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Interactive comment on "A Lagrangian analysis of the present-day sources of moisture for major ice-core sites" *by* A. Drumond et al.

Anonymous Referee #3

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This paper proposes to identify the moisture sources for 14 ice cores divided into 3 large "domains" (Arctic, Central and Antarctic). The findings are as expected, that the subtropical oceans provide most moisture (although the contributions change through the year).

In the Introduction on the discussion on D-excess there is no mention of air moisture trajectory history as a control, ie the D-excess will change when moisture moves over dry as opposed to wet land for example (a major influence in the Central domain?). Should trajectory history be added?

In the second paragraph (and the title) the authors mention the Lagrangian diagnostic scheme but there is no explanation of this for the non-expert.

The authors follow a previously published approach from about a decade ago, which

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Discussion paper

was updated in a 2014 paper, but they do not consider the updates. It wasn't really clear to me why they didn't apply the updated method.

Overall they identify moisture source areas which are as expected or have previously been identified from trajectory studies. I wonder if they can ground truth some of their findings from data in the literature as this purely modelling approach seems deficient when so much observational data is available?

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