

Interactive comment on “Amalgamation in landslide maps: effects and automatic detection” by O. Marc and N. Hovius

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The authors demonstrate an important feature that amalgamation of some landslides to a single polygon may appear in a landslide inventory and may affect the area-frequency distribution of landslides and the estimation of landslide volume. They propose an algorithm able to automatically detection amalgamation. This is certainly a pertinent and worthwhile topic, and an issue of significant practical concern. The subject of this paper would be of interested to the audience of geomorphologists and natural hazard scientists involved with analysis of landslide hazard, risks and their effect. The algorithm looks good, but there still are something important and can be discussed. My comments are reported in the following review sheet. I hope these may be of help

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to the author for his revision work.

1. General comments 1.1 A good landslide inventory requires firstly a good remote sensing image for recognition of landslide, and secondarily an experienced person to recognize the landslide. Automation is good and is a future trend in preparation of a landslide inventory; however, good training both in the lab and in field is always important to prepare a reliable landslide inventory. This may be mentioned as a suggestion after conclusion. 1.2 The proposed algorithm is good for checking purpose. If a slope unit map is overlaid on the remote sensing image for manual recognition and digitizing of landslides, then amalgamation may be the least. It has used in producing landslide inventories in our lab in recent years.

2. Specific comments 2.1 The JouJou Mountain case may be typical landslide amalgamation, most of the ridges in the mountain become bare after the Chi-Chi earthquake. The Liao and Lee (2000) landslide inventory was prepared in a short time, so that amalgamation of landslides is common. But, Figure 2b is a mistaken; this figure may have a problem of map projection, because our original data (Liao and Lee, 2000) has no this kind of ridge crossing. I suggest removing Figure 2b. 2.2 Page 7655, line 21: “automated mapping procedure”. Actually, Liao and Lee (2000) landslide inventory was done by manual mapping procedure. 2.3 Page 7657, line 15: Please change “mapped automatically” to “manually mapped”. 2.4 Page 7663, line 15-16: “we impose an arbitrary threshold size ratio of branches relative to the longest branch, RBc ”. It may be RBc/L_{max} .

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