

Interactive comment on “Oxygen isotopic analyses of individual planktic foraminifera species: implications for seasonality in the western Arabian Sea” by P. D. Naidu et al.

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Received and published: 26 October 2014

Reviewer 3 I appreciate the comments of reviewer on methodology, I would be happy to see comments on the interpretations too. However, my response to reviewer comments as follows: Point 1: For individual species analyses we have chosen large size mainly to avoid the ontogenetic effects on the oxygen isotope ratios of selected species, for example see Elderfield et al., (2002) clearly demonstrated that the ontogenetic effect on large size foraminifera is not noticed in $\delta^{18}\text{O}$ of *G. sacculifer* and many more number of species. Statistically analyses of 20 planktonic foraminifera provides significant standard deviation. However only 8 individual specimens of *N. dutertrei* were

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analyzed from all selected intervals may not provide high statistic significance, therefore we have not dealt the inter shell $\delta^{18}\text{O}$ variations of *N. dutertrei* at great length, just shown that during deglaciation the thermocline dweller *N. dutertrei* also exhibit large inter shell $\delta^{18}\text{O}$ variability. Bemis et al equation was chosen to quantify the salinity variations, however one should not attach much importance to the absolute salinity values derived by any equation for that matter because salinity reconstructions assume so many factors. In our point of view here one need to look the salinity range rather than absolute values, therefore using any other equations may derive different absolute SSS values, BUT will not derive different ranges (mean difference between winter and summer). We do not want to elaborate on methods adopted to compute the SSTs based on the planktonic foraminifera census data, which are already mentioned in our earlier publication Naidu and Malmgren (2005). I disagree with reviewer on this point, the mean SST difference between summer (June to September) and winter (November to February) at the ODP site 723 is $<1^\circ\text{C}$ (please see the figure 1). The maximum SST at this site is noticed during April and May before the onset of SW monsoon and Minimum SST is noticed during upwelling season i.e during July to September. Therefore the SST difference of 4°C you have mentioned is not the Winter and Summer difference. The minimum SST difference during from 9 kyr to 0.4 kyr was primarily caused due to the intense upwelling during SW monsoon, which causes a decrease in summer SST and makes them more or less similar to the range of the winter SST. Modern SST data derived from Levitus et al., 2004 also represent minimum SST difference between The significant values of standard deviations are underlined based on statistical significance.

Interactive comment on Clim. Past Discuss., 10, 3661, 2014.

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