

## REFEREE#2

4/16 The terms 'evaluating... soils' is too vague and generic. Please, explain which features (field, chemical, physical, etc.) of these 35 soils you evaluated.

**Done**

5/13 Put the geographic coordinates (Lat and Long) and the place names reported in the text (Alps, Apennines, Monte Bianco, etc.) in the map of fig. 1, for readers who are not familiar with Italy.

**In Table S1 and S2 we now report location, elevation, slope, aspect for each of the 35 analysed soils.**

6/1 Instead of mild - warm temperate (Mediterranean-type?)

A reference to climate classification would be welcome here. I suggest the following:

Kottek, M., Grieser, J., Beck, C., Rudolf, B., Rubel, F., 2006. World Map of the Köppen-Geiger climate classification updated. Meteorologische Zeitschrift 15 (3), 259-263

**Done**

6/10 On page 2, line 1 and page 4, line 19, you put another altitude limit of > 700 m asl. Please homogenize this datum throughout the text.

**Done**

6/15 Add: based on maximum value compositing (MVC) techniques (do you mean this tool?)

**We put full reference to the well known MVC method**

6/19 Put "additional" after 7.

**Done**

7/4 VI MVC has to be integrated as: vegetation index (VI) based on maximum value compositing (MVC) techniques.

**Done**

7/14 delete dashes first and after "potentially".

**Done**

8/3 The Corine land cover (CLC level 4, 5) classification... after CLC there is hierarchically.

**Done**

12/22 "Explicit" ???

**Re-phrased**

15/16-19: "Indeed, deep andic soils (as reported in this study) have about twice (Batjes, 1996) the mean organic C content of deep Regosols, Cambisols and Podzols **which** previous soil inventories (Mancini, 1966; EuDASM, 2007) considered as the main soil types in the investigated landscapes".

**Re-phrased**

Change which with "of" o "from"

## **Re-phrased**

15/21 the referee suggests to change "Conclusion" saying:

This section includes some real conclusions together with a number of open questions. I suggest to change the section title, e.g. as Conclusive remarks and future perspectives, or Conclusions and open questions, or something similar) or separate two subsections. In addition Conclusions should more concise and to the point.

## **Done**

16/4 Add "and surrounding piedmont zones" after "protection in mountain environment".

**Inserting the piedmont may open-up large questions since piedmont can include very different areas with different shapes and slopes**

17/3 "this key mineral soil" ...These terms are ambiguous, because you are not referring to a unique soil group, but rather to a set of different soils types. Please, rephrase (e.g.: this key mineral soil with andic properties..., or: these key andic soils...) .

**We prefer to add (i.e. andic soils)...**

17/ 4 Can you give some orders of magnitude (and suited references), here?

**We answered at the same question at referee#1**