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

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Potential competing interests: No potential competing interests to declare.

Assessment of soil erosion in the Cesar watershed, an initial step toward the restoration of the Cesar River

By S.P. Vega et al

General comments:

The article concerns a very interesting subject that can only be solved by focusing on soil erosion. The aim is to create a river and watershed observatory. To restore this watershed, we need to set up a group of people (human and social scientists, anthropologists, engineers, geographers, soil and agricultural scientists, economists) to analyze the situation and propose local, sustainable and ecological solutions. Recently, an example to be cited is the Val Uses project (in Spanish - see http://ecosur.repositorioinstitucional.mx/jspui/handle/1017/2237).

The proposed article needs to be clear and precise, with a more complete analysis. Materials and methods must be well presented and representative of the study.

Comments on the paper (format, editing, comments):

Authors:

Indicate under the title the list of all authors.

Abstract:

Line 1: is this river contributes to the largest volume of sediments in South America?

Line 9: if it is the first contribution, no paper has not been published before?

Keywords:

Indicate instead of “rivers”: Cesar River (Columbia); sediment or sedimentation?

Introduction:

Page 2

Last line: indicate after Guajira (Columbia). Here authors cite “a very limited studies” (above they wrote no paper?

Page 3

Line 3: write directly “this paper estimates the…”.

Methods:

Study area:

Line 4: “Fig. 1b”.

Page 4

Fig 1: is “biomes” adequate term in English? See also some terms in lines 6-8 after fig1.

Data:

Page 5

Before table 1: authors must explain clearly how sedimentation concentration rate were determined and also where in the river. Table legend must be corrected because authors must be indicated (3 authors) not only one. Under the table, why FAO is underlined?

RUSLE-GGS model:

Page 6

Indicate equation number and using this number in the text. Check the dimension of each unit or if factors are nondimensional factors.

Line 2: write “where….”

Write correctly equation 2. Give a number to this equation. Check units.

Line 9: it is Organic Matter so OM.

Write correctly equation 4.

Line 13: is it TOC (total organic carbon) or OC?

Lines 16-17: “realizations” (not adequate term) it is “simulations” or other? Write correctly references and the number.

Lines 19-20: “realizations” (not adequate term) it is “simulations” or other? Write correctly references and the number. For IMF give exactly the words corresponding to IMF.

Line 21: Indicate equation number and using this number in the text.

Line 22: write “where….”

Line 22-25 no explanations about Ri data?

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Line 5: are they simulations and cases of study (combinations?).

Table: No sentence in a legend. Authors should explain more about this table.

Identifying erosion hotspots in the watershed using the Getis-Ord tool (G ∗ i):

Line 6 (after the title): it is equation 9. Write correctly the equation.

Line 7: write correctly “where…”. And also write correctly all the parameters of equation 9.

Results and discussion:

Page 8

Spatiotemporal analysis of soil erosion:

Line 4: why authors simulations are on period till 2000?

Line 7: what are “the Canoas Bridge station” or “Reposo station”?

Lines 2-12: authors must develop their analysis, not so convincing.

Table 3 was provided by all authors or not? No unit in this table?

Lines 1-7 after table 3: 3 periods were simulated and compared?

Page 9

Figure 2: only one author?

Page 10

Figure 3: difficult to understand (to be better represented) and always only one author?

Analysis of critical points of soil erosion:

Figure 4: give a consistent legend and why only one author?

Last line: do not use personal pronoun (we, our, I…)

Page 11

Towards Cesar River Restoration:

Line 1: what means “in the department…”?

Line 2: erosion or not erosion? It is not clear and apparently, many studies have been investigated?

In this section, restoration is enounced but authors must read papers on these aspects (restoration projects) and do proposals adapted to Cesar basin.

Conclusions:

Page 12:

Conclusions are not sufficient for proposed solutions to limit erosion.