

Re-review of:

## A methodological approach of estimating of resistance to flow under unsteady flow conditions by

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This article presents an analysis of floodwave propagation in the Olszanka River, a small tributary of the Wilga River in Poland. This modified version is drastically improved over the earlier version (*and I am very pleased to see this*). The authors should be commended for their courage and for thoroughly reworking this manuscript. I see great value in the work that is presented this time and on the procedure that is followed. My comments are minor this time but should still be considered for improving this article:

1. The resistance approach is a lot better this time. I have a few issues with section 3.3.1 where a kinematic wave is discussed with  $dh/dx$  different from zero. Actually, by definition, the kinematic wave approximation requires that  $dh/dx$ ,  $dU/dx$  and  $dU/dt$  are all zero. What is presented here is quite confusing.
2. The analysis that is presented is much improved but the conclusion and abstract should be reworked to highlight what is truly important from this study. For instance, to conclude that Manning is constant during floods is not a great advancement of our science. To conclude that the analysis of unsteady flows is so complex that it precludes analysis is deflating the purpose of this article. It is also not a real conclusion isn't it. To conclude that the "diffusive equation" applies well to "waves of diffusive character" is quite a genuine revelation. Some conclusive statements are contradictory. For instance, it is stated that "weak effect of flow unsteadiness on Manning  $n$ " on line 401 and then the authors pursue with "trend of Manning  $n$  with flow rate does not provide unique information on the variability of resistance." If unsteady flows do not affect Manning  $n$ , then what are you talking about in terms of "variability of resistance". Also, on line 395 it is stated that "it is strongly recommended to apply the methodology presented in this paper" and this sounds like a Viagra commercial. Why should the reader use your method? OK, one last one – why do you state: "we believe that when resistance relations are applied with an awareness of their constraints..." in your conclusions. Do readers need religious beliefs for this type of analysis? My point is that the conclusions and abstract need to be thoroughly reworked and cleaned up.
3. I like the photo – thanks – and the role of vegetation is completely ignored. Would grasses bend over and change resistance to flow during the flood event?
4. I am not convinced that the second example is necessary. I would think that one good example would do the job.
5. There are quite a lot of figures and some could be eliminated. Some color graphs may not come well in the final paper. Many figures could be improved.

In summary, this article is developing extremely well. I have indicated some minor changes and could spend more time on it. With a much improved scope for this paper and revised conclusions and abstract, it should be acceptable for publication.