

Interactive comment on “Integrated spatial assessment of wind erosion risk in Hungary” by László Pásztor et al.

Anonymous Referee #1

Received and published: 10 July 2016

The manuscript is an interesting one which addresses the wind erosion issue at national level. The authors applied a model at detailed scale and the outputs are quite interesting for scientific community. However, I would propose some changes which are necessary in order to improve the quality of the manuscript. Also some sentences should be shortened and use of punctuation must be improved. It is also important to add some recent literature in the study.

General comments: I would prefer to see a figure (diagram) with input layers, the model structure and the outputs. This figure will facilitate the reader to understand your model structure.

In the introduction (line 55), I would appreciate a small paragraph describing the problem in other European Countries with specific focus to Northern Germany, the Eastern

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Netherlands, Eastern England and Spain (Borrelli et al ., 2015; Eppink et al 1989; Barring et al. 2003; Lopez et al 1998; Martinez-Grana et al., 2015; Warren et al 2003).

Please add also the following citations to the following papers: - Borrelli P., Panagos P., Montanarella L. 2015. New insights into the geography and modelling of wind erosion in the European agricultural land. Application of a spatially explicit indicator of land susceptibility to wind erosion. Sustainability (Switzerland), 7 (7) , pp. 8823-8836. - Eppink, is also included in the references - López, M.V.; Sabre, M.; Gracia, R.; Arrue, J.L.; Gomes, L. Tillage effects on soil surface conditions and dust emission by wind erosion in semiarid Aragon (NE Spain). Soil Tillage Res. 1998, 45, 91–105. - Barring, L.; Jönsson, P.; Mattsson, J.O.; Åhman, R. Wind erosion on arable land in Scania, Sweden and the relation to the wind climate – A review. Catena 2003, 52, 173–190. - Warren, A. reference already exist in your manuscript - Martínez-Graña, A.M.; Goy, J.L.; Zazo, C. Cartographic procedure for the analysis of aeolian erosion hazard in natural parks (Central System, Spain). Land Degrad. Dev. 2015, 26, 110–117

Specific changes: L15: three pillars is not correct term in this sentence. Please rephrase.

L16: delete “various” .

MISH abbreviation. Do not use abbreviations in the abstract if first you have not defined them

L86-87: “Unique digital soil (related) map products can be compiled that were never mapped before, even nationally with relatively high spatial resolution, taking also into consideration accuracy and reliability”. Please correct the sentence by making 2 shorter sentences. Moreover, the word “unique” is not appropriate.

Fig. 1: Figures and tables should be generally self-explained. In Figure 1 , you miss the legend. What the different colours in the map represent?

In Figure 1, please provide an overview map of the Central-East Europe as your study

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can be read by many non-Europeans who don't know exactly where Hungary is located. In all figures, please put a ":" or a "." Between the word "Fig 1" and the description of Figure. Example Fig. 1:

In all manuscript, please replace the "," as you use it for decimals. In Europe the "." is used for decimals and the "," for thousands.

L133-135 and Table 1: Any literature comparison for this threshold?

L147: ARROUYS, please non in capital letters

Please cite and make a reference to the EU-25 DEM

L168-171: Which is the source of Meteorological data? Please also cite.

L178: "All of the auxiliary variables were normalized to a common, 0-255 scale". This is not correct. Please rephrase or change the sentence. The same applies for your next sentence(L178-L180)

L221: "but speaking of hourly data" This is not correct English.

Land Cover and CORINE (L236-244). You should refer to which year this dataset is compiled.

Units and description of values (This is a very important issue to be addressed) : in your text L251 – L252 and in the whole next paragraph plus figure, you refer to percentages (%) "Values in general range from 0% to above 2.5% in 252 relation to wind climatology, landscape, soil properties and land cover.". This is not easy to follow for the reader if you don't explain in a clear way what those percentages are. Do you mean 2.5 times the threshold? The % is not the same as "Ratio".

L278: "higher" compared to what?

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-162, 2016.