

Interactive comment on “Multi-scale interactions between local hydrography, seabed topography, and community assembly on cold-water coral reefs” by L.-A. Henry et al.

Anonymous Referee #1

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Introduction Attention to the paragraphs order is suggested. A few suggestions are given below.

line 27@page 3 to line 8@page 4 – It seems more adequate to address this methodological advance in terms of statistics after demonstrating what of relevance for the study is already known for Mingulay (line 17@page 4 to line 15@page 5).

lines 9 to 16@page 4 – move this paragraph to the end of the introduction as it establishes the objectives of the paper

line 5@page 5 – include Moreno Navas et al., 2012 in the References. The lack of this critically-important paper prevents a proper assessment of the suitability/robustness of
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oceanographic covariates used.

Methods

line 13@page 6 – specify the resolution of the bathymetric grid used.

line 16@page 6 – instead of using the term “aspect”, which is typically used to designate the compass direction that a topographic slope faces in relation to the north, use simply “orientation into mean(?) current”.

line 21@page 6 – verify the English “as rate change”

lines 7 to 9@page 7 – In order to better assess the representativeness of the oceanographic model for extracting climatological averages/maxima/SDs, please specify better how the model was run. Does it globally cover only 7 days? If this is the case, please justify the value of the statistics drawn from such small dataset for characterizing the regime the long-lived benthic communities analysed will be responding to?

line 15@page 7 – “Day grab” instead of “day grab”

line 15@page 7 – Further specify the experimental design used to place the grab stations, including concerns about substrate distribution. Given the focus of the paper on identifying the most important scales exhibited by functional guild distributions, it is important to detail further how a balanced design was achieved that adequately represented the range of distances/scales assessed.

line 17@page 7 – “analysed” instead of “analyses”

line 17@page 7 – specify how species functional ecology/life history was classified in guilds. Criteria? Literature sources?

lines 20 and 21 @page 7 – Move to the Results section and present the taxa list as supplementary material so that the lowest taxonomic level (always species) and guild categories can be verified.

line 3@page 8 – present histogram of pairwise distances as supplementary material

line 4@page 8 – “D*” instead of “*D”

lines 17 to 19 @page 8 – For clarity please detail how stepwise forward selection results directly in the identification of scales of ecological responses.

Results

line 27 @page 10 – mobil?. Check English.

Discussion

lines 5 to 6 @page 11 – include taxa list as supplementary material to corroborate this statement

line 19 @page 11 – I would suggest to refer to guild composition rather than species as the analyses is not detailed to species level.

lines 2 to 7 @page 14 – The results obtained for highly mobile fauna (including the largest brachyuran crabs) identified must also be discussed in view of the potential undersampling since only one 1 m² grab was collected per station. The lack of replication is a major shortcoming of the study that should be contemplated in the discussion.

Conclusions

line 23 @page 14 to line 5 @page 15 – these sentences would best fit the introduction as they make the case for the study rather than representing a conclusion.

line 7 @page 18 - Swap the two Martins et al references to properly order them chronologically.

Figures

Fig 2 – Use a 1' or 2' grid spacing rather than an unconventional 1' 05". Include North arrow in the bottom figure so that it can be more easily related to the top figure.

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Interactive comment on Biogeosciences Discuss., 9, 17885, 2012.

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