

Interactive comment on “Composition of the TTL over Darwin: local mixing or long-range transport?” by W. J. Heyes et al.

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Specific Comments

(1) We have added a statement detailing the number of trajectories computed to Paragraph 1 of Chapter 4.3. We attempted to grid the trajectories in the suggested manner, however the total number of trajectories performed was too low for this technique to work. This method requires hundreds of thousands of trajectories to work successfully. As an alternative we present the complete ten-day back trajectories used in the analysis of the uplifted ozonesonde trajectories and the advected ozonesonde trajectories in Fig. 4 and Fig. 7 respectively of the revised paper. An example of using colour den-

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sities to represent mole fractions is shown below in Fig. 1, however we felt the results would not be clear when appearing in a printed journal. We have combined Figures 5 and 6 in the discussion paper, to a sequential numbering system in revised paper Fig. 6 and placed the information previously displayed in Table 3.

(2) Once again the total number of trajectories was too few to show meaningful results when plotted in the suggested manner. Instead the ten-day trajectories for the CO measurements used have been plotted in Fig. 11 of the revised manuscript.

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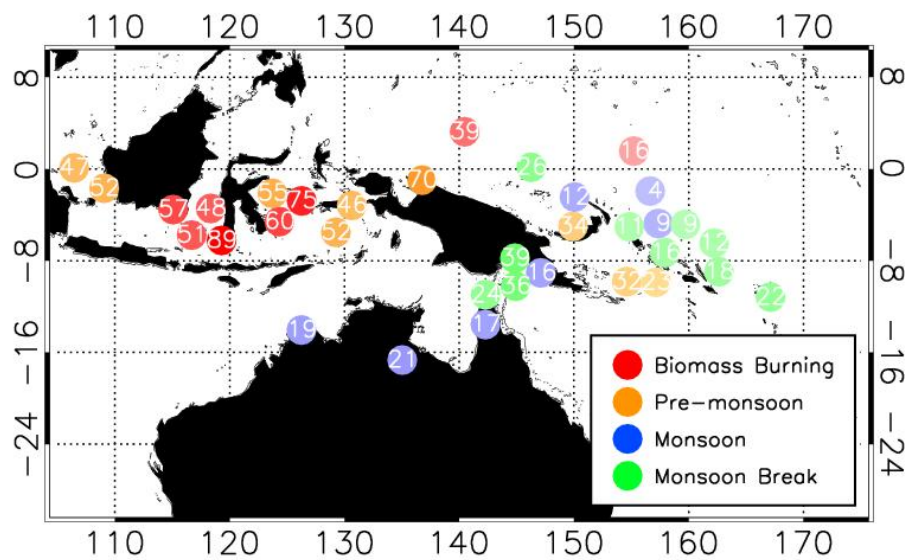


Fig. 1. Map showing the location where back trajectories that experienced rapid uplift crossed the 500 hPa surface, colour-coded to meteorological phase. The density of the colour of the circle repr