

Author's response

Interactive comment on “Contribution of future wide swath altimetry missions to ocean analysis and forecasting” by Antonio Bonaduce et al.

Anonymous Referee #2

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This paper evaluates the impact of assimilating wide-swath altimetry to improve ocean analysis and prediction. Observing System Simulation Experiment (OSSE) methodology is used in a regional setting in the northeastern Atlantic Ocean to evaluate the impact of this future observing technology in comparison to the impact of existing along-track altimetry. Errors in ocean analyses are further reduced by up to 50% over the reduction achieved by assimilating the existing constellation of along-track altimeters. Substantial error reduction is maintained by short-term ocean forecasts initialized by these data-assimilative ocean analyses.

This is a significant paper for two reasons. First, the authors followed rigorous procedures with respect to the design and validation of the OSSE system to ensure that credible impact assessments are obtained. Second, wide-swath altimetry is an important new technology that holds the promise of significantly improving the analysis and prediction of ocean mesoscale variability. The experimental design is reasonable. This paper provides an important early quantitative assessment of the expected improvement when wide-swath altimetry becomes operational.

The paper is clearly written and I have no significant editorial recommendations.

For these reasons, I recommend publication as is.

We thank the Reviewer for the positive comments (*highlighted in bold+italic*) and for considering this paper as a significant study.