Clim. Past Discuss., 11, C2613–C2614, 2015
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Interactive comment on "Optimal site selection for a high resolution ice core record in East Antarctica" *by* T. Vance et al.

Anonymous Referee #1

Received and published: 10 December 2015

Review- Optimal site selection for a high resolution ice core record in East Antarctica

This is an interesting and beneficial reference paper for the ice core community. It utilizes a range of parameters to select the optimal location for ice core drilling. It's good to demonstrate how much research goes into selecting an ice core site and the importance of setting out clear objectives.

I have only a few minor comments. In the discussion regarding IPO I'm not sure I feel confident about the use of ERA-20C. I appreciate that you would like to use as long a record as possible, and it's good that you've included some caveats, but based on the two figures shown (Fig 6 and supplementary fig), I'm not sure that the two data sets are producing similar composites. Rather than introduce doubt would it not be better to stick to ERA-int and just add the caveat that the record is short? If you're trying to

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demonstrate the difference between positive and negative phases of IPO, and how this will influence the proposed ice core sites, then the supplementary figure looks more convincing to me.

Minor comments:

Page 5076, Line 20 – I felt this needs an introductory sentence “Filling in a data sparse regions with new ice core records will contribute to our understanding of regional and global scale climate processes but the location of ice core sites requires careful site selection”. Then lead onto constraints.

Page 5077, line 12 – Sentence structure. “These include three sites from the WIAS. . ...?

Line 24 – add timescale eg . . .over the last 2000 years?

Interactive comment on Clim. Past Discuss., 11, 5073, 2015.