

## ***Interactive comment on “Nematode diversity, abundance and community structure 50 years after the formation of the volcanic island of Surtsey” by K. Ilieva-Makulec et al.***

**Anonymous Referee #3**

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The MS reports the dynamics in abundance and diversity of nematode communities 50 years after the formation of the volcanic island of Surtsey. I believe that the study was important in revealing the succession of biota, particularly nematodes during the formation and development of soil. The importance of the study becomes clearer as new nematode genera were found. However, the MS need major improvements in the introduction and M&M sections. The introduction did not clearly explain why nematodes? Why not other soil fauna or microbes?. In the abstract as well, the research gap and how this study contributes to fill the gap was missing. The M&M part is difficult to follow probably because some important procedures such as soil sampling are not well described, and some results are discussed there. I believe the statistical analysis

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(particularly anova) was not done properly. The discussion part appears well explained and critically discussed the main findings except that some parts are missing (e.g. no discussion on plant parasitic nematodes) and that others appear not relevant (e.g. comparison to Krakatau). Specific comments, P14240: L8 indicate why the study was important and a brief statement how you did the study L8-18 merely present the results and the abstract ended with some results. I would rather try to give brief interpretation and conclusion P14242: L11 Before mentioning the objectives, the novelty of the study should be made clear P14243: L15-25 the nematode sampling lacks details how it was done. Did the authors collect composite sample? If so, how many augerings per sample? What is the size of the permanent plots? To me, two cores per plot is not really representative. Moreover, are the two depths (0-10 and 10-20) selected arbitrarily? Or was there any reason to do so. In order to follow up the evolution of nematode abundance and diversity over time, sampling should be basically done according to previous similar works such as by Frederiksen (2001). P14244: L14-20 these information should be mentioned in the discussion part. See also the previous page: L1-4 L21-25 Which ANOVA? One way or two way? Given two factors ('plot type' and soil layer), two way anova should be applied. Did you test the assumptions (homogeneity of variances and normality)? Why did you use non parametric test to test mean differences?, There is no need to do post hoc test unless there is significant interaction between the factors, because of the presence of only two levels in each factor. P14247 L15: Did you test this with anova? If so mention this in M&M L20-25 use two digits (e.g. 0.77). Beware that the variation explained by the two axis is low (e.g. 22.9%) thus the conclusions based on this data should be done carefully

P14250 L1-3 This sentence is not clear L10-11 here and throughout the discussion, it would be easier to follow for the reader, if you refer the table or figure which are basis for the discussion. See also p14251 L1. P14251 L26-27 Explain more how the results on bacteria support your finding P14253 L6-10 An important index, PPI is missing. In figure 3 as well, the plant feeders are more than three fold in relative abundance in the lower layer than the top. Because the plant diversity and biomass is different in and

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outside the seagull, plant parasitic nematodes are worthy of further discussions.

Please also note the supplement to this comment:

<http://www.biogeosciences-discuss.net/11/C7179/2014/bgd-11-C7179-2014-supplement.pdf>

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Interactive comment on Biogeosciences Discuss., 11, 14239, 2014.

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