

Interactive comment on “Technical Note: A new method for the Lagrangian tracking of pollution plumes from source to receptor using gridded model output” by R. C. Owen and R. E. Honrath

Anonymous Referee #3

Received and published: 13 November 2008

This is a very nice and well written paper that introduces a new method for identifying just those portions of a Lagrangian forward tracer that travel to a particular receptor. I find the technique to be novel and very useful and the topic of the paper is entirely appropriate as a Technical Note in ACP. I recommend that the paper be published after a very minor revision as described below.

Abstract, line 17 I think the term “should replace”; is a little too strong seeing as there are still advantages to seeing the full forward and backward simulations between an emissions region and a receptor. I think a better way to phrase it would be: “Based on the advantages presented here, this new method can complement

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or even replace many of the standard uses of backward LPDM simulations.;

page 18844 line 25 If I remember my troposphere chemistry correctly, once NO_x has been converted to HNO₃ it is essentially removed from the ozone production process, so subsequent wet deposition of HNO₃ isn't necessary to limit ozone production.

page 18845 line 29 delete ;as;

18846, line 5 delete ;for air;

18848 line 2 The tracer doesn't have to be released in a volume it can be released from a 2-D surface.

18854 line 21 scenario was selected

18857 line 4 Here and in Figure 5 the map views are referred to as vertical while the time-height cross sections are referred to as horizontal. It would be better to refer to them as the plan view and the time-height cross-section.

18861 line 15 I think receptor should be source.

18863 line 19 is preferred

18865, line 25 would have been picked up

18867 line 23 retroplume is now

18867 line 23 shown

18867 line 27 contours would completely

18868 line 13 located over source regions

18872 line 14 based on a Eulerian

18872 line 25 similar, no

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18872 line 26 (i.e., $a=0$), no removal has occurred

18874 line 6 measurement

18874 line 13 be be

Caption Figure 1 the last line should read: (a), (c) and (e)

caption Figure 3 second to last sentence should read: in (a) and (b)

Figure 6 the panels are too small and need to be increased in size

Caption Figure 7 In my hard copy the gray total CO symbols look black.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 18843, 2008.

ACPD

8, S9085–S9087, 2008

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