

## ***Interactive comment on “Uncertainty in Lagrangian pollutant transport simulations due to meteorological uncertainty at mesoscale” by W. M. Angevine et al.***

**Anonymous Referee #2**

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In the paper “Uncertainty in Lagrangian pollutant transport simulations due to meteorological uncertainty at mesoscale” by W. Angevine et al. the authors address the impact of transport errors on Lagrangian passive tracer simulations. The authors use six configurations of the WRF model to obtain an ensemble of meteorological situations on the east coast of the USA. They run identical configuration FLEXPART-WRF runs on the resulting wind fields. The output of the Lagrangian model runs is statistically analysed in order to derive estimates of transport uncertainty. The paper is interesting and well written and I recommend publication after a few technical corrections that may make the paper easier to read for certain readers.

Specific/Technical comments:

C1829

4608 I7: The turbulence is only horizontal or also vertical?

4608 I15: define age classes

4609 I1: Providing the emissions is useful in case someone wants to repeat the experiments.

4609 I27: what does “open loop” mean?

4611 I6: Is there a reference for this uncertainty interpretation?

4612 I23: For the readers not familiar with US geography, it would be useful to precise where Atlanta is.

4612 I28: You mean that because the lower layer is difficult to simulate you are going to focus on a higher layer?

4613 I20: Have you made additional calculations or it is speculation?

4614 I15: Define CRN before Figure 7. Maybe mention at intro.

Table 7: mention CRN before.

Fig 6. made more clear that are relative units.

Fig 11. clarify: tracer age calculated with trajectories, mixing ratio measured.

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Interactive comment on Geosci. Model Dev. Discuss., 7, 4603, 2014.