

Comment on essd-2021-150

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Referee comment on "A review of last interglacial sea-level proxies in the western Atlantic and southwestern Caribbean, from Brazil to Honduras" by Karla Rubio-Sandoval et al.,
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The paper by Rubio-Sandoval et al. addresses the last interglacial sea-level proxies from Brazil to Honduras. The authors review and report a total of 55 index points extracted from 36 papers. The sea level indicators which comprise 50 of the index points are identified and discussed in terms of elevation, datum, and dating techniques. Additional sections summarizing the existing knowledge re sea level and discussing controversies and potential research directions into the future are also included.

My impression when I first read this manuscript was that the authors did a good job in terms of citing the scientific literature (at least, in my case, for the more familiar Brazilian coast), a basic prerequisite for a good review. I was happy to see that a comprehensive appraisal was conducted not only for the existing literature in English but also in Portuguese. However, several issues made me wonder whether the article itself was appropriate to support the publication of this dataset, and therefore I recommend a major review for this contribution.

What's the rationale for this latitudinal extent covering such broad regions with different tectonic settings (e.g. between Brazil and sites in the Caribbean)? Looking at the other articles in WALIS, I see a case for covering large areas (e.g. Freisleben et al. ---most of the Pacific coast of SA), but I was wondering whether the Caribbean datasets should be independent. If not, the authors must at least acknowledge this issue in introduction.

I was really surprised to see that despite its extension, not a single topographic profile/schematic cross-section, stratigraphy, sequence of depositional events, satellite image or even a photograph of the Brazilian coast was presented. This creates a contrast when compared to what's being presented for the Caribbean (Fig 6 and 8).

There's clear potential for this dataset to be used based on its uniqueness, usefulness and

completeness. However, a statement claiming that this database contribution represents a starting point (abstract) should be avoided considering this is using secondary data. Apart from the description of the dataset, the discussion is rather limited, and this reflects in the abstract and conclusion. E.g. If discernment of SL oscillations is not possible for Brazil, how about to discuss this with the aid of the Pleistocene SL curve, highlighting the reliable data of Tomazelli and Dillenburg, 2007; Martins et al., 2018? Or to use generalised cross-sections from several sites around Brazil similar to what was presented for the Australian coast (Murray-Wallace and Belperio 1991) for another discussion topic.

In terms of cartographic content, the paper lacks quality. Map figures alternate between different colour palettes representing DEMs by different colours. I suggest standardising the colour scheme throughout paper and incorporate legends. I also feel that much more could be done to Figs. 3-5, 7 and 9, which are currently limited to represent the location of samples under a range of different scales, without really adding much information to what is already presented in Fig 1. I suppose all those figures (3-5, 7 and 9) could be incorporated as inserts into a larger Fig 1. This way, the reader would have a general idea of the point distribution and also have a better understanding at a larger scale of the south, northeast of Brazil (from north Bahia to RG do Norte only), Curacao, Bonaire, Providencia/San Andres points on a single figure. Regardless of this more complex Fig 1, the other figures need to become more informative and make better use of the data compiled by the authors. A bit of cartographic skills would make figs 3-5, 7 and 9 to represent the information discussed in text. E.g. Fig 3 could be made of three side-to-side maps representing elevation, datum and dating techniques (colour symbology). If this is done also for the other figs, the reader would then benefit from understanding much more than just the spatial distribution of the index points.

Please increase font size of Fig 2 and the distance elevation plots in figs 3-5, and 7. By the way is there a reason for not having a similar plot in Fig 9? Another observed inconsistency regards the labelling of points in those maps. I suggest to stick to Wallis IDs similar to what was done in fig 9. Therefore, get rid of the 0-18 in fig 3, 0-10 in fig 4, 0-10 in fig 5, 0-9 in fig 7, and label points according to IDs. Regarding scales, Fig 9 inserts have tiny graphical scales and font sizes. The other figs especially 5 and 7 lack scales!

The paper by Suguio et al 2005 also reports 12 Pleistocene TL/OSL dated samples and locations from the coast of Pernambuco and Rio Grande do Norte. 6-7 of those samples are from the MIS 5 and should at least be discussed why they are not incorporated into this review (similar to what was done with Fernando de Noronha).

Kenitiro Suguio; Alcina M. F. Barreto; Francisco H.R. Bezerra; Paulo Eduardo de Oliveira
2005 SÍNTESE SOBRE PROVÁVEIS NÍVEIS RELATIVOS DO MAR ACIMA DO ATUAL NO
PLEISTOCENO DO BRASIL Abequa

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