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Coastal landscapes

Seascape Metrics For The Mediterranean Sea: A Case Study

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Landscape ecology seeks to understand the relationships between spatial patterns and ecological processes in the environment. This multidisciplinary field has been widely used in the terrestrial environment to explore the links between spatial structure, ecological function and landscape change. Landscape ecology concepts and techniques are increasingly applied to the coastal and marine environment to better understand the causes and consequences of spatial patterning within the seascape. The need to understand the impacts of these spatial changes is further exacerbated by the pressure on coastal ecosystems through habitat conversion, increased pollution, and demand for coastal resources. The benefits of this emerging discipline for effective marine spatial planning and management are increasingly being acknowledged. The use of spatial pattern metrics combined with GIS has the potential to be a powerful tool for assessing the integrity of seascapes and their ability to support ecosystem processes and provide valued ecosystem services. This paper explores the applicability of spatial pattern metrics for a Mediterranean seagrass dominated seascape. As numerous, and often overlapping spatial metrics exist, the metrics most meaningful and relevant to seagrass seascape processes and functioning are determined through a principal component analysis (PCA) for a case study in Spain’s Balearic Islands. The preliminary results are presented in this paper.