

Review of “Contribution of a constellation of two Wide-Swath Altimetry Missions to Global Ocean Analysis and Forecasting” by Mounir Benkiran, Pierre-Yves Le Traon, and Gérald Dibarboure

The manuscript is generally well written and understandable. The authors present results of several ocean prediction OSSEs to simulate the impact of two swath altimeter satellites in combination with three nadir altimeter satellites. The results are well presented. The results are significant and will be of interest to the science community for determining the importance of future investment. The quality of the work is high. The results are based on realistic ocean forecast systems being applied operationally. These results build on many prior studies on the impact of satellite and in situ observations.

The authors’ response to comments is very good, and I appreciated understanding the explanations provided. The explanations helped me understand the details more clearly and put the results into context, and the changes to the text helped me avoid accidental misinterpretation. I have only a couple minor comments on the revised manuscript:

Page 5: “OSSE0 is the Free Run (FR) of the ocean model used to assess the performance of the other experiments. OSSE1 corresponds to nadir (3N) altimetry data assimilation. Finally, OSSE3 (3N+2S) assimilated all observation types (combining two swaths and three nadirs). OSSE1, 2 and 3 also assimilate Sea Surface Temperature (SST), Ice Concentration (IC), and Temperature and Salinity (T/S) profile data.” – Check the number of the OSSEs throughout. In these two sentences the numbering is different.

Page 8: This should be equation 2, and there should be a square the numerator.