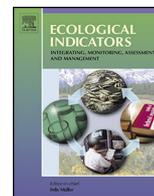


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Marine space ecology and seagrasses. Does patch type matter in *Posidonia oceanica* seascapes?



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ABSTRACT

The use of landscape tools in the study of seagrass meadows (seascapes) begins to be widely spread but still require the establishment of several basis, i.e. a patch type classification based on numerical characteristics. Thanks to the complex seascapes created by the *Posidonia oceanica* meadows, they appear to be suitable for a study at a patch type level (class), which bring a new insight of their arrangement at the whole seascape scale. By interpreting side scan sonar images from the Corsican coast (France) through a GIS software, it was possible to describe 11 types of patches and to evaluate their natural or anthropogenic origin. Comparison of different landscape metrics and wave exposure (Relative wave Exposure Index, REI) at the seascape and the patch level showed that the particularity of *P. oceanica* seascapes are mainly characterized by certain types of patches often of anthropogenic origin. Furthermore the REI seems not to be a relevant index for a study at a class scale. A bathymetrical succession of natural patches was outlined from the lower to the upper limit of the meadow, with a long-term dynamic opposed to a shorter one concerning anthropogenic patches. In order to assess the origin (natural or induced by human activities) of the patches in *P. oceanica* meadows, as well as in any other seagrass, a Patchiness Source Index (PaSI), ranging from 0 to 1, was defined.

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