

Interactive comment on “Interpolation methods for Antarctic ice-core timescales: application to Byrd, Siple Dome and Law Dome ice cores” by T. J. Fudge et al.

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Received and published: 2 April 2014

Dear Eric,

Please find our revised manuscript and responses to each referee attached. We appreciate the detailed comments and have improved the manuscript accordingly. In particular, we have more accurately characterized how the Law Dome and AICC2012 timescales were constructed.

We have also revised our discussion involving the Pedro et al. (2012) result of a lead of Antarctic temperature relative to carbon dioxide. Both referee 1 and 3 had confusion about what, if any, effect there would be. We had not articulated in the original

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manuscript that the gas timescales for Siple Dome and Byrd will also be affected, further complicating the impact of potential bias in the timescales. We have discussed this issue with Joel Pedro at length, and agree that the average bias of each timescale cannot be used to determine the impact. We now state that the impact is unclear. We also had introduced this topic in the wrong place – when discussing WAIS specific values. Therefore, we have moved the new paragraph to the discussion of the Law Dome, Siple Dome, and Byrd timescales.

T.J.

Interactive comment on Clim. Past Discuss., 10, 65, 2014.