

An introduction to quantitative video analysis for benthic studies

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The increased accessibility to Remotely Operated Vehicles (ROV) and manned submersibles used in the study of the marine benthos has led to a steady growth in the number of research projects based on the analysis of video images. However, only a limited part of these studies obtain quantitative data from the video observations. During the seminar, we will present the details of a quantitative method to analyze video images applied to the study of the marine megabenthos, from data acquisition at sea to video and statistical analyses. These techniques, employed at several depth ranges and in different areas from the Mediterranean Sea and the Atlantic Ocean, have been adapted to the objectives of this Colloquium, in order to show their value to determine discontinuities in marine benthic communities. Many of the discontinuities refer to boundaries between areas, populations or communities, and must be considered good descriptors of space heterogeneity and the processes that cause it.

Contents

1. **How to record video images at sea.** Acquiring images at sea is not a trivial matter when quantitative analyses are to be performed. A series of recommendations will be given about how to successfully record analyzable video sequences during ROV surveys.
2. **How to analyze video in the laboratory.** The process from video editing to obtaining quantitative data will be reviewed.
3. **Several possible quantitative outputs.** Data obtained from video images can be used from single species analyses all the way to community analyses. The most important quantitative outputs that can be produced using these techniques will be shown during the seminar.

References

Ambroso S, Gori A, Dominguez-Carrió C, et al (2013) Spatial distribution patterns of the soft corals *Alcyonium acaule* and *Alcyonium palmatum* in coastal bottoms (Cap de Creus, northwestern Mediterranean Sea). *Marine Biology* 160:3059–3070.

Gori A, Rossi S, Berganzo E, et al (2010) Spatial distribution patterns of the gorgonians *Eunicella singularis*, *Paramuricea clavata*, and *Leptogorgia sarmentosa* (Cape of Creus, Northwestern Mediterranean Sea). *Marine Biology* 158:143–158.

Orejas C, Gori A, Iacono Lo C, et al (2009) Cold-water corals in the Cap de Creus canyon, northwestern Mediterranean: spatial distribution, density and anthropogenic impact. *Mar Ecol Prog Ser* 397:37–51