**Ocean Science
Discussions**

Interactive comment on "Intercomparison of the Charnock and CORE bulk wind stress formulations for coastal ocean modelling" *by* J. M. Brown et al.

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Review of "Intercomparison of the Charnock and CORE bulk wind stress formulations for coastal ocean modelling" by J. M. Brown et al. Ocean Sci. Discuss., 10, C165–C168, 2013 www.ocean-sci-discuss.net/10/C165/2013/

The paper under review does compare the differences between two widely used wind stress formulations in a very specific region namely the southern part of Liverpool Bay. The subject of the paper is clearly relevant and timely considering the relevance of accurate hydrodynamic modeling for regional applications in storm surge prediction and sediment transport modeling. I see following (minor) problems that could limit the va-

lidity of the conclusions drawn in this paper. The sharp focus of the study on this region does allow a clear conclusion (for wind stress the Charnock relation does perform better then COARE bulk formulae) but does also limit the validity of this conclusion to the area considered here. A further problem might be that this comparison does not compare direct the calculated stresses to measured stresses but does compare calculated and measured current velocities, thereby inserting many uncertainties with regard to the applied modeling technology (as the used bathymetry and other parameterizations) that could introduce systematic errors. A critical assessment of these limitations should be added in the discussion.

Nevertheless, I recommend publication of the paper (with technical/minor revisions).

I agree with the points that had been touched already by referee #1 to be considered for minor revisions.

Specifically I also recommend combining the two tables to ease comparison. Even better would be to present these comparisons within a Taylor diagram, that allows a very condensed plot of model-data differences, including the correlation between the data. The correlation between measured and observed time series must be provided in any case!

The time axis in figures 2-4 is not really helpful having "hours since", but in the text there are dates used. As it is hard to find the 29.02 on these plots I insist on changing the time line in all figures to real dates as used in the text.

The time varying accuracy does show nicely the changing accuracy in relation to the wind speed. Calculating the total sum of the time varying accuracy should provide an additional measure for the overall performance of the two parameterizations, please provide them also.

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Interactive Discussion

Discussion Paper