

## ***Interactive comment on “Forecasting for a Lagrangian aircraft campaign” by A. Stohl et al.***

**A. Stohl et al.**

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We would like the reviewer for his positive review. Thank you also for spotting the typos. They have been corrected.

Concerning the accuracy to be expected from the system for the flight planning, it is not possible to give any reliable numbers because no actual Lagrangian measurement data are available. The analysis of the NARE data was the best we could do without too much speculation. On the forecast performance in previous campaigns, we will add, in the model description, the sentence "Generally, the model system predicted the intercontinental transport of pollution plumes quite well (Stohl et al., 2003, Forster et al. 2004). While the plume altitudes and depths were sometimes not accurately predicted, the aircraft could almost always find the predicted layers when vertical profiles were performed."

In the conclusions section, we will add the following paragraph:

While we are confident that the new system will predict Lagrangian opportunities re-  
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sonably well, there are also limitations. We know, for instance, from previous campaigns (Stohl et al., 2003, Forster et al. 2004) that pollution plume altitudes are sometimes not accurately predicted over a downwind continent. Therefore, it will be important that the downwind aircraft perform vertical profiles at the locations of predicted opportunities and also characterize the horizontal variability of the chemical composition. Similarly, also the upwind aircraft must sample the variability of the chemical composition in the vicinity of a predicted opportunity in order to enhance the chances for a match. As no model, not even in retrospective simulations, is accurate enough to confirm a Lagrangian situation, it will finally be the measurement data that will allow to verify whether a predicted situation was truly Lagrangian, or not.

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