

Dear Editor,

We would like to thank you and the reviewer, Dr. Woo Hun Ryang, for the careful evaluation of our manuscript and for the constructive comments and suggestions. We are grateful for the positive assessment of this South Asian regional compilation and for the opportunity to improve the geographic coverage of the WALIS database. The comments were very helpful in identifying aspects of the manuscript that required clearer discussion, particularly regarding the limitations associated with the geographic positioning and elevation measurements of some of the compiled sea-level indicators.

We have carefully considered all the comments and revised the manuscript accordingly. Hereafter, we provide a detailed and point-by-point response to the issues raised by Dr. Woo Hun Ryang. All minor stylistic, grammatical, and typographical corrections have been addressed throughout the revised version of the manuscript. Below, we provide point-by-point responses to the reviewer's major comments.

We hope that the revisions and responses satisfactorily address the reviewer's concerns.

Reviewer comment:

On the other hand, as noted in the manuscript (Lines 77–90) and the accompanying Excel dataset, most study sites lack precise geographic coordinates and are therefore represented only by approximate locations. In addition, among the 54 elevation measurements, 11 were obtained using the tape-and-Abney-level technique and 25 using barometric altimeters. Furthermore, the measurement techniques were not reported for 5 elevation measurements. Thus, 41 of the 54 elevation measurements were acquired using either relatively old surveying techniques or undocumented measurement methods, both of which are associated with substantial measurement uncertainties. These limitations should be discussed more explicitly in the manuscript.

We agree with the reviewer's observation. Since this work is a literature-based compilation, our dataset is dependent on the quality of the original publications, many of which did not report exact coordinates. When precise data were missing, we used Google Maps or georeferencing original maps in QGIS to estimate the study zones, as stated in Lines 99-100.

In addition, as already mentioned in the text (Lines 84-97), the majority of elevation measurements were indeed obtained via barometric altimeters ($n = 25$) and tape/Abney levels ($n = 11$). However, our database also includes other specific methods. Specifically, it reports 2 instances of dGPS, hand level and tape; 2 of Differential GPS; 3 calculated as distance from the top of a drill core; and 6 via handheld GPS. Finally, as reported in the manuscript, for some datapoints ($n = 5$), this information was 'not reported' in the original literature.

We have rephrased the entire section to be more explicit:

“While elevation measurement techniques are reported in most of the studies included in our review, a small subset of works lacks this information (Brückner, 1989; Reyss et al., 1998; Normand et al., 2019; Goswami et al., 2019). Specifically, for exactly 5 RSL datapoints in Iran, the elevation measurement technique was not reported in the original papers (Rovere et al., 2016b). Among the six measurement techniques recorded in this database, the vast majority of sea-level index point elevations were determined using either barometric altimeters ($n = 25$) or

tape and Abney (a handheld surveying instrument used to measure slope angles, gradients, and vertical heights) levelling ($n = 11$). Although these relatively older surveying techniques, along with the undocumented methods, are inherently associated with lower resolution and potentially substantial measurement uncertainties, they represent the only historical data available for these areas. The database also includes modern and higher-precision techniques. These consist of: (i) Differential GPS (dGPS) alone ($n = 2$) in the Sur lagoon area (Oman; Mauz et al., 2015a; Falkenroth et al., 2020), which offers the highest operational accuracy; (ii) a combination of dGPS, hand level, and tape ($n = 2$) in Oman (Hoffmann et al., 2020; Decker et al., 2024; Falkenroth et al., 2019); (iii) handheld GPS ($n = 6$) in Iran and the Maldives (Pirazzoli et al., 2004; Gischler et al., 2008a,b; Gischler et al., 2018a,b; Normand et al., 2019; Goswami et al., 2019); and (iv) the distance calculated from the top of a drill core ($n = 3$)."

Reviewer comment:

Nevertheless, despite these uncertainties and the limited availability of high-quality elevation data, the relative sea-level index points (SLIPs) compiled in this study will make a valuable contribution to the global MIS 5 sea-level database.

We thank the reviewer for this positive assessment. One of the main objectives of this study is indeed to provide standardized information from a region that has remained comparatively underrepresented in global Last Interglacial sea-level compilations.

Reviewer comment:

It is noteworthy that the compiled SLIPs are distributed across tectonically uplifting, stable, and subsiding regions. To better illustrate the pronounced regional variation in SLIP elevations associated with these contrasting tectonic settings, I recommend plotting longitude (or latitude) on the x-axis of Figure 4, with the corresponding tectonic setting indicated above the country names.

We thank the reviewer for this useful suggestion and agree that the previous version of Figure 4 did not sufficiently illustrate the geographic progression of the SLIPs across the study area.

It is difficult to add coordinates on an elevation graph, and the Lat/Long information is already embedded on the map. Following the reviewer's recommendation, we added the three different tectonic setting information on Figure 4, starting from the uplifted settings of southern Iran and northern Oman, through the comparatively stable passive margin of peninsular India, to the subsiding oceanic platforms of the Maldives and Cocos (Keeling) Islands.

We believe that the new representation makes the regional tectonic control on the present elevation of MIS 5 sea-level indicators considerably clearer.

Reviewer comment:

Lines 85, 475, and 594–595: I could not locate the reference "Decker et al., 2024" in Google Scholar or on the Quaternary Science Reviews website. Please verify that both the in-text citation and the corresponding reference are correct.

Decker, N., Hoffmann, G., Al-Kindi, A., & Frechen, M.: Uplifted Late Quaternary marine terraces along the Omani coast: Implications for the forebulge of the Makran subduction zone. Quaternary Science Reviews, 326, 108035, 2024.

We thank the reviewer for identifying this problem. We carefully rechecked and provided the correct citation, which is also updated in the reference list. The correct reference is appended below:

Decker, V., Falkenroth, M., & Hoffmann, G.; Sedimentological evidence of Late Pleistocene shorelines in Oman. Marine Geology, 477, 107407, 2024.
<https://doi.org/10.1016/j.margeo.2024.107407>

We apologize for this bibliographic error and thank the reviewer for drawing our attention to it.

Reviewer comment:

Lines 318 and 330–331: These sentences do not end with a period, making them appear incomplete. Please check whether any text is missing.

We thank the reviewer for identifying these typographical errors. We carefully checked both sentences and confirm that the exact depositional period was missing.

The sentence around Line 318 has been corrected to read: “This facies indicates a deposition in a shallow, high-energy intertidal environment during the MIS5e.”

Similarly, a full stop has been added to the sentence around Lines 330–331, and the sentence has been rephrased: “Later, using the U-series dating method, Banerjee (2000) re-examined the same succession and suggested that the T2 terrace belongs to the Last Interglacial (MIS5e).”

Both errors have been corrected in the revised manuscript.