

Interactive comment on “Global mass fixer algorithms for conservative tracer transport in the ECMWF model” by M. Diamantakis and J. Flemming

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Received and published: 7 March 2014

General comments This is an interesting and well-written paper, comparing a variety of different mass fixers. It provides useful comparisons for both air mass and trace gases. It compares the efficiency of the schemes, and compares the impact of the humidity corrections on temperatures and on NWP scores. The paper also provides an interesting comparison for correlated tracers. My comments are of a minor nature.

Minor comments/corrections (optional) L122 “MacGregor (2011)” to “McGregor (2005)”
L234 Remove the subscripts “jk” from ϕ_{\min} L438 Is it known which of the 150-hour distributions in Fig. 9 is more realistic?

C60

Technical corrections L1 “MFA” to “MFAs” L15 “is not “ to “not” L21 spelled as “parametrisation” , but L82 different spelling L25 “their location” to “its location” L42 Algorithms” to “Algorithm” L51 & L55 & L62 “MFA” to “MFAs” L75 You should say how many time steps L139 “correcting” to “to correct” L162 & L176 & L183 & L185 It would be better to use a different superscript than p (maybe upper-case P) to avoid confusion with pressure p. L190 “is a” to “produced a” L205 “Priestley” to “Priestley’s” L213 & L214 “MacGregor” to “McGregor” L285 and caption to Fig 4. Should specify units of vertical axis L292 I think you mean to say “see also Fig. 5” L308 “MF” to “MFA” L349 “10 forecast” to “10-day forecasts” L427 probably replace “MF” by “MFA” L465 “up half” to “up to half” L468 “from ... applied” to “from applying the quasi-monotone limiter” L477 “results to” to “results in” L524 “MacGregor, J.” To “McGregor, J.L. L525 “2011” to “2005” Caption of Fig. 6 should state that the contours show the zonal mean temperatures.

Interactive comment on Geosci. Model Dev. Discuss., 7, 777, 2014.

C61