

Interactive
Comment

Interactive comment on “Validation of FOAM near-surface ocean current forecasts using Lagrangian drifting buoys” by E. W. Blockley et al.

Anonymous Referee #2

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This manuscript presents mainly results of the comparison between the surface currents obtained with the global component ($1/4^\circ$) of the FOAM system (operational ocean forecasting system run at the Met Office) run in hindcast mode (for the years 2007 and 2008) with surface currents derived from SVP surface drifters. This paper clearly illustrates the benefit of using the data from near-surface drifters to validate operational model results and to provide estimates of the forecasting error statistics. It gives quantitative estimates of the differences between the simulated surface current and the one derived from this independent (e.g. not assimilated) dataset for these 2 years in the past. The authors have paid sufficient attention to the validation of the data they use and the quality of the observation is discussed in details (especially a recent diagnosed problem of drogue loss resulting, among other things, to an excessive wind/wave slippage of the drifters, especially in the southern ocean). Indirect compar-

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Interactive Discussion

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ison of the drifter derived velocities with velocities measured by the current meters of the moored tropical buoy array is shown, demonstrating the potential of the method they use to derive velocities from drifter data for the validation of FOAM surface currents. Then, they compare the results obtained with FOAM showing improvements corresponding to a system upgrade (assimilation improvement), and showing also the positive impact of the assimilation of observations (e.g. altimetry, SST, T/S profiles and ice coverage measurements). They also use climatological fields derived from the observations to provide an answer to the question “does the assimilative model perform better than climatology”.

This paper is well written (easy to read for a non native English), it addresses well posed scientific question, the methodology used is well presented, pertinent references are cited all along the paper, and the figures support the results discussed in text.

I think this paper deserves to be published in Ocean Science as a contribution to the MyOcean special issue.

Interactive comment on Ocean Sci. Discuss., 9, 1705, 2012.

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