

Review of: "Unlocking Natural Capital in the Megadiverse Colombian Pacific Basin: Navigating Challenges and Governance Gaps"

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Potential competing interests: No potential competing interests to declare.

This study presents an estimation of the economic value of the natural capital in the Colombian Pacific Basin. The authors quickly distinguish the concepts of natural capital and ecosystem services (ES). They use a benefit transfer approach, where they use values of ES found in the scientific and grey literature. They only consider values coming specifically from the Colombian context.

They then perform a GIS analysis to map current, lost and remnant natural capital in the Colombian Pacific Basin. The current maps of the biomes are based on data from IDEAM (2017). They also identify future threats to RNC from two sources: based on zoning suitability for 9 production systems; based on GLOBIO4 Scenario data that uses different climate change scenarios.

Once the maps are established, they perform an analysis to estimate the lost and remnant NC.

- Here, it is not quite clear to me where the BIOMETRANS data comes from, and how it differs from the BIOMEORIGINAL layer. Below equation 1, both BIOMEORIGINAL and BIOMETRANS are said to come from information from IDEAM 2017. In this context, could you explain in the previous section (2.2.1 *Review and standardization of geographic information sources*) how the information from IDEAM 2017 are used to generate two layers?

Finally, they perform an analysis to obtain an economic valuation of RNC in future scenarios (for the production systems, and then for the global change scenarios).

- In the context of the future global change scenarios, can you explain further what the scenarios *Future determined by a politically divided world* (SSP3xRCP6.0) and *Future oriented toward sustainability* (SSP1xRCP2.6) entail specifically? Can you add a short description of the underlying hypothesis of these scenarios?

In the results and discussion, the authors first present the results of the economic valuation exercise, and then they discuss the drivers of the losses of NC. Here are a few specific suggestions about section 3:

- In the Figures (both in the main text and the Supplemental material), I would suggest that you decrease your shape's contour width, so that we can see more clearly the content of the shapes (biomes), as opposed to the black lines.

- In Figure 4A, can you specify if ES 4E is Water (provisioning)?
- In Figure 4 C, can you provide an explanation (either in the text or in Supplemental material 2) as to what you mean by ES 4N. *Information for cognitive development*?
- In section 3.4, I would suggest that you specify the units directly besides the number. In this section, you describe the NC losses at the Biome level and at the Ecosystem level. Since there seems to be a lot less Ecosystems, what is the added value of showing and describing both levels? Would it interesting to focus on one level?
- In Figure 2, it would be nice to increase the text size and remove the italics to improve readability.

Discussion. The discussion in section 4.2 is very rich and provides a very interesting insight into the drivers of NC loss.

- In section 4.1, you mention that estimates per ES vary significantly. This is true since you use a benefit transfer approach. In this context, it seems quite important to put forward the studies used for the benefit transfer (supplementary material 2).
- In your Results section and in the supplementary material, you provide information about the remnant NC at the Biome level and at the Ecosystem level. I wonder if it is possible to describe the elements that drive the loss of NC by ecosystem and/or biome. Maybe this can be done within the results section, and then you could keep the discussion (section 4) more general.
- In section 4.2.2, it would be interesting to adjust the values from de Groot et al. (2012), Costanza et al. (2014), Hernandez-Blanco et al (2020) in Int\$ 2020. This way, it would be easier to compare these values to yours.
- In section 4.3, paragraph 2, I would add to your list of caveats for decision-makers that the values represent only a limited number of ES.

Thank you for your work; I really appreciated reading your article.