Anonymous Referee 1 (nhess-2016-44-RC1.pdf):

General comments

1. **C**: Among the other things, it seems to me that the paper lacks a clear statement about the motivations of the study. An explanation of the reasons why it is important to classify landslides as long or wide is, probably, important and mandatory
   R: I consider that I have covered the statement in the abstract and also in the paper: page 1 lines 8-16 of the abstract and page 2 lines 18-23. Anyway, I have extended the problem and explicitly stated in a section of the introduction (page 2 lines 29-33). Please see the new version of the manuscript.
2. **C**: Even if I'm not a native speaker I think that, currently, the manuscript is written in poor English and should be really improved before it can be accepted for publication.
   R: I agree, English was reviewed. Please see the new version of the manuscript.
3. **C**: Figures can be enhanced.
   R: I agree, I have introduced the full resolution in the .doc format. Please see the new version of the manuscript.
4. **C**: Figure 2 doesn't allow to observe, clearly the landslides polygons on the maps and contains text not described in the paper (SAGA combined Method, as an example).
   R: Changed to the full resolution, which allows seeing the lines, and removed the type of the shading, since is not important in this case. Please see the new version of the manuscript.
5. **C**: Figure 3 needs, at least, a legend.
   R: I introduced a legend for the figure. Please see the new version of the manuscript.
6. **C**: Figure 5 contains a duplicated legend.
   R: I removed the duplicated legend. Please see the new version of the manuscript.
7. **C**: I think that figure 6 is enough to describe the results.
   R: I decided to show the confusion matrix, plots and the AUROC values since I discuss in depth the results, the missclasified casses and the failures of the method. Please see the new version of the manuscript.
8. **C**: Figure 7 is not useful since the AUROC is calculated using a single point. Moreover, the stratified bootstrap replicates are not described in the text.
   R: The AUROC is not computed using only one point. The AUROC is computed for all the 1327 landslides, comparing the wide/long status checked manually, with that generated by the algorithm in the two steps. I inserted a section describing the classification accuracy analysis (Page 5). Please see the new version of the manuscript.
9. **C**: Concerning the algorithm used, I wonder if a comparison of the direction of the minimum bounding box (obtained using the midpoints) and the average aspect of the cells inside the landslide body (average aspect) can perhaps work better than the difference in elevation along the flow path length.
   R: Here the landslide flow directions refer to the orientation of the bounding box in order to get the length and width according to the direction of flow of the landslide. So using the mean aspect is not in any way possible to orient the bounding box. I reviewed the title in order not to misinform the reader about the outcome of the algorithm. Please see the new version of the manuscript.