

## ***Interactive comment on “An estimate of the Sunda Shelf and the Strait of Malacca transports: a numerical study” by F. Daryabor et al.***

### **Anonymous Referee #2**

Received and published: 31 March 2015

This paper uses a high resolution ROMS model to study seasonal transports through The Strait of Malacca and the Sunda Shelf. The authors motivate their work with a lack of observations, and disagreement between previous modelling studies of the region.

The paper is clearly laid-out, and the model well described. The figures are largely clear, though readers who do not know the area could benefit from some clarity on the geography of the area presented in figure 1.

Interesting feature that could also be brought out more strongly: Coarser models seem to overestimate the volume transport. Why is this? simply because the are of the straights is larger in a coarser model? You do expand on this later in the text - with the citation to Fang et al (2005), page 292 lines 12-14. How would authors advise the Malacca Strait be represented in a coarser ocean model, could your work inform some

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kind of parameterisation or a channel model?

My only major criticism is in your description of figure 10, on page 292 "volume transport... decrease exponentially." With what? an arbitrary numbering system. Don't say this. You could say that the volume transports decrease with increasing resolution. The use of 'exponentially' implies there is a dependant relationship, but you have just chosen to arrange the models on the x-axis of your plot.

There are some minor typographical errors in the text. Correcting these would improve the readability of the paper.

Page 276 lines 21-23 is a very long sentence, please divide into 2 / clarify.

Page 278 line 15: "Sect. 5" please expand to Section.

Page 284 line 7: form should be from

Page 284 line 17: "modeld" should be modelled.

Page 290 line 12: replace August with August

Page 291 line 3: ROMS and SODA estimate(s) are also in good agreement

Page 292 lines 17-19: " In consistent with the seasonal cycle of transport in Fig 9, the ROMS and SODA estimate of various estimates are very much in good agreement with each other" I have no idea what you are trying to say here.

Page 294 lines 2-3 "due to rapid changes by interaction with bathymetry and topography" Perhaps change to: complex bathymetry in this region, unresolved at coarse resolution?

Figures

The key figure for me is Figure 10. This could do with being more clearly linked with table 4 (through the legend or caption)

Page 284 lines 20-23 Description of the cold tongue, could do with labelling on the

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map?

Maybe a separate figure with annotations of the acronyms used (SSCS / PMECS) could help clarity

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Interactive comment on Ocean Sci. Discuss., 12, 275, 2015.

**OSD**

12, C73–C75, 2015

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