

## ***Interactive comment on “Bathymetrical distribution and size structure of cold-water coral populations in the Cap de Creus and Lacaze-Duthiers canyons (northwestern Mediterranean)” by A. Gori et al.***

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Received and published: 15 January 2013

Dear Andy, thank you very much for your very useful comments. In the next sentences we tried to address them.

1 - Source citations and more details about the multibeam bathymetries are now reported in the figure legend: “Fig. 2 Three-dimensional bathymetries illustrating the locations of the video tracks (T1 to T18) in (a) the Cap de Creus Canyon (CCC) and (b) the Lacaze-Duthiers Canyon (LDC). The CCC bathymetry has been acquired by

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Fugro Survey, AOA Geophysics and the Universitat de Barcelona in 2004 with the hull-mounted Kongsberg Simrad EM300 30 kHz system, emitting 135 equidistant beams spaced every 1.0 degrees. Data were processed using Kongsberg’s NEPTUNE software, and gridded with a cell size of 10x10 m. The LDC bathymetry has been acquired in 1997 by IFREMER (P.I. Serge Berne) with the hull-mounted Kongsberg Simrad EM12D 13kHz dual system, emitting 162 beams spaced from 1.0 to 1.5 degrees. Data were processed using IFREMER’s CARAIBES software, and gridded with a cell size of 20x20 m.”

2 - The multibeam bathymetries have been provided in order to illustrate the location of the video tracks in the canyons. However, we have not access to any more data from the multibeam of the Lacaze-Duthiers Canyon. Conversely, but only for the Cap de Creus Canyon, we are currently applying geo-spatial statistics to develop a predictive model of cold-water coral occurrence based on the terrain variables suggested by you (Lo Iacono et al. in prep.).

3 - A summary table for the differences between canyons in the main parameters has been prepared, and will be added to the revised version of the manuscript (Table 1).

4 - The sentence about a pair of parallel lasers has been now modified to: “The pair of parallel laser pointers were used to provide image scale, and the passage of each colony of the studied coral species through a 1.5 m wide swathe of seabed (this swathe formed from the horizontal line passing on the laser points) were recorded, following Orejas et al. (2009) and Gori et al. (2011).” We hope that this new version results more clear.

5 - The sentence “In a total of 4447 linear m of sea bottom explored in CCC” has been now modified to: “A total of 4447 linear m of sea bottom have been explored in CCC, in which a total of...”. We hope that this new version results more correct.

6 - The sentence about the Dullo et al 2008 quotation has been now modified to: “Since the optimal density envelope has been proposed to increase, through supporting the

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formation of intermediate nepheloid layers, food availability for *L. pertusa* colonies in the northeast Atlantic (Dullo et al., 2008)...". We hope that this new version results more correct.

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Interactive comment on Biogeosciences Discuss., 9, 19053, 2012.

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