

### Short comment B.Delmonte

A short comment about how the authors reconcile their model with the evidence that during cold glacial periods contribution from local dust sources to Talos Dome was not completely shut off probably (see Albani et al, 2012, figure 3d where coarse dust particle flux – indicative for local dust advection- was equal or even slightly higher during LGM than during early Holocene). Consequently it would be nice if the authors properly highlight that only in relative terms the dust input from local sources increased during warm climate stages, not in absolute terms as one can read in their introduction.

We thank B. Delmonte for this comment. It is indeed not clearly written in the introduction, that there are contributions from local dust sources present also during glacial conditions. We mention in the text that both, Mesa Range and Antarctic Dry Valleys, are potential dust sources to Talos Dome, which implies that the Mesa Range is also active during glacial conditions as it has not been ice covered during the entire period covered by the TALDICE record. Nevertheless, we have adjusted the introduction in order to clarify this issue.

Another short comment on the possible contribution from Dry Valleys to TD. The cited work of Delmonte et alii, 2013, they point to Prince Albert Mountains/Deep Freeze Range/ Mesa Range being likely the most important “potential dust-carrying” air flow patterns to TALDICE therefore please provide alternative reference for the attribution of DV as dust sources to Talos Dome, but not Delmonte 2013. Other minor comments concern the fact that the old idea that “local sources increased after glacial periods” is related only to the formation of glacial deposits – but we do not know the former productivity of all other typologies of loose deposits acting as sources in Victoria Land that have been active since a period of time that is much longer than the TALDICE ice core record.

The reference Delmonte et al., 2013 has been introduced to illustrate the ambiguity of the contribution of the various local dust sources to dust input at Talos Dome which is also discussed in this paper, and not to emphasize the importance of the ADV to dust input to Talos Dome. However, in the context it could be misinterpreted and is therefore removed according to your suggestion.