

# Review of: "Assessment of soil erosion in the Cesar watershed, an initial step toward the restoration of the Cesar River"

Badre Essafraoui<sup>1</sup>

<sup>1</sup> Université Moulay Ismail

Potential competing interests: No potential competing interests to declare.

First of all, I'd like to congratulate the authors on their work.

The article focuses on assessing soil erosion rates in the Cesar watershed, a significant tributary of the Magdalena River in South America. The study uses the RUSLE-GGS erosion model and covers the period from 1991 to 2020 with a spatial resolution of 2.5 km.

The authors highlight the importance of river restoration, emphasizing the need for an interdisciplinary approach that considers ecological, social, economic, and cultural aspects. The geomorphological aspect of river management is emphasized, particularly in relation to soil erosion's impact on agriculture, water quality, and aquatic life.

The RUSLE-GGS model is employed to estimate soil erosion rates, considering factors like soil erodibility, topography, rainfall erosivity, and land cover. The study identifies erosion hotspots using the Getis-Ord statistical analysis, aiming to guide targeted erosion control strategies in vulnerable areas of the watershed.

The Cesar River, a major contributor to the Magdalena River, is revealed as facing significant soil degradation, with potential implications for agricultural productivity and water quality. The article discusses the importance of understanding natural erosion processes for effective watershed management, advocating for comprehensive strategies considering both high and low-erosion areas.

In conclusion, the study provides valuable insights into soil erosion dynamics in the Cesar watershed, emphasizing the need for conservation measures and holistic watershed management to preserve the integrity of this vital water resource. The research contributes to addressing a gap in the literature regarding soil erosion in the Cesar watershed, providing a foundation for future studies and restoration efforts.