

The paper provides an interesting example of analysis of damaging processes (both with documentary use and future planning of mitigation measures in this and similar villages) and of application of useful software. I think the Authors thoroughly answered the questions of the previous reviewers and expanded the former Brief Communication into a paper. However, it still requires a few improvement by introducing some corrections as listed below.

In general, I think a flaw of the paper in its version of full Research Paper is the absence to references and discussion on the use of quantitative model based on the solution of the flow field during a flash flood.

Actually, in several paragraphs the Authors rightly observe that it is not only the water depth but also the exposition of a building to explain high damage, along with the features listed in Table 1. As shown by Figure 1 and 2, the two major components of the damage can be explained by depth and exposition. Contrary to the opinion of Reviewer 1 ("the exposition of the building in flow direction has to do with the orientation of the building itself and not with the process") I think that exposition has a meaning mostly because it is a proxy for the dynamic action exerted by flow on a building. Accordingly, thinking at a prognostic use of the methods presented in the paper, exposition could also be identified by computing forces on buildings impacted by flow. It seems to me that this is the meaning also of their answer to Reviewer 2, paragraph 9.

In this direction, depth and velocity can be computed in an excellent way by numerical techniques based on the solution of De Saint Venant equations (DSVE) and these in turn can be used to compute exposure on a physical basis, by computing the specific force on a target as done in (Milanesi et al., 2015)

- Milanesi, L., Pilotti, M., Ranzi, R. (2015), A conceptual model of people's vulnerability to flood, Water Resources Research, 51, doi:10.1002/2014WR016172

Accordingly I think that, in order to provide a more comprehensive view of the problem, as required by a full Research Paper, the Authors should mention about this possibility in the Conclusions or in the Discussion. This conclusion could envisage a synergy between quantitative hydraulic approach and the methods presented in the paper. Actually the modeling approach provides only 2 of the parameters listed in Table 1.

pag/line	Note
30	6 km ? Is this the length of the main reach of the creek ? Probably the area is more relevant because more directly related to the peak flow. Please try to add a short outline of the drained watershed (area, maximum elevation, outlet elevation, average slope). A map of the watershed with shading representing elevation would be a plus. In a full paper a better description of the event could be well justified.
31	Estimated ? Revised ? Can you be less generic ? Where did you measure rainfall ? Why did you revise it ? How far from the watershed ? You can add the point on the map above. Is it possible to estimate the return period of the event?
Pag 5	Is it possible to add any information about the classification of the damage classes? Maybe some pictures might help to differentiate more clearly.
Pag 6	An explanation of the role of the estimated construction year would be useful

	since it reflects both the conservation of the building and the type of building technology. It would be interesting to understand which one of these aspects was most relevant in the examined watershed.
pag7/6	With reference to Figures 1 and 2, in Paragraph 3.2 can you better explain the hierarchy adopted by the 2 methods because the orderings shown in Figure 1 and 2 are quite different, apart from the 2 first criteria (depth and exposure).
Page 8, line7	Considering the relevant presence of sediment transport, one of the key parameters affecting the impact force on a obstacle is the estimated fluid density. (see also the paper mentioned above Milanese et al., 2015)
Pag. 12	The first sentence is affected by some confusion on the terminology. I would consider to take into account the fundamental definition of risk by Varnes (1984) and revise the entire paper in the light of such terms. In particular , considering that the local impact indicator is a proxy of the acting forces, it could be considered an expression of hazard. Accordingly, it is not necessary to compute exposure. Finally, vulnerability is an intrinsic property of each target (e.g. building, human, vehicle, etc.) that is not affected by the level of hazard or exposure. The combination of such elements allows to compute risk, that is a representation of damage.
20/5	no to...: please correct typo
	Figures
pag25	Add reference to Table 1 and section 2.3.2 in the caption for the meaning of local impact and of D1,D2,D3
	References:
	<p>the following papers are cited in the paper but not listed in the references: Molinari et al., 2014</p> <p>is Ziese et al. (cited at pag. 2), 2017 or 2016 as in the References ?</p> <p>is Murawski et al., 2016 or 2015 as in the References ?</p> <p>is the following publication (see page 16) cited anywhere in the paper ?</p> <p>Grüning, H., and Grimm, M.: Unwetter mit Rekordniederschlägen in Münster, KW Korrespondenz Wasserwirtschaft, 8, 2, 88-93, doi:10.3243/kwe2015.02.001, 2015 (in German).</p>
Fig. 6	It is not clear why in some heavily damaged buildings in the lower part of the domain the local impact factor is low. I would expect more correlation since the local impact is a function of depth and exposure, that are strongly correlated to damage.