reference line (filled blue cells). To prevent water from **flowing around the strait**, we advise the user to place the first and last point of the defined section over land. **Transports may also be calculated for sections between ocean points. However, as the position of currents might differ between models this could lead to currents circulating around the strait and result in significantly different results. Therefore, should the strait start/end in water a warning will be given to the user and transports should be treated with caution.** The user is provided with figures of the selected line and the model land-sea mask, which can be used to check the position and length of the desired strait.*

Line324: we are talking about ocean current not “wind component” here.

*Regridding would involve rotating the **ocean velocity** components to the new **flow** direction (eastward/northward) prior to the interpolation as done e.g. by He et al. (2019).*