

Review of: "Larache's Coastal in Morocco: Evaluating Dredging's Impact on Fisheries and Shoreline evolution"

Héctor L. Venegas-Quiñones¹

¹ University of Arizona

Potential competing interests: No potential competing interests to declare.

Review:

The assertion made in the study that the changes recorded between 2010 and 2020 may be solely attributed to natural factors specific to the environment (bathymetry, terrain nature) or weather and oceanic factors (hydrodynamic and meteorological parameters) needs to be approached with caution. While the study appropriately considers these natural elements as potential contributors to the observed changes, it is crucial to avoid definitively asseverating that they are the exclusive causes.

Comments:

1. **Acknowledgment of Complexity:** The study rightly recognizes the complexity of environmental systems, acknowledging the potential influence of both natural and anthropogenic factors on the observed changes. However, caution should be exercised in definitively attributing the changes to natural causes without a more nuanced analysis.
2. **Need for Further Analysis:** To strengthen the validity of the conclusions, it is recommended that the study conducts a more in-depth and nuanced analysis. This could involve statistical techniques, trend analysis, or modeling to differentiate between the impacts of natural factors and potential anthropogenic influences, such as dredging activities.
3. **Consideration of Cumulative Effects:** The study should also consider the cumulative effects of various factors. Interaction between natural and anthropogenic elements can amplify or mitigate the impacts observed. A comprehensive analysis of these interactions will provide a more accurate understanding of the dynamics at play.
4. **Long-Term Trends:** Exploring long-term trends beyond the specified period could provide valuable insights into the sustainability of the observed changes. Understanding whether the trends persist or evolve over time can help discern the ongoing impact of both natural and anthropogenic factors.
5. **Incorporating Expert Opinions:** Consulting experts in relevant fields, such as environmental science, marine biology, or climatology, could contribute valuable perspectives. Their insights can aid in refining the analysis and drawing more accurate conclusions regarding the primary drivers of the observed changes.
6. **Multidisciplinary Approach:** Given the multidisciplinary nature of coastal studies, a more holistic approach that integrates data from various sources and disciplines would enhance the robustness of the analysis. This could include collaboration

with experts in coastal geomorphology, oceanography, and fisheries science.

While the study provides a valuable foundation for understanding the factors influencing coastal changes, it is recommended to refrain from conclusively asseverating that the observed alterations are solely due to natural causes. A more nuanced, multidisciplinary, and long-term analysis is needed to disentangle the complex interactions shaping the coastal environment over the specified period. This approach will contribute to a more accurate and comprehensive understanding of the dynamics at play.