

Interactive comment on “2-D reconstruction of past sea level (1950–2003) using tide gauge records and spatial patterns from a general ocean circulation model” by W. Llovel et al.

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I reviewed an earlier version of this paper for another Journal. I appreciate that the author’s obviously took my comments into account when revising this paper, as it far better than the previous one. Their technique is easy to follow, and the results are well presented. Their conclusions are, with one exception, supported by their results. I would recommend it for publication with one revision.

The revision deals with Section 5.2.1 and Figure 6. I feel that the authors are overstating the similarity of these two trend maps. While the eye is initially drawn to the correlated signals in the tropical Pacific, I find substantial differences in other regions.

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For instance, the Indian Ocean trends are very different: the reconstruction sees a fall of more than 10 mm/year in the central Indian Ocean, while the altimetry sees a small rise. The altimetry sees a more or less uniform rise over the Southern Ocean, whereas the model sees a drop. There are similar differences in the South Atlantic. I am not sure that a correlation coefficient computed globally would be all that high. These differences are of the same order as the recovered trends. Could the authors please compute it and comment on it? I suspect this is do to weakness of the solution where there are not sufficient tide gauges. The authors should take these into account when they are commenting on the recovered signals in these areas, as they could very well be under- or over-estimating them by a considerable amount.

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