Review of: "A Research Note on Natural Reclamation Processes that Support Mangrove Biodiversity Spheres: Sedimentation in Three Major River Deltas in Northwestern Luzon Using Aerial Imagery"

Robin McLachlan[1]

1 College of Coastal Georgia

Potential competing interests: No potential competing interests to declare.

Dear Authors, I appreciate the opportunity to review this article and hope that my recommendations can help improve its accuracy and impact.

This article is written in casual language and rarely uses scientific jargon specific to this scientific field. While I commend writing in a way that is understandable to many, the lack of scientific terminology (which often holds much more precise and descriptive definitions than the lay alternatives) decreases the validity of the scientific descriptions. I often found myself cringing at the way specific processes were described because they lacked nuance and oversimplified the processes almost to the point of being inaccurate. For example, Figure 7 states that this false image composite allows us to visually “appreciate” the higher density of vegetation in the newer landforms, but much more than just density can impact the shade of red in this image (e.g., vegetation health, vegetation type, soil moisture, etc.). This qualitative result would be greatly strengthened and validated with quantitative analyses, such as calculating and comparing the NDVI of newer and older land forms.

Furthermore, the author does not seem to hold expertise in delta sedimentation or morphology as they are a professor in a Department of Behavioral Sciences and their previous publications focus on the history of gold trades. While they may have experience quantifying land changes using RS-GIS, I am not convinced that they are qualified to explain sedimentation nor vegetation dynamics.

Abstract: Please include primary results and implications. It currently reads more as an introduction than an abstract.

Figures: Please add much more detailed descriptions to the figures. This article seems to be written for a wide audience, but the lack of figure captions requires the reader to have deep knowledge of this scientific field to interpret. Please also increase the font size of text within the figures. Many of the scale bars are too small to be readable.

Methods: Please add much more detail here so that readers can better assess the validity of the results. For example, the 2013 satellite imagery is raster (2-m resolution), but the 1979 topographic map is vector (1:500000 scale). Therefore, to perform an area change analysis, the vector image would need to be converter to raster (or vice versa) and the accuracy of the results would only be as good as the 1979 image, which I assume to be far poorer than the modern imagery.

Furthermore, how were the impacts of tidal inundation dealt with in the 2013 satellite imagery? Was the change in shoreline position due to the tides at the time the satellite imagery was taken accounted for? The aerial extent of coastal river deltas (low-elevation and low-slope) can greatly vary due to tides.

Results: I caught many very important mistakes in the unit conversions here. For example, the new sedimentation in Aringay is described as 1720 square meters in the text but 1.72 square kilometers in Figure 6. These values do not equal each other (1.72 square km = 1,720,000 square m). Additionally, some of the figures cited in the text do no refer to the correct figure numbers. Much revision is needed here.

Conclusion: The article often states that this research addresses macro-, meso-, and micro- scales. However, these scales are never quantitatively defined. Assuming that macro refers to satellite imagery and meso- refers to aircraft imagery, very little analysis is performed on a meso-scale and no analysis is performed on a micro-scale. Also, the conclusion very briefly offers a hypothesis for why there is more new land area in the Bauang than the other locations, but does not fully explain nor provide any supporting evidence.

Given my above comments, I would not recommend that this article be published or cited without major revisions. I strongly encourage the author to collaborate with a geologist who can provide their expertise and improve the validity of this work.