

***Interactive comment on “Usefulness of high
resolution coastal models for operational oil spill
forecast: the Full City accident” by G. Broström
et al.***

F. Arduin

arduin@ifremer.fr

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In the paper, the author write a rather surprising statement on line 5 of page 1474, namely "The Stokes drift is calculated routinely at both met.no and European Centre for Medium Range Weather Forecast (ECMWF) and may be considered as a reliable and well predicted quantity that is important for drifting objects".

This would imply that anything computed routinely by a supposedly well-established institution should be taken at face value. In fact, there are many reasons to question the quality of the Stokes drift estimates, which, although it probably has the right order of magnitude, may be in error by 50% or more because it heavily depends on the

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wave energy for waves with frequencies above the spectral peak. At that part of the wave spectrum is an area where very few people have done a careful validation of their models. If the Stokes drift is so important, then the authors should include some comparison with Stokes drift estimated from buoy spectra. This was done for example by Arduin et al. (J. Phys. Oceanogr. vol 39, see appendix C on page 2936). In that paper there is also a very accurate empirical relation from wind and wave height to the surface Stokes drift (eq. 7), but it is not known how widely that is applicable.

Interactive comment on Ocean Sci. Discuss., 8, 1467, 2011.