

Interactive comment on “Case Study: Risk Analysis by Overtopping During an Upstream Landslide in Peñitas Dam, Mexico” by Humberto J. F. Marengo and Alvaro A. Aldama

Anonymous Referee #2

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Formally, the quality of the document is unacceptable. The whole document, from the title (!) to the conclusions, is full of grammar and structure mistakes. Only this reason is enough for rejection. This denotes a lack of respect towards the editors and reviewers. The structure of most sentences is totally wrong in English language. It is not a document in English; it is a mere word-by-word translation of a Spanish document.

I am not going to do any list of wrong sentences and grammar mistakes as I think this is not the task of reviewers, but in view of the quality of this document, I suggest the authors to use correction and editing services before submitting documents to quality

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journals in the future.

On the following lines there are some comments on the structure of the document and on the technical contents. These comments cannot be considered a thorough detailed revision, as in my opinion the quality of the document is so low, that this task would be nonsense and a loss of time.

1) Starting with the title, from it is impossible to understand what the document is about. In different words, what it says is: “overtopping is the technique used to analyse risk in a Dam while a landslide is taking place upstream of it”. Thus, it is totally nonsense!

2) Abstract: Apart from being a series of wrong constructed sentences (was an automatic translator used?) its structure is not adequate to transmit the contents of the work. It starts describing the contents of the document, then it describes the methodology, it goes back to the description of the contents, there is no information on the methods in it, and no description of what type of risk is the document dealing with.

3) Structure of the document. It starts with an introduction (section 1), but only on the case. There is no introduction on the methodology, no antecedents, no background, not a single reference, but, most important, no objectives of the work, and not a line explaining what the structure or contents of the document is. After it, there are several sections, without connections between them or a discursive thread.

4) “2. Landslide” section. There is a description of the landslide, but no information on the sources of information.

5) “4. Geological framework” Section. To start with, there is no section 3. Have the authors re-read their document at least once after writing it? It does not seem so. Same comments s for section 2 on the lack of information on the sources. There is a description of the failure process, but it does not tell the sources or references. The failure study done by the signing authors?.

6) “5. Basis of the study” section. Finally, here, there is some description on the

organization of the document (in section 5!).

7) “5. Background” section. As an example of the quality of the document, it starts with an obvious affirmation: that levees, dams and dikes are located in rivers, but even this is not properly expressed: the authors say that landslide dams are embankment structures, with is not correct.

8) “6. Approach to the Problem” section. I already said it, but the sentences are totally wrong from the point of view of English language. The titles of the subsections do not correspond with the contents in them. Apart from that, the authors define a “hydrograph produced by the landslide” when probably they mean a “hydrograph produced by the landslide dam break”, and they define it as a linear hydrograph, with only one decreasing branch. They say it is triangular, but it is not. But the main point is what is the justification of this hydrograph? The hydrograph should have a raising branch followed by a decreasing one. If they simplify it to a single decreasing discharge branch, they must justify this assumption. They justify the equation of the hydrograph from the hydrograph’s figure. But they do not say where does this graph comes from. Thus, the main data used in the work is not justified at all.

In the “discharge section” they present the basic equation of the flow over a rectangular weir and its graph. This is elemental hydraulics. No need of presenting this image.

Section 6.5 is called “Flood routing reviewed”. I cannot understand this title.

Section 6.6. They present a numerical development of equations without saying what the purpose of it is. They start saying that the solution is based on the “trapezoidal” rule, without saying what this rule is, or giving any reference. But most importantly, I cannot see the purpose of the whole development. Similar results can be obtained with classic, well known reservoir routing methods (as Pulse, or Modified-Puls methods) that are implemented in many hydrological simulation packages, even free ones, as Hec-HMS.

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My revision ends at section 6.6 as I do not see the point of going on with it. Only a final comment on the references: a symptom of the lack of novelty of the document is that there are only three references dated after 2010, and only one of these is after 2015, and in a paper dealing with the topics of dam break, breach formation, reservoir routing, and natural dams, an area where there are many new publications ever year.

Conclusions:

My recommendation is that the paper should be rejected, and with no option to resubmitting it.

I do not think the contents of the work fit with the aims of a serious journal as NHESS. The main work in the document consists of a series of simulations based on simple equations, simple assumptions, and standard equations. There is no novelty on it or any interest for possible readers.

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