Review of: "Evaluating Hydrologic, Geomorphic, and Vegetation Parameters to Assess Natural, Living, and Hardened Shorelines along the Northern Gulf of Mexico"

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Potential competing interests: No potential competing interests to declare.

Dear Editor

I have revised the manuscript and I have some general and specific observation, overall I guess the document is very interesting and should be published after minor changes. My comments are focused to improve the quality and to clarify some aspects of the manuscript.

In general it seems to me that the document is a bit long and too descriptive, sometimes more similar to a report than a paper so I suggest Authors to shorten it a bit.

Study sites

Concerning this part: “Sites were sampled in the summer and winter of 2020. Sites that were categorized as high energy sites included: Alonzo Landing (AL) and Swift Tract Project (ST) in Alabama, and the Hancock County Marsh Project (HC) in Mississippi (Figures 1, 2). Sites categorized as low energy sites were Camp Wilkes (CW), Ocean Springs Inner Harbor (OS) and Bayou Heron, Grand Bay NERR (GB) in Mississippi (Figures 1, 2)” it seems to me that should go to RESULTS since is the result of an investigation…anyway, please, clarify it….Is it the result of previous investigations?

About this: “were created within five years of field sampling” do you think it is a relevant point? How does it affect obtained results?

Figure 1, please add a scale in kilometers too.

Pag. 7, Hidrologic features, concerning this part: “Measurements were collected during two seasons (winter 2019 and summer 2020).” ..please give details…..during how many days? Where conditions representative of local wave climate?

Pag. 7, usually “long-term” in coastal morphology is used for studies that concern more than 60 years…..in your case should be “medium-term”.

Pag. 8, regarding this part: “measured from duplicate elevation survey transects recorded at 1 m intervals”….how were profiles surveyed? Which was the vertical and horizontal accuracy? These are relevant points to be used later on and can be compared with sediment composition.

Table 2, please specify units.

Pag. 12, Sediment grain size data presentation and analysis….these affirmations need to be proved....the action of waves depends on beach morphology and slope.....you should have data on disturbance depth and/or daily, weekly and monthly morphological changes to justify such observations...I mean you do not know the thickness of sediments affected by waves....what about vertical morphological changes? You are assuming that waves remobilize at a seasonal (? Yearly ?) time scale a depth of 30 cm…it seems to me too much…....maybe such stratification indicate a medium term trend (more than one year)?

Table 4, evidently data depends on the sampling point too...in case of hard structures this point is in front of the structure so it is an exposed area...so differences with other points are obvious…

Pag. 17, “The nMDS and the PCA show similar patterns in the dataset (Figures 5 and 6). In the nMDS, there is a substantial overlap between the NS and the LS sites”. …..This could be essentially due to the presence of vegetation that is absent in HS?

Pag. 19, I suggest to re-phrase: …….eight-year period averaged over all six sites, was the NS type (Juneau 2021, Spellmann 2022) which erosion rate (0.70 m/yr) was higher respect to either the LS (0.25 m/yr) or HS (-0.02 m/yr).

Pag. 19, last line, parenthesis is missing before “Polk”