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Earth Surface Dynamics Discussions

Interactive comment on "Frontiers in Geomorphometry and Earth Surface Dynamics: Possibilities, Limitations and Perspectives" *by* Giulia Sofia et al.

Anonymous Referee #1

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The manuscript by Sofia et al. presents an introduction to the special issue entitled "Frontiers in Geomorphometry and Earth Surface Dynamics: Possibilities, Limitations and Perspectives" that collects thirteen contributions in the field of geomorphometry. To this end, the authors provide a convincing overview on the strengths, mainly related to interdisciplinarity and to the wide range of potential fields of application, and major challenges of the science of quantitative land-surface analysis. The contributions are then grouped into Perspective and Research categories and main findings of each article summarized. The manuscript is well presented and suitable for publication.

Minor suggested changes are listed below:

Page 1, L. 26: references: I believe that the geomorphometry book by Hengl and

Reuter is dated 2009 and not 2008. Please check the reference. The work by Pike (1995) could be added to the list since it's one of the first introducing the term "geomorphometry".

Page 1, L. 21: "Research and innovation technique"->"Research and innovative twchnique"

Page 1, L. 25: ". . .Model"->". . .Models"

Page 1, L. 29: Please consider revising the sentence "These datasets have broad applications to all kinds of processes, both natural and anthropogenic. . ."-> "These datasets have been widely used as a topographic base to analyze both natural and anthropogenic processes. . ."

Page 1, L.33: you could stress that assessing accuracy of DTM is a very important step in geomorphometry since errors are propagated in DTM derivatives.

Page 1, l. 34: not only modelling but also DTM are widely used to derive more simplified indices or indicators. I think geomorphometric indices could be mentioned here. Few references could be added here.

Page 2, L. 1-2: the sentence seems truncated.

Page 2, L. 29: maybe "landform features" could be used in place of "shape"

Page 3, L. 20: "sediment"->"sediment dynamic"

Page 3, L. 30: "roughness"->"surface roughness"

Page 4, L. 19: "indexes"->"indices"

Cited references

Hengl, T. and Reuter, H. I., Eds.: Geomorphometry: Concepts, Software, Applications, Elsevier., 2009.

Pike, R. J.: Geomorphometry — progress, practice, and prospect, Z. Für Geomorphol.,

Supplementband 101, 221–238, 1995.

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