

Reply on RC1

Andrea Dutton et al.

Author comment on "Compilation of Last Interglacial (Marine Isotope Stage 5e) sea-level indicators in the Bahamas, Turks and Caicos, and the east coast of Florida, USA" by Andrea Dutton et al., Earth Syst. Sci. Data Discuss.,
<https://doi.org/10.5194/essd-2021-391-AC1>, 2022

We would like to thank Charlie Kerans for taking the time to provide constructive comments on our manuscript. We have responded point by point to the comments made below, and have revised the manuscript accordingly.

- Note about reference to include on flank margin caves.

This reference will be added.

- Keystone vugs – cautionary note that some keystone vugs can be substantially higher than the range mentioned here (-0.4 to +0.4 m).

Thank you for emphasizing this point. We agree, which is why we noted in section 2.5 that "the lowest occurrence of keystone vugs is typically taken as the best estimate for the position of sea level." In each of the sites, we followed this convention of using the lowest occurrence of keystone vugs to mark the position of sea level to avoid bias from keystone vugs formed during storm surges. We have clarified this by adding a sentence in section 2.5.

- Patch reef versus fringing reef distinction is lacking

Here the point is made that some of the reef outcrops may have different paleowater depths (not always -3 m) and may be fringing reefs with coralline-algal caps. We agree that -3 m is an estimate that we used where other information is lacking with respect to paleowater depth or extent and type of reef deposit based on existing reports. The sites mentioned in this comment do have more detailed analyses of paleowater depth (Grotto Beach, Devil's Point, Cockburn Town, and West Caicos). In all of those cases, we used the published information to further refine water depth at those sites. This approach was described in section 2.1 as follows: "Here we adopt an estimated paleowater depth (or RWL) of -3 m relative to mean sea level, with a possible depth range (IR) of 0 to -6 m for patch reefs in this region unless there is more specific information available that can be used to refine this range."

- Should mention wave-cut notches for completeness

Good point. We have added section 2.7 on wave-cut notches.

- Summary of Bahamian stratigraphy may not be entirely correct, despite the fact that this is an accurate reflection of the published stratigraphy.

We have modified this section to remove references to the relative position of the Cockburn Town and French Bay members, which is not clearly demonstrated in the literature.

- Suggest to remove Titus, 1980 reference as it is from 'grey literature.'

This has been done.

- Suggest to include the name of 'Hole in the Wall' in Abaco island description.

Good idea. This has been done.

- An additional reference was noted that is relevant to Andros Island

We have included a reference to the sedimentology in Hazard et al., 2017

- Exuma Cays – comment that beach dune elevation does not represent sea level position

We agree. Our wording was misleading here and we have modified the wording to clarify that the series of dune ridges was interpreted by Jackson (2017) to represent shoreline migration.

- Great Inagua – some confusion over why there is a larger uncertainty here

We have added wording to clarify that the additional uncertainty for the lower reef unit here stems from having to estimate how much material was removed during erosion.

- West Caicos – comment to revise description of Boat Cove unit

Thank you for this clarification. This is done.

- Something missing on line 478

Thank you. Sentence fragment was removed.

- Typo on line 72 corrected.