

Interactive comment on “Deep-sea benthic ecosystem collapse and recovery after an intense Dense Shelf Water Cascading event” by A. Pusceddu et al.

Anonymous Referee #2

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General comments

This is a very interesting paper on the change in meiofauna communities in a canyon where a DSWC event has taken place. The paper is well written and contains some relevant analysis and results. My main criticisms I have on the paper is the way some of the results are interpreted and presented. By weakening down the conclusions and some bold statements in the discussion the paper can be improved significantly.

Specific comments

The too strong conclusions already become obvious from the title. The paper does not present any evidence for a collapse and recovery since there are no PRE-DSWC

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event (page 5 line 23, no data from may 2004) data available. The paper also includes only a small fraction of the benthos (meiofauna,) which also should be specified in the title. So through the text whenever it is suggested there is a collapse I would be more careful, especially since we know that meiofauna densities can be very low locally, or can show a very high patchiness (time variability actually may be a result of spatial heterogeneity). So sufficient replication is required here too.

Technical comments

Page 5 line 28. Stating that samples are perfectly undisturbed is a pleonasm . If it was not perfectly the samples would not be undisturbed. Page 6 line 1/ specify number of cores taken. Page 8 line 2 specify number of cores Page 8 line 20 What is depth of each station? Page 9 upper paragraph/ what is difference between sites, areas and depths? clarify Page 9 line 13 : 46 fixed levels? I guess you mean 6 fixed levels? Page 9 line 17 Justify better why two separate analysis are done (2200 m separated) Page 10 line 26 You mean with the exception of aug 2008? Page 11 line 6 replace 'than in all other sampling events' by than after the DSWC event Page 11 line. There is no depth comparison done (not shown at least) , so how do you get significant differences here ? Page 11 line 16. I would not say that cascading had a major impact since we do not know the pre situation. Maybe diversity increased only after DSWC, but never decreased as a consequence of DSWC. There is no evidence for that. Page 11 line 26 replace 'than in all other sampling events' by than after the DSWC event Page 12 line 14 CA results are not shown? Explain why? Page 13 line 7 weaken the statement that “ this event had a major impact on benthic diversity and functioning”. Since it is an overstatement with no evidence available here for functioning, and even not for biodiversity since we do not know the pre event situation. Same for line 11. We do not know if effect was devastating since maybe densities were low and just increased due to DSWC. Line 14; There were no data from pre cascading periods for nematodes, as stated here. Line 15 and 17 and 25. You can not talk about loss when there are no pre event data to compare with. Line 29 How do we know if there are no data from pre?

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