

TITLE

For the title, I would suggest "Landslide susceptibility assessment in the rocky coast subsystem of Essaouira- Morocco"

- Authors Reply: Changed

ABSTRACT

L18: replace "In this coastal area," by "Here,".

- Authors Reply: Replaced

L21: replace "Morocco Atlantic coastal area" by "Morocco Atlantic coast".

- Authors Reply: Replaced

L22: add comma after "purposes".

- Authors Reply: Added

L31: change "Area under the Curve" to "area under the curve".

- Authors Reply: Changed

L33: remove one dot after "susceptibility".

- Authors Reply: Done

L33-34: change "The resulted coastal landslide susceptibility maps allowed" to "The results allowed"

- Authors Reply: Changed

INTRODUCTION

L41-44: The sentence "Resulted essentially from the interaction of sub-aerial, marine and anthropogenic processes (Trenhaile 1987, Sunamura 1992, Hampton & Griggs 2004, Greenwood & Orford, 2007), that is why this system have been exposed to Anthropic activities pressure and erosional processes more than any other natural systems." is awkward, please rephrase or try "They essentially result from the interaction of sub-aerial, marine and anthropogenic processes (Trenhaile 1987, Sunamura 1992, Hampton & Griggs 2004, Greenwood & Orford, 2007), making this system exposed to Anthropic activities pressure and erosional processes more than any other natural system."

- Authors Reply: Changed

L46: add a dot after 2018).

-Authors Reply: Added

L48-50: This second part of the sentence "the last data-drivenMeen et al., 2018)" is unclear and has no connection to the first part.

- Authors Reply: Changed to "The process of creating landslide susceptibility maps generally involves several qualitative or quantitative approaches, starting with landslide inventory as the first step for

assessing landslide susceptibility, hazard, and risk (Aleotti and Chowdury 1999; Dai and Lee 2002; Van Westen *et al.*, 2008; Corominas *et al.*, 2014; Oliveira *et al.*, 2017; Meena *et al.*, 2018).”

L53: This paragraph should be a continuation of the previous one. Just merge the paragraph (L53-74) with the previous one.

- Authors Reply: merged

L53: remove the comma after factors.

- Authors Reply: removed

L53: “coastal system” instead of “coast system”.

- Authors Reply: replaced

L53: replace “well” by “better”.

- Authors Reply: replaced

L58-59: change “These factors, although they depend on the scale of analysis and type of landslides, include generally:” to “These factors - although are dependent of the analysis scale and type of landslides – generally include:”.

L63: Start a new sentence after ...Pereira et al. 2020). Something like: “When related with sea cliffs susceptibility assessment, landslide-conditioning factors also include the cliff edge height,”.

- Authors Reply: Changed

L65: remove “).”.

- Authors Reply: removed

L65-66: change “In the present work, we follow the classification of Cruden and Varnes (1996) Varnes (1978); WP/WLI's (1993); and Dikau et al. (1996), for differentiate the types of landslides that may occur in coastal cliffs:” to “In this work, we follow the classification by Cruden and Varnes (1996), Varnes (1978), WP/WLI (1993) and Dikau et al. (1996), to differentiate the types of landslides that may occur in coastal cliffs:”.

- Authors Reply: Changed

L67-69: Change “The identification of each landslide type is a complex task even with the support of intensive fieldwork because of the lack of clear field evidences due to landslide features degradation and due to the inaccessibility, for some cases, of cliff face (Neves et al. 2012).” to “Identifying landslide types remains challenging even supported by intensive fieldwork that often faces the lack of clear evidence associated with landslide features degradation or inaccessibility to cliff face (Neves et al. 2012).”

- Authors Reply: Changed

L69-70: change “The use of different datasets of aerial photographs has been used to encompass these limitations (Oliveira et al. 2017).” to “To overcome these field limitations, datasets of aerial photographs ca be used (Oliveira et al. 2017).”.

- Authors Reply: Changed

L71: replace "the majority of" by "most of".

- Authors Reply: replaced

L73-74: separate the references by dot-comma instead of comma.

- Authors Reply: done.

L74. A bracket is missing at the end of the sentence.

- Authors Reply: added

L75-76: Same comment as for L73-74, dot-comma to separate the references.

- Authors Reply: added

L76-78: change "while there are other suitable approaches such as the bivariate, multivariate, and active learning statistical methods suitable to assess susceptibility (Corominas et al. 2014)." To "whereas other approaches such as the bivariate, multivariate, and active learning statistical are also suitable to assess susceptibility (Corominas et al. 2014)."

- Authors Reply: Changed

L78: replace "are based on" by "use".

- Authors Reply: replaced

L79: correct "assumed" to "assumes".

- Authors Reply: done

L80: remove "possibly".

- Authors Reply: removed

L81: remove comma after "area".

- Authors Reply: removed

L82: add "the" before "future"

- Authors Reply: added

L82-83: again, separate references by dot-comma.

- Authors Reply: done

L85: "being" instead of "it has been".

- Authors Reply: replaced

L87: be consistent in citing "Zezere et al." or "Zêzere et al."

- Authors Reply: changed

L87-88: unclear sentence, please rephrase. Do you mean that the IV model accounts for whether the drivers of the slope instability are weighted or not?

- Authors Reply: No sir, I mean the IV model account on the weight of the presence or absence of drivers of slope instability.

L88-93: the sentence starting by "Thus, landslide density" Is too long and confusing. Consider splitting and rephrasing. For instance, the first phrase can read: "Thus, landslide density for conditioning factor classes can be determined by overlaying both

maps of conditioning factors and inventoried landslides (Mengistu et al. 2019; Shano et al. 2020).”.

- Authors Reply: changed

L94-95: change “the evaluation of the model predictive capacity” to “the evaluation of the predictive capacity of the model.”

- Authors Reply: changed

L95-96: again an awkward sentence. Try “ It ca be seen as a test of the ability of the model to reflect the real environment trough and evaluation of ...”

- Authors Reply: changed

L94-96: Too short for a paragraph, just merge it with the next one.

- Authors Reply: merged

L97: misuse of the term “however” here.

- Authors Reply: changed

L97: change “is one of the most popular technique” to “ is a recognized technique”.

- Authors Reply: changed

L98: remove comma after validations.

- Authors Reply: removed

L99-100: do you mean: “It derives the probability of correctly identified landslides as a function of the probability of incorrectly identified landslides”?

- Authors Reply: changed to “This represents a plot of the probability of correctly identified landslides against the probability of incorrectly identified landslides (Gorsevski *et al.*, 2006a; Shano *et al.*, 2020).”

L102-103: replace “Other studies focus” by “Other existing studies have focused”

- Authors Reply: replaced

L105-109: merge this paragraph with the previous one and start it as: “ This work, on the other hand, aims at i) defining; ii) identifying”

- Authors Reply: merged

STUDY AREA

L112: 134-km-long.

- Authors Reply: changed

L122-124: Try “Geologically, the study area is located in the Atlantic Atlas - considered as the westernmost part of the High Atlas mountains (Weisrock 1980)- with its northern and largest plateau (Haha and Chiadma) part dropping gently from SE to NW, in accordance with the overall structural framework.”

- Authors Reply: changed

L125: change “related with” to “associated with”.

- Authors Reply: changed

L127: do you mean 725 m high? The same for 900 m.

- Authors Reply: Yes sir, changed

L127: replace "N" by "north" and "S" by "south".

- Authors Reply: replaced

L127-128: correct as: "Towards to west, abundance of consolidated dunes and sandstones with oblique stratification and conglomeratic levels gain relevance the (Weisrock 1980).".

- Authors Reply: corrected

L129-137: merge this paragraph with the previous one as you are still addressing the geology of the study area.

- Authors Reply: merged

L129: remove comma after 1966).

- Authors Reply: removed

L130: replace "related to" by "associated with"

- Authors Reply: replaced

L131: correct "It consists mainly by" to "It mainly consists of".

- Authors Reply: corrected

L132: correct "from" to "From" as you are starting a new sentence.

- Authors Reply: corrected

L135-137: unclear sentence. Please rephrase and consider using short and consistent sentences.

- Authors Reply: Revised by the Language reviewer

L138-L47: Again, this entire paragraph is confusing and needs a complete rewriting. For instance, the first sentence is too long and unclear, consider starting a new one after "(Weisrock 1980)", something like: "The first one is linked to ...". Which second direction are referring to "This second direction"? You talk first on "structural division" then you switch to fault directions.

- Authors Reply: changed

FIGURES:

Fig1:

. The coordinates of the map are not readable. Please increase the text font.

- Authors Reply: changed

. In the text you refer to the rivers as Wadi(s) while in the map you wrote Oued(s). This must be homogeneous.

- Authors Reply: changed

. Figure caption is not informative enough as there is no explanation why the authors

choose to show some locations' names (i.e. Sidi Ishak ...ect). Also indicate which geographic coordinates projection did you use to obtain the Map.

- Authors Reply: changed