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Interactive comment on "A standardized database of Marine Isotopic Stage 5e sea-level proxies on tropical Pacific Islands" *by* Nadine Hallmann et al.

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We thank Clark Sherman for his comments on our review of MIS 5e reef deposits from tropical Pacific Islands.

RSL indicators
In situ reef assemblages, including corals and associated biota (i.e., coralline algae, vermetid gastropods and encrusting foraminifera), provide more accurate constraints on palaeo-water depths compared to reconstructions based only on individual coral species or genera. This approach has been increasingly applied over the two last decades, especially regarding the study of last deglacial and Holocene reef sequences

(see review in Camoin and Webster, 2015). However, the dataset that supports our review of MIS 5e reef deposits from tropical Pacific Islands, does not include details regarding the composition of reef assemblages and concerns coral identification mostly at the genus or family levels. The analysis of RSL indicators given in Section 3 and Table 1 is focused on "the highest *in situ* corals" and is seemingly narrow as it is restricted to assessing depth ranges of individual coral taxa. Table 1 follows the template of the database, but the need to identify reef assemblages and RSL indicators with a narrow depth range to better constrain RSL reconstructions is already mentioned in Section 6.6 'Uncertainties and data quality'; in addition, requirements for future studies are listed in Section 7 'Future research directions'. However, we will specifically mention in the revised manuscript the importance of studying the associated biota (i.e., coralline algae, vermetid gastropods and encrusting foraminifera) as well as facies analysis to reconstruct depositional environments, thus following recommendations made by Camoin and Webster (2015) regarding the establishment of an "ideal" dataset. The overall quality of the observations in the database appears poor, mainly due to the lack of constraints on the palaeo-water depth range of coral taxa, which introduces large uncertainties and limits the accuracy of RSL reconstructions during MIS 5e. This remark may apply to a number of past studies of Quaternary reef systems.

Quality of radiometric ages
Evaluation of the quality of radiometric ages includes the mineralogical assessment, but also the closed versus open system behaviour of radioisotopes. Datapoints obtained outside closed-system conditions are highlighted in the database. The information on the acceptance of radiometric ages has been often directly taken from the original publication. In addition, the quality of the ages that are reported in the WALIS database has been reviewed by Peter Chutcharavan and Andrea Dutton who compiled a U-series database for MIS 5e corals (see this Special Issue, manuscript in review).

Depth range of taxa

We clarify hereafter the statement "Records which had the following characteristics were excluded from the analysis: (1) those for which the difference between Max Depth and Min Depth were > 0,2 m". In the OBIS database the "Max Depth" and "Min Depth" values define the depth range of each record. In this database, if a coral taxon is observed between 0 and 10 m, then the Min Depth would be 0 and the Max Depth would be 10. To be able to graphically represent the depth distribution of each coral taxon and see where it peaked, we have selected records associated with a specific depth (or nearly so – with a limit set arbitrarily to 0.2 m), following the method used by Hibbert et al. (2016, 2018). For the maximum depths at which the taxa have been recorded, the whole data set has been considered.

Organization of the manuscript

Concerning the organization of the manuscript, the order of the different sections follows formatting guidelines.

C3