This paper propose a procedure to delineate and to evaluate the performance of the effective surveyed area (ESA) in preparing a landslide inventory by geomorphological field mapping. A GRASS GIS python module was developed to define the ESA and the open source software provided as supplementary material. Landslide survey was performed in Gipuzkoa Province (Basque Country). Four computational domains were built-up: slope units as alterative to grid-cells for terrain subdivisions, and both the approaches were tested over the entire study area and over the effective surveyed area. Finally, landslide susceptibility maps and the associated uncertainties were assessed using multivariate logistic regression, while their classification performances were measured my means of a set of validation tests.

This paper focuses on an interesting topic, which is undoubtedly highly relevant in the domain uncertainty associated to landslide susceptibility mapping. It presents the new concept of effective surveyed area (ESA) and a new tool specifically developed to define this area. The overall presentation is well structured, the methods are appropriate, results are complete, accurate and reproducible.

However, the manuscript has some weak points and consequently it needs to be improved. Some sentences are too long and needed to be reformulate. The verb tenses need to be checked: sometimes past and present tense are used in an appropriate way.

My recommendation is that the manuscript could be accepted for publication by the journal Natural Hazard and Earth System Sciences with some revision outlined below.

Page 1, line 18-21: move “Landslide susceptibility is defined as…” first and then introduce LSZ and provide its definition.

Page 2, line 2: specify that “spatial thematic layers” concern the predisposing factors.

Page 2, line 14: the sentence “image interpretation/classification expertise” it’s not clear. You can modify for example with “accuracy classification performance due to uncertain factors”.

Page 2, line 25: add some reference: which existing stdies?

Page 2, line 33-35: reformulate this sentence, which define the main goal of your study.

Page 3, line 2: I suggest to use “module” instead of “software”, here as in the rest of the manuscript. But it’s your choice.

Page 3, line 4 : “(i.e., the visible ….survey)” is redundant, as EAS was already been defined before.

Page 3, line 5-10 : Reformulate this sentence. Some suggestions: “combining …with” (not “and”); define SU (slope units); you can provide information about the software that you used (LAND-SE) and the end: the fundamental think is that you used a “multivariate Linear Regression”.

Page 3, line 29: which information about landslides location did you collect? Did you digitalized the entire perimeter? Or location refers to the four GPS points? You can explain this better.

Page 3, line 31: I would just say “most important to define the ESA,….”

Page 3, line 1: “information were then” (not “will be later”)

Page 3, line 3: “using a combination”: you can say better

Page 3, line 5: why did you consider only shallow landslides?

Page 4, line 12-17: Move the description of morphometric variable first, to respect the same order given in Table 1

Page 4, line 30: Change “defined” with “delimited”

Page 4, line 31: instead of “the software make use of” you could say “input data to define the visible area (i.e. ESA in our case) are the routes….”

Page 5, line 4: I would say “From this test” instead of “From the experiment”

Page 5, line 23-25: express all the areal values as square Km

Page 5, line 29: change with “by means of a multivariate logistic regression. Classification performances were ….”

Page 5-6, line 31-4: Reformulate and simplify. Finally, you calibrated also the third and fourth map within ESA and WA and here is not clear at all.

Page 6, line 6: here it’s not important that LR is implemented in LAND-SE software. Moreover, you already mentioned that you used this software to perform the analysis. What is important is that you applied the multivariate LR. Is it the most used statistical method for susceptibility in general of for landslide susceptibility? Please, specify.

Page 6, line 29: attention, you have never defined before the LR method that you are applying as a “multivariate binary classifier” and it’s difficult for a reader to make the connection.

Page 7, line 12: explain how bootstrap technique works.

Page 7, line 20: I would say “In this study, the probability of landslide occurrence….”

Page 7, line 21: “was reclassified”, instead of “can be”

Page 5-6, Section 4.2: You should introduce and discuss here the importance and need of defining a training and a validation set for statistical method, in a general way.

Page 7, line 31 and 34: “using pixel”: change with, “grid calls (i.e. pixel based)”, so it’s more clear in the following of the text that you can use both these definitions.

Page 8, line 9. Why only three random set? What is the implication of using three or more?

Page 8, line 10-18: Reformulate and simplify, for example: “Finally, training and validation sets were selected as follow: 84,623 unstable pixels and an equal number of stable pixels for training; 29,247 unstable pixels and an equal number of stable pixels for validation. These two sets were selected at random first within WA and then within ESA.”

Page 8, line 21: Are you sure you mean >0.15% of unstable pixels?

Page 8, line 25: move up to the same paragraph.

Page 8, line 25: do you mean that from your computation it results 304 unstable SUs? If so, please specify.

Page 8, line 26-30: Reformulate and simplify

Pagg 9, line 26 : explain what TWI is (i.e. Terrain wetness index); the same for SAR (line 29)

Page 9, line 32 and Page 10 line 4: why 152 validation MU? They are not 76?

Page 10, line 27: I would specify “multivariate linear regression”

Page 11: The obtained susceptibility maps (lines 5-9 and 19-24, Fig.5) could be introduced in the section 5. “Results”

Pag.17, Fig.1: You can combine the two in only one image. If you prefer to keep the two, in Fig.b the city is indicate only by the symbol and you can remove it.