

## ***Interactive comment on “The support of multidimensional approaches in integrate monitoring for SEA: a case of study” by C. M. Torre and M. Selicato***

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The authors have structured an interesting methodological approach pertaining to SEA process, with specific attention to monitoring in cost areas. The role of land use, with particular attention to land erosion, is in-depth analyzed and presented. The sections 2 and 3 develop a complex and articulated Dynamic Spatial Data Analysis (DSDA) model, implemented in the case of the Coastal Plan of the Italian Apulia Region. This model is conceived as a dynamic and spatial information instrument for regulating the anthropogenic changes and controlling the level of human pressure on land, considering both the dimension and the velocity of change of land use. Indeed, the assessment

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of the pressures due to time-changing and space-changing land uses introduces the relevance of time and space. In particular, the elaboration of a Geographic Information System (GIS) combined to the application of the Analytic Hierarchy Process is a very useful and relevant support for the analysis of criticality and sensitivity identified for the cost area, by selecting specific indicators. The general purpose is supporting the check and evaluation of the real impact of the strategic plan on the environment and sustainability and the MOCA software, elaborated for Monitoring Of Coastal Areas, offers a good opportunity to integrate the evaluation process with GIS technologies and an alerting system, in order to identify the different profile of each coastal municipality of the Apulia Region. Therefore from the experimentation implemented for the municipality of Monopoli, the model has been transferred to the different municipalities of the Region. It is particularly relevant the purpose to analyze how the land use can have different pressure level for each different municipality, implementing data capable to profile in a simple and accessible system the “coast-related” issues. The software MOCA, and the related monitoring process, allows an assessment of the environmental pressure caused by different land uses, with particular reference to critical coastal erosion and environmental sensitivity. Its adaptability to each local contexts can help to define a “tailor-made process” useful to identify a specific and aware land use profile. Taking into account the complexity of the proposed model, it may be useful to improve the fig. 4 that could become a scheme that explains better the integration between assessment and monitoring process, according to the main steps identified (phases, tools, indicators, results). At the same time, it may be interesting to know what are the experts involved in the weights assignment, in the monitoring process and in the elaboration of land use profiles. The innovation introduced by the methodology presented can support a more diffused implementation of tools strategically crucial for land use monitoring, underlining the need to test the above approach and software for different geographical areas, characterized by multidimensional components and relations.

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