

Interactive comment on “The exchange of SVOCs across the air-sea interface in Singapore’s coastal environment” by J. He and R. Balasubramanian

W. E. Asher (Referee)

asher@apl.washington.edu

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Overall, this is a good paper with some interesting data on deposition of VOCs. The discussion of the role of the sea surface microlayer is good, and I think the paper should be published. I would like to authors to at least comment on the two points discusses below:

1. The authors make the point that the sea surface is heavily impacted by organics (to the point where the microlayer represents a separate reservoir for the sVOCs). It would seem to me that air-sea exchange might be better described by transfer through film-covered interfaces. However, the relationships used to estimate the water-side air-water transfer velocities, k_L , are for clean surfaces. Perhaps the air-sea gas exchange flux components would be more accurately estimated using relationships for
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film-covered surfaces? The paper by Tsai and Lui (Tsai, W.-T. and Liu, K.-K. 2003. An assessment of the effect of sea-surface surfactant on global atmosphere-ocean CO₂ flux. *J. Geophys. Res.*, 108(C4), 3127, doi:10.1029/2000JC000740) might provide some insight on how to proceed along these lines.

2. Most of the fluxes and concentrations are listed with an associated “uncertainty” given as a +/- value. However, I suspect this is not a true uncertainty in the statistical sense that the number reflects the statistical variation in the value, but rather is the range of the observations. If my assumption is correct, and the uncertainty in any measured concentration is actually not so large as the range, it would be interesting to see histograms of the distributions of measured concentrations. If the fluxes are derived from pairs of numbers (e.g., in the case of the air-sea fluxes, one would need a water concentration and air-phase concentration), the distribution of fluxes could also be shown. The idea being that perhaps the authors could discuss whether there was any pattern to the distribution of the fluxes (i.e., correlation of air-water fluxes with tides or some other forcing) based on patterns in the distributions.

Minor Comments:

Line 348: remove “etc” and enumerate examples.

Figure 4 is corrupt.

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