

Manuscript # 2015_734 entitled 'Precipitation regime and stable oxygen isotopes at Dome C, East Antarctica – a comparison of two extreme years 2009 and 2010'.

The authors have responded satisfactorily to my original comments, except for the comment asking for clarification of their definition for identifying the main moisture sources (original comment #10). Based on the additional information supplied by the authors, I'm concerned that their method for identifying moisture sources is too subjective to be replicated by others. For example, it is not clear what the authors mean by 'the northern most point of the trough that causes northerly flow to Dome C'. Firstly, in the SH, I think the flow should be southerly to Dome C. Secondly, how was the northernmost extent of the trough identified? Thirdly, as the geopotential height field is an evolving field, what time window was used for this analysis? Finally, the arbitrary 5-day cut-off was used to make it 'possible to comprehend the dynamics of the synoptic situation that causes the precipitation'. Whilst it is true that human comprehension is limited, it does not mean that the sources of moisture could not originate further back along the air mass trajectories so I find this argument a bit unsatisfactory. Whilst I have sympathy with the authors claim that 'this is only a coarse estimate', I'm concerned that the current method is not robust enough to objectively distinguish between sources in the Southern Ocean and sources at mid-latitudes.

One option could be to analyse longer back-trajectories and identify the location at which those trajectories intersect the boundary layer as the moisture origin?