

Interactive comment on “The PRISM4 (mid-Piacenzian) palaeoenvironmental reconstruction” by Harry Dowsett et al.

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We appreciate the comments and suggestions made by this reviewer.

We agree that our choice of map projections make it difficult to see some of the changes we are discussing. We will add a polar view(s) as suggested so the North Pacific, Greenland and Canadian archipelago regions are more easily seen.

Thank you for noticing figure 8 is not plotted using the new palaeogeography. This will be changed and we will make sure all figures are using the new palaeogeography.

We agree the placement of Yamane et al. (2015) should be changed and will rewrite so that the evidence for ice elevation is discussed before the Wilkes Land retreat.

The PRISM4 reconstruction uses the PRISM3 SST reconstruction which is based upon

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multiple proxies. The synthesis paper we point to (Dowsett et al. 2012) has this paragraph:

"Different palaeotemperature proxies measure different aspects of temperature by sampling the marine environment at various spatial and temporal resolutions, further complicated by effects unique to each signal carrier and method. Therefore, our multiple proxy analysis is done on a site-by-site basis, taking into account the full range of palaeoenvironmental information derived from a complete assessment of a fossil assemblage and allied geochemical proxies, to determine the overall quality of the temperature estimate. Slight differences between multiple-proxy estimates from a single site strengthen the confidence of the overall site estimate, compared with an estimate from a single proxy."

In addition, Supplementary Table 1 of Dowsett et al. (2012) lists all the original references for the individual temperature estimates. It may be possible for us to include a supplement to this manuscript which repeats this information but also explicitly states which types of data are considered at each locality.

Thank you for catching our use of DOT without first spelling out its meaning: Deep Ocean Temperature. We will change this in our revision.

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