

Dear L.Cheng

Actually we use a depth offset calculated between 30m and 100m. Mentioning 200m was a mistake in the text. It is the mean temperature determining classes of XBT which is calculated until 200m. Indeed, the bias at 0-100m is not totally removed after the correction. As presented in responses to reviewers, we have calculated a new more precise thermal offset (taking into account the bathymetry of collocated profiles) and a new resulting depth correction.

The section on heat content demonstrates the robustness of the correction based on collocated data (about 10%) on the entire database. This is an important check of the consistency of the corrections we applied compared to the ones done by other groups, on an integrated quantity for which the results should be rather similar. However, we will add important references in the text (Domingues. 2008; Ishii et al. 2009).

We made an extensive validation of our method and chose to select only the most significant figures for the paper. We will consider however adding one or two new figures as you have suggested (e.g. bias(lat,lon) at a given time period).

Thanks for your comments, yours sincerely,

Mathieu Hamon