

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

Xuezhong Fan

Potential competing interests: No potential competing interests to declare.

This study investigated and analyzed the differences in hydrological, geomorphic, and vegetation factors corresponding to natural, living, and hardened shorelines along the Northern Gulf of Mexico. The findings are useful to the scientific community, as they provide valuable information for exploring coastal zone management in shoreline protection, resistance to coastal erosion and flooding. The manuscript has a clear description of the research purpose, methods, and result analysis, but its readability and quality can still be further enhanced, in my opinion, if there are improvements according to the following specific comments:

1. The article seems a bit lengthy and needs further refinement, especially in its results and discussion section, where there are many repeated sentences. The results section should focus on analyzing and summarizing the information provided by the data, without the need for causal analysis, which can be conducted in the discussion section.
2. There are two **Figure 5**, please check and correct them.
3. The quality of Figures 3-6 needs to be improved in terms of clarity, color, size, and font size. For the PCA in Figure 6, it is better to display the distribution maps of the various participating factors that form the coordinate axis to understand their correlation and contribution to each axis.
4. Tables, should use a three line format, and some of the data can also be presented in combination diagrams.
5. The p-value representing the statistical significance level in the text should be clearly defined as  $p < 0.01$  or  $0.001$ , rather than  $p < 0.00$ .
6. For the research goal, the descriptions in the introduction and conclusion sections are **The goal of this study was to investigate the effects of three different shoreline types (natural marsh, living shoreline, and hardened shoreline) on hydrologic, geomorphic, and vegetation conditions...** and **"The goal of this study was to evaluate how hydrologic, geomorphic, and vegetative parameters can affect different shoreline types (natural marsh, living shorelines, and hardened shorelines)"**, respectively. This can easily lead to logical confusion in understanding, and you should have a consistent statement to distinguish which is the influencer and which is the responder.
7. In the discussion section, it is recommended to combine your findings with knowledge of coastal management to provide important insights into shoreline management and restoration practices.
8. There are relatively few new references in recent years, which can be appropriately added.

