

***Interactive comment on “Detection of pore space  
in CT soil images using artificial neural networks”  
by M. G. Cortina-Januchs et al.***

**Anonymous Referee #1**

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Generally speaking, the paper contains new ideas for classifying pore spaces in soil images by presenting the methodology which integrates image processing, clustering techniques and artificial neural networks. The authors give proper credit to related work and they indicate clearly their own contributions. In particular, the authors reached substantial conclusions, which make sense. And this paper will be helpful in geosciences for analyzing the micro-structures existing in rock-pore systems, soil-pore systems, minerals of interests in rocks.

Specifically, there are some points that need the authors' more attention: 1) in Page 4, it is a little bit confusing for readers about the images. It seems the authors used 3D imagery, but the whole paper does show the 2-D image processing. Thus, could the authors illustrate the image obtaining process more clearly? 2) how to control

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the cluster number for each technology? As shown in Table 3, the higher the cluster number the lower the pore percentage. It's of interests. How to get the data of Tab.4, needs more details. 3) Can the authors give more details about Table 5? As shown well, the data between initial percentages and final percentages for Horizon A2, Bt2 and Bt/Bw are very close, with final percentages a little bit lower (generally); but for Horizon AB, the final percentage data are quite smaller. Does it mean some limitations of the methods used for image-data processing? How about the conclusion in this part? 4) Some minor writing errors need to be proofreading.

Please also note the supplement to this comment:  
<http://www.biogeosciences-discuss.net/7/C3311/2010/bgd-7-C3311-2010-supplement.pdf>

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Interactive comment on Biogeosciences Discuss., 7, 6173, 2010.

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