The authors made changes in the manuscript to accommodate all the suggestions of both referees.

In following with Climate of the Past’s guidelines, this response will be structured such that each point will be addressed in numerical order following the sequence and after each comment from the referee is the author's changes in manuscript.

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Changes addressing Dr Hein’s Review:

Minor suggestions:

1) The manuscript would benefit from some additional detailed copy editing to correct

issues such as (but not limited to):

-done

(a) use of data as singular (perhaps the plurality of the word “data” is a personal

preference rather than grammatical rule?) (e.g., P2, L30);

-done

(b) missing closed parentheses (P3, L7)

-added

(c) hyphenation of “three-step” (P4, L11)change “no” to “not” (P5, L22)

-corrected

(d) comma missing after “used” (P5, L33)

-added

(e) change “coasts” to “coastal” (P13, L21)

-corrected

(f) consider not capitalizing “penetrating” and “radar” (P15, L7)

-done

(g) “rendering of the LiDAR as well” (P26, L8) and “no GPR was” (P26, L27): consider

adding “data were” after both “LiDAR” and “GPR”

-done

(h) add comma after “how” (P26, L33)

-added

(i) incomplete sentence in P27, L18-19.

-corrected

2) Several suggested wording changes for clarity:

(a) change “coastal plains” (a geomorphic/geographic feature) to “coastal settings” (P5,

L28)

-done

(b) “there has been relatively little discussion about gain” (P15, L33) – where has there

been little discussion? In the literature? Needs clarity.

-clarified

(c) sentence structure in P17, L15-17 is very confusing

-clarified

(d) “deep” coring (P18, L1): needs to be defined. Is this word even necessary?

-changed

(e) not sure “decipher” is the best word choice (P22, L18); consider “differentiate”

-changed

(f) consider adding something along the lines of “, therefore leading to incorrect or

incomplete interpretations” after “overlooked” (P27, L1)

-added

(g) Use of “evolution” is somewhat unclear (P27, L11).

-clarified

3) P6, L123-14: the authors may consider a few sentences about other, newer

methods/technologies for mapping morphology. I am specifically thinking about dronebased

“structure from motion” (sfm). Unlike the earlier author-reviewer discussion we

shared about the need for ground-truthing, this is not a significant consideration.

However, it may be worth the authors mentioning the existence of other techniques

which could produce lidar-like and lidar-quality data across similarly large areas. Lidar

data are still not available for large parts of the world. While, as the authors note, lidar

benefits from penetrating vegetation which may obscure morphology (P6, L23-24), there

are many coastal settings (e.g., coarse-grained and/or high-latitude beach ridges where

vegetation is minimal or non-existent) where progradational beach- and foredune- ridge

plains could be easily (at less expense and simplified logistics) mapped using, e.g., sfm.

The point is that lidar is one tool of several for high-resolution, large-spatial extent

topographic mapping, and data produced by another method may be equally valid for

use in a GOaL-like approach.

-sentences added

4) P21, L24-25 and P27, L21-22: I would be remiss if I did not highlight the work in a

very challenging environment to produce a sea-level curve using OSL dating and GPR,

as well as detailed topographic mapping (using RTK-GPS as opposed to lidar) by my

colleague Dr. Billy (Billy et al., 2015, Geomorphology). This paper is already cited in this

manuscript, so this is not fishing for a citation, but rather highlighting a recent study that

successfully used the exact approach proposed by the authors.

-reference cited in section

5) P17, L22-26: I recognize this addition is in response to another reviewer. I agree with

this and have struggled with it myself, especially when presenting both radiocarbon (in

years B.P.) and OSL dates in the same discussion. The difference matters little when

discussing dates of >10,000 years, but can matter a lot for the last 1000 years. For

those shorter time periods, simply converting the radiocarbon ages and presenting all

dates in years CE is one solution my reviewers have agreed on.

-sentences added

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Changes addressing Dr Shen’s Review:

1) Page 18, Line 14-15: "Shell deposits within the beach facies, however, have been shown to provide similar ages to OSL dates acquired from associated beach and dune deposits (e.g. Murray-Wallace et al., 2002)."

-changed

2) Hijma et al. (2017, Earth Surface Dynamics) also reported quartz OSL data conformable with shell 14C data of Gould and McFarland (1959, Gulf Coast Association of Geological Societies Transactions, v. 9, p. 261-270) for the Louisiana Chenier beach ridge. However, I suggest the authors to be very cautious in the statement here to avoid a hint that 14C dating beach shell is straightforward. Dating beach facies using shells requires experience to scrutinize the type of shells used because it is almost guaranteed that beach facies contains reworked shells (e.g., Gould and McFarlan, 1959; Gulf Coast Association of Geological Societies Transactions, v. 9, p. 261-270. Rodriguez and Meyer, 2006, Journal of Sedimentary Research, v76, p. 257-269). Accurate dating may be achieved using the small fragile shells unlikely reworked in beach facies.

-sections reworded